Diversity and the innovative behaviour of teams in South African corporations

Shanil Batohi

Student number 24510409

12 April 2011

A thesis submitted to the
Gordon Institute of Business Science, University of Pretoria,
in partial fulfilment of the requirements for the degree of
Doctor of Business Administration.

SUPERVISOR

Professor John Verster
Director: DBA Programme
Gordon Institute of Business Science, University of Pretoria

© University of Pretoria, 2011

Abstract

South Africa is an emerging economy with a heterogeneous population. As South African organisations undergo transformation to address imbalances of the past, management teams are becoming increasingly diverse. The impact of this on innovative behaviour, an important enabler of growth, has become a critical factor to understand.

The purpose of this study was to develop an understanding of the manner in which diversity affects the innovative behaviour of business management teams in South African corporations. Based on such understanding, the objective was to produce a conceptual framework that explains how innovative behaviour is affected by management team diversity and other relevant factors relating to team structure, composition and context.

A multiple case-study design was adopted to enable both analytic depth and generalisation. Teams from a number of different South African corporations were selected for detailed study. A grounded theory building approach was used to allow for the emergence of important themes. Detailed narrative descriptions were generated for each team from on-site interviews held with team members. This was followed by within-case analysis for each team and an integrated cross-case analysis, leading to theory building. The findings are appraised with reference to the current body of knowledge.

The primary theoretical contribution of this study has been the highlighting of numerous areas related to innovative behaviour which have not been well researched, including the impact of informal dyad interactions on the discussion and debate within teams and the role of the leader as innovation initiator. These findings should serve as a guide for future team-based innovation research.

An important finding was the dynamic nature and flexible composition of management teams, which can lead to spontaneous changes in team diversity and thereby affect the perspectives, knowledge and experience available in a team, even during the course of a single innovation project, The conceptual framework developed on the basis of this research takes account of this flexibility in team structure and can serve as a guide for future research on innovative behaviour in management teams, in general.

Declaration

I declare that this thesis is my own work. It is submitted in partial fulfilment of the requirements for the degree of Doctor of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other university.

I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Shanil Batohi
Student number 24510409

12 April 2011

Acknowledgements

To Ribhu, Shaur and Ronica, for your support, understanding, patience and love

To John Verster for your superb advice and guidance, astute encouragement and support

To many others who assisted in many ways

To the teams interviewed, thank you for your frank and open contribution. The information you provided has been immensely valuable.

TABLE OF CONTENTS

PART I: FOUNDATION FOR THE RESEARCH 1

1. INTRODUCTION 3

2. LITERATURE REVIEW 8

3. RESEARCH DESIGN AND METHODOLOGY 108

PART II: RESULTS 127

4. CASE NARRATIVES 129

5. CASE ANALYSES 315

6. CROSS-CASE ANALYSIS AND THEORY BUILDING 378

PART III: DISCUSSION AND CONCLUSION 467

7. DISCUSSION 469

8. CONCLUSION 485

9. REFERENCES 499

10. APPENDICES

LIST OF FIGURES

FIGURE 1: FACETS OF INNOVATION (CHUANG, 2005) 12
FIGURE 2: TEAM DEVELOPMENT MATRIX (JONES & BEARLEY, 2001) 39
FIGURE 3: PROCESS GAIN AND LOSS 42
FIGURE 4: TEAM EFFECTIVENESS FRAMEWORK (MATHIEU, MAYNARD, & RAPP, 2008) 43
FIGURE 5: FACTORS AFFECTING OPERATION OF TEAMS 79
FIGURE 6: FRAMEWORK FOR UNDERSTANDING INNOVATIVE BEHAVIOUR 102
FIGURE 7: CORE PROJECT TEAM - PROJECT ORGANISATION 143
FIGURE 8: MARKETING PRODUCT DEVELOPMENT TEAM 277
FIGURE 9: MARKETING PRODUCT DEVELOPMENT PROCESS 301
FIGURE 10: TECHNICAL PROJECT TEAM CONCEPTS 316
FIGURE 11: CORE PROJECT TEAM CONCEPTS 322
FIGURE 12: PROJECT STREAM TEAM CONCEPTS 330
FIGURE 13: EXCO TEAM CONCEPTS 336
FIGURE 14: EXCO TEAM FAULT LINES 338
FIGURE 15: PRIVATE COMPANY MANAGEMENT TEAM CONCEPTS 347
FIGURE 16: PRODUCT DEVELOPMENT TEAM CONCEPTS 354
FIGURE 17: PRODUCT DEVELOPMENT TEAM INNOVATION PROCESS 364
FIGURE 18: MARKETING PRODUCT DEVELOPMENT TEAM CONCEPTS 368
FIGURE 19: INNOVATION PROCESS 373
FIGURE 20: MOST IMPORTANT INFLUENCES ON INNOVATIVE BEHAVIOUR 457
FIGURE 21: DYAD AND SUBGROUP INTERACTION IN TEAMS 461
FIGURE 22: FLEXIBLE TEAM MODEL OF TEAM OPERATION 464

LIST OF TABLES

TABLE 1: CLASSIFICATION OF DIVERSITY 81
TABLE 2: TECHNICAL PROJECT TEAM MEMBERS 131
TABLE 3: CORE PROJECT TEAM MEMBERS 144
TABLE 4: PROJECT STREAM TEAM MEMBERS 169
TABLE 5: EXCO TEAM MEMBERS 190
TABLE 6: PRIVATE COMPANY MANAGEMENT TEAM MEMBERS 226
TABLE 7: PRODUCT DEVELOPMENT TEAM MEMBERS 244
TABLE 8: MARKETING PRODUCT DEVELOPMENT TEAM MEMBERS 276
TABLE 9: FREQUENCY OF OCCURRENCE OF CODING UNITS 315
TABLE 10: SUMMARY OF FINDINGS FROM TEAM-LEVEL CASE ANALYSES 379
TABLE 11: FINDINGS RELATED TO ENVIRONMENTAL INFLUENCES 382
TABLE 12: FINDINGS RELATED TO COMPANY CULTURE 385
TABLE 13: FINDINGS RELATED TO GOAL AND TASK INTERDEPENDENCE 389
TABLE 14: FINDINGS RELATED TO LEADERSHIP 395
TABLE 15: FINDINGS RELATED TO RESOURCE CONSTRAINTS 399
TABLE 16: FINDINGS RELATED TO TYPE OF TEAM 402
TABLE 17: FINDINGS RELATED TO FLEXIBLE TEAM STRUCTURE 405
TABLE 18: FINDINGS RELATED TO TEAM MEMBER ROLES 408
TABLE 19: FINDINGS RELATED TO CHARACTERISTICS OF INDIVIDUALS 410
TABLE 20: EVIDENCE OF INDIVIDUAL CHARACTERISTICS OF TEAM MEMBERS 414
TABLE 21: FINDINGS RELATED TO DIVERSITY 416
TABLE 22: PROPERTIES OF DIVERSITY 420
TABLE 23: FINDINGS RELATED TO TEAM DEVELOPMENT 428
TABLE 24: DISCUSSION AND DEBATE FINDINGS 431
TABLE 25: FINDINGS RELATING TO CONFLICT 438
TABLE 26: FINDINGS RELATED TO SOCIAL SUPPORT 440
TABLE 27: FINDINGS RELATED TO TEAM STATES 442
TABLE 28: PROPERTIES OF TEAM STATES 444
TABLE 29: FINDINGS RELATED TO INNOVATIVE BEHAVIOUR 445

Part I: Foundation for the research

This part comprises chapters 1 to 3. Chapter 1 is the introduction to the research and outlines the rationale for the study. Chapter 2 contains a review of the literature relevant to the research question. Chapter 3 details the research design and methodology used in the conduct of the study.

(This page intentionally left blank)

1. INTRODUCTION

This chapter outlines the rationale for the study and sets it in context. Innovation is critical for organisations and South Africa as a whole, and research to better understand the factors conducive to innovation is important and relevant.

1.1. Rationale for the study

The challenges facing South Africa and the developing world are huge. Poverty, inequality and unemployment affect a large percentage of the population in developing world countries. From the literature, it is clear that economic growth is essential in order for the developing world to reduce poverty levels and inequality (Easterly, 2001; Vasquez, 2002). Whether growth in itself is sufficient to reverse the income inequality gap is unclear, but growth is a necessary condition for the reduction of poverty given the low base of the majority of the developing world countries (Easterly, 2001).

Economic growth is a key indicator of a country's economy that can be affected by numerous other factors. Many different schemes to improve economic development in developing countries have been tried and have failed, including foreign aid, focus on education, population control, government policy reforms and debt forgiveness (Easterly, 2001)

Technological innovation is generally seen as a primary driver for economic growth (Bloch & Kantang, 2001; Nelson & Wright, 1992; Romer, 1990). Bloch and Kantang (2001) outline two variables that could affect economic growth: factor accumulation and technological innovation. In their study of East Asian economic growth, they found that those economies that were more reliant on factor accumulation for growth rather than technological advance suffered most heavily from the 1997 Asian financial crisis. Economic growth based on technological innovation thus seems to be more sustainable than economic growth based on factor accumulation only. Romer (1990) indicates that *new growth theory* considered the two fundamentally different types of productive inputs as "ideas" and "things". Ideas lead to new ways of working or processing, which in turn lead to better utilisation of the "things". Since ideas, unlike things, do not get consumed in their use, the value of ideas increases in proportion to the size of the market in which they are used. These ideas are innovations, whereas things are resources. Romer (1990) argues that economic growth in the United States was due to resource abundance and large markets that fostered innovation. Resource

abundance and large markets may thus be thought of as moderators of the relationship between technological innovation and economic growth.

The literature suggests that innovation is crucial for the operations of a company and can be a source of competitive advantage. Innovation may be necessary for the company's very survival. Companies in fast changing environments need high levels of innovation (Perez-Freije & Enkel, 2007).

Gary Hamel argues that "in a world of ever-accelerating change, innovation is the only insurance against irrelevance" (Skarzynski & Gibson, 2008, p. xviii).

Skarzynski and Gibson (2008) maintain that a constant stream of innovations can be a source of competitive advantage. Caldwell and O'Reilly (2003) argue that innovation is necessary for a company's very survival and the competitiveness of an organisation is significantly (not in the statistical sense) affected by the "willingness to promote innovation and absorb new technologies". Innovation is also believed to have a positive impact on effectiveness and survival (Janssen, Van De Vliert, & West, 2004). However Janssen et al. also indicate there are bright as well as dark sides to innovation. The purpose of this research is, however, not to investigate the impact of innovation, but to investigate certain factors that affect the emergence of innovative behaviour in business teams.

Teams are particularly important organisational forms in business today due to the increasing complexity of business, and projects undertaken by business. Many projects have become so large that the work can no longer be performed by individuals working alone; teams are required in order to perform this work. Research into the determinants of team effectiveness is thus particularly relevant to business (Cohen and Bailey, 1997). Business teams are becoming increasingly diverse. One of the effects of globalisation is that company employees will have to interact with a more diverse range of people from different countries (Milliken and Martins, 1996). People within single countries are also becoming more diverse and organisations will have to learn how to manage groups that are more diverse. This is particularly true in South Africa, with the increasing diversity of the workforce. The tendency to use teams in organisations also means that employees will be interacting with a more diverse range of employees. Milliken and Martins (1996) mention that diverse teams have the potential to have a broader perspective and generate higher quality solutions than less diverse groups. They also state that diversity could have negative effects such as reduced integration,

more dissatisfaction and higher turnover. Lattimer (1998) argues that diversity in teams should be considered an opportunity, not a problem. He also states that diverse employees should not be assimilated with a view to making them the same.

1.2. Explanatory power of prior studies

From the literature reviewed, it is clear that the study of the impact of diversity on innovation has not matured. Numerous concepts have been introduced and tested that address various aspects of this relationship, but no integrative framework currently exists. A number of limitations have been cited by the past research. The past findings on diversity have ambiguous results. Diversity is found to stifle performance, productivity or innovation in the majority of the studies. This is despite the theoretical expectation that diversity would result in an improvement in innovative behaviour and company performance. Some of the problems that could account for the inconsistencies in the results are:

- The participants selected for study could result in bias. In many cases, university students were used or artificial groups were set up just for the purposes of the study. Study of teams operating in a business context is required.
- Some of the studies were run as experiments, and the outcome of the tasks undertaken did not have a material impact on the lives or livelihood of the participants. Their reactions would thus be different from the reactions of actual team members in the business world.
- Innovative behaviour is composed of different facets that could be affected differently by various levels of diversity. These need to be investigated independently in order to improve the theory around the domain of diversity.
- Much of the research concentrates on demographic diversity, whereas cognitive diversity could have a greater effect on innovative behaviour.
- Most of the literature includes theory-testing research where various hypotheses are tested using quantitative methods. More theory building is required to explore and understand the domain in finer detail.

1.3. Research Questions

The main purpose of the study is to develop an understanding of how diversity affects the innovative behaviour in teams in South Africa. With a more nuanced

understanding, a framework or conceptual model could be put forward to guide further research and inform practice.

Key research questions to be explored are:

- In what ways is the innovative behaviour of teams affected by the diversity of the team?
- What are the factors that intervene in and affect this relationship? This could be factors related to the environment, the industry, the company, the team and the individuals.

The research is intended to contribute to the existing body of knowledge in the scholarly literature in the following ways:

- Detect whether there are other unknown factors that affect the relationship between diversity and innovative behaviour in teams.
- Create an integrative framework that explains the relationship between diversity and innovative behaviour in teams.

1.4. Overview of Design and Methodology

This research investigates the relationship between diversity and innovative behaviour in business management teams by conducting in-depth analyses of a limited number of teams within the corporate contexts where these teams operate. The emphasis of the research is to obtain an understanding of how and in which ways the composition of teams affects the innovative behaviour of the teams. The primary unit of analysis is the corporate management team. The qualitative evidence collected is analysed and interpreted using grounded theory building.

1.5. Structure of the Thesis

The thesis is structured in three main parts. Part I: Foundation for the Research comprises the introduction, a review of the literature and a detailed description of research design and methodology used during the conduct of the study. This is organised into three separate chapters.

Part II: Results, contains Chapters 4-6, which consists of the case narratives, the within case-analyses, the cross-case analysis and theory building. Chapter 4, the case narratives presents a detailed description of the operation of each team in terms of the

implication of diversity for innovative behaviour. The case narratives are illustrated by verbatim quotations from interview transcripts. Chapter 5, the case analyses, consists of detailed analyses of each of the cases in isolation from each other. Chapter 6, the cross-case analysis and theory building presents the cross analysis using various analytical frameworks. The emergent findings of theoretical significance are highlighted and assessed.

Part III: Discussion and Conclusion, comprises Chapters 7 and 8. Chapter 7, the discussion, consists of an appraisal of the major themes and findings that emerged in relation to the extant literature. Chapter 8, the conclusion, draws conclusions based on the entire study, specifies shortcomings and highlights the key empirical, methodological and theoretical contributions of the research. Suggestions are made for future research and the practical implications of the findings are considered.

2. LITERATURE REVIEW

This chapter contains a review and appraisal of the scholarship relevant to the study. The chapter consists of an overview and synthesis of the extant literature on innovation, teams, diversity and the intersections among these areas. As is common in grounded theory building a wide range of literature was reviewed in order to enhance theoretical sensitivity. Recent literature has been prioritised, but not to the extent of excluding important seminal works. The flow is this chapter proceeds from separate consideration of the three broad domains that this study involves, to relations between the different areas, then to creation of an overall framework for understanding the influence of diversity on innovative behaviour. The influence of diversity on innovative behaviour is a complex subject area with conflicting findings and low effect sizes. Many different subject areas are thus covered in this review, both due to the requirements for grounded theory building and because of the ambiguous results.

Innovation is first considered, with a review of the literature related to the definition, types and theories of innovation, the innovation process, and the important related concepts of creativity and knowledge creation. The theories and factors affecting team operation are then described. Innovative behaviour in teams is then considered. The concept of diversity, including the nature and effects of diversity is then reviewed, including why much of the past research has not been able to clarify the effects of diversity. A framework for the manner in which diversity affects innovative behaviour in teams, including the major influences and relationships, is then presented. The review proceeds from the more general to the more specific; from innovative behaviour in general, through to innovative behaviour in teams, through to the impact of diversity on innovative behaviour in teams.

2.1. Innovation

This section starts with the conceptual clarification of innovation and innovative behaviour, suggests a working definition of innovation, examines various theories of innovation and creativity, and then investigates the workings of innovation in organisations. This includes theories of how innovation occurs and factors that affect innovative behaviour in organisations.

2.1.1. The Nature of Innovation

Definition of innovation

There are many differing definitions of innovation in the literature. However, despite these differences, there are common themes that emerge in many of the definitions. Some of the more prominent definitions of innovation are:

- Van De Ven (1986, p. 591) defines the process of innovation as "the development and implementation of new ideas by people who over time engage in transactions with others within an institutional context."
- Schroeder, Van de Ven, Scudder, and Polley (1989) describe innovation as the creation, development and implementation of a new idea.
- Scott and Bruce (1994) define innovation as the production or adoption of useful ideas and the implementation of these ideas. They indicate that this could involve the adoption of existing products or processes from outside the organisation.
- Cheng and Van De Ven (1996, p. 595) indicate that innovation is a journey, where organisations "invent, develop and implement products, programs, services or administrative arrangements".
- Van der Vegt and Janssen (2003) define innovative behaviour as the intentional generation, promotion and realisation of new ideas.
- Caldwell and O'Reilly (2003) define innovation as the generation of a new idea and the introduction of the change into the environment. They see innovation as the observed outcome of both of these steps.
- Janssen (2003, p. 348) defines innovative behaviour as "the intentional generation, promotion and realization of new ideas within a work role, work group or organization, in order to benefit role performance, the group or the organization".
- Pirola-Merlo and Mann (2004) differentiate between creativity and innovation. They indicate that creativity is the judgement of something as being novel and useful whereas innovation is the production of something that is new and useful.
- Damanpour and Schneider (2006, p. 216) define innovation as "the adoption of a new product, service, process, technology, policy, structure or administrative system". They also state that innovation is divided into phases which they refer to as initiation, adoption and implementation.

The definition of innovation generally includes three major points; novelty, utility and implementation.

An essential part of the definition of innovation is novelty. The people involved with the idea need to see the idea as being new (Van De Ven, 1986) or the idea needs to be new to the organisation (Damanpour, 1991). The idea does not need to be a unique invention. However the idea must be new to the organisation, even if implemented elsewhere.

Utility is the second important component of the definition of innovation. A number of the definitions indicate that the idea needs to be useful to be considered innovative (Janssen, 2003; Pirola-Merlo & Mann, 2004; Scott & Bruce, 1994). Ideas that are highly novel, but are of limited value to the organisation cannot be considered to be innovative.

The third major area in the definition of innovation is that the idea has to be implemented or adopted (Damanpour, 1991; Damanpour & Schneider, 2006; Schroeder et al., 1989; Van De Ven, 1986). Others indicate that innovation is distinguished from invention by requiring that innovation includes the commercialisation, diffusion or realisation of the idea (Galanakis, 2006). This is an important consideration as it would not be possible to assess the utility of an idea unless it has been implemented.

One problem in the conceptualisation of innovation, especially during the data gathering process, is that innovations that are not successful may not be seen as innovative by the people involved. Dornblaser, Lin, and Van de Ven (1989) point out that those ideas which are not useful are usually called mistakes rather than innovations. Researchers have tested and found positive relations between organisational innovation and organisational performance. However, numerous other factors can affect performance aside from the actual innovation (Garcia-Morales, Llorens-Montes, & Verdu-Jover, 2006).

For the purposes of this research innovation is defined as:

> *The creation and implementation of a product, service, process or other idea that is novel and offers utility to the organisation.*

Innovative behaviour is consequently:

> *The collective actions of those involved in the creation and implementation of a product, service, process or other idea that is novel and offers utility to the organisation.*

There are numerous forms in which the term innovation is used. These include the use of the word innovation as a noun to indicate some idea that has been implemented. There is the descriptive form where someone is said to be innovative. Innovative behaviour is seen as actions that can lead to innovative outcomes. This term can apply to the individual, as well as larger groups such as teams, or entire organisations. The working definition of *innovative behaviour* used in this research is the one by Van Der Vegt and Janssen (2003, p. 730):

> "Innovative behaviour is the intentional generation, promotion and realisation of new ideas within a work role, group or organisation in order to benefit the role, group or organisation."

Facets of Innovation

Innovation can be segmented in multiple dimensions, including the degree of change introduced by the innovation and the area in an organisation which the innovation affects. The literature mentions numerous different dimensions such as:

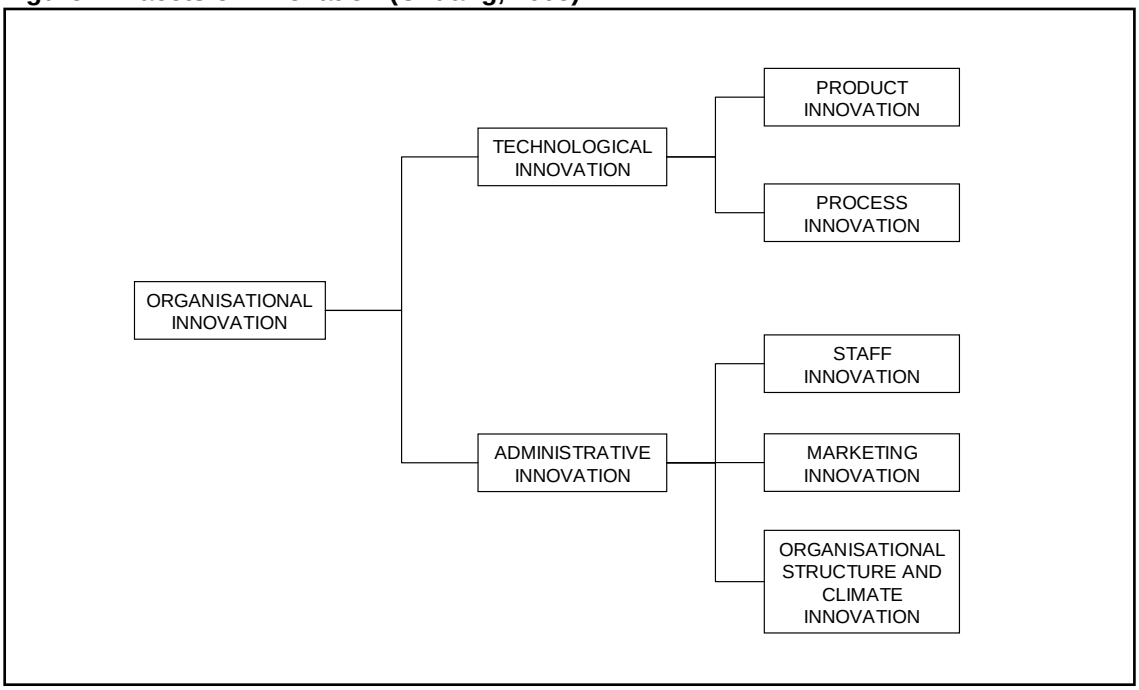
- Technological or administrative innovation
- Radical, incremental, architectural or component innovation

Innovation can be targeted at different areas within an organisation. Van De Ven (1986) writes of two types of innovation; *technical innovations*, which are new technologies, products or services and *administrative innovations*, which are new procedures, policies and organisational forms.

Chuang (2005) describes a hierarchical breakdown of the concept of organisational innovation as illustrated in Figure 1. Chuang differentiated between two major facets of innovation; technical innovation and administrative innovation. According to Chaung, technical innovation consists of product innovation and process innovation. Administrative innovation consists of staff innovation, marketing innovation and organisational structure and climate innovation (Chuang, 2005). Bantel and Jackson

(1989) also differentiate between technical and administrative innovation, which they state, relates to the organisational structure and the people who populate the organisation. Organisational structure and climate innovation deal with concepts such as centralisation, formalisation, specialisation and mechanisms used to manage and encourage innovation. Technical innovations relate to basic work processes and are relevant to the organisation's product, services or processes (Damanpour, 1991). With administrative innovation, the relation to the basic work processes is indirect, unlike technical innovation which affects basic work processes directly (Damanpour, 1991).

Figure 1: Facets of Innovation (Chuang, 2005)



Damanpour (1991) sees the difference between administrative and technical innovation as important, because these have different decision making processes and the likely predictors are also different. Van De Ven (1986), however, states that there are close connections between technical and administrative innovation, and innovation cannot be understood by treating them separately. Van De Ven (1986) also states that most innovations would have both technical and administrative components. Some innovations relate more strongly to the customer and markets, whilst others are more internally focused and may thus need different information and processes to be followed.

An important dimension of innovation is the degree of change that an innovation introduces. Radical and incremental innovations have traditionally been differentiated in the literature (Damanpour, 1991). Galanakis (2006) indicates that companies need

incremental as well as radical innovation; incremental innovation in order to compete in the current market, and radical innovations in order to reinvent the business and market. This is a strong argument from Galanakis, as radical innovations typically involve completely new ways of doing things and would thus fit more easily within new markets. Incremental innovations would be constantly required in order to maintain competitiveness, without fundamental changes.

Incremental innovation has been defined as minor changes which exploit the existing design (Henderson & Clark, 1990) and small changes from existing practices (Damanpour, 1991). Radical innovation has been defined as major changes based on different sets of principles, rather than on the existing designs (Henderson & Clark, 1990). Radical innovation is high risk and high uncertainty, but could create high returns and could change the marketplace (O'Conner & McDermott, 2004), or could result in revolutionary changes (Popadiuk & Choo, 2006). Radical innovation has traditionally been considered to be an event that occurs occasionally after periods of equilibrium, whereas incremental innovation is minor changes to the norm (Page & Wiersema, 1992). Radical innovation and incremental innovation can also be differentiated by the extent to which the innovation develops and explores new technology or changes and exploits existing technology (Dewar & Dutton, 1986; Henrich, 2007)

The nature of knowledge that is required to create a process, product or service that is radically different from previous ones may be substantially different from the knowledge that is required for minor changes to the product, service or process (Galanakis, 2006). This may not always be the case; radical ideas which are brought to a business environment from an unrelated industry may not need knowledge that is substantially different to what already exists in the company. New knowledge is more likely to be necessary for highly technical innovations. Different levels of innovation may have different patterns of external communication and could be explained by different models (Ancona & Caldwell, 1992). The types of systems in place in a company, the structure, managerial systems and strategies, could be different for different levels of innovation (Page & Wiersema, 1992). Page and Wiersema (1992) state that the pattern of external communication may be different for radical as compared to incremental innovation. O'Conner and McDermott (2004, p. 19) indicate that radical innovation is not built on single creative ideas, but rather requires “innovation, discovery and opportunity recognition all along the developmental path”.

O'Conner and McDermott present a crucial point. Within the innovation process, people and teams need to be constantly creative. There needs to be creativity when the problem is defined, when the possible solutions are generated, when the possible solutions are evaluated and when the ideas are promoted and implemented. Creativity is a trait that is required throughout the innovation process to a greater or lesser extent.

Others have suggested that casting innovation as radical and incremental is too coarse, and that other types of innovations exist that could have explanatory power (Henderson & Clark, 1990). Henderson and Clark indicate that changes can take place in the components of a design or product or in the linkages between the components. The components could be improved or totally redesigned, and the connections could be left as is, improved or completely changed. They thus differentiate between four different types of innovation:

- **Incremental Innovation**: There are improvements in the separate components but the linkages are unchanged.
- **Modular Innovation**: The components are changed completely, but the linkages remain the same.
- **Architectural Innovation**: The components remain essentially the same but the linkages are changed.
- **Radical Innovation**: The design of the components is changed simultaneously with changes to the linkages between the components.

Henderson and Clark (1990) indicate that the importance of these differentiations is related to the impact that various forms of innovation have on a company. Incremental improvements build on a company's core competencies, whereas radical changes could destroy the usefulness of a company's architectural and component knowledge. With architectural innovation, some of what a company knows is still useful, but some is not and could actually hamper the organisation (Henderson & Clark, 1990).

The *punctuated equilibrium model* (Page & Wiersema, 1992) sees radical and incremental innovation as incompatible; companies shift from radical innovation to process innovation to incremental innovation in turn. They do not occur simultaneously. The argument is that companies focus on incremental innovations when a dominant technological design exists, and only consider radical innovation in times of crisis and discontinuity. Companies prefer to exist in a state of equilibrium, where the focus is on incremental innovation and based on a dominant technological design. This view is

supported by Henderson and Clark (1990) who indicate that radical change results in a dominant design, after which the companies in an industry perform incremental or modular improvement until a new dominant design is put into place. This equilibrium is sometimes disrupted and the resulting radical innovation leads to rapid change. Different parts of a company could be at different stages. An example would be that the human resources practices may change radically due to new ideas, whilst the operational area of a company may be seeking incremental innovation in the form of efficiency improvements.

The punctuated equilibrium model holds that the need for radical product innovation is driven by external conditions, and radical innovation needs to occur only in periods of discontinuity (Page & Wiersema, 1992). Page and Wiersema (1992) state that the punctuated equilibrium model indicates that companies seeking continual radical innovation have disruptive and dysfunctional managerial strategies. Page and Wiersema (1992) however argue that a different model, the *punctuated disequilibrium model*, exists where disequilibrium is the normal and even desirable state for companies. Companies with this mindset could create innovations that are so radical that markets and customer demand do not yet exist. These companies are driven more by technological possibility, or their reputation as an innovator, rather than by traditional environmental factors. By using non-traditional organisational forms, companies can simultaneously pursue radical and incremental innovation.

From the literature, it appears that there are substantial differences in the conditions, processes and drivers with which different levels of innovation take place. It is possible that radical innovation is more likely to require a team of people working together than incremental innovation (O'Conner & McDermott, 2004). Care thus needs to be taken to ensure that research differentiates between the levels and forms of innovation that occurs since the determinants and processes could be different. Radical and incremental innovations are not fundamentally different and could be considered to be located at the opposite ends of the same continuum. Innovations that are implemented could appear anywhere within the continuum dependent on the amount of change that is introduced to the environment.

Applicable Theories

Research into creativity and innovation in the business context has taken place from early in the 20th century. Numerous theories of innovation and the related concept of

creativity have been developed. These theories form a fundamental basis on which an understanding of innovation can be developed. It is important to understand creativity in order to be able to understand innovation.

Some of the models which are important in understanding innovation in an organisation include:

- Wallas' (1926) *Art of Thought* Model
- Amabile's (1983) *Componential Framework of Creativity*
- Woodman, Sawyer, and Griffen's (1993) *Interactionist Model of Organizational Creativity*
- Ford's (1996) *Theory of Individual Creative Action*

One of the earliest treatises on creativity was that of Wallas in his book "*The Art of Thought*". Wallas (1926) provides a very relevant discussion of the thought process followed in the creation of a new idea, and considers a single "achievement" of thought and how this is brought about. He cites the German physicist, Helmholtz's, explanation of how ideas come about, and the different phases in the thought process.

The first phase is called *Preparation* and is where the problem is investigated in all directions (Wallas, 1926). This is followed by a phase of not consciously thinking about an idea which he called *Incubation*. This is followed, after a delay, by a phase called *Illumination* which is when the idea comes about. Wallas is specific that a fully formed solution is not created in the subconscious, and states "All that we can hope from these inspirations, which are the fruits of unconscious work, is to obtain points of departure for such calculations" (Wallas, 1926, p. 81). He expected that the *Illumination* stage would provide new ways of thinking about the problem and thus assist in finding a different or better solution. Wallas added the *Verification* stage, where the ideas are verified and checked in terms of the requirements of the problem.

Wallas (1926, p. 84) indicates that our mind is unlikely to give as a clear answer to a problem unless we have a clear question. He also states that a person is more likely to notice the significance of a new idea if the problem has been clearly formulated. As indicated by authors many years later, the formulation and definition of the problem is crucial for obtaining a good answer (Binnewies, Ohly, & Sonnentag, 2007).

Wallas (1926, p. 84) then proceeds to try and understand how conscious effort can be brought to bear on these four phases. In the incubation phase, He indicates that one

has two choices during this phase; either to cease all conscious mental work, or start conscious mental work on other problems. He finds that it is important not to be consciously involved in the project that has been defined in the preparation phase. He provides an insightful description of the idea generation process that provides evidence that the older works, even approaching 100 years old are still valuable and important to consider in a review of the literature. The model that he described is applicable to creativity thought in a single individual; this can be extended to innovation in a team.

Amabile's (1983; 1997) framework is based on moving beyond a personality orientated approach to understanding creativity. This theory considers the organisational context for innovation to occur in individuals. Amabile's model assumes that all people can produce creative output, and that the social and work environment can affect the level and frequency of creative behaviour. The model identifies domain relevant knowledge or expertise, creativity relevant skills and intrinsic task motivation as important determinants for creativity to occur in organisations. Amabile states that creativity is likely to be the greatest when people's expertise overlaps with their strongest intrinsic interest. Amabile (1983) considers not only the different phases of innovation but also possible antecedents, and discusses the characteristics of the work environment that affect individual innovation. These characteristics are; organisational motivation to innovate, resources and management practices.

Amabile outlines an innovation process similar to Wallas' (1926) model, comprising of a task presentation phase, a preparation phase, the generation of responses and the validation of responses.

Amabile (1983) considers that domain relevant skills are important for creativity and suggests that an increase in domain relevant skills will lead to an increase in the level of creativity in an individual. Domain relevant skills are defined as knowledge about the domain, any specialist technical skills that are required in the domain and talent or a natural aptitude in the domain. Amabile indicates that the domain relevant skills depend on intellectual ability and formal or informal education. She further indicates that domain relevant skills are required in the preparation phase prior to the generation of responses, and later required for the evaluation of the responses or ideas generated. Domain relevant skills are important to ensure that solutions are appropriate to the problem or task and that the idea thus has utility.

Creativity relevant skills are primarily linked to the novelty of the response (Amabile, 1983). Creativity relevant skills are important for the search for possible solutions or responses to the requirement. Appropriate cognitive styles, knowledge of heuristics for the generation of ideas and a conducive work style are the components of creativity relevant skills that have been identified. Amabile identified the important cognitive features for creativity relevant skills as the ability to break out from standard thinking about the components of a problem, the ability to move away from unsuccessful problem solving strategies and the ability to handle complexity, avoiding premature closure and suspending judgement, being able to see relationships between diverse information, remembering detailed information and sensing the importance of new information. In terms of work styles Amabile noted four areas that are important; a long attention span, an ability to abandon unproductive strategies, persistence and a high energy level. Amabile (1983, p. 74) also identified that "independence, an absence of conformity in thinking and dependence on social approval" are personality traits that are constantly cited as being particularly important for creativity.

Amabile (1983) states that creativity is most likely to appear under conditions where a person is intrinsically motivated, and could be hindered if extrinsic motivation or constraints are present. Task motivation is necessary in order for a person to engage with the problem, and in order for the person to generate a suitable set of possible responses. Amabile (1983) argues that task motivation determines the difference between what a person can do, based on their domain-relevant and creativity-relevant skills, and what the person will do. The effect of external constraints depends on the individual; individuals could minimise the impact of these constraints (Amabile, 1983).

Unfortunately, Amabile's (1983) model is concerned primarily with creativity and the generation of ideas and does not extend to the actual implementation. Amabile does, however, indicate that successful outcomes are likely to increase task motivation. Amabile usefully adds to the theory of Wallas, by indicating the individual and environmental factors that are useful for creativity to occur. Domain relevant skills and creativity relevant skills are particularly important.

According to Ford's (1996) *theory of individual creative action*, actions are influenced by sensemaking, motivation, knowledge and ability. Ford indicates that all of the processes are required in order for a creative outcome to occur. This model is similar to the model of Amabile, in that creativity relevant skills, domain relevant skills, and motivation are all required prior to creative output being possible.

A major difference from the componential model from Amabile is the inclusion of sensemaking into the model. Ford (1996) indicates that sensemaking processes are guided by schema or mental models that bring structure and meaning to information. If someone possesses a suitable interpretative scheme, then automatic processing of the information is enabled, thus leading to a habitual and less creative response. Ford indicates that presented problems are more likely to trigger habitual behaviour based on existing schema, whereas discovered problems may result in more creative actions. Ford (1996) considers that habitual and creative actions are competing options. In a team environment, habitual responses could be reduced because of the different perspectives of different team members and could lead to team members moving beyond automatic processing. One possible cause of habitual actions in organisations could be that the problems encountered are similar to previous problems. Problems that are sufficiently different may trigger creative actions.

Ford (1996) also considers multiple social domains where creativity could occur, including groups, organisations, institutional environments and markets. He indicates that the practices around groups, such as actively recruiting members who have diverse perspectives and skills, or encouraging critical thinking, could affect the creativity of individuals in the group.

Woodman, Sawyer, and Griffen (1993) describe the "*Interactionist model of creative behaviour*" in organisations. This model suggests there is a complex interaction between a person and their situation, which is influenced by both events in the past as well as the current situation. Woodman et al. (1993) place creative behaviour within the concepts of innovation and organisational change. They consider creativity to be a subset of the "broader domain" of innovation. They then consider innovation to be a subset of the broader domain of organisational change. They postulate that innovation could either include the implementation of creative ideas, or the implementation of ideas adapted from other processes, or ideas obtained from outside the organisation. An alternative view is that creativity is a characteristic or trait that that is required throughout the innovation process. This does not require creativity to be considered a subset of innovation.

Interestingly, Woodman et al. (1993) consider that innovation could comprise the implementation of new product, service, idea or process but that innovation could also compromise the adaption of existing products or processes from within or outside the

organisation. This differs substantially from most definitions of innovation which consider creativity the essential ingredient. According to their statement innovation could exist without creativity. This is an unfortunate view as it is arguable that even the adaption of a pre-existing idea requires an element of creativity. Taking an idea from one environment and implementing it in another similar environment cannot be considered to be innovative. There needs to be some “leap of thought” to realise that the idea could work in another environment for this to be considered innovative.

The theory of Woodman et al. (1993) indicates that individual creativity affects group creativity, which in turn affects organisational creativity. Individual characteristics, contextual influences, social influences affect individual creativity. They break down the individual factors that affect creativity into four different areas:

- **Cognitive ability**: This includes fluency, flexibility, originality, elaboration.
- **Personality factors**: These include, valuing of aesthetic qualities in experience, broad interests, attraction to complexity, energy, independence, autonomy, intuition, confidence, accommodation of conflicting traits, belief in own creativity, persistence, curiosity, intellectual honesty, internal locus of control.
- **Intrinsic motivation**: Woodman et al. (1993) moot that the primary function of motivation is the control of attention.
- **Knowledge and expertise**: Including domain related skills and creativity related skills.

These theories taken together provide a useful basis for understanding individual creative action. One limitation is that all of the theories focus on creativity rather than innovative behaviour, but given that creativity is a critical component of innovative behaviour they do serve to improve the understanding of how innovation comes about. These theories also focus primarily on the individual as the unit of analysis rather than teams. However teams are comprised of individuals and the basic processes that need to take place in the individual as a unit of analysis are likely to be required to take place at a team level in order for the team to exhibit innovative behaviour.

2.1.2. The Innovation Process

It is generally accepted that an innovative outcome is the end result of a process (Damanpour & Schneider, 2006; Kratzer, Leenders, & Van Engelen, 2006; Leonard & Sensiper, 1998; Van Der Vegt & Janssen, 2003). Leonard and Sensiper (1998, p. 116)

describe the process of innovation which they see as “a rhythm of search and selection, exploration and synthesis, cycles of divergent thinking followed by convergence”. They suggest that innovation consists of many decision cycles including idea development, evaluation, testing and implementation, but that each step then consists of a smaller decision cycle. They see tacit knowledge as having both a role in divergence (getting a variety of ideas) and the convergence involved in selecting viable options. They suggest that the knowledge of valuable contributors to group projects can only be obtained through interaction between group members. They also see divergence as the synthesis of different skills or thought areas, and since individuals generally develop these in only one or two areas in life, group interaction is critical for creative synthesis to occur. Leonard and Sensiper (1998) call the intellectual conflict between diverse viewpoints *creative abrasion*.

Schroeder et al. (1989) investigated the innovation process and observed that it consists of an initial shock which results in the idea coming into being, the proliferation of the original idea, setbacks and surprises and a blending of old and new ideas. Schroeder et al. (1989) also indicate that the development of the idea is part of the process. They take into consideration that the initial idea may not be optimal and that the idea itself may need to change to match the requirements and constraints of the company environment.

Kratzer et al. (2006) divide the innovation process into two major phases; the *conceptualisation* phase and the *commercialisation* phase. The conceptualisation phase consists of a divergent phase where knowledge is obtained and the concept formulated by the testing and researching of various options. The commercialisation phase consists of the reduction of the ideas and concepts until the basic design is agreed upon and the idea is then implemented.

Damanpour and Schneider (2006) state that innovation is divided into phases which they refer to as *initiation*, *adoption* and *implementation*. They say that initiation consists of the identification of a need, the search for suitable options to meet the need, and the proposal of solutions for adoption. Adoption consists of the evaluation of the proposed ideas and the selection of the appropriate solution. Implementation consists of all activities in order to implement the idea, including modification of the original idea, and managing the acceptance of the idea into the organisation.

The major stages of innovation that have been identified in the literature are:

- Problem Construction
- Idea Generation
- Idea Selection and Validation
- Implementation

Even though these stages of innovation are presented in sequence, it is expected that the flow may not be sequential and various stages could be repeated, either to refine the solution or even to address different facets of the solution.

Problem construction or problem identification has been identified as an important starting point in the innovation process and could differentiate between the more and the less successful individuals. Problem construction is the phase where a person gathers information in order to obtain an understanding of the problem prior to generating solutions. It has been found that the more successful scientists take more time to define and structure their problem prior to attempting to solve the problem than the less successful scientists (Mumford, 2000).

Problems in organisations range from well-defined to ill-defined (Reiter-Palmon & Illies, 2004). Well-defined problems have a known goal and a singular answer. Ill-defined problems have multiple possible goals and multiple possible solutions. Reiter-Palmon and Illies (2004) also indicate that ill-defined problems could have competing goals and multiple possible solutions that do not satisfy all goals. These problems have potentially creative solutions. Reiter-Palmon and Illies (2004) indicate that one of the first steps in finding a solution to an ill-defined problem is problem construction. Problem construction impacts the nature of the creative outcome, and could even have an impact greater than intelligence and divergent thinking skills (Reiter-Palmon & Illies, 2004). Reiter-Palmon and Illies (2004) cite research that shows that abilities with regards to problem construction could predict immediate and long term creative output. They also found that novices tend to move much faster into actually solving the problem than experts who take longer to define the problem. More time spent in defining the problems results in higher quality and more original solutions. They indicate that unless there is deliberate cognitive effort put into searching beyond the immediate ideas that have been activated, the solutions are likely to resemble previous solutions and are thus not likely to be innovative.

One of the implications of this is that leadership can impact on the creative output of a team by encouraging team members to spend more time on problem construction. More diverse team members could also result in consideration of the problem from multiple perspectives and could thus lead to better problem construction, thereby obtaining better solutions.

Binnewies, Ohly, and Sonnentag (2007) discuss the starting point of the creativity process, and specifically discuss internal versus external problem identification. Internal problem identification occurs if the individual discovers the problem themselves, whereas external problem identification occurs if the problem is discovered by others and then given to the individual. They distinguish between these as different loci of causality. Even though the source of the problem is specifically described from the perspective of creativity, it is expected that this would also be applicable to the innovation process. They mention the possibility that the intrinsic motivation for finding a solution to the problem could be lower for problems presented to the individual rather than problems identified by the individual.

A clear definition of the problem at hand appears to be a critical part of the innovation process. An incorrect definition of the problem could result in a poor solution that has limited utility to the organisation. Well defined problems could lead to elegant, novel and useful innovations.

Once the problem has been defined, idea generation can start. In the various models, idea generation is alternatively called illumination (Wallas, 1926), response generation (Amabile, 1983), or idea generation (Van Der Vegt & Janssen, 2003). Other authors combine the preparation and idea generation phases and label this as initiation (Damanpour & Schneider, 2006) or conceptualisation (Kratzer et al, 2006). More than one idea can be generated in this phase. Van Der Vegt and Janssen (2003) see this step of the innovation process as the use of creativity to generate ideas.

One of the concepts that appears to be important at this stage is the ability to perform divergent thinking. Ziv and Keydar (2009) consider divergent thinking to consist of the ability to find multiple solutions to a problem (fluency), the ability to approach the problems from multiple different perspectives (flexibility) and the ability to solve problems in a novel manner (originality). Paulus (2000) added the concept of elaboration, which is the ability to build and develop existing ideas.

It has been suggested that idea generation should be deliberately separated from idea evaluation as this would improve the quality of creative problem solving (McAdam, 2004). It has even been suggested that the idea generation and idea evaluation phases should also be separated in time and not follow directly after one another, thus allowing time for reflection (McAdam, 2004). Given an iterative model, it is likely that the phases do not occur linearly and earlier phases could be repeated. It is also possible that some of the team members are not continuously involved with the team tasks, thus creating the same effect as separating phases by time.

Taggar (2002) indicates that knowledge of heuristics is important for individual innovation to occur; the person must ask relevant questions, offer ideas and build on the ideas of others. Mumford (2000) states that skill in combining and reorganising concepts could lead to new understanding which could subsequently be used to create new ideas. Stenmark (2003) argues that the more information available, the better for creativity. This information apparently does not need to be related to the problem or task. Stenmark (2003) argues that unrelated information appears to be particularly important for major conceptual breakthroughs.

The idea selection and validation stage consists of the testing of the possible solutions for feasibility (Amabile, 1983). Amabile (1983) indicates that domain relevant skills are important at this stage to determine whether the proposed solution has utility. A proliferation of ideas tends to occur during the innovation process (Schroeder at al., 1989). These need to reduced down to the actual idea to be implemented, and could consist of the blending of old and new ideas.

The final phase of the innovation process is the realisation of the idea. This consists of the production of a prototype or model (Van Der Vegt & Janssen, 2003) or could be expressed in the form of knowledge or practice (Vandenbosch, Saatcioglu, & Fay, 2006). It is possible that the original idea generated during the idea generation phase may be modified during the implementation phase (Vandenbosch et al., 2006). Because of their novelty, innovative ideas tend to be difficult to implement (Mumford, 2000). The skills involved in the idea implementation phase include persuasion and social skills, not the creative problem solving skills required in the earlier phases (Reiter-Palmon & Illies, 2004). The characteristics required in the implementation phase are thus different from those required in the idea generation phase.

Two concepts that are important to innovation are creativity and knowledge creation.

Creativity

The generation of new ideas, which is generally studied at the level of the individual, is referred to as creativity (Binnewies et al., 2007), whereas innovation is not only the generation of a new idea, but also the implementation of that idea. Innovation is often studied at the team or organisational level (Binnewies et al., 2007). Innovation in the academic literature is seen as more than just the generation of new ideas. Creativity is a crucial component of innovation, but creativity is not the equivalent of innovation. For an innovation to occur, the idea needs to be generated, promoted to peers and others, and then realised. Creativity and innovation appear to be inextricably linked. The study of innovation must thus be the study of creativity as well. For innovation to occur, the context must exist for team members to be creative. According to Ford (1996), a study could benefit from obtaining an understanding of each concept from the different domains from which they have previously been researched.

The literature differentiates between innovation and creativity. Creativity is considered a necessary but not sufficient condition for the existence of innovation (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Driver, 2003) and a subset of innovation (Woodman et al., 1993).

Drazin, Glynn, and Kazanjian (1999, p. 290) define creativity as “a choice made by individuals to engage in producing novel ideas”. They also differentiate between creativity, which they define as the process of generating ideas, and something being defined as creative that they indicate is a judgement of the creativity of the outcome by others. Creativity has also been defined as “the ability to combine elements in a new and original manner” (Ziv & Keydar, 2009, p. 125). Others indicate that creativity is not an inherently measurable property of a product but a social construction by people from within the domain (Ford, 1996). Even though these definitions of creativity differ, the one area of commonality is that creativity is seen as a characteristics or a trait, whereas innovation is usually seen as a product or an outcome. It is possible that different members of a team could have a different idea of what constitutes creativity for a project (Drazin et al., 1999, p. 295).

It is possible that creativity is a characteristic that is required throughout the innovation process. West, Hirst, Richter, and Shipton (2004) indicate that even though creativity is possibly required throughout the innovation process, creativity is most important in the

early stages of innovation. This does suggest the possibility that creativity is not just a part of the innovation process, but could actually be a separate concept, the outcomes of which are ideas that are used to create, promote or implement innovations.

Ford (1996, p. 1112) provides an insightful view of the relationship between creativity and innovation when he states: “It is hard to imagine a journey leading to the development of an innovation that did not incorporate several creative leaps along the way.” This appears to explain innovation as a process that results in an innovative outcome, and this innovative outcome depends on creativity from individuals that are involved with the innovation at different times in the innovation process. According to this interpretation, creativity and innovation are not synonymous; creativity is a trait required of people in order to come up with an interesting idea. Creativity is also needed to modify and refine this idea until such time as it is viable as an innovative outcome.

Tardif and Sternberg (1988), in the concluding chapter of the book “*The Nature of Creativity*” indicate that there are differences of opinion as to where the creative process begins. They indicate that for some authors, creativity is the outcome of an active search for gaps in existing knowledge or the conscious attempt to break though the limitations in a field, whilst others indicate that creativity is an output of random variations in the generation or selection stage of the creative process. They indicate that some authors take a position between these two extremes.

Tardif and Sternberg (1988, p. 431) cite numerous steps that are involved in the creative thought process, including “forming analogies and bridging conceptual gaps; constant redefinition of problems; applying recurring themes and recognizing patterns and images of wide scope to make the new familiar and the old new; and non-verbal modes of thinking”.

Creativity in individuals is dependent on various personal, social and contextual influences (Shalley & Gilson, 2004). Shalley and Gilson (2004) see individual creativity as affected by a number of individual level factors, including broad interests, domain expertise, divergent thinking, motivation and concentration.

Individual creativity is also affected by various job-related factors (Shalley & Gilson, 2004). These include:

- Complexity and challenging nature of the job,

- Goal setting, including the existence of creative goals,
- Sufficient time, materials and access to people,
- Evaluation and rewards,
- Supervisor support.

The psychological state of an individual could affect the creative behaviour of an individual. Positive psychological states that have been suggested include; positive affect, psychological safety and high cognitive capacity (Elsbach & Hargadon, 2006). It has been suggested that individuals with positive affect may have an enhanced ability to process divergent information, to form new associations and to recombine mental elements which are concepts involved in creative thinking (Elsbach & Hargadon, 2006). It was found that individuals who had positive affect made fewer errors, were more effective in integrating information and were able to reach conclusions faster (Eubanks, Murphy, & Mumford, 2010).They also indicated that people who had positive affect recognised similarities and differences in patterns more easily. Isen (2001, p. 76) states that positive affect "facilitates creativity, cognitive flexibility, innovative responding and openness to information". The constructive impact of positive affect on decision making seems to hold when the task is meaningful, interesting or important. High cognitive capacity is important because it enables individuals to process larger amounts of information before becoming overloaded and resorting to survival rather than creativity.

Various authors argue that intrinsic motivation enhances creativity (Amabile, 1983; Elsbach & Hargadon, 2006). People are motivated more by areas that they have an interest in, than something that has been imposed on them (Stenmark, 2003). Rewards could cause dysfunction because people may start to focus more on achieving the reward than creating something that is innovative (Stenmark, 2003). Stenmark indicates that the reward should not be seen as a bribe. Angle (1989), however indicates that even for the most highly motivated individuals, if there is a lack of resources such as funds, material resources, information and time, innovation is not possible

Chan and Zhao (Chan & Zhao, 2010) investigated the relationship between skill and creativity. They argue that skill is necessary in order for creativity to occur in an artistic setting and to convert the idea generated into a tangible form. Their research found a substantial and significant correlation between skill and creativity in individuals. Cohen

and Levinthal (1990) indicate that prior knowledge and skill are necessary in order for absorptive capacity to be available to enable new knowledge to be assimilated and thus, for creativity to occur. They state that this knowledge and skill enables associations and linkages to form that ultimately result in creative output. They also state that both individuals and organisations need prior related knowledge in order to acquire and use new knowledge and that learning in new domains will be more difficult and take longer. Ford (1996) suggests that this could be similar to the concept of a competency trap, where success with an inferior process could lock out the possibility of learning better procedures.

Creativity is a critical part of the innovation process. Without creativity from individuals and teams as a whole innovative behaviour cannot occur. Creativity is generally considered to comprise the idea generation component of the innovation process. This is an assumption that appears in many sources and could hinder research in the field. Some of the authors are clear that creativity is a trait that is needed throughout the innovation process. There is a need for the definitions of the concepts and the differences between creativity and innovation to be clarified and accepted in management studies.

Knowledge and Innovation

The creation of novel ideas requires the search for, as well as the combination and encoding of new concepts or knowledge categories (Reiter-Palmon & Illies, 2004). They indicate that the information can be combined using obvious conceptual overlap for routine problems; conversely novel problems require dedicated cognitive effort to modify, expand or reinterpret information.

Knowledge creation is an important requirement for the generation of innovative ideas (McAdam, 2004; Popadiuk & Choo, 2006). An organisational ability to create knowledge is critical for innovative organisations (Fischer, 2001). A person can be considered to be a knowledge resource in an organisation instead of someone filling a job position (Lindgren, Stenmark, & Ljungberg, 2003). The interest that a person has in a task affects the manner in which they approach the task. Others consider knowledge to be a key factor of production (Malhotra & Majchrzak, 2004). Knowledge creation is a component of knowledge management which is considered to have three major areas; knowledge creation, knowledge retention, and knowledge transfer (Argote, McEvily, & Reagans, 2003). Beesley (2004) indicates that it is important to understand how

knowledge creation, diffusion and utilisation take place if knowledge is to drive innovation.

The knowledge based view of organisations flows from the resource based view, that considers the resources, competencies and capabilities of an organisation as important for a company's competitive position, but considers knowledge to be the most important resource (Reinmoeller, 2004).

Knowledge creation is the creation of knowledge and occurs by a "spiralling process of interaction between explicit and tacit knowledge" (Nonaka & Konno, 1998, p. 42). The creation of knowledge and the generation of novel ideas are related concepts (McAdam, 2004) and there is a strong and complex relationship between knowledge creation and innovation (Popadiuk & Choo, 2006). Fay, Borrill, Amir, Haward, and West (2006) indicate that the development and introduction of innovation is dependent on knowledge and Hussi (2004) indicates that innovativeness involves the creation of new knowledge and information by refining problems and existing solutions. Hussi (2004) also indicates that the interaction between tacit and explicit knowledge is required for the innovations to be generated.

Taylor and Greve (2006, p. 735) argue that knowledge creation "requires a deep understanding of knowledge, rather than information scanning or exposure" which they suggest means that significant experience is required prior to being able to generate innovations. They indicate that the more diverse the information and knowledge used, the more novel the output is likely to be and the deeper the use of existing knowledge, the less novel but more predictable the outcome. Vandenbosch, Saatcioglu, and Fay (2006) indicate that existing information is essential for the use of new information in generating and evaluating ideas.

Absorptive capacity is the ability to learn, assimilate and use knowledge developed elsewhere (Fischer, 2001). Fischer indicates that in order to utilise a piece of knowledge, the organisation needs to have researched or developed something similar, to increase their absorptive capacity. This could be extended to the organisation having used something similar, even if not developed in-house previously. Interacting with other firms and taking advantage of knowledge spillovers is a mechanism via which companies can learn and take advantage of new knowledge (Fischer, 2001).

Tacit knowledge is knowledge that either has not been or cannot be fully explicated. All knowledge has tacit dimensions since knowledge exists in a spectrum from completely tacit to almost completely explicit (Leonard & Sensiper, 1998). Leonard and Sensiper (1998) indicate that tacit knowledge can be used in three ways, allowing innovation to occur:

- Tacit knowledge can be used to solve problems. Experts can use pattern recognition in order to overlay past experience on current problems and thus suggest solutions to the problem.
- Tacit knowledge can be used to reformulate the problem. Tacit knowledge can be used to change the way in which the problem is being considered, which could then lead to a better solution.
- Tacit knowledge can be used to predict the occurrence or anticipate a problem.

Nonaka and Konno (1998) see knowledge creation as the spiralling movement between explicit and tacit knowledge. They consider that knowledge creation takes place in a four step process consisting of socialisation, externalisation, combination and internalisation.

Cohen and Levinthal (1990) consider that problem solving and learning are very similar concepts and are related to knowledge assimilation and creation. They see learning as the assimilation of existing knowledge, and problem solving as the creation of new knowledge. This is supported by other authors (such as DeTienne, Dyer, Hoopes, & Harris, 2004) who relate companies having a culture of innovation and getting the right knowledge to the right people at the right time.

2.1.3. Innovation in Organisations

A number of factors at an organisational level affect the possibility of innovation in an organisation. The creativity of individuals is seen as a prerequisite for innovation in teams and organisations. Even though creativity related to individuals is important in an organisation, it is essential that organisations create suitable conditions such that people want to innovate and can innovate" (Angle, 1989). Social and environmental factors are also important to creativity and thus for innovation to take place (Hennessey & Amabile, 1988) but it has been shown that the organisational context is more important than the environmental context (Damanpour & Schneider, 2006). Social and political dynamics affect innovative behaviour because innovative ideas

need to be transformed and implemented in order to be more than just creativity (Van De Ven, 1986).

Organisations are largely designed to exploit existing practices and people within them would tend to do this rather than focusing on new ideas (Van De Ven, 1986). The more successful an organisation, the less likely people are to pay attention to new ideas because human beings have a limited capacity to handle complexity and maintain attention (Van De Ven, 1986). It follows that a creative solution must have a relative advantage over a habitual solution before someone will decide to use the creative action (Ford, 1996). Rogers (1995, p. 140) states that there is an "inherent conflict between organizational structure and technological innovation". There is also a strategic problem in creating an infrastructure that is conducive to innovation, given that innovations also transform the structure and practices of the organisation (Van De Ven, 1986). Organisations thus need to create a context within which innovation is valued to ensure that people do not automatically choose the habitual solution. The leadership of the organisation and the supervisor of teams are best placed to ensure this occurs.

According to West et al. (2004), external demands, which they conceptualise as needs, could be a factor in the individual innovation. They indicate that high external demand would help innovation implementation but would hinder creativity. Galanakis (2006) also indicates that some of the drivers of innovation in a company are technological advances and customer needs. New technology or demands from the customer could drive the requirement for innovation in organisations; however excessive demand could also hamper innovation.

One of the determinants of innovation at the company level is the competition between innovation and other strategic choices in the organisation such as mergers, acquisitions and divestitures (Drazin & Schoonhoven, 1996). Drazin and Schoonhoven (1996) propose that a curvilinear relationship exists between the amount of slack and innovative activity in firms. They note that activities such as downsizing and cost-cutting focus senior management's attention away from innovation. Innovation in these organisations only exists due to middle managers. Damanpour and Schneider (2006) found that managerial attitude to innovation is particularly important for the adoption of innovation in organisations.

Drazin and Schoonhoven (1996) also note that much of the research on innovation focuses on innovation and not on the success of the innovations, that is, the contribution of the innovation to the company's performance. They state that internal processes in an organisation determine whether innovations are implemented or not, whereas industry related factors determine the success of those innovations.

In order for innovation to occur in organisations, people need to be able to choose from among alternatives (Johnson-Laird, 1988). West et al. (2004) also indicates that a climate of learning and development in an organisation can assist innovation in the organisation. They state that for innovation to take place, learning is necessary. Schank (1988) states that in order to learn you must fail. Organisations thus need to give people the room to fail without fear in order to allow innovation to occur.

Caldwell and O'Reilly (2003) indicate that formal controls in organisations can inhibit innovation from taking place, by reducing the intrinsic motivation to be innovative. They state that an element of playfulness is required for innovation to occur, and that formal controls reduce the possibility of this occurring. They do, however, state that informal controls, such as norms in the organisation and the climate for innovation, do not have the same negative effect as formal controls. They also state that because of the flexibility and adaptability required for innovation to occur, it is not possible to design the process via which innovation occurs. Older, larger and more successful organisations have a large number of systems that favour 'tinkering' rather than innovation (Van De Ven, 1986). Intervention of leadership is necessary to encourage innovation rather than tinkering.

Organisations need to simultaneously maintain controls to allow work to be performed effectively, whilst allowing creativity and innovation to flourish (Perez-Freije & Enkel, 2007). They see creative tension as being the difference between the discipline required in an organisation, and the creativity required in an organisation.

It is not only single individuals that will be involved in innovation in organisations (Van De Ven, 1986). Transforming an idea into reality typically requires different resources to those involved in idea generation. More than one individual, and typically a team, is necessary in order to transform an idea into a realised innovation. Teams are thus an important organisational form for innovation to occur in organisations. Cohen and Levinthal (1990) indicate that the ideal structure in an organisation is for the staff to have partially overlapping knowledge and partially unique knowledge in order to enable

creativity to occur. The overlapping enables communications to occur, and the unique knowledge means that the information is not so well known that there is no need to communicate. Although Cohen and Levinthal (1990) did not investigate teams, it is reasonable to assume that the same logic could be applicable to teams in the same way as it is applicable to organisations. Ideas also need to be promoted to peers and superiors (Van Der Vegt & Janssen, 2003), and the assistance of other individuals can help this process.

2.1.4. Summary

The definitions contained in the literature generally specify three components that are necessary for something to be termed innovative; there needs to be an element of novelty, the idea must have utility and must have been implemented.

Innovation can be characterised in numerous ways, including the degree of change and the area on which the innovation focussed such as process innovation or administrative innovation. There are numerous theories of creativity and innovation that have been suggested. These theories consider the creative or innovative process and examine the factors that impact on innovation. The nature of innovation and problems that require innovation solutions is such that there is no one correct solution. Given circumstances, some solutions can be more or less effective in addressing the problem. Some solutions could also be easier to implement or cheaper to implement. A requirement, whether internally discovered or externally provided, is the start of the process. The phases in the innovation process thereafter consist of problem construction, idea generation, idea selection and evaluation and implementation.

In the literature it is generally considered that creativity and innovative behaviour are inextricably linked. Knowledge creation is also considered to be a requirement for the generation of innovative ideas.

The creativity of individuals is considered to be a prerequisite for innovation in organisations. There are numerous considerations that are important for innovation to take place in organisations including; creativity of individuals, success of the organisation, external demands, competition between innovation and other strategic choices, the room for innovation and the formal controls in the organisation.

2.2. Teams

Teams are an important organisational form that is intimately involved with innovation in organisations. Some authors consider that teams are critical in order for innovation to take place in complex environments (Gibson & Gibbs, 2006). They reason that knowledge-sharing and learning needs to take place in order for innovation to occur. Different perspectives that would not be possible with a single person can occur in teams. They further indicate that teams are also needed in order to implement the innovation. Empirical evidence on the other hand does not always support that teams perform better than the same individuals working independently, but does find positive psychological benefits of working in teams (Allen & Hecht, 2004).

2.2.1. The nature of teams

There have been numerous and different definitions of the term “team” in the literature. There is also some mismatch and lack of differentiation between the terms “team” and “group”. The usage of these terms appears to depend on the area within which the terms are used. The terminology tends to vary between social psychology, sociology and management orientated research.

Useful definitions of teams are:

- Edmondson (1999) defines a work team as a group that exists within a larger organisation, has defined membership and a shared responsibility for the team output.
- Paulus (2000, p. 238) differentiates between groups and teams. He defines groups as “two or more individuals who have some interdependence or relationship and who influence each other through their interactions”. He then defines teams as groups that have a common goal. The only difference between groups and teams in his definition is that the teams have a common goal to achieve whereas a group does not have to have a common goal.
- Jones and Bearley (2001) define a team as having an organisational mandate, interdependent work tasks, members who are committed to collaboration and joint accountability.
- Mohammed and Dumville (2001) define teams as highly structured with differentiated roles and specified interdependence patterns, whereas they consider groups to have ambiguity in task contexts, unspecified roles and an absence of explicit task interaction demands.

- Bassett-Jones (2005) differentiates between the team and group, where teams have a common purpose for which they are mutually accountable, whereas groups are people working together without a common purpose.
- Gibson and Gibbs (2006) define a team as a small number of interdependent individuals who consider themselves a team and have some shared accountability.

There are three important components of the definition of a team, namely, a structure consisting of a number of people, common goals and task interdependence between team members. Mohammed and Dumville (2001) have a different definition to the other authors where teams are considered to be highly structured with individual members having specific areas of responsibility; groups are similarly defined to other author's definitions of teams. Their definition has less task level interdependence between the team members.

With consideration of the definitions in the extant literature, for the purposes of this research, a team is defined as *a small set of people who have a common goal and are interdependent on one another to achieve that goal*. A group is defined as a set of people who do not necessarily have a common goal, nor do they necessarily have interdependence.

Much of the literature does however use the term "group" rather than "team", and the terms are used interchangeably in this literature review, depending on the source.

Types of teams

Four common types of work teams are: problem solving teams, self-managed teams, cross-functional teams and virtual teams (Stander, 2003). Problem solving teams, which are usually temporary teams, share ideas and make recommendations on how to improve processes or methods, but do not have the authority to implement solutions. Self-managed teams, which are permanent teams, find solutions to problems but also have the authority to implement these solutions. Cross-functional teams are created from different parts of the business but from the same hierarchical level, in order to perform a task. Virtual teams are teams where the team members are not at the same geographical location.

Some teams, such as the top management team in organisations, may have some team member goals that are closely aligned to each other, and others that are different or even in conflict with the goals of other team members (Edmondson, Roberto, & Watkins, 2003). This adds complexity to the understanding of teams. The dynamics in the team would be affected by both the aligned and conflicting goals. The study of teams cannot assume that the effects of the differing goals act in isolation of each other.

Teams, where the team members decide to segment the work amongst themselves, could limit task level interdependence in the team (Clinebell & Stecher, 2003). This would be apparent in project teams, where a project is divided into a list of tasks that need to be completed in a specific sequence and these tasks are then allocated uniquely to team members. Teams could also decide to assign roles and responsibilities in order to reduce conflict and power struggles that could occur in the team (Clinebell & Stecher, 2003). This assignment of roles, which could be undertaken by team leadership such as the project manager or team supervisor, could be deliberately designed in order to maximise the benefits of diversity and reduce the impact the of detriments of diversity.

2.2.2. Models of team functioning

Numerous models of the operation of teams have been suggested. Some relate to the development of teams and others consider the manner in which inputs, context, and team characteristics interact to result in outputs from the team.

Team Development Models

A critical aspect of the functioning of teams is the development of the teams. Various models of team development have been put forward of which one of the best known is Tuckman's Stages of Team Development which identifies four stages of group development (Tuckman, 1965).

Tuckman (1965) identified change over a period of time as important to groups. This could be an important determinant of the performance of the group in terms of innovative behaviour.

Smith (2001) reviewed existing team development models and differentiated between linear models, cyclical models and non-sequential models. The *linear progressive*

models hypothesized a definite progression of a group from phase to phase. Groups go through all phases in a linear fashion before reaching the final phase. Smith indicates that the first stage that appears in virtually all linear progressive models is the phase where group members meet and become familiar with each other and orientate themselves with the work to be performed. Tuckman (1965) called this the “forming” phase. According to Smith (2001), individuals work to establish an identity in this phase, but also experience anxiety and disillusionment. The leader’s legitimacy to lead the group is typically also tested at this phase.

Once the first phase is complete, the group moves into a phase of conflict, unrest and disagreement (Smith, 2001). One reason put forward by Smith for this is that the group members have discovered similar others as they have become acquainted. This creates subgroups, which can then fight for supremacy in the group. Subgroups can also form with those supporting the leader and others against the leader. Smith states that there could also be issues with people trying to balance group task needs with individual needs. Group members may also try to maintain their own individuality, rather than being seen as part of the group. In the first two phases of group development, it is likely that the team will not operate optimally and innovative behaviour may not occur.

During the third phase, groups start to develop cohesion and group identity, and the group and its members start to focus more on achieving the group’s tasks. Smith indicates that some groups may never reach this phase due to the divisions of the past.

After the group cohesion phase, the groups then begin to perform more effectively. This is the equivalent of Tuckman's "performing" phase. The group has stabilised its structure and “has developed effective responses to the internal and external stresses placed on it” (Smith, 2001, p. 23). Many of the models then define a termination or end-stage (Smith, 2001). This is where the group dissolves. The progression of the team from the initial stages to the effective group cohesion phase could be affected by the team members, the leadership and the tasks which the team have been set up to perform. Some teams, such as project teams, may only be set up for single projects, which means that the group development would need to restart for every project. It is possible that the movement through the different phases may be rapid for people who regularly work on projects, or if some of the team members have worked together previously.

The *cyclical and pendular models* are different from the linear progressive models as these models include that groups can revisit phases multiple times during the group development process (Smith, 2001). This is because similar issues may need to be addressed at different times if the group is not meeting expectations and needs to return to prior phases to restructure in order to become more effective. Each revisiting of a phase makes the group stronger. Smith (2001) states that perhaps the greatest contribution of this model is that groups are adaptable and flexible in dealing with environmental demands and constraints. This model is less rigid than the linear progressive models. Smith (2001) also indicates that this model more accurately reflects the real world where the groups make changes based on new information, than the linear progressive models that do not explicitly accommodate change.

Smith (2001) in his review of numerous group development models identified the following major phases in the pendular model:

- **Formative stage**: The group members define the type of group and the task or problem that they are addressing. Information is shared and the group members define the group and task boundaries.
- **Information gathering, goal and role classification**: The group members clarify the purpose of the group and understand the skills and resources necessary to complete its work. Dyadic relationships form based on similarities between team members.
- **Decision making and structural stabilisation**: The primary concern during this phase is the decision of how to complete the group's work. Trust, support, influence, authority and affection become important during this phase; however conflict also occurs.
- **Implementation and production**: In this phase, plans are implemented and executed.

Non-sequential models do not have a set of development steps that are followed in sequence (Smith, 2001). The development process is largely dependent upon environmental factors or triggers.

Jones and Bearley (2001) in their essay on team development, consider task behaviour and relationship behaviour to be different dimensions in understanding team development. Their model is illustrated in Figure 2. The dimensions of task behaviour

that they suggest are: orientation, organisation, open data flow and problem solving. This consists of the team members needing to learn what is required of them as a group, coming to a common understanding of the task requirements, ensuring that all information available in the group is available to all members, and finally, when the group members have a clear understanding of their task and goals and are sharing data freely and collectively managing the implementation.

The dimensions of relationship behaviour are: dependency on leadership; conflict typically around leadership or influence, which is essential for the group to become a team; cohesion with an increased level of trust; and interdependence where the trust level is so high that the group can organise itself as required and operate without the presence of a leader.

Figure 2: Team Development Matrix (Jones & Bearley, 2001)

					Synergy
RELATIONSHIP BEHAVIOURS	Interdependence	"Flying circus", Free expression of feelings	Flexibility, Negotiation	Supportive: Good Communications	Collaboration: Shared decision making, Camaraderie
	Cohesion	Tightly knit 'we-ness'	Harmony, Cooperation	Sharing, Dialogue, Trust	Ownership, Safety
	Conflict	Resistance, Leadership struggle, Disagreement	Fractionation, Reactive Disagreements	Encounter task orientated confrontation	Issue orientated polarisation
	Dependency	Coping with newness	Inefficiency, Search for procedures	Tell-asking: One way communications	Experting Leader: One way communications
		Orientation	Organisation	Open Data Flow	Problem Solving
		TASK BEHAVIOURS			

Jones and Bearley (2001) argue that the development of a team could occur at different times on a relationship dimension (how the team is working together) and a task dimension (how the team is working). They consider models such as Tuckman's model as an oversimplification. They also expect that, even though the optimal team development would follow the diagonal towards *synergy*, this only rarely takes place, even in successful teams.

The importance of these models for obtaining an understanding of the dynamics of teams is that teams go through stages of development, at different paces, dependent on the team and the environment. Teams move though the stages in a non-linear fashion and even go back to stages that have been previously completed if circumstances change. Different teams at different stages of development would exhibit different dynamics. This adds complexity into attempting to understand the innovative behaviour in teams. Jones and Bearley's (2001) assertion that teams could develop independently on the relationship and task dimension appears to explain actual business teams more realistically than traditional models such as Tuckman's model. Business teams have little choice regarding the completion of their tasks, despite the relationship problems that could exist between the team members. Teams are also not static entities; roles can change, team members can leave and new members can become part of teams, the organisation context and environmental context could change. It is therefore likely that teams would move backwards and forwards along stages of development as asserted by Smith.

Team Functioning Models

Ilgen, Hollenbeck, Johnson, and Jundt (2005) provide a useful review of the state of team research and propose a new model for team functioning, the IMOI (Input-Mediator-Output-Input) model. The traditional approach to team functioning consisted of an Input-Process-Output (IPO) model. Ilgen et al. (2005), however, indicated that this approach is limited when teams are considered to be complex, adaptive, dynamic systems. They indicate that it may be more than processes that impact the relationship between inputs and outputs; cognitive or affective states could also affect the outputs of a team. They also note that an Input-Process-Output model implies linear effects, whereas the relationship could be non-linear and there could be interaction effects between inputs and processes, and outputs could even affect inputs.

Ilgen et al. (2005) suggests an input-mediator-output-input model, which reduces the limitation of having only mediating processes and explicitly indicates that the outputs could affect the inputs. The IMOI model considers that various inputs affect mediating factors that thereby affect the output from teams. These factors are not only processes, but could also be cognitive or affective states. The outputs of the team can affect the processes and states in the team. They also indicate that the model does not need to be linear and that interaction effects are possible.

Others indicate that group characteristics can be affected by the success of the team in terms of innovation (Janssen et al., 2004). This is the opposite causal direction of the traditional view, which explains that group characteristics affect outputs such as innovation via mediators, and moderators such as group processes.

Edmondson et al. (2003) state that prior research into top management teams did not attempt to understand the mechanism via which the team characteristics affect performance. This is another possible failing with the input-process-output model, where the correlation between the input and output is measured with the intervening processes treated as a “black box”.

The IMOI model appears to more completely describe the manner in which teams function. Many factors affect the relationship between the inputs and the outputs. These have often been investigated in isolation. Understanding the effects of individual or sets of factors is important; however integrative research to understand the mechanism holistically is also required. These models provide a framework within which to understand how innovation occurs in teams.

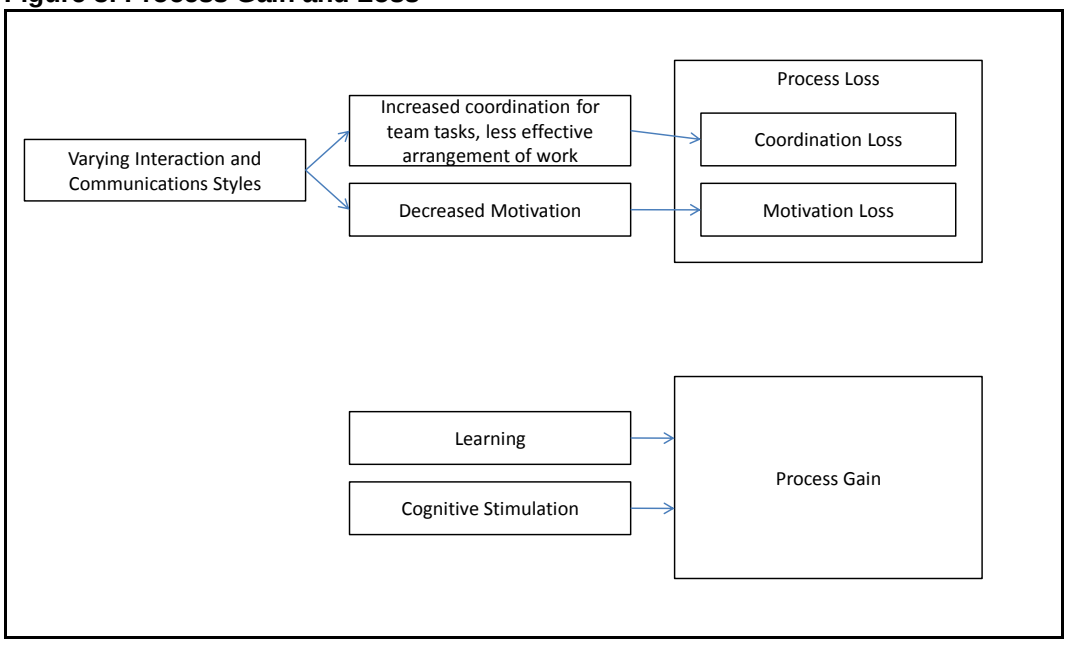
2.2.3. Factors affecting Team Operation

When a team of people work together, it is expected that the overall ability of the team would at least be the sum of the abilities of the individual team members. This, however, is not always the case, with some teams outperforming the combined abilities of the members and other teams performing below the combined abilities of the members. In order for teams to maximise their performance, it is necessary for the team members to understand each other with regard to preferences, strengths, weaknesses and tendencies (Cannon-Bowers & Salas, 2001).

Teams do not always operate optimally, nor do they operate at the “sum” of the abilities of the individual team members. Tools such as brainstorming have been shown to reduce team effectiveness, despite popular and common sense arguments, except in specific situations. Research has shown, despite the claims in terms of brainstorming, that individual brainstorming generates better and more ideas that group brainstorming (Paulus, 2000). When teams do not operate at a level which matches the additive capabilities of the individual team members, it is said that either process gain or process loss occurs.

Bowers, Pharmer, and Salas (2000) indicate that process loss occurs when the performance of the team is lower than the sum of the individual abilities of each of the team members. Process loss appears to be a significant effect, with research finding that individuals are more capable than teams of using diverse knowledge and experience for creative outcomes (Taylor & Greve, 2006). Different types of process loss can be identified: coordination loss can occur if the team does not arrange its work effectively; motivation loss can occur if the team members are not optimally motivated (Baron & Kerr, 2003). Horwitz (2005) indicates that varying interaction and communications styles could cause process loss in mixed gender teams. A process gain occurs when the team exceeds the sum of the abilities of the team members. This process gain could be as a result of learning that occurs in teams or cognitive stimulation that occurs between the team members. Taylor and Greve (2006) indicate that past experience in working together helps teams with the process of knowledge combination and thus reduces process loss. These factors that affect process gain and loss are illustrated in Figure 3.

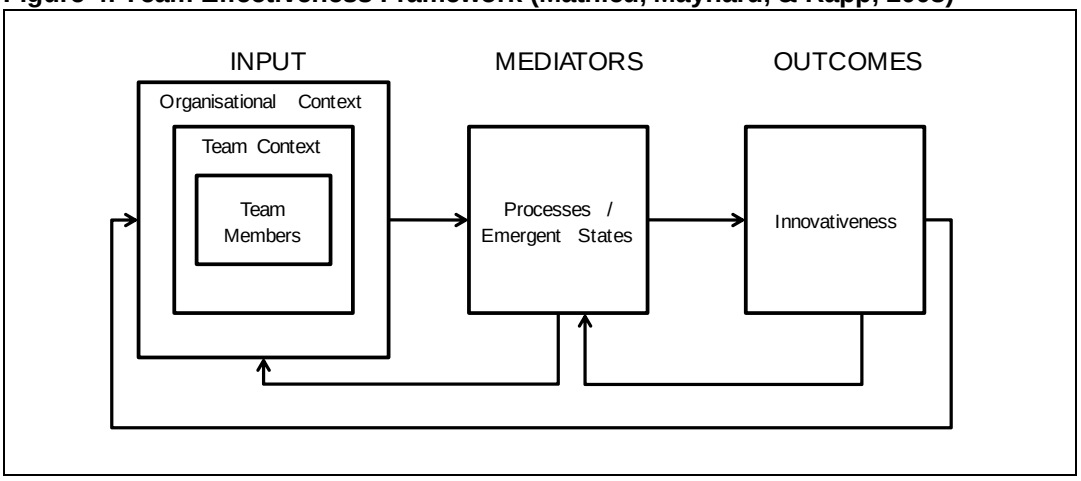
Figure 3: Process Gain and Loss



Team members have different information and different understandings and interpretations of situations. This information may not be shared, and even the existence of differences may not be known to the team members (Edmondson at al., 2003). Edmondson et al. also indicate that team members could have different interests in a situation. They then argue that these information and interest asymmetries could result in process losses in a team.

Campion, Medsker, and Higgs (1993) identified five themes that appear to affect work group characteristics. These include job design, interdependence, team composition, organisational content and team processes. Mathieu, Maynard, and Rapp (2008) documented a framework for the effectiveness of teams. This framework is illustrated in Figure 4.

Figure 4: Team Effectiveness Framework (Mathieu, Maynard, & Rapp, 2008)



There are numerous factors that affect the operation of a team. These include the context within which the team operates, both within and outside the organisation, the composition of the team, the different affective and cognitive states in the team, and the team processes.

Team Context

Teams can be considered subsystems of larger systems (Mohamed, 2002). The context within which a group operates affects its effectiveness and innovative behaviour. Some of the factors within the team's immediate environment that can affect the innovative behaviour of the team are: the presence of goals or task interdependence, type of task, external demand, leadership and organisational climate for innovation.

Goal and Task Interdependence

Common goals or goal interdependence and a shared vision of the purpose of a team are important in order to have effective teams. Campion et al. (1993) define a team goal as a team's mission or purpose. A shared vision is a vision that has been shaped and created by the team members and is defined as "a common mental model of the

future state of a team or its tasks that provides the basis for action within the team" (Pearce & Ensley, 2004, p. 261). They are explicit that this vision is not created by an individual and then shared with the others, but is created as a group. The concepts of shared vision and a common goal are thus closely linked but not identical constructs. The main differentiator is that a common goal could be externally imposed on the team. It is, however, arguable that without the shared vision of the purpose of the team matching the externally imposed common goal, the common goal is ineffectual.

The presence of common goals is important for the type of behaviour, either creative or routine, that the team takes (Ford, 1996), and could counter the negative effects of social categorisation in diverse teams (Fay et al., 2006). Ford (1996) argues that goals create a framework within which individuals can be motivated on the type of action to take. Pearce and Ensley (2004) found support for relationships between shared vision and innovation effectiveness in both causal directions in their longitudinal research. They also found that shared vision is linked to team potency, teamwork, courtesy and altruistic behaviour in the teams. Garcia-Morales, Llorens-Montes, and Verdu-Jover (2006) found a significant relationship between shared vision and organisational innovation. Group level goals have been generally shown to increase group performance (Guzzo & Dickson, 1996). Guzzo and Dickson also indicate that group level goals can exist at the same time as individual goals but that having both does not improve performance over and above having just group level goals. Conflict between the individual and group goals could create problems.

Chen and Tjosvold (2002) define three levels of goal interdependence that could exist in teams. These include; cooperative interdependence, competitive interdependence and independence. Cooperative interdependence occurs when team members cannot achieve their own goals unless others in the team also achieve their goals. Competitive interdependence is when team members are less likely to achieve their goals if others reach their goals. Independence is when the goals of the different team members are unrelated. In their research they found that only teams with cooperative goals had open and constructive discussions about their ideas.

Campion et al. (1993) state that interdependence is often the reason why teams are formed and that interdependence may be a defining feature of a team. They identify three forms of interdependence; task interdependence, goal interdependence and outcome interdependence. They define task interdependence as when team members need to work together in order to accomplish their work; however they do explain that

the level of task interdependence could vary between different teams. They also indicate that this interdependence could improve the team effectiveness. Outcome interdependence is defined as feedback and rewards for the group as a whole. They suggest that individual feedback and rewards should be linked to the group's goals. The statement by Campion et al. that interdependence is a defining feature of teams may be an incorrect assumption in the world of business. One common type of team is a project team, and with this team it is more likely that dependence rather than interdependence is a feature of the team. The team members do not need to work together in order to achieve their goals; they need to complete their separate tasks successfully, or else the project will fail.

Aside from the importance of goal interdependence, task level interdependence could be important for maximum benefit from the different capabilities within a team. Langfred (2007) defined task interdependence as the degree to which team members must interact and coordinate between themselves in order to complete tasks. Van Der Vegt and Janssen (2003) investigated the interaction effect of goal and task interdependence and found that the highest levels of innovative behaviour occurred when both perceived task and goal interdependence were high. They also found that high levels of goal interdependence linked to low levels of task interdependence, produced the least innovative behaviour. They attributed this to people "simply doing their job" under conditions where the team members work independently but the outcome depends on everyone doing their portion of the work effectively. It is quite possible that the "common goal" could be broken down into individual goals and that goal interdependence does not, in reality, exist.

According to Van Knippenberg and Schippers (2007), the presence of task interdependence could have benefits in teams that are heterogeneous, as team members would focus less on subgroup categorisations and more on the common team identity. This focus on the common team identity could make divisions in the team less likely (Jehn & Bezrukova, 2010) and would thus enable the team members to work together better. However, it is possible that task interdependence could exacerbate the negative effects of diversity due to the need for highly interdependent teams to interact smoothly (Jehn, Northcraft, & Neale, 1999). Jehn et al. (1999) did find some partial support for this possibility; however the interdependence did not significantly add to the variance explained by the main effects. One limitation in this study was that the company declined to provide information regarding ethnicity or

nationality of the member of the work teams. This potentially important contributor was unfortunately excluded from their empirical study.

The relation between task and goal interdependence and innovative behaviour is strong in a team. If a team has no task interdependence, then innovative behaviour from the team as a whole is unlikely as the team members do not need to work together. Without common goals, the team members may have no incentive to work together.

Task characteristics / External Demands

Jehn et al. (1999, p. 746) indicate that for routine tasks, diverse perspectives in a team are likely to be "disruptive and counterproductive", whereas for complex tasks the discussion of different opinions could be beneficial to a team. The type of task can thus affect the performance and innovation in a group. Atwater and Carmeli (2009) differentiate between repetitive work and creative work, and say that creative work requires higher levels of "mental energy, focus and persistence".

West et al. (2004) indicate that team task should be motivating. They indicate that tasks which require skill, which are complete, important projects rather than small sections, where the team has autonomy to perform the task in the way they want, and people receive feedback, are likely to intrinsically motivate the team members. The nature of the task is thus fundamentally important for the level of innovative behaviour that will occur in teams. Tasks which require creativity would generally result in higher levels of innovative behaviour than tasks to which routine solutions are possible.

The level of external demand or the severity of the problem placed on the team could have a non-linear impact on the innovative behaviour in the team. Too high or too low a level of external demand would inhibit creativity. It has been argued that in order for a team to be innovative, there is a need for a moderate level of external demand to be placed on the team (West et al., 2004). They indicate that high levels of demand could assist with the implementation of innovations, but these high levels of demand could inhibit the generation of creative ideas. The same factor could thus have different impacts based on the specific phase of the innovation process.

The bounded creativity school of thought says that creative process is not at its most effective when unbounded; bounded methods lead to more successful outcomes (Hoegl, Gibbert, & Mazursky, 2008). Hoegl et al. (2008) state that bounded thinking

enhances the creation of ideas and that individuals are more creative when limited by constraints. They argue that individuals who are limited by resource constraints are more likely to recognise unexpected ideas.

Time pressure associated with tasks can also have an impact on the creativity within a team. This relationship has been seen as complex (Hennessey & Amabile, 2010). Hennessey and Amabile state that time pressure generally inhibits creativity, except under certain circumstances. They cite research where a curvilinear relationship between time pressure and creativity was noted. This showed that creativity was low under both low and high time pressure, but creativity was higher under conditions of moderate time pressure. They also indicate that time pressure has different effects, dependent on the amount of distraction and fragmentation of work that the team members experience. Creativity is enhanced when distractions and fragmentation is limited.

Hoegl et al. (2008) argue that when a team has resource constraints, the team members have to look for alternatives beyond the simplest solution. The presence of boundaries can thus enhance the creative output. They also argue that if a team has financial slack, this could lead to complacency and taking the path of least resistance. They suggest that it is important to support teams that are under financial constraints by allowing time for social integration of the team members and by providing collaborative work periods to enable knowledge sharing and coordination. They also mention that, whilst facilitating team collaboration, space and opportunity for individual collaboration should be allowed.

They go on to propose that bounded creativity moderates the relationship between financial resource constraints and innovation. They, unfortunately, did not test this proposition, nor did they extend this to other forms of constraints aside from financial constraints such as time constraints, which potentially have implications for innovation in teams.

Elsbach and Hargadon (2006) argue that as individuals move from normal workload pressure to relentless high workload pressures, creativity could decrease. They therefore suggest that people may need a certain amount of work that requires little cognitive effort and where the performance pressure is low. It is possible that simpler tasks interspersed within difficult projects could allow the mind to free itself from a

continuous focus on the difficult tasks, and thus allow for different and potentially more useful lines of thinking about the difficult tasks (Elsbach & Hargadon, 2006).

The characteristics of the task and external demands that are placed on a team are important determinants of the motivation of the team members to undertake innovative behaviour. Teams need to have constraints, but these cannot be too restrictive. The leadership can influence these factors and thus has an important role in setting the context within which the team operates.

Leadership

Leadership can have an important influence on all aspects of the innovation process (Reiter-Palmon & Illies, 2004). According to Reiter-Palmon and Illies (2004), leaders have a role in facilitating innovation by encouraging suitable cognitive processes in subordinates, setting goals and informing members about techniques for innovation, making time available and creating an environment of openness and trust. This is in line with Zaccaro, Rittman, and Marks (2001) who indicate that leaders influence team effectiveness via cognitive, motivational, affective and coordination processes.

One of the roles that leaders or organisations and teams have is to motivate people to be creative. Leaders can influence creativity in teams by providing support, building confidence, providing vision and allocating resources (Mumford, 2000) and influence the context in which the teams operate (Shalley & Gilson, 2004). Mumford (2000) also indicated that supportive supervision would facilitate creativity whilst critical and controlling supervision would inhibit creativity. The leader's vision of the purpose and value of diversity to an organisation can have a material impact on the performance benefits derived from diversity in an organisation (Thomas & Ely, 1996). Atwater and Carmeli (2009) investigated the relationship between the quality of leader-member exchange, energy, and involvement in creative work. They argued that creative work requires both time and energy from individuals, and that motivation at work is really about the energy of the employees. They found that those who were more energised at work tended to be more creative and the quality of the leader-subordinate relationship was positively related to the energy in individuals. Atwater and Carmeli (2009) indicate that leaders need to generate high levels of energy and enthusiasm in teams. Workers with high levels of creativity tend not to work typical 9-5 workdays and they are highly energised and enthusiastic about their work. Atwater and Carmeli (2009, p. 265) define energy as the "vitality, passion and the desire to act." Ford (1996) found that creative professionals tended to be productive and have high levels of energy.

Scott and Bruce (1994) hypothesised that the quality of the leader-member exchange would increase innovative behaviour in the members. They found support for this hypothesis in their data. Shalley and Gilson (2004) discuss the impact of leaders on creativity in individuals and teams. They conclude short of assessing personality prior to recruiting, managers need to ensure that the employees have sufficient skills not only to perform their work, but also to be curious and able to consider alternative ways of doing their work.

Various authors have shown the effect that leadership has on innovation within an organisation (Kisfalvi & Pitcher, 2003). Transformational leadership has been hypothesised to be more valuable for innovation than transactional leadership (Aragon-Correa, Garcia-Morales, & Cordon-Pozo, 2007). They found that transformational leadership has a strong positive effect on organisational learning, which in turn has a strong positive effect on innovation. Transformational leadership was also found to have a significant positive direct relationship with innovation, although this has less explanatory power than the influence of organisational learning on innovation. They argue that transformational leadership has an impact on innovation because of the emphasis on building vision in the followers, and the attention to communications and shared values.

Kisfalvi and Pitcher (2003) studied the impact of the leader of top management teams in organisations. They found that that top management teams rely less on reason and more on emotion. They argue that an understanding of the nature of strategic decision-making in top management teams cannot be based on bounded rationality and cognitive processes. They indicate that emotions of both the leader and the team members need to be taken into consideration in investigating strategic decision making processes. They argue that decision-makers need to use emotional signals or else the extensive analysis that would need to take place would make decision making too slow. They conclude that the intuitive decision of the CEO could be better or more innovative than a more thorough decision-making process. It could be argued that this type of decision-making is likely to apply only in situations which are routine, where a single correct answer may exist or the possible range of answers is known. In the case of complex problems, the leader and the team may need to spend considerable time in various stages of the innovation process, such as defining the problem and considering alternative solutions.

The type of leadership could be important based on the type of culture, individualist or collectivist, within which the team exists (Wendt, Euwema, & Van Emmerik, 2009). Directive leadership appears to have a negative impact in individualistic cultures and supportive leadership appears to have negative consequences in a collectivist culture (Wendt et al., 2009). This could be important in environments, like South Africa, which could have different beliefs about leadership and the effectiveness of leadership from other countries in the world as suggested by the GLOBE research (House, Quigley, & De Luque, 2010). This is compounded by the fact that the GLOBE research separated the white and black sample in South Africa.

Peterson, Smith, Martorana, and Owens (2003) discuss the impact of the CEO on the organisation via the impact of the leader on the top management team dynamics. They found that the CEO affected the dynamics of the top management team (Peterson et al., 2003), and that the top management team dynamics affects the performance of the organisation (Hambrick & Mason, 1984; Hambrick, 2007). Peterson et al. (2003) found that the emotional stability of the CEO was positively related to the cohesion in the team, the intellectual flexibility of the team members and leader dominance. They indicate that decision-making teams which were intellectually flexible were more likely to succeed.

Damanpour (1991, p. 581) indicates that the “dominant coalition’s” visible positive attitude towards change creates a climate that supports innovation throughout the organisation. They suggest that this affects people throughout the organisation more than innovation in specialist areas of the company such as Research and Development.

Tsui, Porter, and Egan (2002) investigated the effect of demography on the supervisor-subordinate relationship. They found that similarity between the subordinate and supervisor resulted in higher rating of the subordinate by the supervisor for behaviours exceeding the norm for the role but not for the core roles of the subordinate. They indicate that high expectation of the supervisor may result in more challenging work assignments, better feedback, more training and better relationships, which could then lead to higher performance by the subordinate. This highlights the possibility that the demographic differences or similarities between a supervisor and a team member could result in a better or worse performance by that team member, which could help or hinder team operation.

Organisational Context

In order for innovation to occur in teams, organisations need to create a climate for innovation. This consists of providing encouragement for risk taking, fair and supportive evaluation of ideas and participative management and decision making (West et al., 2004). West (2002) in his model, the *Team Climate for Innovation*, identifies vision, participant safety, task orientation and support for innovation as factors important for innovation to occur in teams.

Serendipity could be important for innovation to occur (Stenmark, 2003). Stenmark indicated that being well prepared is as important for serendipity to take place as the accident that triggers some creative thought. Stenmark indicates that companies should create an enabling environment for serendipity to take place by encouraging experiments and tinkering, increasing the awareness of accidents that occur and by allowing unused potential for change.

Team Characteristics

Various characteristics internal to the team can affect the performance of a team. This includes the size of the team, the age of the team and the individual characteristics of the team members.

Campion et al. (1993) suggest that teams should consist of the smallest number of members possible to conduct the work required. One of the consequences of a larger team is that the process losses in the team increase as the size of a team increases (Curral, Forrester, Dawson, & West, 2001) because of heightened coordination needs (Campion et al. 1993). Some of the consequences of larger teams could be problems in agreeing on the team's objectives and problems in getting consensus on issues. Team size was found to have an inverse relationship with group processes, but only when there was a high requirement for innovation in the teams (Curral et al., 2001).

The longevity of a team is related to the development of the team. Teams that have been in existence for longer will have had more time for either useful or harmful development. At the early stages of development, the team may not operate optimally because the team is still early in the development process (Tuckman, 1965; Smith, 2001; Jones & Bearley, 2001). However, some of the value of the different perspectives and experience of team members could be lost as the team becomes older and more homogeneous (Van De Ven, 1986).

Researchers have found that teams, where the members have long tenure in the team, have poorer communication with each other, others in the same organisation and also external professionals (Katz, 1982). They surmise that this could be because teams that have been together for a long time become isolated from sources of information, evaluation and feedback. Leenders, Engelen, and Kratzer (2003) found that the creativity of the teams decreased as team longevity increased. Pelled (1996) also argued that group longevity could lead to a process of de-categorisation, thus reducing the effects of demographic differences between team members, and reducing relationship conflict.

The impact of group longevity was that older groups were found to be less competitive and communicated less (Wells & Pelz, 1966). Wells and Pelz (1966) indicate that newer groups benefit from security and assurance, whilst older groups benefit from uncertainty. This uncertainty can occur as a result of intellectual rivalry. Supervisors can challenge older groups with problems that are outside their area of expertise and even give different teams problems in the original team's area of expertise in order to maintain the vitality in the group (Wells & Pelz, 1966). Part of older teams becoming less competitive and communicating less could be that once the team members start to understand their relative capabilities, teams map out roles for the team members and thus less debate and communications occurs.

Hirst (2009) investigated how changes in the team membership affected the discussion within teams and the performance of those teams. He found that the time at which the changes took place determined whether the change had a positive or negative impact on the team. He found that for teams which had been in existence for nine month or less, the changes to the team members had a positive impact on both discussion in the team and the performance of the team, whilst the impact was negative with teams that were older than 9 months. He suggested that this could be due to newer teams having less rigidly defined structures, and could thus be more accepting of the ideas that new team members provided. New members in newer teams could thus be a source of ideas for the team.

Individual Member Attributes

Pirola-Merlo and Mann (2004) investigated the relationship between individual creativity and team creativity in order to determine whether team creativity is totally determined by the creativity of the team members. They found a strong correlation

between the creativity of individuals and the creativity of the team, but not complete dependence. Other factors such as the team climate for innovation and organisational encouragement for innovation had an effect on the creativity of the team, even though the effect was less than the impact of individual creativity. They argued that other factors affected the creativity in the team by affecting the creative behaviour of the individual first. This is an interesting suggestion; organisational level factors affect teams by changing the creative behaviour of individuals. If individual creativity explains the majority of variance of innovative behaviour in a team, given that prerequisites such as a requirement for innovation are in place, then organisations should focus on enhancing the creativity of individuals and focus less on factors that affect the team as a whole.

These results are in line with Amabile's (1983) model, which expects that creativity will occur if creativity relevant skills exist at the individual level. Taggar (2002) indicates that the team processes of asking questions, offering ideas and building on the contribution of others will occur as a result of heuristics for generating novel ideas in the team. Taggar (2002) argues that teams must contain both creative members and have effective creativity relevant processes in order for the group to be creative. Taggar (2002) indicates that without suitable creativity relevant processes, the benefits of the creative individuals are "neutralised". These arguments indicate that creativity within the team members of the group is a necessary, although perhaps not sufficient, condition for innovative behaviour in the team.

Paulus (2002) cited literature that suggests that ideas should be generated by individuals in isolation and then evaluated by the group for implementation, but also states that idea generation in groups can be successful, and evaluation of ideas in groups may not be as successful as anticipated. Paulus indicates that problems in the implementation phase could require the generation of newer or better solutions. Drazin et al. (1999) further indicate that the process depends upon team members deciding to undertake individual innovation.

According to Amabile (1983), domain relevant knowledge is critical for creativity in an individual. It is anticipated that the expertise of members in the domain within which the team is involved would be critical for innovation in a team. The value of diverse backgrounds will be discussed later in the section on Diversity.

A positive link between personal mastery and organisational innovation has been tested with significant results (Garcia-Morales et al., 2006). They defined personal mastery as the ability for individuals to manage their minds and the desire to learn and understand.

West et al. (2004) suggest that a team which needs to generate innovative outcomes needs to be built with an inclination to innovation. Innovative people tend to be confident in their own abilities, "tend to be self-disciplined, with a high degree of drive and motivation and a concern with achieving excellence" (West et al., 2004, p. 278). Individuals who are particularly creative may have diversified interests or may have changed from one field to another (Stenmark, 2003).

Intuition is defined as a form of foresight that orientates creative work in promising directions by identifying patterns, with minimal information and without conscious effort, which serves to guide work (Eubanks et al., 2010). Intuition was found to impact creativity in the research conducted by Eubanks et al (2010). Intuitive individuals tend to consider possibilities, meanings and relationships in information rather than using their senses to gather information from the environment (Leonard, Beauvais, & Scholl, 2005). People also either tend to process information externally though social interaction or internally, in isolation. Page and Wiersema (1992) indicate that promising radical innovations are recognised by seasoned professionals based on insight, intuition and experience.

Improvisation is defined as the "creative and spontaneous process of trying to achieve an objective in a new way" (Vera & Crossan, 2005, p. 205). Vera and Crossan (2005) state that improvisation is not just about team members thinking on their feet, but also about the preparation and training that enables people to think on their feet. In this manner, improvisation is linked to serendipity, where there is an aspect of luck, but there is also an aspect of preparedness to recognise possibilities and adopt or take action based on new information or circumstances. Vera and Crossan (2005) indicate that expertise and team collaboration are necessary for improvisation to take place. There needs to be trust between the team members, a common goal, shared responsibility, common vocabulary and an ability both to lead and follow.

Team States

Team states refers to conditions in the team that affect the relationship between the input and output of the team. These are not processes but “emergent cognitive or affective states” (Ilgen et al., p. 520) and could also comprise motivational states (Mathieu et al., 2008). Some of the team states that could affect performance of teams are: team potency, trust, psychological safety, social networks, group norms, autonomy, control, energy, fault lines, cohesiveness and shared mental models.

Potency

Potency is the collective belief in the group that it can be successful in performing its tasks (Hoegl, Gibbert, & Mazursky, 2008; Ilgen, Hollenbeck, Johnson, & Jundt, 2005; Lester, Meglino, & Korsgaard, 2002). Edmondson (1999) investigated team efficacy and hypothesised that team efficacy, which is an equivalent concept to team potency, would have a positive relationship with learning behaviour in a team. A statistically significant result was found. Given the potential links between learning and knowledge creation, and the hypothesised link between knowledge creation and innovation (Popadiuk & Choo, 2006), team efficacy should assist innovation in a team.

Pearce and Ensley (2004) indicate that shared vision and team potency are linked. They argue that a shared vision that the team can be effective is critical for the team to have potency. They indicate that innovation is not likely to occur in teams where they do not believe that they can successfully complete the task.

Hoegl et al. (2008) indicate that the team is likely to have potency if it has completed challenging assignments previously or has received early positive feedback about their assignment. Lester et al. (2002) also argue that verbal persuasion would have an effect on team potency. They indicate that charismatic leadership as well as communications and cooperation in the early stages of group development could have a significant effect on potency in the team. They also found that potency was a significant predictor of later work group outcomes.

Cohesiveness

Cohesiveness is defined as the extent to which the team members are attracted to and are motivated to remain in the group (Wendt et al., 2009). Cohesiveness in a team has been considered to have positive as well as negative consequences. Cohesiveness could result in higher performance in teams (Guzzo & Dickson, 1996), or higher

productive capacity (Wendt et al., 2009), and could result in higher levels of innovation whilst under financial constraints (Hoegl et al., 2008). Guzzo and Dickson (1996) found that increased familiarity between team members due to working together increased decision making effectiveness.

Other authors have emphasised the possible negative effects of cohesion. One of the possible effects of cohesiveness could be that it causes groupthink (Gibson & Gibbs, 2006). Guzzo and Dickson (1996) found that after a longer period of time, the related concept of familiarity could lead to overconfidence and thus cause errors which harm group performance. Conversely, they also found that low levels of familiarity caused lower performance in teams (Guzzo & Dickson, 1996).

Spatial proximity can create cohesiveness in a group of people (Polzer, Crisp, Jarvenpaa, & Kim, 2006). They found, in their field work, that co-located peers had better relationships than remote team members. Team members who work together in close proximity have the opportunity to generate shared experiences, which creates liking, understanding and perceived similarity (Leenders et al., 2003). This apparently makes people more similar to each other and thus increases the propensity to communicate. Proximity also creates trust between the team members. Teams may also prefer face to face communications rather than electronic communications in more complex tasks and tasks that demand creativity (Leenders et al., 2003).

Wendt et al. (2009) found that directive leadership, which is defined as task oriented and controlling leadership, has a negative effect on cohesiveness, whereas supportive leadership, which is more concerned about subordinated welfare and needs, was found to have a positive relationship with cohesiveness.

Harmony

A related concept to cohesiveness is harmony. Chan (2005) investigated the concept of harmony, which was defined as inner peace in individuals and the desire to have harmonious relations with other people. This concept has differing levels of importance in different cultures and is a value deeply embedded in Chinese culture, where one pursues harmony in relationships with nature, oneself and with others (Chan, 2005). It is possible that conflict, either beneficial or otherwise, could be avoided in striving for harmony. Chan (2005) does indicate that this is not important in Western culture. It is possible that harmony could be an important concept in the South Africa which was

placed in both the “African” and “Anglo” clusters of the GLOBE study (House at al., 2010).

Trust

In order for a team to operate effectively, it is expected that trust needs to exist between the team members. Having trust means that a team member understands that the actions of others will not be based on self-interest, and that actions by other team members will not harm oneself (Bijlsam-Frankema, de Jong, & van de Bunt, 2008; Polzer et al., 2006). DeTienne et al. (2004) indicate that trust is important for knowledge sharing in organisations. They differentiate between knowledge-based trust and trust in the organisation and state that knowledge-based trust can be enhanced by face to face interaction between individuals

Bijlsam-Frankema et al. (2008) indicate that trust can improve the performance of a team. They state that trust and risk are related concepts, and that trust allows for risk taking to take place. Familiarity between group members could lead to group members submitting unpopular (Fay et al., 2006), unexpected or unusual information to the team (Edmondson, 1999).

Trust can be built by communication and information exchange (Malhotra & Majchrzak, 2004). This is not a one directional relationship as trust also drives communications and information exchange in teams (Malhotra & Majchrzak, 2004). It is clear that one of the most important outcomes of team development is the creation of trust between the team members.

Psychological safety

In a team environment, the willingness of team members to speak openly and honestly is important. Team members need to feel safe in order to contribute to teams (Driver, 2003). Edmondson (1999) researched how psychological safety affects learning behaviour in teams. Psychological safety is defined as a “shared belief that the team is safe for interpersonal risk taking” (Edmondson, 1999, p. 354). This is the confidence that the team members have that there will be no negative consequences for speaking out when they have something to say (Edmondson, 1999) and can mention issues that have not been noticed by others (Fay at al., 2006). Paulus (2000) also suggests that social anxiety may prevent people from openly sharing their ideas in a group and indicates that fears relating to ideas being evaluated outside the group may also inhibit

idea generation. Gibson and Gibbs (2006) describe a concept termed *psychologically safe communications* which enables team members to contribute, bring up different views, engage in spontaneous or informal communications, suspend judgement and actively listen.

Edmondson (1999) argues that learning behaviour in teams could be facilitated if psychological safety exists in teams. She mentions certain behaviour that team members may not engage in, such as asking for help or feedback, or admitting errors, if they are concerned about saving face and keeping their image intact. This could happen even if it were to the detriment of the team. Chan (2005) defines and explains the concept of *face*, from the perspective of different cultures. He defines face as an individual's public image which is closely associated with that person's social status. He explains that people are not only responsible for maintaining their own face, but should also save the face of others. What constitutes a desirable face is different in different cultural groups (Chan, 2005). There is possibly an interaction between saving face and psychological safety. In an environment where someone feels safe, the need to save face may be lower, and this could thus enable people to speak openly without as much fear of losing face. Driver (2003) mentions that the team members need to feel safe so as to be open to non-routine learning.

Psychological safety is believed to be affected by trust; trust within a team could result in the creation of a climate of psychological safety in a team. One factor that could enable psychological safety and creative outcomes in teams is socialising between different team members. Gilson and Shalley (2004) investigated this and found a significant relationship between socialising with co-workers, during and outside work time and psychological safety. They argue that socialising may make team members more comfortable with each other, which could thus enable a perceived safe environment within which to share ideas.

Edmondson et al. (2003) indicate that psychological safety could be difficult to achieve in high level teams such as an organisation's top management team, because of power differences between the CEO and the team members, and due to possible concerns about CEO succession. This could result in inefficient processes, such as lobbying of the CEO, to occur.

Psychological safety is based on the trust that exists within the team that then allows the team members to perform actions that they would not otherwise have felt safe or confident to perform.

Social Networks

Social networks are important for innovation in teams (Reagans, Zuckerman, & McEvily, 2004). A network is defined as a set of actors with connections called ties linking pairs of actors together (Borgatti & Foster, 2003). Creativity has been described as being partially a social process (Perry-Smith & Shalley, 2003), and occurring in the interaction between people (Leenders, 2003), whilst innovation requires the convergence of different types of knowledge from different people (Zheng, 2006). Perry-Smith and Shalley (2003) indicate that social relations could either positively or negatively affect creativity. Ford (1996) indicates that social networking and communications are important for developing and obtaining support for novel ideas. It is possible that social relationships could get too strong resulting in groups becoming insulated from outside information and challenges (Florida, Cushing, & Gates, 2002).

The basis for the benefits of social networks are that contact with people outside an individual's social circle can lead to new information being obtained, which could then lead to creative insights (Kijkuit & Van den Ende, 2007). Kijkuit and Van den Ende (2007) argue that social networks are not just important for the idea generation phase but also for the development and evaluation of ideas.

Network ties provide access to information. It is possible that teams that have greater network ties outside of the team could have a higher level of creative outputs (Chen, Chang, & Hung, 2008). They argue that network ties provide access to resources and provide information benefits in terms of the information availability and the time required to gather the information. They state that the thinking is more similar within groups than between groups and that project gatekeepers, people who span across groups, are exposed to different ways of thinking and behaving which gives them more options to select from and use. This could lead to the generation of novel ideas and thus enhance creativity. They also argue that it is unlikely that individual project team members would have all the relevant information required for the completion of a project, which makes communications essential to "exchange, transfer and diffuse knowledge" so that the team as a whole can develop solutions.

Perry-Smith and Shalley (2003) do not consider that social networks are static. They argue that the strength of the ties in the social network can affect creativity, with weak ties more likely to facilitate creativity than strong ties. They argue that weak ties enable autonomy and reduce the likelihood that individuals will identify with one group and thus avoid conformity to that group. They expect that in networks with strong ties, the individuals are more likely to be similar and that there would be more redundant information in the team. Florida et al. (2002) also indicate that weak ties will allow newcomers to be accepted into the network more easily.

Bridge links are important in social networks as they enable different groups to be linked (Hannah & Lester, 2009). They also found that “weak ties” led to more new information than “strong ties”, which are closer relationships, because strong ties are usually linked to similarity and similarity restricts the new information available.

Individuals in social networks do not randomly interact with each other, but interact with those who are in close geographical or social proximity, where they share common backgrounds and have related interests (Sorenson, 2003). Social networks are important for the flow of tacit information.

Norms

Caldwell and O'Reilly (2003) found that when teams have norms that support risk taking and the acceptance of mistakes, then team members are more likely to propose more creative solutions to problems. They also found that if norms such as a need to complete things quickly or the need to share information exist, then the teams are more likely to put new ideas into place. They conducted research on groups and identified group norms that have a significant positive relationship with innovation in teams. These were:

- Risk taking is accepted and encouraged
- Coordination and exchange of information is supported
- Shared sense of the need to accomplish things quickly
- Mistakes are expected

Autonomy and Control

Autonomy is defined as the freedom to schedule work and determine the procedures to be taken in executing the work (Van Mierlo, Rutte, Vermunt, Kompier, & Doorewaard, 2006).

Autonomy in teams has been found to have a relationship with motivation to learn and psychological well-being, with mediators of individual autonomy, individual task variety, individual workload and quality of social relationships (Van Mierlo, Rutte, Seinen, & Kompier, 2001). Van Mierlo et al. (2001) found that autonomy in teams was positively linked to individual autonomy, individual task variety and quality of social relationships and that it was negatively related to workload. They argue that autonomy could result in increased workload as the amount of control and pressure to deliver are increased due to pressure from other group members (Van Mierlo et al., 2001). They also found that the quality of the relationships and individual autonomy led to psychological well-being, but increased workload led to psychological fatigue. Individual autonomy, individual task variety and quality of social relationships led to a higher motivation to learn.

Teams can take different forms. Abbott, Boyd, and Miles (2006) investigated teams with different levels of autonomy. They differentiated between substantive teams that have the authority to implement solutions that they had developed and consultative teams that did not have this authority. Contrary to their hypothesis they found that the consultative teams were more satisfied with their jobs than the substantive teams. They do suggest that part of the reason for this could be that different forms of team based control can be created once the normal hierarchical control has been removed.

The movement of teams to being autonomous does not necessarily lead to reduced control in teams. Barker (1993) conducted an in-depth investigation of an organisation that moved from traditional bureaucratic control to self-managed teams. This investigation lasted for approximately 4 years. The teams created eventually developed norms and rules that were rigidly applied. There was great peer pressure for the team members to conform to the norms setup by the team. This was termed “concertive control”. The team members were also less patient with non-compliance to the team rules than a line supervisor would have been. The team members’ behaviour was constantly watched and Barker found that the team members felt more stress in the team environment than under the old system, and that employees who were not committed to the team did not last under the “concertive” system of control.

This potentially has an impact on innovation that occurs in a team. Teams need to obtain a reasonable level of control such that the team members are focussed on the goals that the team needs to achieve, whilst not being so rigid that no innovation is

possible. The reduced job satisfaction in self-managed teams could impact on the motivation of the team members and thus on the innovative behaviour that is exhibited in the team.

Cognitive Style

Cognitive style is the manner in which individuals process and evaluate information (Leonard et al., 2005). Leonard et al. (2005) suggest that group cognitive style, a concept that they define as group level patterns of behaviour, could be useful in the study of group processes. They argue that these cognitive styles could be relatively stable in a team.

Team mental models and "transactive" memory are two cognitive structuring concepts that assist teams in utilising the information held by the individuals in the team. Team mental models are defined as an organised understanding of relevant knowledge that the team members share (Ilgen et al., 2005). Shared mental models apparently make teams perform better because of better coordination and team backup behaviours (Ilgen et al., 2005) and allow the team members to anticipate each other's moves, reducing the requirement for processing and communications (Zaccaro et al., 2001). This has the potential to reduce process loss in a team, and maximises the benefits of working in a team.

Team members can hold multiple models simultaneously (Mohammed, Ferzandi, & Hamilton, 2010). These mental models can be related to goals and performance requirements or interaction requirements and skills of the other team members (Mohammed, et al., 2010). They indicate that the similarity of the mental models of the different team members and the accuracy of the mental models are important. Similarity indicates that the team members share similar views of the knowledge in the team, whereas accuracy refers to the overall accuracy of the mental models.

Austin (1997) differentiates between automatic processing, which is the unconscious processing of data using scripts, and active processing, which is the conscious processing of data that does not fit into any existing mental schema. These schemas are mental frameworks that assist people in processing information. Individuals routinely use automatic processing if a situation matches an appropriate existing schema (Ford, 1996), but switch to active processing when data or an event do not match any existing schema (Austin, 1997). Individuals will ignore data that is too different from what is expected. In order for innovation to occur in teams, the team

members need to move from automatic processing to active processing as new responses and knowledge need to be created.

Transactive memory systems, on the other hand, relate to all the knowledge held by the team members with an understanding of who has what knowledge (Austin, 2003; Ilgen, et al., 2005). Transactive memory systems provide team members with access to more information than would be possible for a single person to remember (Austin, 2003). Austin (2003) conceptualized transactive memory into four dimensions; knowledge stock (knowledge possessed by the team members), memory consensus (agreement of who has the information), knowledge specialisation (knowledge that is not shared) and memory accuracy (the extent to which the location of the information is accurately known). Of these, Austin (2003) found that transactive memory accuracy was the most significant predictor of group performance. It can be argued that transactive memory systems are important for the optimal use of information that resides within a team, and that transactive memory can only develop over time.

Team mental models and transactive memory differ in the focus on overlapping or team relevant knowledge; transactive memory is broader than mental models and includes information that is not overlapping and knowledge relevant to the team (Ilgen et al., 2005).

Both of these cognitive constructs are ways in which team members organise and understand information contained within the team, and are useful in order to understand the operation of teams and the variance in the performance of teams. These constructs could explain some of the reasons for differences in innovative behaviour in teams.

Team Processes

There are numerous team processes that intervene in the relationship between the team composition and the behaviour of the team. Some of these cannot be differentiated easily into processes or emergent states in teams, and could have characteristics of both a process and a state. Processes that have been identified include cognitive stimulation, discussion and debate, conflict, minority influence, reflexivity, social support, communications, conformity and groupthink, social loafing and the formation of subgroups.

Knowledge Creation

Knowledge creation has been put forward as an important component of innovation. Fischer (2001) argues that the core of the knowledge creation process takes place at the group level, although the organisation sets the context within which this is possible. He states that knowledge is managed and created at an individual level, but if this knowledge cannot be shared with others and used at a group level, then the knowledge is not valuable to the organisation. In order for teams to be innovative, teams need to be able to create knowledge and must have the necessary conditions for the learning, assimilation and use of this knowledge (Fischer, 2001). Teams could facilitate knowledge creation by enabling the bridging of gaps in the flow of knowledge between different functional areas thereby providing access to greater knowledge resources, and allowing for the integration of previously disconnected knowledge (Mitchell, Nicholas, & Boyle, 2009).

Malhotra and Majchrzak (2004) consider the diversity of knowledge perspectives in virtual teams as a fertile ground for knowledge creation. This is also applicable to other teams.

Argote et al. (2003) state that knowledge retention and transfer are more effective when the team members share a “short-hand language” because team members can then understand and communicate with each other effectively. Argote et al. (2003), however, conclude that knowledge creation could be different from knowledge retention and knowledge transfer and that knowledge creation could be stimulated by a “lack of congruence or fit” between the team members.

Argote et al. (2003) also mention that commonly held knowledge is more likely to be used in teams than knowledge that is possessed only by a single group member. It is thus important for there to be some overlap in the knowledge of group members. Argote et al. (2003) state that bridging knowledge boundaries is important, and that innovation increases when people are able to bridge different knowledge domains. Cannon-Bowers and Salas (2001) describe four different meanings of sharing in teams: overlapping knowledge, where portions of the knowledge are shared; similar or identical attitudes and beliefs which are important for drawing common interpretations; complementary and compatible knowledge, where the team members hold different knowledge that is important for task completion; and apportionment of knowledge, where the members of the team as a whole have all the knowledge required for the completion of their task, shared between the team members.

There are numerous reasons why knowledge may not be successfully shared in a group (Leonard & Sensiper, 1998). It could be that the rewards for hoarding knowledge are greater than the rewards for sharing knowledge. Individuals could be discouraged from participating by others. Inequality of the status level of group members could discourage them from fielding their suggestions. Physical distance could be a barrier to knowledge sharing. A preferred communication mechanism based on hard facts such as financial data rather than intuition could make tacit knowledge sharing and idea suggestion difficult or impossible. Individuals with a fear of failure could hold back from sharing their knowledge. There could be a fear in diverse teams that their input will lead to emotional rather than intellectual disagreement.

A concept that is closely linked to knowledge creation is learning. Andreu and Ciborra (1996) indicate that learning is important for the development of core competencies in an organisation. Aragon-Correa et al. (2007) showed that the collective capability for learning in an organisation has a strong effect on innovation in the organisation. They also found that transformational leadership of the CEO had a large, significant influence on organisational learning. Driver (2003) studied seven groups in order to determine the different levels of group learning and how this resulted in effectiveness. The primary area of concern for Driver (2003) is, however, the propensity to learn, and how cognitive differences result in non-routine learning, which is seen as a mechanism via which the team becomes more effective.

Knowledge creation has been argued to be a critical part of the innovation process. The manner in which knowledge is shared and created is thus important to obtain an understanding of innovative behaviour in teams. The amount of new knowledge that needs to be created depends on the innovation required. Major changes that could result in shifts in an entire industry would be expected to require the creation of new knowledge, whilst other changes, which could still have major effects within an industry may not require as much knowledge to be created.

Discussion and Debate

One of the fundamental processes that take place in teams is the interaction between the team members to discuss ideas and thoughts and make decisions. The debate that takes place in teams and the decision comprehensiveness could have an impact on company performance (Simons, Pelled, & Smith, 1999). Olson, Parayitam, and Bao

(2007) indicate that open discussions could generate discomfort and disagreement, but would lead to gains in the knowledge of the team members.

Forbes (2007) defines strategic decision comprehensiveness as the extensiveness with which the organisation gathers and processes information from the external environment prior to making a strategic decision (Malhotra & Majchrzak, 2004). Simons et al. (1999) found that debate, which they defined as challenging and opposing one another regarding tasks, positively moderated the relationship between top management team diversity and performance. They state that it is possible for debate to exist in a team without comprehensiveness, and for team members to be comprehensive and consider numerous viewpoints and alternatives without challenging each other via debate.

In their investigation of strategic decisions, Eisenhardt and Zbaracki (1992) indicate that simple decisions follow smooth and sequential decision paths, whereas complex matters have a non sequential manner in which the phases occur and could even be repeated. The phases that they noted were gathering information, developing alternatives and selecting from alternatives. They also suggest that some decision-makers may select options that they do not think will solve the problem in order to avoid high risk. Eisenhardt and Zbaracki (1992) argue that decision-makers in fast-paced environments may consider many alternatives but may not analyse all in depth before making a decision.

The value of decision comprehensiveness in achieving decision quality is potentially affected by instability, ambiguity and uncertainty in the environment (Forbes, 2007). Forbes defines instability as changes in the environment that are rapid and discontinuous. Uncertainty is where the possible outcomes are known or the probability of each outcome is known, however the actual outcome that will occur is not known. Ambiguity refers to uncertainty about the process via which the outcome will occur (Forbes, 2007). Forbes argues that decision comprehensiveness is only likely to have a positive effect under conditions where the quantity of relevant available information is high and the information has high determinacy, where the available information is not ambiguous.

Eisenhardt and Zbaracki (1992) propose that the study of heuristics, insight and intuition is necessary to gain a more realistic understanding of the cognitive

components of decision making. They state that insight involves radical shifts in understanding and intuition, which is enhanced by deep knowledge of the business.

Regardless of all the other team processes, team states and team context that exist in teams, discussion and debate is the primary means via which the members of a team interact. All of these conditions and processes will affect the value and presence or absence of discussion and debate, but discussion and debate is still the primary means of interaction.

Communications

Communication is an essential component of team operations. Different forms of communication occur in teams. Communications can occur within a team or with people and groups outside the team including others in the organisation, partners, suppliers or customers. Communications can also be formal or informal.

Communications frequency has been found to impact the innovation effectiveness of teams. Both higher communications frequency within and outside a team appears to improve the innovation effectiveness of a team (Angle, 1989). One of the possible effects of frequent interaction between team members is that people begin to develop shared mental models that reduce the impact of social identity and categorisations in teams (Fay et al., 2006). One of the factors cited as important for innovation is the external communication that takes place in a team (Gibson & Gibbs, 2006).

Others indicate that excessive interaction between team members or outside the team can hamper creativity, as individuals may not use their own individual cognitive abilities to explore as many ideas as possible (Leenders et al., 2003). Leenders et al. (2003) found that both high and low levels of communications impeded creativity. They researched the importance of intra-group communications in new product development teams. They cited both the importance of communications in teams, and also the manner in which the communication in the teams could hamper creativity in the teams. They do not agree with the argument in the previous literature that the frequency of interaction in teams was the most important explanatory variable. They argue that communications could harm teams because excessive communication could either distract team members or block creativity. This could thus hinder the use of their cognitive abilities, thereby leading to less innovative solutions.

An important form of communication in teams appears to be informal communications. It has been suggested that informal communication is important for strategic consensus to occur in top management teams (Camelo-Ordaz, Hernandez-Lara, & Valle-Cabrera, 2004) and informal communication is necessary to overcome those differences in interpretation in order to develop a shared vision of the goal of the team (Gibson & Gibbs, 2006). Leenders et al. (2003) indicate that for creativity to occur in teams, unplanned, ad-hoc communication needs to occur. They said that this would reduce the negative implications of conflict and enhance the benefits of diversity. They indicate that informal communication has a positive impact on social integration in the group. They state that this can occur because the frequency of interaction is higher than formal communication. Camelo-Ordaz et al. (2004) also argue that with a high level of informal communication, a deeper interaction between the team members is possible. This could increase the cohesion and trust in the team. Their linear regression analysis, however, did not support the relationship between informal communications and consensus in the team. They suggested that a possible reason for this is that informal communications could increase conflict.

O'Conner and McDermott (2004) indicate that informal inter-team networks are critically important for radical innovation projects, since radical innovations need every aspect of the knowledge and skill in an organisation. Project “alumni”, people who were part of projects and moved to other parts of the organisation, are important drivers of informal networks (O'Conner & McDermott, 2004). They argue that these informal networks assist the innovation to succeed when the project has to be moved from one part of the organisation to another.

Leenders et al. (2003) also state that high levels of team interaction could result in team members becoming enthusiastic about a novel idea, whilst not considering the actual value of the idea. Ideas that should otherwise be rejected may be accepted. A form of groupthink could “reduce the number and quality of problem solutions” (Leenders et al., 2003, p. 73). They therefore argue that too high levels of communication could adversely affect teams. They also indicate that a too low level of communication would be damaging to creativity, as product development by its nature, requires input from all the necessary functional areas.

Gibson and Gibbs (2006, p. 462) indicate that for communication to take place, the team needs to be in a psychologically safe communications climate. They state that

this is linked to team psychological safety and consists of “support, openness, trust, mutual respect and risk taking.”

Lobbying is a political tactic that people use to gain power and enhance their point of view (Eisenhardt, 1997). The power and political model of Eisenhardt (1997) indicates that team members may not have the same goal, and the group may not behave rationally. Eisenhardt (1997) mentions that people may have at least partially conflicting preferences. One of the outcomes of this could be lobbying, but other examples are formation of coalitions in the team and the withholding of information.

Social Support

Social support is defined as the “team members’ efforts to provide emotional and psychological strength to each other” (Carson, Tesluk, & Marrone, 2007). There are two major sources of social support in teams - support from co-workers and support from supervisors (Van Mierlo et al., 2006). Leader-member exchange has been well researched; however the concept of team-member exchange could explain co-worker support in teams (Van Mierlo et al., 2006). Team members may be prepared to assist each other in order to accomplish the goals of the team. Van Mierlo et al. found that as the autonomy of the team increased, team members without social support experienced the lowest level of individual autonomy.

Social support could also be important for sustaining team members during more mundane tasks (Campion et al., 1993). Social support can enable team members to feel that their input is valuable and appreciated and they are thus more likely to develop a shared sense of responsibility for outcomes and be prepared to work together (Carson et al, 2007).

Groupthink/Conformity

Van De Ven (1986) states that teams place strong conformity pressure on members, possibly without the members being aware of this. He also cites research that found that heterogeneous groups become homogenous after working together daily for as little as three years. In organisations where employees are expected to conform, the organisation could lose valuable resources that could allow it to make better decisions and become more innovative and adapt to increasing global competitiveness (Lattimer, 1998).

Social support has been identified as a process that can help team members to resist conformity pressure (Nemeth & Chiles, 1988). Nemeth and Chiles (1988) found support for their hypothesis that dissenting views from a minority are likely to encourage others to resist conformity. They found that this held true even when the minority view was not correct. The processes of social support and minority dissent thus have the potential to reduce conformity in teams.

Groupthink is defined as an "excessive tendency to create concurrence" (Eisenhardt & Zbaracki, 1992, p. 21). Groupthink is one of the possible negative effects of high cohesion in a team (Gibson & Gibbs, 2006). Peterson, Owens, Tetlock, Fan, and Martorane (1998) tested groupthink and vigilant decision process in top management teams. They state that groupthink occurs when teams do not have norms for deliberate decision-making and have high stress. They state that under these circumstances, teams ignore information and come to unanimous decisions, despite misgivings. The team members tend not to air their misgivings. They contrast groupthink with vigilant decision making which exhibits extensive deliberation. They found that neither was groupthink the best match for the unsuccessful teams, nor was vigilant decision-making the best match for the successful teams (Peterson et al., 1998).

Eisenhardt and Zbaracki (1992) contend that there have been solutions proposed to deal with the problem of "groupthink", and that these consist of creating divergence by introducing a "devil's advocate" or by using outside experts.

Social Loafing/ Free-riding

There is the possibility that team members in teams conduct "social loafing" and "free-riding" where they shift some of their work to others, with no detriments at an individual level (Clinebell & Stecher, 2003) or if team members believe that their contribution is dispensable (Paulus, 2000).

Paulus (2000) also indicates that teams could tend towards the lowest common denominator, where the least capable in the group have the most impact. Some researchers argue that having a shared vision in a team is likely to lead to less role ambiguity and greater focus which is likely to reduce the incidence of social loafing (Pearce & Ensley, 2004).

Cognitive Stimulation

There are some cognitive benefits that can only occur when more than one individual is involved. Paulus (2000) indicates that because of mutual stimulation of associations, when ideas are exposed from a particular category, other ideas from the same category will tend to be thought of by the other group members until the category is exhausted. At this time, the team members are likely to come up with different categories. Paulus (2000) argues that this could result in ideas or categories being discovered that would otherwise not have been thought of or considered. A potential additional benefit of this is that categories would tend to be examined more comprehensively than would otherwise have been possible.

This indicates a major benefit of the use of teams in organisations; team members bring different knowledge and associative structures to the group and may thus explore a fuller range of ideas (Paulus, 2000). Paulus (2000) does also indicate that where the overlap of information between the team members is too high, exploration may be limited; teams with more diverse information may explore a wider range of ideas.

The effective use of this distributed information requires the exchange of the information between the team members, consideration of the information and implications, and discussion and consideration of the implications (Van Ginkel & Van Knippenberg, 2008). Van Ginkel & Van Knippenberg (2008) called this the “elaboration of information”. A relationship was found between elaboration and common understanding of task characteristics such as norms, concepts, perspectives or processes.

Conflict

One of the challenges of working in teams is that some form of conflict will invariably occur in the team. Jehn (1996) investigated the benefits and detriments of conflict in groups. Jehn (1996) defined conflict as perceptions by people that they have different views or personal incompatibilities. She distinguished between conflict based on issues to do with the team’s tasks, termed *task conflict*, and conflict based on interpersonal relationships, called *relationship conflict*.

Relationship conflict is caused by differences in taste, values, style and other preferences (De Dreu & Weingart, 2003). Others term this *affective conflict*, which they define as perceptions that there are interpersonal issues (Pelled, 1996). Task conflicts

relate directly to issues around work-related choices such as policies or resources. Task conflict has also been referred to as *team polarity* (Kratzer et al., 2006), or *substantive conflict* (Pelled, 1996).

Jehn and Mannix (2001) define conflict as an awareness of differences between the team members and they propose an additional form of conflict which they name *process conflict*. They define process conflict as differences about how team members consider that the task should be accomplished. Amason (1996) describes a similar concept which they term *cognitive conflict*. Cognitive conflict is defined as differences in how team members view the best way to achieve the organisation's objectives. Camelo-Ordaz et al. (2004) define cognitive conflict similarly, and state that cognitive conflict can be beneficial because innovation depends on a common view and comes about after considering multiple different perspectives. Camelo-Ordaz et al. (2004) state that cognitive conflict could cause emotional or relationship conflict. They argue that this would occur if there is no team process which directs the team to use the different opinions and cognitive conflict positively.

Paulus (2000) indicates that conflict in groups could occur if group members have different perspectives and believe strongly in their own perspectives. Paulus (2000) then states that in this case, people may either start to defend their positions or change their positions if the members are motivated by accuracy. Task conflict could be caused by functional background differences (Pelled, Eisenhardt, & Xin, 1999). Olson et al. (2007) indicate that task conflict is inevitable in certain types of teams, such as executive teams that need to make strategic decisions due to differences in how they view their environments and the different perspectives that they have.

Conflict can be good or bad depending on the impact that conflict has on the team's ability to act and make decisions (Camelo-Ordaz et al., 2004). Most authors agree that task conflict can be good for teams (Cohen & Bailey, 1997; Olson, Parayitam, & Bao, 2007; Pelled, 1996) but argue that relationship conflict can not only be bad for a team, but could even undermine the benefits of task or substantive conflict (Pelled, 1996). Cohen and Bailey (1997) also state that high levels of task conflict can be detrimental because members could lose sight of the team goal or suffer from information overload. Relationship conflict may be detrimental to satisfaction in a team, but may not affect the overall performance of the team (Cohen & Bailey, 1997).

Jehn (1996) states that relationship conflict causes discomfort and dejection in team members, which leads to them not enjoying working together as a team. Relationship conflict could lead to animosity, tension and annoyance in teams (Langfred, 2007). Jehn states that this could cause people to lose perspective and could inhibit the processing of complex information. Another detriment of relationship conflict is that group members could waste time in attempting to resolve the conflict or focus on ignoring the conflict rather than on the tasks to be performed.

Jehn (1996) argues that the impact of task conflict would vary based on whether the tasks to be performed by the team were routine or not routine. She maintains that teams performing non-routine tasks would benefit more from the diverse views of the team members. She anticipates a curvilinear relationship between task conflict and performance, with moderate levels of conflict increasing the performance of the group and the individual team members. Jehn (1996) differentiates between routine and non-routine tasks at high levels of conflict, where the group performance would be low for routine tasks and moderate for non-routine tasks. Jehn (1996) also indicates that low levels of conflict could lead to inactivity in the team because of a diminished sense of urgency. This could be explained in the opposite causal direction; a lack of urgency could lead to limited conflict in a team.

According to De Dreu and Weingart (2003), even though conflict can interfere with team performance, low levels of conflict can enable teams to make better decisions than if there was no conflict. The converse could also be true; low levels of conflict could be evidence that constructive debate with some disagreement is taking place in a team. A lack of conflict in a team would seem to indicate that issues are not discussed in depth and that people are not open in expressing their view, or that people are not considering the issues in sufficient depth.

De Dreu and Weingart (2003) cite other works that indicate that teams tend to make better decisions when the team members' preferences are different prior to the start of discussions. The decision quality in a team could suffer if conflict is hampered in a team or does not occur (Amason, 1996; Eisenhardt & Zbaracki, 1992). Amason (1996) does, however, indicate that conflict can reduce consensus and acceptance of the team result. De Dreu and Weingart (2003) support this and state that the benefits of conflict could be lost if the conflict becomes too intense. In their meta-analysis, Dreu and Weingart (2003) however, found that task conflict was not beneficial to team performance and did not find evidence that relationship conflict had different

consequences for performance than task conflict. This is in line with the information processing perspective that states that, when an increase in conflict is anticipated by team members, information processing is hampered and cognitive flexibility and creative thinking is reduced (De Dreu & Weingart, 2003). Only low levels of conflict result in more flexibility in thinking, and thus potential benefits for performance.

De Dreu (2006) later investigated whether there was a curvilinear relationship between task conflict and innovation, as had been predicted by *information processing theory* (De Dreu & Weingart, 2003). They found that an inverted U-shaped relationship did exist, and that this relationship is mediated by collaborative problem-solving. The curvilinear relationship between task conflict and innovation could be as a result of task conflict having differing impacts on the subcomponents of a team's operations. De Dreu (2006) also states that too low levels of information processing could reduce the creation of ideas, whilst too high levels of information exchange could cause distraction and information overload. Kratzer et al. (2006) also found a positive curvilinear relationship between task conflict, which they termed team polarity, in the conceptualisation phase of creative projects and communications. They found a negative relationship between conflict and communication in the commercialisation or implementation phase of the project.

Jehn and Mannix (2001) considered the impact of conflict on the performance of teams. They were particularly interested in changes that occurred in teams, with regard to conflict, at different times. They found that all types of conflict were lower in high performing groups than in low performing groups, with the exception of task conflict which was higher midway through the project. Jehn et al. (1999) argue that task related conflict could increase team performance, whilst relationship conflict could be detrimental to task performance. Pelled et al. (1999) indicate that task routineness and group longevity moderate the relationship between diversity and conflict. They found that group longevity moderated the relationship between the level of diversity and the level of conflict. Paulus (2000) indicates that conflict is likely to lead to cognitive change in the group if the conflict is as a result of a vocal minority in the group.

The effect of conflict could vary dependent on the type of dependence that exists between team members (Tjosvold, 1998). Tjosvold (1998) argues that when people see their goals as positively linked, they are prepared to engage in conflictual discussions with the intention of assisting each other in achieving their goals. Tjosvold (1998) indicates that with positively interdependent goals, people are prepared to take

into consideration opposing views and to try and reach agreement. Tjosvold (1998) conversely indicates that with competitive goals, people would tend to be closed minded, avoid conflict, refuse to accept the ideas of others and fail to reach agreement.

In diverse teams, managers need to ensure that the interaction does not degenerate into chaos or the conflict become personal, thus limiting the benefits of creative abrasion (Leonard & Sensiper, 1998). Jehn et al. (1999) found support for their hypothesis that social category diversity increased relationship conflict in teams. They also found that value diversity, which they defined as differences in terms of understanding of the team's objectives, increased task conflict, process conflict and relationship conflict.

Teams could deliberately create conflict in order to make better decisions (Eisenhardt, 1997). The example given was that of a decision-making team using scenarios. Eisenhardt (1997) also indicated that conflict could be created in teams by different members taking on different team roles. Other researchers (Gibson & Gibbs, 2006) have argued that surfacing conflicts early in the development process contributes to innovation in the team. Langfred (2007) also noted that in self-managed teams, team members may be reluctant to deal with conflict.

It is possible that leaders could and should intervene in discussions to ensure that team members do not focus on personal and affective differences but rather on the problem (Reiter-Palmon & Illies, 2004).

Minority Influence

Minority dissent is the extent to which minorities in the team oppose the ideas and thinking of the majority (Cini, 2001; De Dreu, 2002). Teams in organisations are not static and change for a variety of reasons (Cini, 2001). Newcomers to groups can impact the operation of the group by being a source of dissent in a team. Cini (2001) researched how groups change over time due to being affected by newcomers to the group. Cini (2001) indicates that much of the previous research has been concerned with the assimilation of the newcomer into the group, where the newcomer is made to be more similar to the existing group members, rather than accommodation, where the newcomer may produce changes in the group.

De Dreu (2002) researched the effect of minority dissent on team performance and found that high levels of minority dissent led to more innovation, when coupled with

high reflexivity. A new team member could adopt some of the norms of the group, whilst still being a source of new ideas to the group. De Dreu (2002) argues that minority dissent could be important because it causes other group members to resist conformity pressure and could prevent premature closure on topics. This improved quality of the decision process could take place, even if the minority view did not prevail (Lattimer, 1998; Milliken & Martins, 1996).

The influence of minority members on the group is affected by the level of cohesion in the team; teams with high cohesion are likely to resist influences from newcomers (Cini, 2001). The influence of minority dissent is also stronger when the team members are collectivist in nature rather than individualist (Ilgen et al., 2005).

Reflexivity

Reflexivity is the extent to which the team reflects on and adapts its objectives, strategies and approaches (De Dreu, 2002; Schippers, Den Hartog, & Koopman, 2007). Reflexivity has the potential to affect team effectiveness and innovation. Reflexivity allows for the reframing of tasks and the questioning of assumptions, which could then lead to alternative innovative approaches (Hirst & Mann, 2004). Hirst and Mann (2004) found that reflexivity did mediate the relationship between innovative leadership and team performance. Schippers et al. (2007) differentiated between three levels of reflexivity. At the most basic level, this consists only of discussion around issues closely related to the team task. With moderate reflection, tasks, goals and strategies and processes are considered, and at a high level, the norms and value of the team are questioned and analysed.

Fault lines and Subgroups

The demographic characteristics of a team could result in the break-up of the team into smaller groups, called subgroups, based on divisions in the team, termed fault lines (Lau & Murnighan, 1998). Fault lines can divide a team into subgroups on the basis of one or more attributes of the group members (Jehn & Bezrukova, 2010; Lau & Murnighan, 1998). With more aligned demographic divisions in a team the subgroups that are created are likely to be stronger (Ilgen et al., 2005).

Jehn and Bezrukova (2010) differentiate between dormant and active fault lines. Dormant fault lines are necessary for activated fault lines to be created. Jehn and

Bezrukova (2010) found that if the team has a strong identity then the impact of the activated fault lines on conflict and the creation of coalitions in the group are limited.

Initial fault lines that are developed could become weakened as team members get to know each other and discover differences between the initially similar team members, and similarities between originally dissimilar team members (Lau & Murnighan, 1998). Lau and Murnighan (1998) state that the addition of new members to a group has the possibility of reviving old fault lines or of creating new fault lines. Fault lines could strengthen if the group's tasks divide in the same direction as the fault lines (Lau & Murnighan, 1998).

The creation of subgroups is potentially as a result of social categorisation. Pelled et al. (1999) found, when testing interaction effects of different forms of diversity, that when types of diversity were not correlated, categorisation became more difficult and tensions between groups in the team were reduced.

Polzer et al. (2006) hypothesise that teams where subgroups exist could become less effective due to the fault lines created by these sub-groups. This could create the problem that in moderately diverse teams, subgroups could form, and these teams could operate less effectively than more diverse teams, where the potential for subgroups to occur is reduced. Polzer et al. (2006) also indicate that characteristics of the environment could trigger fault lines. One example they cited was that of affirmative action, which could activate racial divisions.

One of the consequences of subgroups is that information from perceived in-group members could be seen as more influential than similar information from out-group members (Lau & Murnighan, 1998).

2.2.4. Innovative Behaviour in Teams

Innovation in teams occurs in a process that parallels how creativity occurs in individuals. There are phases of idea generation, refinement, evaluation, promotion and realisation that may not occur in a linear manner or earlier steps could be repeated multiple times. Teams are, however, complex, dynamic, adaptive systems, and effective innovative behaviour in teams is affected by an assortment of different conditions and characteristics of teams and the environment.

The creativity process could occur in an iterative fashion in teams, with team members developing ideas alone, presenting to the group, obtaining feedback from the group and further developing the ideas alone (Drazin et al., 1999). Paulus (2002) puts forward that the innovation process could be a continual cycle of idea generation and idea implementation. The innovation process in a team can be seen as an extension of this idea, where the team member who continues the development of an idea, does not have to be the team member who came up with the original idea, and the team members do not have to work alone when outside the group setting, but could work in small subgroups or dyads.

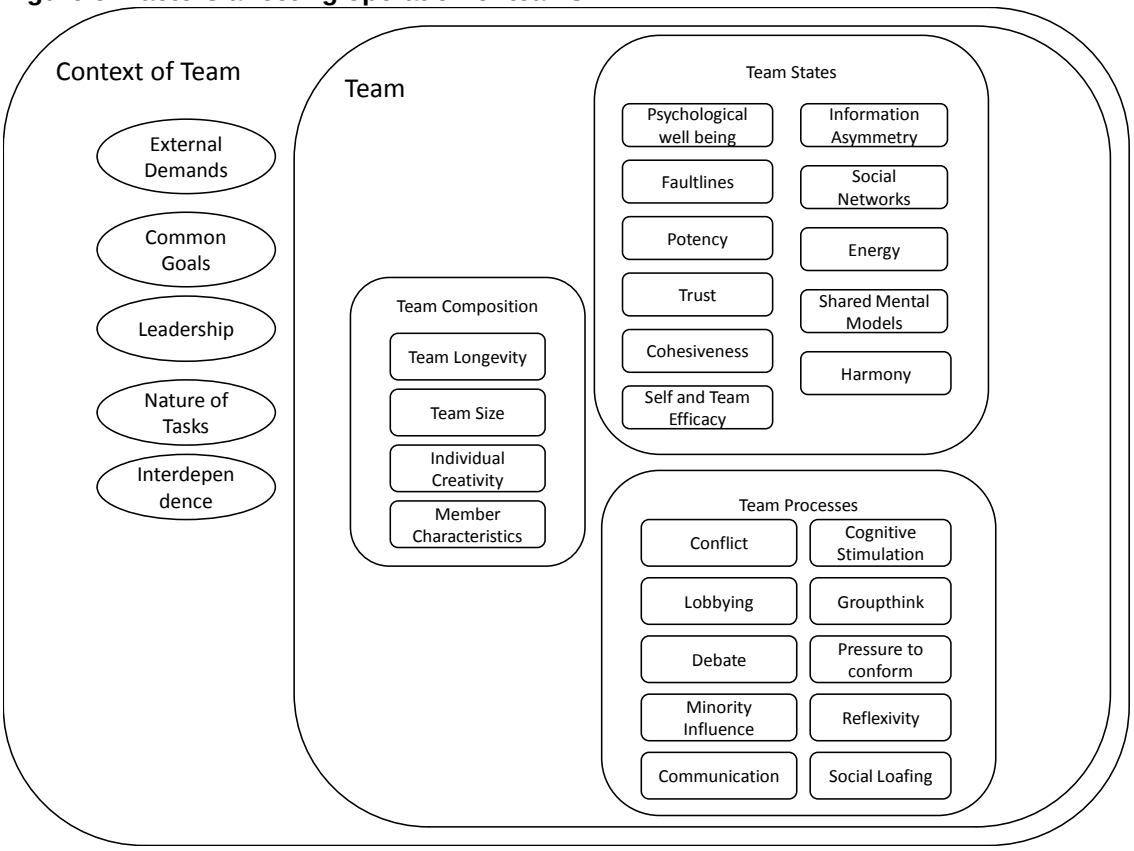
Paulus (2002) suggests that it may be important to have breaks in the innovation process in order for ideas to be processed by the team members. This is similar to the concept of incubation that was described by Wallas. Team members could need time on their own in order to reflect on the development of potential solutions to the problem or requirement.

One of the properties of a team is the stage of development of the team. There have been numerous team development models suggested. Some of the models are linear, but the more recent models are non-linear with team revisiting stages of development repeatedly with the relationship and task dimensions proceeding at different rates. The stage of development of a team could have a material effect on the dynamics within the team and could thus affect the innovative behaviour of the team. There have also been numerous team functioning models proposed that provide a framework within which to understand the operation of the team and any process gains or losses that occur.

The factors that can affect the operation of a team include the organisational context, team context, the composition of the team and various states and processes within the team. The literature in the fields of creativity, innovation, knowledge management and teams provides a complex set of factors that could affect the innovative behaviour in teams. Figure 5 illustrates the factors that have been identified in the literature. These range from the individuals that comprise the teams, their domain relevant skills and knowledge, creativity relevant skills, motivation through to the environment which the team operates. The goals and tasks that have been set for the teams have an important effect, as does the leadership of the team. Team characteristics such as the length of time for which the team has been in existence, the size of the team and the type of the team could also affect the innovative behaviour. The composition of the

team and characteristics of the team has an impact on the processes that exist within the team as well as the emergent states in the team. This can also be impacted by the diversity of the team members who are in the team.

Figure 5: Factors affecting operation of teams



2.3. Diversity

2.3.1. The Nature of Diversity

Definition of Diversity

Diversity is defined as differences in people and could encompass ethnicity, nationality, gender, function, ability, language, religion, lifestyle, tenure, culture or intellectual ability (Bassett-Jones, 2005) and race (Richard, 2000), age and educational levels (Simons et al, 1999). Team members could also have differences with regard to their orientation to tasks, with male team members potentially being more task-focussed and female team members more process-focussed (Bowers et al., 2000). Diversity is not constrained to demographics in this research but includes all forms of diversity including cognitive diversity.

Types of Diversity

Diversity can be categorised along numerous different dimensions. Bowers et al. (2000) cite four broad categories of differences between team members, including biographical, personality and leadership differences and differences in ability. Kilduff, Angelmar and Mehra (2000) indicate that four categories of diversity can be studied: visible demographic attributes, relationship attributes, status attributes and personal attributes.

Some different categories that have been suggested are:

- Observable and non-observable (Milliken & Martins, 1996)
- Readily detectable and not easily detectable (Bowers et al., 2000)
- Task related differences versus relationship orientated differences (Bowers et al., 2000)
- Personality or attitude or value diversity (Mathieu et al., 2008)
- Type A and Type B personalities (Keinan & Koren, 2002)
- Demographic versus cognitive diversity (Miller, Burke, & Glick, 1998; Driver, 2003; Olson, Parayitam, & Bao, 2007)

Milliken and Martins (1996) indicate that when the differences are visible the different responses may be due to biases, prejudices and stereotypes that the team members harbour. They indicate that the potentially negative outcomes of visible diversity are reduced the longer the team members stay together. The non-observable forms of diversity could lead to different approaches to issues and different ways of working (Milliken & Martins, 1996). They also mention that team members can have differences in skills or knowledge which could be related to educational or functional background. Another form of diversity is the length of time people have been in the organisation, which they term *organisational cohort* diversity.

Pelled (1996) suggests a classification scheme for demographic diversity as tabulated in Table 1. Each demographic variable can be classified according to its visibility and its job relatedness. Pelled (1996) introduced this concept to overcome the traditional problems of either considering each type of demographic diversity independently, or considering demographic diversity broadly without considering the different types. Pelled (1996) defined demographic variables along the dimensions of visibility and job relatedness. Job related diversity is defined “as the extent to which a type of diversity

captures distinctive experiences, skills or perspectives relevant to the cognitive tasks at work" (Simons et al., 1999, p. 662). Certain demographic diversity aspects are easily visible and thus become a basis for categorisation, which Pelled (1996) proposes could lead to affective (relationship) conflict in a group. Pelled (1996) proposes that demographic diversity variables that are job-related increase substantive (task) conflict within a group.

Table 1: Classification of diversity

	Low job-relatedness	**High job-relatedness**
High Visibility	Age Race Gender	Group tenure
Low Visibility		Organisational tenure Education Functional background

Source: (Pelled, 1996)

Theories of Diversity

There are numerous theories that have been advanced to explain the impact of diversity on teams (Bowers, Pharmer, & Salas, 2000; Fay, Borrill, Amir, Haward, & West, 2006; Horwitz, 2005; Tsui, Egan, & O'Reilly, 1992; Van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). Williams and O'Reilly (1998) describe four theories that are useful for understanding the effects of diversity on organisations. These are:

- Social Identity and Social Categorisation Theory
- Similarity/Attraction Theory
- Information/Decision Making Theory
- Perceived value of diversity

Another theory from the field of management that could explain the effect of diversity on a team is *cognitive resource diversity theory* (Horwitz, 2005).

Social identity and *social categorisation theory* argues that people have a tendency to make sense of the world by simplification; where they sort themselves and team members into social categories based on observable characteristics of each person (Fay et al., 2006; Tsui et al., 1992; Williams & O'Reilly, 1998). Tsui et al. (1992) state that this is because individuals need to maintain a high level of self-esteem and a

positive self-identity. This gives them a social identity which is often defined in terms of demographic diversity categories such as age, race, gender, ethnicity or other visible differences. Social identity is defined as the part of the individual's self-concept that derives from their membership of a social group (Tajfel, 1982).

People then tend to develop positive views about their own categories and negative views about other categories (Fay et al., 2006) and see other groups as less attractive, trustworthy, honest and cooperative (Tsui et al., 1992). This process leads to in-group and out-group membership. Social identity theory argues that diversity harms teams by reducing cohesiveness and communications and results in the creation of subgroups (Bassett-Jones, 2005) and affective conflict (Pelled, 1996). Stronger subgroups would be created as more demographic divisions align (Ilgen et al., 2005). Self-categorisation could even lead people to become members of a psychological group, which is a group where people identify without necessarily engaging in any interaction with the members of the group (Tsui et al., 1992).

Another theoretical foundation for the study of diversity is the *similarity/attraction paradigm* (Williams & O'Reilly, 1998). The basic principle of this theory is that similarity or similar attributes leads to interpersonal attraction and liking. In other words, an individual would have a tendency to interact with people who are similar. This would make heterogeneous groups less effective and have lower cohesiveness (Horwitz, 2005). Williams and O'Reilly (1998, p. 86) note that past research shows that similarity/attraction leads to "less positive attitudes, and less frequent communication, and a higher likelihood of turnover from the group, especially among those who are most different." Bowers et al. (2000), however, argue that interpersonal liking in a team does not necessarily means that the team will perform better.

Tsui et al. (1992) argue that self-categorisation rather than similarity/attraction could be the basis of team member's social identity. Van Knippenberg and Schippers (2007) indicate that social categorisation and similarity / attraction both come to the conclusion that people prefer to work with similar others.

The difference between the two theories is that self-categorisation is based on social identity and is thus strongly linked to demographic group membership, whereas similarity / attraction is based on similarity which could occur either at a demographic level or at a cognitive or personality level. People who are members of the different demographic groups could conceivably like each other because they think alike. It is

possible that these effects could be independent of demographics, or could be linked to less obvious demographic similarities, and that these are more likely to develop as people get to know each other.

This is in agreement with other researchers who state that perceived differences between team members may have a greater impact than observable demographic differences (Jehn & Bezrukova, 2004). The subgroups that are formed may thus not match the demographics of the team. The lifespan of teams could affect the relevance of demographic differences such as age, race and gender (Jehn & Bezrukova, 2004). They suggest that, as the team members collaborate, surface level differences become less important and deeper level differences such as personality and value differences will become more important. It could thus be argued that social identity and categorisation theory applies when teams are newer, but that once the team members have become familiar with each other, that similarity/attraction is more likely to apply.

Information/decision-making theory is a third theoretical perspective which considers how information and decision-making are affected by variations in group composition (Bassett-Jones, 2005; Van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). According to Bassett-Jones (2005), the information / decision-making approach theorises that diversity should enhance creativity and idea generation. Individuals in more diverse groups will have greater access to information networks outside the group, which should improve performance, even given the potentially negative effects of diversity on the group. One of the advantages of having multidisciplinary teams is that the social network will be much broader and could help the innovation process because of better access to resources (Fay et al., 2006). Richard and Shelor (2002) indicate that the different opinions that existed in culturally diverse groups would aid decision making. Diversity would help teams because of factors such as the potential for diverse teams to have broader perspectives and thus generate higher quality solutions (Milliken & Martins, 1996).

A similar theory, *Cognitive Resource Theory*, is based on the argument that the unique cognitive resources that team members bring to a team have a positive impact on team performance in a diverse team (Horwitz, 2005). She indicates that heterogeneity enables more perspectives to be brought to bear in problem-solving and decision-making.

The impact of diversity on teams could also be understood from a social networking perspective. Reagans and Zuckerman (2001, p. 513) suggest that the effects of diversity are logically and "*behaviourally distinct*" when analysed from a social network perspective. They found that denser networks with higher interaction levels were more productive. They argue that dense patterns of interaction at a local level are beneficial for coordination and working together, whilst bridges across team boundaries are required for information transfer and learning to occur. Reagans et al. (2004) indicate that demographic diversity in a team could decrease the internal density as team members are presumed to have weak relations with one another, but demographic diversity could simultaneously improve the range of a team's external network because the differences allow the team members easier access to external groups. This is linked to the similarity/attraction theory that people who share attributes are likely to be strongly attracted and thus connected to each other and to others with similar attributes.

Structural holes, which are defined as gaps in the information flow or missing connections in a network, could impact innovation (Ahuja, 2000). These occur when teams have connections to external parties, but these external parties have no direct link to each other. Reagans et al. (2004) indicate that local structural holes would be detrimental to a team, whereas global structural holes would be beneficial to a team. Demographic diversity in teams could cause local structural holes. They argue that the presence of global structural holes means that the team serves as a bridge between different areas of expertise and is thus likely to benefit from a broader range of ideas. Global structural holes are likely to result if teams with diverse members would have links to people with different information, resources and perspectives (Reagans et al., 2004). A major problem with this is that since diversity could simultaneously affect two important areas for productivity of a team in different directions, the benefits of increasing or decreasing diversity are hard to determine and could have a substantial dependence on the context in which the team operates (Reagans et al., 2004).

A combination of models could be useful in order to understand the value of diversity. Van Knippenberg, De Dreu, and Homan (2004) suggest a model of how diversity affects group performance based on the consolidation of two different models for understanding group dynamics. They suggest that the information / decision making perspective and social categorisation perspectives should be combined in a model they termed the *Categorisation-Elaboration* model. They argue that is it not the information availability but rather the use of the information that affects group

performance. Richard and Shelor (2002) found that neither social identity theory nor the information decision-making theory held true individually and that a combination of these theories was needed to explain the dynamics of teams.

A combination of models may, in fact, be essential in order to understand the effect of diversity. The stage of development of a team could affect which model better explains the impact of diversity. Teams in early stages of development or temporary teams may be explained by social categorisation and may therefore be affected by the more visible aspects of demographic diversity. Teams in later stages of development, who are familiar with each other, may be better explained by similarity/attraction paradigm, and thus be less affected by demographic forms of diversity, but more by cognitive and personality differences between team members. Teams anywhere on the development path may benefit from diverse information held by the team members as theories by information/decision-making theory, and benefit from the different perspectives as explained by the cognitive resource theory. Social networks that are affected by differences among team members could affect the generation or implementation of ideas. Given these theories and models, it is unlikely that any two teams would be affected in the same manner by the composition of the team. This means that diversity needs to be understood within the full context of the team.

Both direct and indirect effects of diversity on innovative behaviour in teams could exist. It is possible that the direct and indirect effects could affect innovation in different directions. Social integration comprises attraction to the team, satisfaction and social interaction with the other team members (Smith, Smith, Olian, Sims., O'Bannon, & Scully, 1994). Smith et al. (1994) investigated the impact of social integration and communications on top management teams via three models. These include:

- **Demography model**: This model assumes that team demography directly affects outcomes with no impact from team processes. Heterogeneity will harm performance as these teams would require more effort and time to manage. Smith et al. (1994) found little support for this model in their empirical tests.
- **Process Model**: This model assumes that both demography and process account for team performance, where the team processes will account for variations that demographic measures do not explain. The two major processes are social integration and communication. Socially integrated groups will be more efficient and have higher morale and satisfaction. The frequency and informality of communication will allow ease of flow of information between team members (Smith et al., 1994). They argue that other processes such as

conformity, conflict, consensus and facilitation are subsumed within social integration and communications.

- **Intervening Model**: This model assumes that demography affects team processes which then affect performance. Smith et al. (1994) did not find support for this as they found both direct and indirect effects of diversity.

"Response to Diversity" Theories

The perceived value of diversity could have an impact on the benefits that an organisation gains from diversity. Different organisation would have different responses to diversity that exists in teams and this could lead to different outcomes. Scott and Bruce (1994) indicate that innovative organisations typically have a tolerance of diversity in the organisation. Driver (2003) investigated how groups handle cognitive diversity and argued that teams handle cognitive diversity in one of three ways which are linked to organisational learning; accommodation, elaboration and transformation. *Accommodation* is described as the organisation not changing their policies and remaining with pre-existing processes, whereas *transformation* involves the continual change of work processes and problem solving approaches. The transformation learning framework is termed exploratory collective learning (Driver, 2003). With *elaboration*, which resides between these two limits, the response to diverse employee requirements is to change the routines and policy and then remain static. Ely and Thomas (2001) have suggested that the relationship between cultural diversity, which constitutes any demographic differences, and team effectiveness, is moderated by common values and goals. They state that the impact of the diversity is influenced by the diversity perspective in the group. They defined three types of diversity perspectives; discrimination and fairness, access and legitimacy and integration and learning (Ely & Thomas, 2001, p. 234).

The *discrimination and fairness perspective* sees having diversity in a team as necessary in order to be fair to different parts of society (Ely & Thomas, 2001). The cultural diversity does not exist for any perceived benefit to the team, but rather is "an end in itself" (Ely & Thomas, 2001, p. 246). The reason why cultural diversity exists in a team is for the team to be culturally diverse. Foldy, Rivard, & Buckley (2009) indicate that such teams do not see the differences in team members as of any value in terms of experience and insight and therefore expect all employees to adopt the standard work practices. This hampers identity safety and thus psychological safety which reduces potential learning in the team and thus team effectiveness.

The *access and legitimacy perspective* is based on the principle that since the market is culturally diverse, the team needs to be culturally diverse in order to match the market demographics (Ely & Thomas, 2001). This is to allow access and legitimacy in those markets. This perspective on diversity does not allow companies to benefit from cultural competences changing the core operating functions of the business. Employees are expected to adopt the standard working practices of the organisation, except when dealing with customers or partners from the same cultural group. This also hampers identity safety.

The *integration and learning perspective* sees the different insights, skills and experiences of the diverse team members as resources that can be used to inform and improve the work practices of the group (Ely & Thomas, 2001). In this case, the culturally diverse members are not assimilated into the group, but their differences are rather used to transform the group. This creates identify safety in the group, thus enabling the possibility of psychological safety. Foldy et al. (2009) argue that an integration and learning perspective could also enhance the relationship between psychological safety and team learning behaviour.

An alternative possibility is *colour blindness*, where the cultural composition is ignored. This then ignores the differences between the team members and thus hampers potential learning (Foldy, Rivard, & Buckley, 2009). The colour blind approach also implies that differences are to be avoided, potentially tainting those that are not the dominant group and thus creating a threat to their identity. Foldy et al. (2009) indicate that identity threat is thus a significant concern to people of colour.

Driver (2003) found that most of the teams in her research did not recognise the value of cognitive diversity and thus did not utilise the diversity in order to improve the output of the team. Driver found that these teams did not create new knowledge from the diverse cognitive resources of the team members, and rather attempted to avoid conflict in the group. The outputs of these teams were not found to be integrated well since the team members often decided to allocate different parts to different team members to complete. In this way the team actually reduced the interdependence between the team members.

The reason for the particular composition of a team, and the perception of the reason for diversity could affect the benefits derived from diversity in a team. Teams that

understand and embrace the diverse perspectives that diverse teams can create are more likely to benefit from the diversity of the team than teams that consider diversity to be a “necessary nuisance”.

2.3.2. Diversity in Teams

Although common sense would seem to indicate that diversity should lead to innovative behaviour, the results from the research are mixed. A large amount of research conducted to understand the determinants of innovation in teams has found diversity of the team to be a detriment to innovation whilst other research has found that diversity appears to help team performance. There were also cases where the relationship was not significant or the effect size was small and different categorisations of diversity do not have different impact on teams (Webber & Donahue, 2001). It is possible that diversity is neither inherently bad, nor inherently good for the performance of a team.

High diversity could impair the decision-making process in diverse teams due to “differences of opinions, biases, stereotypes and lack of team unity” (Hoegl et al., 2008). Diversity could have different effects on the minority from the majority groups within the teams (Tsui et al., 1992). They found that the majority was more affected than the minority when the group became more diverse. One of the problems with diverse teams is that team members with different expertise and from different domains or functional areas may have different “language” which could make the exchange of knowledge difficult (Paulus, 2000, p. 250). Paulus indicates that some overlap between the knowledge of different team members could allow the team to share knowledge more effectively.

The manner in which a group responds to diversity could be affected by the cognitive processing of each individual group member (Austin, 1997) and whether they perform automatic processing or active processing. Austin (1997) argues that the different team members have different schema which result in different responses to different situations in the group. This, in turn, triggers unexpected events that do not fit within the team member’s schema and thus trigger active processing within the group. Austin (1997) hypothesised that this could lead to more innovative solutions in the group. He also suggested that further increases in diversity could lead to increases in anxiety, which could then lead to a switch back to automatic processing. This would have a negative effect on group creativity.

One of the possible reasons for the ambiguous results is that different forms of diversity could have different effects. As Ancona and Caldwell (1992) found, different types of diversity, in their case tenure diversity and functional diversity, have different and distinct effects. They also found opposite results for the direct effects and mediated effects on innovation in the teams; the direct effects were negative and the indirect effects were positive. The direct effects were stronger than the indirect effects, and thus the overall relationship was negative. Ancona and Calwell (1992) suggested numerous reasons for the contradictory effects of diversity that they found, including that there could be an unknown mediator variable that affects the link between diversity and performance. They also suggested that even though homogenous teams may initially appear to be more effective, heterogeneous teams may gain an advantage over homogenous team as the team members work together and the team longevity increases.

Another reason for inconsistent results could be that various forms of diversity could be contingent upon other variables, such as shared vision and interaction frequency that moderate the relationship (Fay et al., 2006). Even though Ancona and Caldwell (1992) found results relating to direct effects, it is likely that these direct effects are a combination of mediating processes or states that they did not measure as part of their research. In order to fully understand these direct effects, these would need to be broken down into its component parts and then tested.

Drazin et al. (1999) suggest that team members are influenced not only by the team that they belong to but also by other groups in which they hold membership. The understanding of what is creative could actually be different for different members of the same team. They show in their research that administrative and technical team members in project teams could have different views on what is creative, and may need to be creative at different points in time.

Diversity affects many different areas of team operation and performance. A substantial body of research has been conducted to measure the effects of diversity in teams. Some of the research has attempted to understand the relation between diversity and innovation in teams (Ancona & Caldwell, 1992; Bantel & Jackson, 1989; Camelo-Ordaz, Hernandez-Lara, & Valle-Cabrera, 2004; Fay, Borrill, Amir, Haward, & West, 2006; Pitcher & Smith, 2001; Van Der Vegt & Janssen, 2003). However much of the research considers other effects of diversity, such as impact on performance

(Bowers et al., 2000; Jehn et al., 1999; Keinan & Koren, 2002; Kilduff et al., 2000; Richard, 2000; Smith et al., 1994), productivity (Reagans & Zuckerman, 2001; Richard, Barnett, Sean, & Chadwick, 2004), planning or decision making (Bantel, 1994; Hambrick, Cho, & Chen, 1996; Miller, Burke, & Glick, 1998; Simons, Pelled, & Smith, 1999), effectiveness (Campion et al., 1993), cohesion (Townsend & Scott, 2001; Webber & Donahue, 2001) or attachment (Tsui et al., 1992). Other research attempts to understand the impact of diversity on possible mediating variables such as communications (Ancona & Caldwell, 1992; Smith et al., 1994) and conflict (Olson et al., 2007; Pelled et al., 1999). Some research also considers moderating variables such as task type (Bowers, Pharmer, & Salas, 2000; Jehn, Northcraft, & Neale, 1999; Pelled, Eisenhardt, & Xin, 1999; Watson, Kumar, & Michaelson, 1993), task interdependence (Jehn et al., 1999; Van Der Vegt & Janssen, 2003), goal interdependence (Van Der Vegt & Janssen, 2003), risk propensity (Richard et al., 2004) or type of company strategy (Richard, 2000).

Diversity could also affect different team processes in different ways and in different directions. Hambrick et al. (1996) investigated the top management's competitive moves in relation to the diversity within the top management team. The results that they obtained indicate that the heterogeneous teams had a greater propensity to act, showed a greater magnitude of competitive actions and were bolder in their competitive actions than homogenous teams when these actions were not in response to a competitor's moves. Heterogeneous teams were, however, slower in their action execution than homogenous teams. They found a negative relationship between diversity and competitive moves in reaction to initiatives from their competitors. Hambrick et al. (1996) indicated that the benefits of heterogeneity could be related to different perspectives that the team members hold, the enhanced cognitive resources and problem solving capacity. They do indicate that heterogeneity could have a negative effect via poor information exchange between team members, distrust, differing objectives and differences in vocabularies or paradigms.

One limitation noted by Hambrick et al. (1996) in their study was that the industry sector which they researched was quite turbulent and this may have been the ideal environment for a heterogeneous team. They state that in a more stable environment, the results could be different. This leads to a potential area of research as the investigation of the moderating effect of the turbulence of the industry on the relation between the level of diversity of the top management team and the performance of the company.

Reinmoeller (2004) indicates that demographic attributes in top management teams can affect the manner in which knowledge is converted between different forms, even though he does admit that structural and behavioural attributes could have a greater impact. Reinmoeller indicates that the different knowledge processes are potentially differently impacted by the different attributes of the team members. *Socialisation* could be enabled by larger teams that are heterogeneous, as these teams members would have more links outside the team to communicate with (Reinmoeller, 2004). Reinmoeller (2004) indicates that *Combination* would be enabled by smaller homogenous teams which should be capable of faster decision making. Reinmoeller (2004) indicates that team members with appropriate functional backgrounds could internalise information better, whilst managers with more general expertise could facilitate cross functional learning. This means that in a team, different aspects of knowledge management could be affected differently by the characteristics of a team. It may thus not be possible to design the correct team for all aspects of knowledge management unless the team could change itself as required

In investigating diversity, numerous dimensions in which team members are different from one another have been considered. The demographic differences that have been considered include: organisational tenure (Camelo-Ordaz et al., 2004; Pelled et al., 1999; Townsend & Scott, 2001), functional diversity (Bantel & Jackson, 1989; Bantel, 1994; Camelo-Ordaz et al., 2004; Fay et al., 2006; Pelled et al., 1999; Smith et al., 1994), educational differences (Smith et al., 1994), racial or cultural diversity (Pelled, Eisenhardt, & Xin, 1999; Richard, 2000; Richard, Barnett, Sean, & Chadwick, 2004; Townsend & Scott, 2001; Watson, Kumar, & Michaelson, 1993), gender (Damanpour & Schneider, 2006; Pelled et al., 1999; Richard et al., 2004; Townsend & Scott, 2001), age (Damanpour & Schneider, 2006; Pelled et al., 1999), and team tenure (Camelo-Ordaz et al., 2004; Pelled et al., 1999; Townsend & Scott, 2001).

Other types of diversity that have been investigated are highly job related and less job related forms of diversity (Webber & Donahue, 2001), social category diversity, value diversity and informational diversity (Jehn et al., 1999), personality type differences (Keinan & Koren, 2002) and cognitive diversity (Cheng, Luckett, & Schulz, 2003; Kilduff, Angelmar, & Mehra, 2000; Miller, Burke, & Glick, 1998; Olson, Parayitam, & Bao, 2007).

Demographic Diversity

Demographic diversity includes age, race, gender, organisational tenure, educational background and functional background. Ancona and Caldwell (1992) found that the overall impact of diversity on product development team performance was negative. They consider that this could be due to teams with more diversity having to tackle a larger set of activities earlier in the team, and could thus appear to be ineffective in the short term, whilst these teams could gain the advantage in the longer term. Heterogeneous teams are potentially slower to develop than homogenous teams; however the effectiveness of heterogeneous teams should improve over time. Watson et al. (1993) found in their longitudinal study, that even though homogenous teams initially had more effective team processes, the more diverse groups became as effective over time. They found that diverse teams also achieved the same performance as homogenous groups over time. They found that diverse teams generated more alternatives, but did not match the quality of the homogenous teams towards the end of the research period.

Damanpour and Schneider (2006) found in their study of local government, that attitude towards innovation rather than demographic characteristics, shaped the acceptance of innovation in organisations. Damanpour and Schneider (2006) found that demographic characteristics including average age, gender and education did not have a significant impact on innovative behaviour in their research. They concluded that this supported the growing opinion that demographic characteristics should not be used as proxies for psychosocial constructs.

Pelled et al. (1999) found that similarity in age tended to create emotional conflict in teams. They argued that people within the same age group would undertake social comparison, as they would tend to rate their career progress by comparing with others in the same age group. They argue that as age homogeneity increased, comparisons between career progresses would increase and thereby increase jealous rivalry. Bantel and Jackson (1989) had argued that age heterogeneity would lead to differences in attitudes, values and perspectives because of the different experiences that the age cohorts would have been exposed to. They conversely found that age diversity was not significantly correlated with innovation. They explain that part of the reason for this could be that organisational size explained a large part of the variance in their study. They suggest that the management of the larger organisations was younger and thus the age diversity could be less. This raises the possibility that different predictors

including organisational characteristics, and different forms of demographic diversity could be correlated to each other, thus making it difficult to identify the unique contribution of any one independent variable.

Functional area diversity could have positive and negative effects on a team. Teams comprising of members from different functional areas could bring different expertise to the team, and could facilitate the transfer of new products between different areas of the business (Ancona & Caldwell, 1992). These teams may find that it is difficult to develop shared purpose, and they may not have effective group processes (Ancona & Caldwell, 1992). Pelled et al. (1999) found that functional diversity was the only type of demographic diversity that increased task conflict in teams.

Sethi, Smith, and Park (2002) found that increasing functional diversity by merely adding people from different business areas to the team did not improve effectiveness. They argue that as diversity increases so does the number of ideas, but problem solving gets harder and information overload can occur. They also found that having a strong "super-ordinate" identity, which helped to create a sense of belonging, could enable the team to find novel connections from their differing information. Having good team processes such as shared vision, trust, reflexivity and frequent interaction was found to be important to convert functional diversity in teams into better quality innovation (Fay et al., 2006). They found that having teams comprising members from many different functional areas led to a better quality of innovation, but not to an increase in the number of innovations. Bantel and Jackson (1989) found that average educational level and functional area heterogeneity were positively correlated with innovation.

Racial diversity has been shown to impact positively on company performance but only under specific conditions. Richard (2000) found that racial diversity and performance were positively related but only when the company was pursuing a growth strategy. Richard et al. (2004) tested for a curvilinear relationship between cultural diversity and management, but did not find support for this hypothesis. They found only moderate support for the same hypothesis in companies with an innovative orientation.

Townsend and Scott (2001) tested whether the proportion of different races in teams affected the performance of the teams. They found that teams composed of higher proportions of whites than African-Americans achieved higher performance. They also found that smaller teams with a greater number of older or single workers achieved

greater performance. They indicated that the work environment was frequently dominated by white workers and managers, and this could create dissonance between the preferred work environment of African Americans and the dominant culture in the organisation. The work environment they researched consisted of sewing, a routine low innovation task. Innovation orientation, which is defined as the propensity of companies to actively support new ideas, experimentation and creative solutions, has been shown to moderate the effect of racial diversity on company performance (Richard et al., 2004).

Other research has shown that racial or cultural diversity has a negative impact on the performance of teams, the reason for which is not clearly understood (Ely & Thomas, 2001; Foldy et al., 2009). Foldy et al. (2009) indicate that although it has been suggested that conflict is a possible cause of the poor performance, this has not been supported by research; racially diverse teams exhibited similar levels of conflict to other teams.

Foldy et al. (2009) argue that power relations are central to the impact of racial diversity in teams. They state that even though power imbalances could cause conflict, there are deeper, less observable team processes that also impact on the effectiveness of teams. They suggest that previously disadvantaged group team members may suffer identity threat where they feel that their group identity is threatened. This occurs because companies and teams typically adopt the norms, values and behaviours of the dominant group. Foldy et al. (2009) then indicate that the associated team members either then resist the dominance, withdraw from the group or assimilate into the group practices. They argue that all of these options result in a loss of identity safety and thus a loss of psychological safety in the team. Identity safety is defined as “the individual sense of security that comes from knowing that one’s racial group is welcome” (Foldy et al., 2009, p. 30).

Research has found no significant relationship between gender diversity and emotional or task conflict (Pelled et al., 1999) or any significant relationship between gender and innovativeness or gender and performance (Richard et al., 2004). Pelled et al. (1999) found that task conflict was affected by functional background diversity, which they indicated was a strongly job related form of diversity. They suggest that their expected result regarding gender diversity could be that gender is a variable with only two categories. Any increase in one gender thus leads to a more balanced team, until the genders are equal. Another possible reason that they do not mention is that the normal

perceptions regarding the different genders may not match the personality and cognition differences between people. The personality differences and different cognitive styles of a person may not be perfectly correlated with the gender of the person.

Organisational tenure could have an impact on the operation of a team. People who join the organisation at the same time may have commonality in their understanding of the organisation which could lead to increased frequency of communication and better social integration (Ancona & Caldwell, 1992). Teams where the team members have similar organisational tenure could thus operate more effectively. Ancona and Caldwell (1992) however, found that organisational tenure diversity had no effect on external communications, but did have a positive effect on the group processes of defining goals, making workable plans and prioritising work. They suggest that this could be because multiple experiences and perspectives associated with tenure diversity could assist teams that had complex goals.

Camelo-Ordaz et al. (2004) found that diversity in the tenure of the members of top management teams had a negative impact on innovation in companies despite hypothesising that tenure diversity would lead to benefits because of the breadth of experience, perspectives, attitudes and values. They, like Ancona and Caldwell (1992), suggest that the benefits of diversity may be more applicable to complex decisions that need frequent interaction between team members. They suggest that top management teams may not have these characteristics as they are “isolated’ in their operational units. Reagans and Zuckerman (2001) found that organisational tenure neither helped nor harmed productivity. Reagans and Zuckerman (2001) argue that this is a reason for concentrating on the social capital variables directly rather than demographic effects.

Bantel (1994) studied the planning openness in top management teams, which was defined as deliberate openness and responsiveness to environmental information. This openness could allow managers to make necessary changes and thus could affect innovation. Bantel found that low mean organisational tenure was significantly linked to planning openness. He suggests that this could be due to team members with longer tenure having restricted knowledge bases. This could hinder their response to environmental changes and lead to higher social cohesion which could result in them wanting to maintain the status quo.

Much of the research on organisational tenure has taken place in senior management teams, where there may not be great interdependence amongst the team members. They may be primarily responsible for their own individual areas of the business and interdependence amongst the team members may be restricted. They may also not have common goals. Tenure diversity may thus not be as valuable for this type of team as for other teams.

Teams which were homogenous from the perspective of experience, but heterogeneous from the perspective of education showed better performance (Smith et al., 1994). The impact of education level or field diversity has not been extensively tested in the literature. Many authors (Bantel & Jackson, 1989; Camelo-Ordaz et al., 2004; Damanpour & Schneider, 2006) however test the impact of average education level, with varying results.

Webber and Donahue (2001) conducted a meta-analysis to determine the possible different effects of highly job related and less job related forms of diversity on team performance and cohesion. They did not find significant relationships in either case. With regard to their results in testing cohesion, they suggest that possible reasons could be that the relationship is moderated by team longevity, the organisational culture or climate, the possibility of a non-linear relationship or measurement issues. They indicate that the lack of a significant relationship with performance could indicate that there may be other variables such as leadership or team member development that could affect the relationship. They point out that members may not always recognise who has the relevant expertise or may only discuss information that is common to all team members.

The effects of demographic diversity on innovative behaviour are not clear with many authors finding results that are not significant. Many of the authors conclude that much of the relationship between any of the dimensions of demographic diversity and innovative behaviour are moderated by features of the task, the culture of the organisation or team processes.

Personality Diversity

Keinan and Koren (2002) investigated the relationship between personality type and performance. They found that teams with predominantly Type-A members were more productive than teams with predominantly Type-B members. They found that teams

with more Type-A personalities delivered greater performance than teams with less Type-A personalities, especially when operating in a competitive context. This was, however, laboratory research conducted with teams of a small size. It is therefore unclear if these results would be the same within the actual business context.

Trimmer, Domino, & Blanton (2002) tested the relationship between the diversity of three different personality attributes; agreeableness, conscientiousness and emotional stability, and conflict. They found significant positive relationships between relationship conflict and conscientiousness heterogeneity and emotional stability heterogeneity. They also found a positive relationship between emotional stability heterogeneity and task conflict. They, on the other hand, did not measure the impact of the absolute levels of these personality attributes. It is possible that low levels of any of the attributes could have a significant effect on conflict in the teams.

Cognitive diversity

The bulk of the literature on the effects of diversity concentrates on demographic diversity. Demographic diversity is often used as a proxy for cognitive diversity (Pitcher & Smith, 2001). Part of the reason for this is that cognitive diversity attributes such as personality and cognitive style are complex and difficult to measure (Pitcher & Smith, 2001). This is a persuasive argument as the use of cognitive measures of diversity could create problems with measurement accuracy and could thus result in measurement errors. Others argue that a team member's demographic group is a base for their cognitive base, and affects their selective perceptions (Pelled, 1996). Edmondson et al. (2003) state that ease of measurement of demographic characteristics meant that researchers continue to use this as independent variables and predictors, even though other research had shown that predictors such as group process were found to have greater explanatory power than the demographics of the team.

Numerous researchers have argued that investigation of diversity in teams by the use of demographic characteristics as a proxy for psychological constructs is not optimal (Driver, 2003; Edmondson et al., 2003). The link between demographic and cognitive diversity could be complex (Kilduff et al., 2000). Using demographic diversity as a proxy for cognitive diversity may thus not be accurate. Driver (2003) indicates that diversity in teams should not be studied with regard to the demographics of the team members, but should rather be studied at the level of personal attributes such as team

members' attitudes, beliefs and values. Miller et al. (1998) suggest that one of the reasons for ambiguous results in past research has been the focus on demographic diversity rather than cognitive diversity.

Cognitive diversity consists of differences in attitudes, values and beliefs (Kilduff et al. 2000) or could be considered to comprise of differences in the preferences and beliefs held by team members (Miller et al., 1998). Kilduff et al. (2000) found that the level of interpretive ambiguity, which was defined as a lack of clarity within the team of whether team members share values and beliefs, was positively related to team performance.

Miller et al. (1998) investigated the impact of cognitive diversity on the comprehensiveness of strategic decision making and strategic planning. They defined comprehensiveness as the extent to which the team used extensive decision making when faced with opportunities and threats. Cognitive diversity was measured on two dimensions; preference diversity and belief diversity. Preference diversity was defined as differences in team member's preferences concerning goals. Belief diversity was defined as differences in team member's beliefs related to the nature of cause-effect relationships. Miller et al. (1998) hypothesised that cognitive diversity would reduce cohesion in the team and increase decision comprehensiveness because team members would be less concerned with maintaining "amicable" relations. Contrary to their expectations, they found that cognitive diversity negatively influenced the comprehensiveness of strategic decision making. They discuss the reasons for this finding; concluding that cognitive diversity creates problems with communication, integration and political behaviour in the teams. They did warn that the causal direction was not clear due to the cross-sectional nature of the research, and that it was possible that comprehensiveness could cause a reduction in cognitive diversity among the team members.

Olson et al. (2007) investigated the relationship between cognitive diversity on task conflict as moderated by competence-based trust, and then, the effect of task conflict on decision understanding, commitment and quality. They found that an increase in cognitive diversity was associated with an increase in task conflict, and that trust moderated this relationship. An increase in trust increased the positive relationship. They also found that task conflict positively affected decision understanding, commitment and quality. They focussed on management teams and indicate that within these teams, they expect the executives to be confident of their abilities and thus prepared to question the views of others, if different from their own.

Olson et al. (2007) also argue that the type of team would have an impact on the effect of the cognitive diversity; executive managers, because of their broad knowledge bases, overlapping experience and confidence in their abilities, would question each other even if they trust each other's judgement. The chances of task related conflict would thus not be reduced by the presence of competence based trust in this type of team and the team would thus benefit from the robust debate. They also argue that even if cognitive differences could create both task and relationship conflict, they expect that in executive teams, the positive effects of task conflict would outweigh the negative effects of relationship conflict. They argue that task conflict is important for complex non-routine decisions. Their findings provided support for their arguments.

People can vary in orientation according to the *sensing/intuition* dimension of cognitive style (Cheng et al., 2003). This would have an impact on the way in which people process information. The *sensing/intuition* dimension of cognitive style differentiates between sensing decision-makers, who concentrate on individual elements, facts and figures in making decisions, and intuitive decision-makers, who perceive problems as a whole, consider possibilities and future effects and are concerned with meaning. Cheng et al. (2003) argue that a single cognitive style may not be sufficient for decision making in complex tasks. They found that dyads populated with different cognitive styles were more effective than dyads consisting of only sensing decision-makers, but were not significantly better than dyads with only intuitive members. Moreland (2010) conversely, argues that dyads should not be considered to be groups because they are simpler, result in stronger emotions and are more ephemeral than groups, since they are dependent on a single relationship.

2.3.3. Mediators and Moderators

Different factors from the environment within which the team operates could moderate the relationship between the diversity in a team and the innovative behaviour in that team. Two important considerations that could affect teams, whether homogenous or heterogeneous, are goal and task interdependence. Fay et al. (2006) indicate that goal interdependence in teams can counter the negative effects of social categorisation in diverse teams. Others have found that shared vision can increase organisational innovation (Garcia-Morales et al., 2006) and increase group performance (Guzzo & Dickson, 1996). Common goals could assist teams to overcome some of the negative outcome of diversity. Team interdependence has been found to moderate the

relationship between diversity and performance (Jehn et al. 1999). Driver (2003) indicates that in order to benefit from diversity, teams must have enough interdependence in order for the different perspectives and skills to be utilised. If the teams do not have interdependence, the interaction that could lead to benefits from diversity may not occur. Both task and goal interdependence is important. Van Der Vegt and Janssen (2003) found that the lowest levels of innovative behaviour results when low task interdependence and high goal interdependence occur simultaneously, whilst the highest levels of innovative behaviour occur when both task and goal interdependence are high. Van Der Vegt and Janssen (2003) argue that, without task interdependence, team members could work relatively independently and may only be concerned with ensuring that their part of the job works and may be less motivated to contribute to the group product. This is most likely to occur in diverse groups where social cohesion and interpersonal attraction are likely to be lower. Van Der Vegt and Janssen (2003) argue that high simultaneous task and group interdependence would stimulate learning and information sharing and could lead to innovative behaviour.

Amabile et al. (1996) found that the work group could stimulate creativity within the team and its members and they suggest that this could be due to diversity of the team members' experience, openness to ideas, challenging of ideas, and shared commitment to projects. They suggest that diversity may positively impact the creativity of the team by increasing the variety of different ideas generated in the team. They hypothesise that encouragement of creativity by the organisation, superiors, and workgroup, as well as the provision of autonomy, adequate resources and challenge would encourage innovation in a team. They also identify that excessive workload pressure and organisational factors such as conservatism and rigid management structures could impede innovation. They argue that the organisational impediments could reduce the intrinsic motivation necessary for innovation to occur.

Task type has been found to moderate the relationship between diversity and performance (Jehn et al., 1999). Complex tasks that require a wide range of competencies are more likely to benefit from heterogeneity in teams, than simpler tasks (Campion et al, 1993). Jehn et al. (1999) also suggest that diverse views are only helpful if the team tasks are complex, otherwise multiple different opinions could be disruptive. Complex tasks are more likely to require the combination of different types of information (Reiter-Palmon & Illies, 2004). Campion el al. argue (1993) that for more complex tasks, heterogeneity may be helpful because team members can learn from each other. They did not find any positive relationship in their empirical testing between

heterogeneity and effectiveness, but they did indicate that this could have been due to the lack of meaningful heterogeneity in the team. Paulus (2000) indicates that heterogeneity in teams could have an impact on the creativity of the team. Although the evidence of the effect of diversity in teamwork was mixed, Paulus (2000) contends that with work with higher levels of complexity, high within-group diversity could be useful for teams that focus on management, decision making and creativity. Paulus (2000) also indicates that in manufacturing and service teams, where the complexity is low, teams with a greater breadth of knowledge and similarity in expertise across group members, could be more effective.

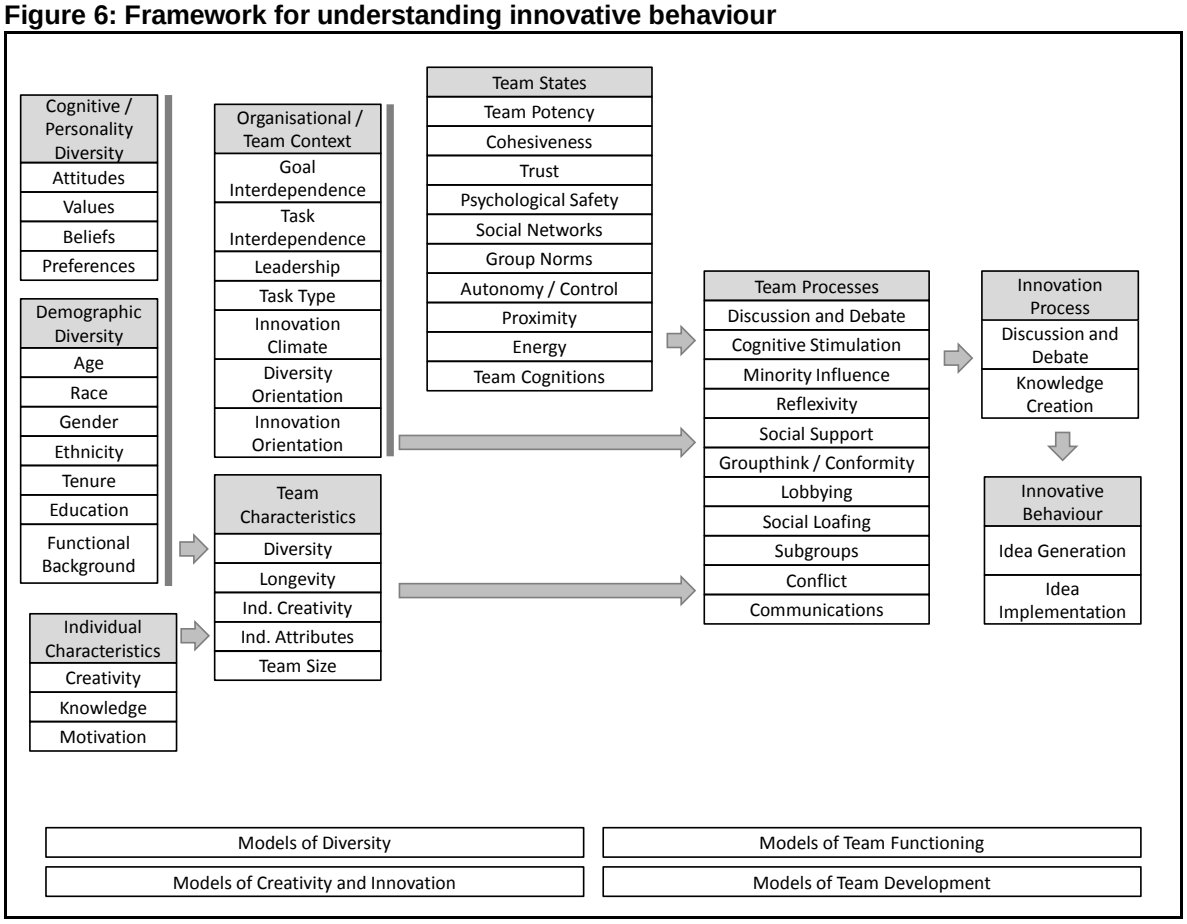
Trust was identified as a team state that could moderate the relationship between diversity and task conflict, and could then affect innovative behaviour in teams (Olson et al., 2007) by enabling the submission of unpopular or unusual ideas to the team (Edmondson, 1999; Fay et al., 2006). Trust between the team members could also encourage the taking of risk (Bijlsam-Frankema et al., 2008).

2.3.4. Diversity and the Innovative Behaviour of Teams

The relationship between diversity and innovative behaviour is complex, with a multitude of direct and indirect links which are mediated or moderated by a variety of factors.

In Figure 6 the team effectiveness framework suggested by Mathieu et al. (2008) is used as a basis to illustrate the factors, identified in the literature, that affect innovative behaviour in teams. There are no direct relations indicated, only general influences, as the relationships are not clear. Different factors also interact with each other, and the effect sizes of many of the factors could be low due to the multitude of other factors involved in the relationship.

Figure 6: Framework for understanding innovative behaviour



As can be seen in Figure 6 there are many influences on innovative behaviour. Team diversity is only one component of the explanation of why innovative behaviour takes place in some teams and not others.

There are numerous definitions of innovation and theories about the manner in which innovation occurs in teams. To a large degree the definitions agree, and require that elements of novelty and utility have to exist and the idea has be implemented. These three elements provide useful guidance as to the factors that influence innovative behaviour. To have novelty, new ideas have to be suggested by at least some members of a team. Creativity relevant skill, which can be considered to be an attribute of an individual, is required, and the team context and state has to be such as to allow this creativity to occur. For an innovation idea to have utility at least some of the team members have to have domain relevant knowledge and the ability to gauge what will work and be accepted in a specific environment. This type of knowledge is also important for the innovative idea to be implemented. Conditions have to be such that team members are motivated to be innovative. Different parts of the innovation process can be affected by team processes and characteristics of the team in different and

opposing ways. Teams need to be able to manage these incongruities in order to ensure that the same team can both generate innovative ideas and implement these ideas.

Innovative behaviour is seen as the discernible outcome of the execution of successive cycles of the innovation process within an organisation. With no innovative process taking place there would be no visible manifestation of behaviour that appears to be innovative. Innovative outcomes are seen as the result of the successful execution of the innovation process.

Some team processes are integral to the innovation process. Without discussion and debate and knowledge creation it is not expected that innovation can occur in a team. Knowledge creation does not precede innovation behaviour, but is considered to be an integral part of the innovation process. Knowledge creation is required if any innovative behaviour is to take place. The extent of knowledge created may vary, with incremental innovation requiring little new knowledge, whereas radical innovation is expected to require substantial changes to knowledge, or new knowledge.

Discussion and debate are seen as the primary mode of interaction amongst management team members. Members of teams in other domains, such as sports teams may be able to interact by observing the moves and actions of fellow team members, but teams in a business environment that need to exhibit innovative behaviour, have few means of working together other than communication via discussion and debate. Discussion and debate can be expected to lead to the creation of new knowledge, which then leads to innovative outcomes

Other team processes are considered to have an important influence on the innovation process in teams, but are not considered to be integral to the process. Some, such as the formation of subgroups along fault lines in the team, lobbying, social loafing and groupthink could negatively affect the possibility of innovative behaviour in the team. Many of these have been shown to have a detrimental impact on the operation of teams. The impact of the different types of conflict varies and there is some ambiguity in the outcome of research that has been conducted in the area. The moderating or mediating influence of other factors could change the nature of the relationship between conflict and team effectiveness or innovative behaviour. Some research has shown that reflexivity can positively affect team outcomes and that social support can heighten contribution from team members. Communication within and outside the team

is important to the processes that occur within the team. Discussion and debate constitutes the main form of communication within the team. This can be either formal or informal. Communication outside the team is important, especially for radical innovation, since this could need knowledge and information from throughout the organisation or from beyond, not just knowledge available within the team. Communication within the team, when combined with familiarity or similarity in the team, could however lead to excessive enthusiasm for poor ideas.

There are numerous team states that can affect the operation of teams. The related concepts of trust and psychological safety are particularly important. Without trust or psychological safety, the discussion and knowledge sharing that takes place among team members would be constrained and innovative behaviour is unlikely to occur. Various other team states appear to have a less direct impact on innovative behaviour. The autonomy and control that exist within a team could lead to an increased desire for team members to learn and thereby lead to innovative behaviour. Team potency leads the team to have belief in itself and could result in enhanced learning behaviour, knowledge creation and thus innovative behaviour. Cohesiveness could have positive outcomes, by leading to more effective decision making and higher productivity, or could have negative outcomes by creating groupthink. Many of the team states are interlinked and affect each other, aside from the effect on different team processes and team effectiveness. This means that research that considers only certain aspects to the exclusion of others could have unexpected results. Team member knowledge of what information resides where in a team is also important in order for team members to be able to identify useful sources of information.

Team development, which can be conceived as the modification of different team states over a period of time can, by changing such team states, lead to an improvement of the team processes that occur.

Teams exist in an environment which has an ability to affect both the team as a whole and the members of the team. The organisational context, including demands and expectations from outside the organisation and the culture of the organisation sets a context which can affect the operation of teams in the organisation. The context within which the team operates, including the leadership and nature of the tasks the team is involved in, could affect the operation of the team.

Leadership can have a strong influence on both the team states and the team processes that occur. Leadership appears to be more important than actual team member's differences in determining the performance of the team with regards to innovation. Leaders create vision, allocate resources, motivate team members, create energy in individuals in teams and affect organisational learning. Senior leaders, such as the CEO, can create a culture of embracing of change in an organisation. Other factors in the context of the team, such as culture, interdependence and task type could also impact behaviour in a team.

Teams consist of sets of individuals. Teams can however have characteristics which are independent of individual member characteristics, such as longevity and size. Both the individual characteristics of team members as well their differences are important to the operation of teams. Ultimately the creativity of the team members, combined with their relevant knowledge and motivation are critical for innovative behaviour to occur in teams. Without this innovative outcomes could occur by accident, but not by design. Given a complex project, however, which exceeds the capacity of individuals, diversity or differences among team members can also be important. With differences it becomes important that team members are able to interact in a manner that has a useful outcome. Hence the importance of leadership, team development, team states and team processes.

Diversity is a complex composite of different characteristics of people in a team. Some variables underlying diversity, such as race and gender are physical attributes that cannot be changed. Other individual differences, notably age, vary gradually over time. Other factors of demographic diversity, such as educational background, organisational tenure and functional background can change in different ways over time. Demographic diversity can be segmented in various ways, including visible and not visible, or work related and not work related. It has been argued that these different factors could have effects that are not the same. Diversity can both benefit and inhibit the operation of the team. Different factors of diversity may have either a direct or indirect effect on the knowledge creation and cognitive processing in a team, which then affects the innovative behaviour of the team. Individuals differ in their attributes along each of the different demographic dimensions. The likelihood of two people being identical on all factors is slim.

Cognitive and personality differences, though harder to measure objectively, could have much greater explanatory power in accounting for team outcomes than

demographic factors of diversity. These could have a direct influence on the cognitive processes within a team that drive or constitute innovative behaviour.

Various theoretical frameworks have been advanced to explain the operation of teams, including team development theories, team functioning theories, theories of creativity and innovation and models of how diversity could affect teams. In terms of the effects of diversity in teams, these theories can be broadly divided into those that view team diversity as harmful to team effectiveness and those that proclaim its benefits. Among the former are theories that suggest that individuals in teams tend to be attracted by and to align with others perceived to share similar attributes, while avoiding or resisting those perceived as different. The net result is that diversity adversely affects team effectiveness. The theories that suggest that teams will benefit from diversity argue that diverse teams have access to broader perspectives and information which should enhance innovative behaviour. There is evidence in support of both schools of thought. These different effects are expected to exist simultaneously in teams. The effects that dominate in a specific team could depend on mediators or moderators such as details of the task, longevity and the development of the team. Other theories argue that the value placed on team diversity in the organisation and team could also affect the efficacy of diversity in relation to team outcomes.

Past research into the relationship between diversity and innovative behaviour in teams has conflicting results and often explains a very small part of the variance of innovative behaviour. The use of cross-sectional rather than longitudinal research designs in most of the research conducted could be one of the reasons for this. The temporal affect in teams appears to be particularly important since team states and team performance change over time, and longitudinal research designs may assist to understand these effects. Other research has found that different forms of diversity have different and distinct effects. Direct and indirect effects of diversity on team outcomes could work in opposition to each other. Authors such as Ancona & Caldwell (1992) suggest that there could be missing mediator variables, and others such as Bowers at al. (2000) suggest that the effects of diversity may be more complex than either equity or similarity theory suggests and that further research is required to clarify the relationships. Richard et al., (2004) found that both low and high levels of diversity produced better results than moderate levels of diversity. This could also be affected by missing mediator variables. In some cases (Campion et al., 1993) heterogeneity was considered without regard to the different factors of diversity separately. There may also have been problems with the measurement tool. In other cases (Cheng et al.,

2003) the use of artificial groups in artificial settings rather than real world teams could have compromised the applicability of the research to real business teams The relationship between any specific type of diversity and performance in teams could vary based on the type of team, and could even have opposite relationships in different types of teams (Cohen & Bailey, 1997). Very little of the research is theory building in nature and quantitative data is often used. A few authors, such as Driver (2003) and Ely & Thomas (2001) offer in-depth insight into teams by using qualitative data in order to obtain a "thick description" of the operation of teams. Based on this there appears to be a need to step back, and try and understand, again, the multitude of factors that affect the operation of teams in order to determine whether there are any important relationships or factors that have not been considered in the complex relationship between team diversity and innovative behaviour.

2.4. Literature Review Conclusion

The intention in the current research is to identify whether notable patterns in the manner in which diversity affects innovative behaviour can be uncovered, whether any new factors can be identified to account for this relationship and to clarify which factors appear more important than others. This would both assist future research and theory building and provide guidance to managers and team members as how best to maximise the chance of innovative behaviour taking place in teams and how to obtain the maximum benefits from diversity in teams. This chapter has reviewed and appraised the scholarship relevant to the important concepts in the study, namely diversity, teams and innovative behaviour. The research from these areas has been integrated in order to provide a view of the current status of the scholarship related to innovative behaviour in teams and the areas where further research is required.

3. RESEARCH DESIGN AND METHODOLOGY

3.1. Conceptual approach

The purpose of this study is to understand how diversity within teams affects the innovative behaviour in these teams. Past research into this subject has had ambiguous results. The literature indicates that the relationship is complex and not always positive. The literature also addresses different aspects of the relationship between diversity and innovation in different studies. Results often lack statistical significance or have very low effect sizes. Even though there are large bodies of literature regarding teams, innovation and diversity, there does not appear to be any real clarity on the manner in which the diversity of a team relates to innovative behaviour in teams.

This study asserts that part of the reason for this is that much of the past research has never really sought to understand fully the dynamics of the team and the way in which the composition of the group affects the innovative output of the team. A large proportion of the research relies on deduction rather than induction. Various authors have called for the use of qualitative evidence in research into the operation of teams (Langfred, 2007; Mintzberg, 1979). Langfred (2007) indicates that qualitative observation could lead to a better understanding of the underlying processes in team operation.

Researchers have also questioned the suitability of the positivist tradition and methods for management research (Mintzberg, 1979; Yin, 1981). Mintzberg (1979) makes a strong case for why inductive, small sample research with qualitative evidence supported by anecdotal evidence is essential in management science. He complains that too much of the research is significant in the statistical sense only. He argues that it is more important to have valid data than to have data that is “statistically significant”. Goulding (2002) indicates that even market research, which traditionally used the survey as the instrument of choice, has embraced the use of qualitative research in order to understand consumer behaviour. Goulding (2002) also states that humanist or interpretive researchers find that quantitative research is limited to testing existing theories, rather than allowing new theory development.

Edmondson & McManus (2007), however, argue that in an area which has been studied extensively, researchers should refine the knowledge in the field by using

existing knowledge. They state that researchers could identify further moderators and mediators of known and documented causal relationships. This would seem to imply that there would be little need for exploratory research in the field of team operation and innovation. The view by Ghoshal (2005), that theories in the social sciences tend to be self-fulfilling, provides a counterpoint to this view. Ghoshal (2005) states that, unlike the physical laws that are immutable and unaffected by whatever research is conducted and the outcome of that research, the social situation can be affected by the outcome of the research. In the area of innovation in teams there are still areas that could remain undiscovered. These would be best discovered through the use of exploratory studies. Glaser & Strauss (1967, p. 27) state that what often happens is that there are "well-tested theory fragments, which can only partially account for what is happening in the research situation". By this they mean that the focus on testing has led to aspects of a situation being well understood without a theory that explains the situation more holistically. This supports the need for exploratory research.

Eisenhardt (1989) argues that theory building case study research is an appropriate strategy where:

- little is known about a phenomenon,
- the current views do not have empirical substantiation, or;
- The current research has conflicting results.

A theory is a "mental image or a conceptual framework" that answers the research question (Van De Ven, 2007, p. 19). Van der Ven (2007) considers that the building of theory involves creation, elaboration and justification, even though all three are not required simultaneously. Glaser and Strauss (1967) state that the form in which a theory is presented does not make it a theory. A theory is a theory because it explains or predicts something.

Given the ambiguous results of the past, it was decided that an approach that could lead to an understanding of the dynamics within teams would provide valuable insight into the way in which the diversity of the team affects the innovative behaviour of the team. The intention of this research is thus not to prove or disprove preconceived hypotheses, but rather to allow the data gathered to serve as a basis for the formulation of theory. This would facilitate the discovery of unknown or unexpected variables that have an impact on team dynamics and that have not been investigated previously.

In order to remain close to the data the ideal strategy would be grounded theory building. With grounded theory, the concepts and themes are allowed to emerge from the data collected (Glaser & Strauss, 1967). The grounded theory method consists of systematic, though flexible, guidelines for collecting and analysing data (Charmaz, 2006). Grounded theory exists in contrast to logico-deductive theorising, where theories are deduced from logical assumptions rather than built from the data (Charmaz, 2006). Grounded theory building is a research method specifically designed for discovering theory, by generating theory from data inductively (Simmons, 1995). Glaser and Strauss (1967, p. 32) see theory as a process and state that "theory is an ever developing entity, not a perfected product". Simmons (1995) also indicates that grounded theory is not concerned with verifying existing theory, but rather with discovering new theory. Simmons (1995) notes that a useful outcome of grounded theory research is that the concepts and theories generated inherently fit the data and are understandable because they are based on the participant's experience and are therefore likely to be useful to people who are trying to apply the concepts and theories to their environments, not just the research community. Locke (2001, p. 95) states that "The grounded theory approach is well suited to the study of complex entities because of its ability to produce a multifaceted account of organizational action in context."

The intention of this study is not, however, to understand the workings of the team in a specific context (idiographic research), but to be able to extend this to other business teams. As Tsoukas (1989) indicates, case study research can have analytic generalisation rather that statistical generalisation. Tsoukas (1989) states that if a similar pattern can be found in some cases and if contrary results with predictable reasons are produced in other cases, analytic generalisation is warranted.

The primary evidence in this study is qualitative evidence. Even though grounded theory building can make use of quantitative data, qualitative data is normally better suited for investigating social theory (Glaser & Strauss, 1967). This would allow for an understanding of any relationship to be obtained and thus an explanation to be inferred.

Miles (1979) takes the view that there are serious problems with qualitative data and describes it as an "attractive nuisance". Miles (1979) argues that qualitative data analysis is highly labour intensive. The time taken for the data collection is lengthy and the amount of data collected is huge. He also notes serious problems when verification of the transcripts of interviews is attempted. He states that the participants sometimes

attempt to “rewrite history” and even threaten legal action. His most serious complaint was that the methods of analysis are not well formulated. In his research with a team of researchers, coding did not work and the number of coding categories increased dramatically. Miles (1979) also found the complexity of cross-site analysis to be a major problem. Ultimately, he concluded that the case study conducted did not really transcend storytelling and pointed out that, due to the amount of work involved in the data collection and write-up, there is a risk that the fieldworker, instead of understanding and thinking about the site, ends up being run by the site.

Yin (1981) provides some valuable insight into two of the major issues raised by Miles, namely, within case analysis and cross-case analysis. Yin first comments that Miles appears to have treated qualitative research and case studies as the same, whereas he argues that case studies can make use of both quantitative and qualitative data. Yin (1981) sees qualitative and quantitative data as types of evidence. He states that extensive transcripts of the interviews which are made to create readable narratives are essentially meaningless unless the study needs to publish this material. In terms of the amount of work and the usefulness of coding, he states that only what is relevant should be coded. This should be based on the scope of the study and that the narrative should be based around substantive topics. He also details mechanisms for performing cross-case analysis. Glaser & Strauss (1967) provide support for this view and outline procedures to reduce the data analysis and coding requirements. They indicate that with categories that are saturated, further data collection or analysis is not required, and that saturation of less important categories is less important.

One positive factor that has occurred since the time of Miles has been the advent of computer-assisted qualitative data analysis (CAQDAS). Even though this does not take over the role of the researcher, it does make the analysis of the vast amounts of data more manageable (Dainty, Bagilhole, & Neale, 2000). A major risk with the use of CAQDAS packages is that inexperienced researchers are driven by the package, rather than the requirements of the data and the research question.

3.2. Research Design

For this study, it was planned that 6-10 teams would be investigated in-depth using grounded theory principles. Because the primary unit of interest in this research is the team, each team was considered to be a case. Eisenhardt (1989, p. 540) states that the overall idea behind within-case analysis “is to become intimately familiar with each

case as a stand-alone entity". The in-depth investigation allows the researcher to become familiar with the case, and also to become immersed in the data and thus begin to overcome preconceptions. Cross-case analysis allows the researcher to go beyond initial impressions (Eisenhardt, 1989).

According to Glaser (1992, p. 42), the outcome of grounded theory is "a small set of highly relevant categories and their properties connected by theoretical codes into an integrated theory". Grounded theory essentially consists of the collection of data, the analysis of this data, further collection and analysis of data, until theoretical saturation has been reached.

Unlike theory testing research, it is not necessary or recommended that the researcher reviews all the literature prior to the commencement of the field work (Corbin & Strauss, 2008). Due to the emergent nature of grounded theory building it would be impractical for the researcher to review all the salient areas that are important for the study prior to the study. They also warn that researchers can become "so steeped in the literature that he or she is constrained and even stifled by it" (Corbin & Strauss, 2008, p. 36). Goulding (2002) notes that this does not mean that the researcher must avoid all literature; the researcher needs to read widely for ideas in order to increase his or her theoretical sensitivity. Researchers nonetheless need to be cognisant that they cannot passively receive information, but rather can only actively interpret information (Van De Ven, 2007).

3.2.1. Data Collection

Grounded theory building can make use of both quantitative and qualitative data. As indicated by Glaser and Strauss (1967, p. 18), "the process of generating theory is independent of the kind of data used". Due to the need to understand and explain the operation of teams, it was considered that qualitative evidence would be the most valuable form of evidence.

Immersion in a setting is one of the ways in qualitative research to obtain the insider perspective (Henning, Van Rensburg, & Smit, 2004). Immersion though, is only really possible in an observation study where the researcher becomes an "insider" for some period. An interpretative approach sees people as the primary data source, and collects their perceptions as representing the insider view (Henning et al., 2004). As indicated by Yin (2003), one of the most important sources of information for case

studies is the interview. Given that interaction amongst team members can occur formally as well as informally, in immediate physical proximity or remotely (e.g., via electronic communication), and with the entire team or different subgroups (e.g., triads, dyads, etc.), with different issues being discussed separately and simultaneously, it was decided that observation was impractical. It was decided rather that interviews with individual team members would be the main source of data for this study. According to Yin (2003, p. 89) such interviews are more "guided conversations" than structured queries.

The form of information gathering in this research consists of retrospective study of teams via interviews. As indicated by Charmaz (2006, p. 28) "intensive qualitative interviewing fits grounded theory methods particularly well". In using interviews as the primary data source, the researcher needs to be aware of the limitations of people's ability to verbalise and correctly remember events that have occurred (Henning et al., 2004). The questions asked and the concepts investigated also have to be carefully analysed to ensure that the required information is obtained.

Miller, Cardinal, & Glick (1997) highlight potential problems with using retrospective information and state that the primary problem is the inability of the participants to recall past events. They indicate that this could result in rationalisations, faulty attributions, social desirability or memory lapses. They suggest four methods of improving the validity of reports in retrospective studies:

- Use multiple informants so that the reliability of each can be assessed,
- Ask about past events or facts rather than opinions or beliefs,
- Do not ask informants to recall events from the distant past, although what constitutes "distant past" could vary.
- Motivate informants by ensuring confidentiality and minimising duration of interviews and limiting inconvenience.

Open-ended interviews with team members and team supervisors were used as the primary data source. Open-ended, in-depth interviews are more likely to generate the rich and detailed accounts useful for generating grounded theory (Goulding, 2002). These interviews need to be flexible to allow unexpected topics of relevance to emerge.

With grounded theory, the number of cases is not fixed, but depends on when theoretical saturation of the concepts of interest occurs (Glaser, 2002). According to Eisenhardt (1989), the number of cases that are possible in case study analysis is between four and ten. Less than four would rarely lead to theoretical saturation, and the amount of data with more than ten teams would become unmanageable. According to Henning et al. (2004) the sample size should be large enough to make meaningful comparisons possible in relation to the research topic, but should not be so large that the interviews cannot be analysed in detail.

Once saturation has occurred, there is little need to continue obtaining further evidence as this will not add new knowledge (Charmaz, 2006). Theoretical sampling should be used, both to determine when additional information should be collected from the same team, or when additional teams need to be included in the study (Charmaz, 2006). Theoretical sampling is essential to determine additional data that is required in order to saturate the core categories that are emerging (Glaser & Strauss, 1967). Theoretical frameworks can always be developed further, especially in a field as complex as innovative behaviour in teams. However at some point the researcher reaches the stage where there is enough to add something substantive to the field. Locke (2001) indicates that at this point we need to actively decide to bring closure to the data gathering and analysis.

The representativeness of the sample is less important than focus in qualitative sampling (Henning et al., 2004). The cases selected, should be selected based on theoretical relevance and the extent to which these cases will assist in clarifying the emerging categories and their properties (Glaser & Strauss, 1967). The teams selected thus do not need to be based on a random sample. As indicated by Corbin and Strauss (1990, p. 9) “the representativeness of the concepts, not of persons is crucial.” This also means that the prior selection of cases is not possible. The outcome of the analysis of previous cases will guide the selection of the new cases.

Glaser (1992, p. 19) indicates that the initial interviews should be transcribed, but that the researcher can decide whether later interviews should be transcribed or not. This will reduce the volume of data. Glaser does, however, indicate that more rather than less transcribed data is better. This is more important if the researcher is not already an experienced practitioner. Glaser indicates that the process of coding and analysing will provide guidance for further theoretical sampling, and later theoretical sampling will provide guidance as to the extent of transcription required.

A transcription of an interview is not a complete record of an interview because non-verbal aspects of the interview cannot be stored in a transcript (Henning et al., 2004). In conducting qualitative research, with the interview as the primary means of data gathering, there are numerous issues with the conversion of this information into a form suitable for the analysis and presentation of results. One major issue is that spoken language is structured differently from written text (Lapadat, 2000). Spoken language includes pauses, false starts, missing words, and “ums” and “ahs” which, when meticulously transcribed, would not read well. Verbatim transcripts of interviews could thus appear to be incoherent and confused and could lead to “unethical stigmatization” of the persons or groups being interviewed (Lapadat, 2000, p. 206). The view has thus been taken that grammatical problems and various “normal” characteristics of speech have been amended in the quotations from the transcripts just as long as these “corrections” did not change the meaning of the quotations. The transcripts are not modified.

There are also other forms of expression aside from the actual words that occur whilst in an interview situation. Poland (1995) cites different types of non-verbal communication such as; the use of interpersonal space to communicate attitudes, pacing and pauses in the communication, posture and body movement, and the volume, tone and quality of voice. These means of communication can provide additional meaning in an interview situation, even though these are difficult to capture and still retain coherence in the actual transcripts. In business research, where the perceptions of teams members about a process that occurred within a business environment is being captured, these non-verbal communication may not be as crucial as would be the case in communications regarding personal topics.

In order to overcome the limitations of transcripts, it was decided that in addition to transcripts, digital recordings would be kept electronically and listened to during the analysis in order to determine the nuances of the interaction and to assist recall. Henning et al. (2004) does warn that recording the interview must not stop the researcher from listening or watching during the interview. Extensive review of the audio in the digital recording took place during the analysis process to ensure that the nuances in the interviews were taken into consideration.

Laverty (2003) recommends that the interviews should be recorded to ensure that the interview process is open. Charmaz (2006) recommends that interviews should be

recorded in order to enable the interviewer to give full attention to the interviewee and to maintain eye contact with the participant. Heeding these recommendations, a digital data recorder was used to record all interviews.

3.2.2. Data Analysis

The data analysis process in grounded theory building has, as its goal, the creation of theory. Glaser and Strauss (1967, p. 31) indicate (in their footnotes) that the form in which a theory is presented does not make it a theory. They state that grounded theory can be presented either as a set of propositions or as a theoretical discussion using conceptual categories and their properties. Corbin and Strauss (2008, p. 55) define theory as "a set of well-developed categories (themes, concepts) that are systematically interrelated through statements of relationships to form a theoretical framework that explains some phenomenon".

With grounded theory, the data collection and analysis proceed simultaneously. As indicated by Corbin and Strauss (1990), the analysis begins as soon as the first data has been collected and the research usually proceeds iteratively between data collection and analysis (Simmons, 1995). Corbin and Strauss (1990) indicate that analysis is used to direct the interviews and observations that follow. They indicate that the analysis makes use of constant comparisons in order to determine similarities and differences with other incidents. Glaser (2002) indicates that concepts are discovered by constantly comparing incident to incident and incident to category until conceptual saturation occurs. According to Glaser (2002), grounded theory does not end when a concept has been generated, but only when theoretical saturation occurs. Laverty (2003) indicates that a point of saturation is reached when a clearer understanding of the experience will not be found through further data collection.

According to Glaser and Strauss (1967), constant comparison is an inherent part of grounded theory building. Comparative analysis can be used for many purposes, including validating the accuracy of evidence, establishing the generality of facts, specifying a concept, verifying theory and generating theory (Glaser & Strauss, 1967). They also point out that accurate description and verification are not crucial when the purpose is to generate theory (Glaser & Strauss, 1967, p. 28). Glaser and Strauss point out that the job of the social scientist is to generate general categories and their properties for general or specific situations or problems. (Glaser & Strauss, 1967, p. 30).

It is critical in grounded theory to move beyond description and into explanation of what is taking place (Glaser & Strauss, 1967; Goulding, 2002). Glaser (2002) indicates that if the rigorous grounded theory building process is not followed, there is a likelihood that only conceptual description occurs. He defines conceptual description as research where one concept is generated and the rest of the research comprises describing this concept in each incident investigated (Glaser, 2002). He indicates that due process needs to be followed rigorously to ensure that theory is generated based on the concepts inherent in the data. Another risk that he identifies is that in business management research, where so many concepts already exist, the researcher may try and force incidents investigated into the meaning of existing business concepts.

According to Glaser (2002), the analysis needs to be rigorous and must include the following steps:

- Line by line study of the interview and initial coding,
- Comparison of incident to incident,
- Comparison of incident to concept,
- Constant theoretical sampling.

Open Coding

Goulding (2002) states that the early analysis consists of a line by line analysis of the transcripts to determine the linkages between the topics being investigated and the participant's experience with this. This consists of naming each selected segment of data, which could consist of words, lines, sentences or incidents (Charmaz, 2006). According to Goulding (2002), this initially results in hundreds of unrelated codes, which are called open codes. This stage is thus typically called open coding. Goulding (2002, p. 77) defines the stage of open coding as "the initial stage of constant comparison during which data is scrutinised for every possible meaning". Charmaz (2006) indicates that the initial codes should stay close to the data and the researcher should not apply pre-existing categories to the data. This coding process, if rigorously applied, would allow new ideas to emerge from the data. Charmaz (2006) advises staying with the word and actions of the participants when performing initial coding in order to begin the analysis from the participant's, and thus insider's perspective. Performing initial coding forces the researcher to think analytically about the data and identify gaps in the data.

Corbin and Strauss (2008) recommend “microanalysis” early in the process. This is a more detailed type of open coding, where the researcher considers all possible meanings of an item of data. According to Corbin & Strauss (2008), this prevents early foreclosure by forcing the researcher to think differently and deeply about the data, and to think about each possible interpretation of the data.

Once further interviews are conducted, patterns should begin to emerge in the coding, which would indicate that there could be some type of relationship between codes (Goulding, 2002). She indicates that the process moves from just describing the situation, to beginning to explain what is occurring. This occurs as the codes start to link together and form clusters of codes that appear to be related. She reasons that some aspect of a situation may be related to a concept and this concept may have many properties, and the properties could have dimensions in terms of their intensity.

Selective coding

Selective coding follows after open coding. As patterns in the data start to emerge the researcher should begin to code in that area only (Simmons, 1995). Both open codes and codes that occur during selective coding are substantive codes meaning that they are strongly related to the situation described by the data. In contrast, Glaser (1992) argues that selective coding should only start when a core variable has been identified in the data. This core variable or category then serves as a guide for further data gathering.

Charmaz (2006) calls this phase “focussed coding” and indicates that it uses the most important or frequent initial codes to parse larger areas of data and is “more directed, selective and conceptual” than initial coding (2006, p. 57). Part of the purpose of the focussed coding is to determine the adequacy of the initial codes. The codes are not only compared to the initial areas of data in an interview, but with different data in the same interview and other interviews or data sources. Focussed codes are used to categorise data more parsimoniously and completely. In essence, focussed codes start to form categories.

Theoretical Coding

The next coding step involves theoretical coding. Theoretical coding allows for the conceptualisation of the relationship between codes which can ultimately lead to the formation of hypotheses and thus theory (Charmaz, 2006). Eighteen different

theoretical families were suggested by Glaser, and these are intended to describe possible relationships between categories that have emerged from the data (Charmaz, 2006). Charmaz (2006) suggests that both Glaser's theoretical coding families and the axial coding matrix of Corbin and Strauss could lead to the forcing of data into preconceived frameworks. Charmaz (2006) acknowledges that such theoretical codes could be useful, but cautions that the researcher should remain open to the data rather than forcing a framework on the data.

Creation of Core Category

According to Goulding (2002), the final step in grounded theory development is the creation of a core category. Core categories are categories that account for a large proportion of the variation in the data (Goulding, 2002, p. 89) and are saturated as completely as possible (Glaser & Strauss, 1967). The core categories become the basis of the emergent theory (Goulding, 2002). Goulding (2002) also indicates that it is crucial to reach a point of saturation regarding the core category. Even though the discovery of core categories signals the final step in grounded theory building, once the core category has been identified, the researcher then needs to ensure that the core category is saturated. Selective data collection, via theoretical sampling, selective coding and analysis is required to fully understand the core category.

Literature is used in grounded theory for purposes of comparison with the emergent concepts, theory or hypothesis (Eisenhardt, 1989). The reading and analysis of literature does not end prior to the start of the field research, but rather proceeds together with the data gathering and analysis. The literature is treated as another source of information in grounded theory building, and the categories and core categories identified are compared to the existing literature.

Memo Writing

An important tool in the analysis of data is memo-writing. Memos are essentially used to capture the thoughts of the reviewer about any comparisons or connections made. Memos, essentially, force the reviewer to think deeply about the data and codes. Charmaz (2006) indicates that by writing memo's on focussed codes, the researcher can build and clarify categories and become aware of gaps in the analysis. The identification of these gaps will lead to theoretical sampling in order to gather more data in order to fill in such gaps in the categories developed. Goulding (2002) advises that the researcher should start by writing memos that document the situation under

which the study took place. Memo writing is an essential aid to theoretical sampling as it enables the researcher to determine the additional data required in order to progress the research. Memos provide the substance for the emerging theory (Charmaz, 2006).

3.2.3. Teams as units of analysis

The units of analysis in this study were management teams in private sector business organisations. The primary data source or units of response were however individual team members. Examples of research where the unit of analysis and unit of response are different are found typically in investigations where the unit of analysis cannot be directly observed, e.g., dyad relationships in studies of marriages (Thompson & Walker, 1982). In these cases the data collection consists of separate interviews with partners in the relationship. In other cases, processes could be the unit of analysis. Where observation of the process itself is impractical, interviews with people involved with the case may need to be held to obtain information about the process. In the current research, each team could have been interviewed as a group, in addition to individual interviews, to obtain information from both levels of analysis bearing on the team. The conduct of focus group interviews where the subject matter is the senior management team itself calls for advanced facilitation skills. It is also possible that team interviews might create an ethical dilemma by stirring conflict within the team arising from the discussion of controversial issues.

One of the problems with following the existing practices for executing grounded theory building in the methodology literature, is that very little of the literature considers teams as the unit of analysis. Most of the literature related to grounded theory uses individuals as the unit of analysis. Glaser and Strauss (1967) formulated the processes for the execution of grounded theory based on their experiences with researching dying patients. Goulding (2002) provides a detailed illustration of the grounded theory process, with the participants being individuals who visited a “museum” town. Charmaz (2006) uses the suffering of individuals with health problems for grounded theory examples. The limited research identified that considers the operation of teams from a grounded theory perspective provides little detail as to how the grounded theory process was executed (Casey, 2010). Using teams as units of analysis adds further complexity to both the data collection and analysis.

In this research, use of a detailed narrative prior to starting the within-case analysis, was found to be important. It served to integrate the information provided by the

different team members before analysis began. Each interview was individually coded, but linkages between the codes in each of the interviews with team members were created. This enabled the analysis of the different examples at a higher level. The data from the individual interviews thus became data for each of the categories developed.

3.3. Ethical considerations

Henning (2004) suggests that informed consent should be obtained from research participants but that obtaining informed consent is complex and difficult, even in qualitative interviewing. The person or entity from which the consent was obtained needs to be considered carefully. Henning (2004) also cites certain examples of contentious areas where the interviewee may not understand that they are giving consent. This includes items such as consent to use body language observed, information obtained about third parties during the interview, and the right to interpret and analyse the data.

It was not expected that there would be any major ethical considerations for this research, being non-personal in nature. Being non-experimental, procedures such as deception were not relevant. There are some issues with obtaining confidential information about companies during the process where protection cannot be provided by some form of privileged relationship, as exists between doctor and patient, or lawyer and client. These were handled by first formally obtaining permission from the company to conduct the research (see Appendix B). The process was then explained in advance to each interviewee, including assurances of the confidentiality provided and limits of such confidentiality. Formal written ethical permission was requested from each of the participants (see Appendix C).

3.4. Ensuring Validity and Reliability

3.4.1. Internal Validity

Internal validity is an assessment of how well a particular method and the associated data can provide evidence of the concepts that are being researched (Henning et al., 2004) and how accurately the findings represent what is actually happening (Hussey & Hussey, 1997). This relates to whether the methods chosen would provide insight and identify unknown factors and whether the interview technique could extract the information required. Miller et al. (1997) suggest that using multiple informants, asking

about recent events and facts rather than opinions, beliefs or facts from the distant past can aid to improve validity. They also recommend ensuring confidentiality and limiting inconvenience to participants. They argue that by using these guidelines, retrospective recall of events can produce a reasonable substitute for continuous observation.

Leonard-Barton (1990) argues that multiple case studies improve validity and help to guard against observer biases, although retrospective studies do pose challenges in determining cause and effect. Longitudinal studies are better at determining cause and effect and they also reduce the incidence of important events being forgotten due to not being recognised as important at the time. Leonard-Barton (1990) discusses some synergistic advantages of using these two forms of study simultaneously. One of the main advantages that Leonard-Barton (1990) found was that a longitudinal study provides evidence of intervening variables that are not apparent in retrospective studies. Further specific analysis of the retrospective studies based on the learnings from the longitudinal study could result in these variables becoming apparent. Longitudinal study requires extensive interaction and observation of business teams over an extended period. The investment from the participants for longitudinal research is high, the decision not to use this form of research was borne out when the teams in this study did not exhibit any inclination to invest more time than the duration of the interview to participate in the research.

3.4.2. External Validity

External validity relates to whether the results of the research can be generalised to other situations beyond the researched case (Yin, 2003). The intention is not only to understand the workings of the team in a specific context but to also be able to extend this to management teams more generally and possibly other business teams. Case study research can support analytic generalisation rather that statistical generalisation (Tsoukas, 1989). Future theory-testing research would be necessary to determine the general relevance of the research conducted.

3.4.3. Reliability

Reliability involves whether the evidence and conclusions will stand up to scrutiny (Hussey & Hussey, 1997). This can be interpreted as another researcher who repeats the same research coming to the same conclusions. Grounded theory involves analysis of the data collected by the researcher. The researcher is the main instrument

in the research. In order to be able to subject the conclusions to objective analysis Yin (1981, p. 63) states that it is crucial for the researcher to preserve “a chain of evidence”. Critics can therefore question and follow how specific conclusions were reached. In order to present this “chain of evidence’ the codes, higher level categories (code families), and memos are supplied as part of the Appendices.

3.5. Use of Computer Software to Aid Research

The use of computer software to aid research has been discussed in a number of articles. Computer software can be both a help and a hindrance in research. Dainty et al. (2000) indicate that computer aided analysis makes the explorations of complex links like correlations and interrelationships easier than performing this work manually. This is both an advantage and a disadvantage as the unlimited number of searches that can be performed could lead to the data not being properly analysed. Blismas and Dainty (2003) indicate that the availability of computer software could lead to the researcher increasing the volume of data collected, but this could compromise the analysis of the data. They also warn that the computer packages could lead to over-coding of data and less thoughtful insight into the data. They also indicate that the software is restricted and when using a software package, the researcher may not use the broader analytical approaches available outside the specific computer package. Dainty et al. (2000) state that a computer cannot replace the intuition of a researcher or the judgement required that is crucial to qualitative research.

Computer aided software makes the handling of the data easier and simpler, but should not be allowed to influence the analysis techniques chosen, and should not entice the researcher into endless computer analyses and searches for relationships. Instead the researcher should strive for intimacy with the data.

3.6. Process Followed

The research process that was followed was as indicated below:

1. Formal permission was obtained from the corporation to investigate the team or teams identified.
2. Interviews were conducted with each team member starting with the team supervisor or the team leader. Immediately prior to the start of the interviews, the nature of the study was explained to the participant, the confidentiality

requirements were confirmed, the interviewee was informed that they were not obliged to participate, the research process was explained, and formal ethical permission was obtained. The definitions of the variables of diversity and innovative behaviour were also explained prior to the start of the interview.

3. Each interview was transcribed and checked against the audio recording for accuracy. A confidentiality agreement as detailed in Appendix D was signed by the transcription service provider.
4. Each interview was coded using open coding, whilst listening to the audio. Listening to the recording aided recall and enabled the detection of subtleties that might not be obvious in the transcripts. Memos connected to the codes were written to document any initial thoughts, ideas, comparisons, connections or questions that came about whilst reviewing the transcripts and coding.
5. Each code was then allocated to a code family based on the particular concept or category the information related to. These code families or categories were created based on the data, rather than using a predefined list, and were separate for each team. This was done in order to enable a clear understanding of each team to be obtained.
6. These categories and memos were then used as a basis for the narrative. Ample quotations were used to clarify the experiences and incidents within the team.
7. Detailed analysis of each case was then conducted. Each case was considered in isolation, but with consideration of any important concepts that emerged from each of the other cases. A set of findings was documented for each case and these finding compared to each of the previous cases.
8. An analysis of common areas between the cases was then performed. This was then integrated into the core categories that had the most explanatory power for all teams taken together. New codes families were created to capture the common concepts or themes that were identified. The core concepts that emerged from the teams were then analysed in depth. The memos that were created were used to aid this process. A sample of the codes and memos for a single core category are presented in Appendix J. This consisted of detection of the properties, dimensions and antecedents of each core category. The relationship between the different core categories was investigated in order to lead to a framework for the explanation of the impact of diversity on the operation of the teams and specifically, the innovative behaviour of the teams. A framework for the operation of teams was then developed.

9. The findings of the study and emerging theory were then related to the existing body of knowledge, as reflected in the literature reviewed.
10. The research was concluded with consideration of the major methodological, empirical and theoretical contributions of the study and considered their implications for policy and practice. The chapter ends with a number of suggestions relating to future research.

3.7. Methodology Conclusion

This chapter has outlined the conceptual approach to the research and research design selected. This includes pertinent references to the methodology literature and details considerations with regards to the type of evidence, type of analysis, validity and reliability consideration, ethical implications and the use of computer software to aid research. Details of the data collection and analysis undertaken are then provided. A summary of the process followed is provided. The purpose of this study is to understand how diversity affects the innovative behaviour in teams. This chapter described how this study was conducted and sets out the rationale behind the selected techniques used.

(This page intentionally left blank)

Part II: Results

Chapter 4, the case narratives presents a detailed description of the operation of each team in terms of the implication of diversity and innovative behaviour, illustrated by verbatim quotations from interview transcripts. Chapter 5, the case analysis, consists of the detailed analysis of each of the cases in isolation from each other. Chapter 6, the cross-case analysis and theory building presents the cross analysis using various analytical frameworks, and the emergent theoretical findings.

(This page intentionally left blank)

4. CASE NARRATIVES

This chapter contains a narrative description of each team that was investigated in this study. The purpose of the narratives is to organise the evidence contained within the transcripts according to a recognised framework for the exploration of the major topics of diversity, teams and innovative behaviour. The actual content of the interviews is also used to guide the layout of the information to ensure that the data is not fitted into a predefined framework as cautioned against by various grounded theory practitioners (Charmaz, 2006; Glaser & Strauss, 1967; Goulding, 2002 and others). The framework on which this chapter is loosely based is the Input-Mediator-Output-Input team effectiveness framework presented by Mathieu, Maynard, & Rapp (2008).

Purposive selection was used as a basis for the selection of the teams in this study. The aim was not to achieve statistical representativeness, but rather to achieve the inclusion of a broad spectrum of business management teams, differing in degree and form of diversity and the level of innovative behaviour, from a variety of industry sectors, in order to enable meaningful themes and patterns to emerge relevant to diversity and innovative behaviour, and allow for detection and interpretation of theoretically important similarities and differences. A number of teams selected were excluded due to the team members not operating as a team. This took place after the first interviews were conducted. Team selection was based primarily on visible evidence of innovative outcomes from the team or the organisation. This included teams from companies valued highly in terms of entrepreneurship and innovation as reported in the press or organisations known to have created innovative new products. The following teams were selected:

- **Technical Project Team**: This was a project team tasked with the creation of a product for a new market.
- **Core Project Team**: This was a project team tasked with the implementation of a new IT system that affected the entire business.
- **Project Stream Team**: This was a project stream team responsible for the implementation of the human resources component of the IT system that was being implemented by the Core Project Team, in the same organisation.
- **EXCO team**: This was an executive management team with overall responsibility for a subsidiary company within a listed group of companies.
- **Private Company Management Team**: This was the executive management of a private company.

- **Product Development Team**: This was a high-level team consisting of the heads of various businesses and business units of a listed group of companies with the responsibility of creating a new product for the annual product launch for one of the group companies.
- **Marketing Product Development Team**: This was a product development team responsible for the creation of marketing campaigns for its client base.

4.1. Technical Project Team

4.1.1. Background

This was a project team in a group of companies listed under the *Telecommunications* Sector of the Johannesburg Stock Exchange. The team had been formed for the purpose of implementing a relatively short duration project, which was only expected to last about 5 months in total. The team members were interviewed about 2 months into the project.

This team was considered a type of pilot team. After this team was interviewed, the interviewing technique and type of team selected was modified to ensure that more relevant data was obtained. Two problems with this team as a research case were that the team members did not have common goals and the team members had limited task interdependence. This was partially due to the fact that this was a fairly low level project team, working on a fairly small project. The nature of the project also involved taking existing components that had been supplied to previous customers and making modifications to make the product suitable for a new customer.

4.1.2. Team Characteristics

Team Composition and Diversity

The members of the team consisted of the team members as indicated in Table 2.

Table 2: Technical Project Team Members

Person	Race	Gender	Age	Tenure	Education	Functional Background
Systems Engineer	White	Male	40	13 yrs	Electronic Engineering	Engineering
Quality Engineer	White	Male	44	16 yrs	Electronic Engineering	Engineering
Application Engineer	White	Male	28	6 yrs	Electronic Engineering	Engineering
Platform Engineer	Indian	Male	28	5 yrs	Electronic Engineering	Engineering
Junior Engineer	Indian	Male	25	1 yr	Electronic Engineering	Engineering

There were two additional team members, involved in a different section of the project, who were located in the same foreign country as the customer. The team had been together for approximately two months and most of the team members had never worked together previously.

The diversity in this team was limited however there were two races, different ethnic backgrounds, different ages and tenure. All team members were engineers as required by the type of project. All the team members were male.

Common Goals and Interdependence

The definition of team used in this research includes the requirement that the team members had a common goal, and had task interdependence in achieving this goal.

In this team, the members ultimately had their own areas of work and own goals, but had an overarching goal in terms of the satisfaction of the customer's requirement. The Systems Engineer explained this:

> *"The ultimate goal is obviously to satisfy the customer and work within the timescales etc. Obviously that is broken down into many shorter term goals ... But each member of the group has got their own goals." (54:8:80)*

The Systems Engineer went on to indicate that there were dependences between the team members, where one team member would not be able to continue with their area of the work until the preceding person's area was complete:

> *"Until [the Junior Engineer] has got the [base platform] right, nothing else happens, not even the test code. Once he has got the test code right, then you can start the quality engineering, and you can verify the basic functionality." (54:9:86)*

This is not true task level interdependence. Various people were dependent on others having completed their deliverables, but they did not need to work together on the deliverables. This was supported by another of the team members:

> *"...now about interdependence of those roles; sure, at the end of the day [the Junior Engineer]'s software must hand over to my software and my software must run correctly but that's pretty much where it stops." (56:2:66)*

The Junior Engineer also concurred with this assessment and indicated that the conformance to the specification was very important:

> *"What our goal is, what we need to deliver, what's our specs, what's our requirements and we each, as long as each person conforms to that then everything's fine, so I think this conforming to spec is the most important thing." (57:2:20)*

The Application Engineer was very clear that he had no reason to interact with the rest of the team at all and it was almost like he was a *"one-man team" (56:5:74)*:

> *"My task at the moment is quite specific in the sense that I'm not doing any interaction with anyone else in the team." (56:1:14)*

He explained further:

> *"We don't sit down and work together. There's obviously a spec that's drawn up initially and that will be done by [the System Engineer] and then that gets broken down into the specific roles for [the Junior Engineer] and myself for example." (56:8:66)*

However one of the engineers did indicate that there was a certain amount of "working together" that took place within subgroups of the team.

> *"but we also have like [the Junior Engineer] and myself we're working on the test code and we're working on the [base] software as well and we're also helping [another team member] to get going with the high level application software so there's a bit of overlap amongst the team itself." (55:5:88)*

The systems engineer did indicate that overlapping responsibilities could actually become a problem in a team, causing people to expect others to undertake certain tasks where the overlap occurs:

> *"Responsibilities, or shall I say overlapping responsibilities and job definitions, which does sometimes cause problems in teams." (54:22:178)*

Another of the team members indicated that there were very specific roles in most of the teams in this organisation:

> *"...And most teams here, you will find, will work in this way in the sense that there's very specific designated roles." (56:3:66)*

In summary this team did not appear to have a clear common goal, aside from a very high level goal of satisfying the customer's requirements. Aside from this, the team members had clear responsibilities that had been expressed in the project plan and which did not overlap. The level of task interdependence was also low. The cooperation that occurred within and outside the team was at the level of getting ideas and assistance when they had problems, or getting assistance when falling behind the required timelines. The requirement for task members to work together to complete their tasks was limited.

Requirement of Innovation

More than one of the team members was clear that the product was not innovative, and the intention was never to have an innovative product, but rather to modify an existing product to suit another customer's requirement. The reason for this was 'not to reinvent the wheel' and to reduce risk in a project with very tight timelines.

As indicated by the Quality Engineer, *"...it wasn't a particularly innovative product." (53:6:154).* When asked if innovation occurs in the team the Systems Engineer indicated that *"Creating new ideas is done very much all the time on a small-scale."* (54:7:50) and that *"the scale of that innovation is not necessarily huge at any time"*

(54:1:20).This appears to indicate that the requirement was for incremental rather than radical innovations. However, since the engineers working largely independently, it was left up to the individual to determine innovative solutions to the problems that they encountered.

The customer's expectation of the product to be delivered was not novel in any way:

> *"It would meet the customer's requirements but those requirements were not particularly unique or innovative." (53:7:154)*

The project specification and project schedule were created prior to the formation of the team.

> *"And then the project manager and I, as the system engineer, flew to [New Zealand] to actually finalise the details of the spec and also establish the project schedule, for this. And obviously all the requirements; what test document they wanted, all that sort of detail. And get it to the point where both parties could sign. Then, once we returned from that, and now it is the point where you start involving the people who actually do the work." (54:31:10)*

Once the product specification had been drawn up, the innovation that was required was for each individual to deliver in their area within the project.

> *"I think when our product spec is drawn up you know that's it. You've got to be as innovative as you have to be to meet the deadlines." (56:6:78)*

This was supported by other team members:

> *"You're allowed to do your own creativity as long as you meet the spec and you meet their requirements such that when you put both things together they should work; ideally first time." (57:3:40)*

There were numerous environmental related reasons given as to why innovation did not take place in this team. The Quality Engineer indicated that the Quality Assurance and Testing Department was not a part of the company where you would want innovation to take place:

> *"... quality engineering is by the very nature of it's job is, in a way, not the area in the company where you would expect innovation." (53:1:38)*

The Systems Engineer indicated even though people are encouraged to innovate in the company, they do not encourage recreating something that has been done before:

> *"... because what we generally discourage is reinventing the wheel. Very often, you encourage people to innovate but you don't want them to innovate where it's already been done, because you have never done this before obviously does not mean that nobody has." (54:2:32)*

He indicated that reusing components from existing systems was an effective technique for the company given the tight timelines on projects:

> *"I think it is a very effective technique in the sense, when you work in industries that have very tight timescales, it is one thing to go back to first principles and design from scratch, but it is not a good technique when you're under pressure, unless there is no alternative." (54:4:36)*

He indicated that part of the reason for this was to reduce the risk:

> *"You would rather use a standard solution if you can, because it all it comes down to, it is all about risk. It's risk reduction, effectively." (54:6:42)*

There was no single large scale innovation in the company, but rather many small scale innovations:

> *"It is innovation, but not in leaps and bounds." (54:27:146)*

There was a particular problem that was experienced by one of the team members that needed different people from around the problem to solve. The majority of the members of the team were not involved in this problem:

> *"I mean in a way I think that was a fairly innovative and dynamic way, had people involved in quite a wide level in the company to solve a particular problem and reason was that the problem was associated with high, let's say the incorrect solving of that problem could lead to a high field failure rate." (53:10:128)*

Another of the team members indicated that just as long as the team members conformed to the specification, then the different parts of the project would work

together. This effectively inhibits innovation in the team, as once the interfaces have been defined, the overall system would not change:

> *"Provided the spec is correct and we adhere to the spec everything should in theory run fine." (56:4:70)*

In summary, the project that this team was involved in was not intended to be innovative. The team members were required to complete their separate areas of work, in order to enable the overall product to be delivered in the time required. These areas had been defined by the Systems Engineer and Project Manager prior to the start of the project. The manner in which the product would be created was also predefined; the team was tasked to use existing components and modify them to meet the client's requirements. There was also little interdependence in the project, with the team members essentially working on their tasks alone, or with assistance from either other team members or people from the rest of the company, when required. The team as a whole did not exhibit innovative behaviour.

4.1.3. Environmental Influences

Company Culture

According to the youngest team member there was a culture of people assisting each other in the organisation, which was driven by the socialising in the organisation.

> *"...people are very helpful, irrespective of their age, or their race or that kind of thing because, it's all about teamwork." (54:7:50)*

And

> *at [the company] the socialising is very important because, we have our tea breaks, everyone gets together so generally tend to know everyone quite well and you ask them, 'Ok so what are you working on what are you doing,' so you generally have an idea of what everyone is working on." (57:5:76)*

This was supported by the System Engineer who indicated that this was because people knew and liked each other in the organisation:

> *"Why people are so willing to assist, I think, is largely a consequence of the fact that many people know and like/respect each other i.e. there are*

personal relationships between many employees. I think also that personal relationships rather than processes and systems are the primary reason things get done, be that well or badly i.e. If you have the right contacts and you treat them well then there's a high probability that what you're trying to do will be successful." (54:30:208)

This started when the organisation was small the key people were easily approachable, however as the organisation was increasing in size it was no longer possible for everyone to obtain assistance:

"[The company], as a small company, had a very flat structure where a few key people had virtually all the expertise. There was also a culture of low power-distance which meant that anyone could easily approach these key people for assistance. As the company grew, though, the key people couldn't offer help to everyone and the increased power-distance forced a change." (54:28:204)

The Junior Engineer indicated that there was a very friendly, jovial atmosphere in the company:

"...if you ask anybody what's the main thing about [the Company] that you probably wouldn't find at most other companies it's the culture it's a very friendly, jovial kind of culture. I think that's what helps; people get along you know and everyone knows everyone quite well because everyone is so helpful and willing to lend a hand." (57:6:88)

The team members did not rely on each other, but had access to different people throughout the organisation. Being part of a formal team in order to obtain knowledge was thus not critical in this organisation, due to the culture of the organisation.

4.1.4. Team Processes

Team dynamics

Due to the fact that the roles and responsibilities in the project had been clearly outlined for the team members and there was limited overlap, the interaction between the team members and the discussion and debate was limited. This mostly consisted of team members asking for assistance in problem areas from individuals who had expertise in these areas. These individuals were often located outside the team.

To a certain extent there was some miscommunication between different sections in the company that worked on hardware and software. This was as a result of the team design rather than the actual team itself:

> *"Often you hear that [a team member] just designed it, he did not ask us, whereas if you had had a bit more buy-in, then everyone collectively owns the product, as opposed to 'it was their product, I have to write the software for it'. So I think that you could have a more unified view of things if there was more buy-in." (54:21:162)*

The customer was located in an overseas country, and two of the team members had been born in South Africa and then emigrated to that country. According to the Systems Engineer this enabled them to understand the South African company, whilst being able to understand and communicate with the customer.

> *'...but they are South Africans and they have lived there for quite a few years now, so they have the best of both worlds they have been able to integrate themselves into that society but still understand the South African one. It's a great advantage to be able to see both sides." (54:12:106)*

The communications external to the team was important for some of the team members. However this was not a function of the team, but determined more by the type of organisation and the free communications that seemed to exist within the organisation. It was due to team members belonging to different teams at the same or different times.

The team members in this organisation were not allocated to single teams for long periods of time. Team members moved from team to team.

> *"No, no look I mean we have very sort of basic team designations but I mean I've worked on more projects than I can remember in various different groups. We're not specifically designated to any one particular team." (56:10:90)*

Some staff were also members of multiple teams at the same time. This enabled the team members to get to know a wider range of employees, which assists if they need to locate expertise regarding problems they are experiencing.

> *"Teams at [the Company] are relatively loosely defined in the sense that one or more members of each team will conceivably be members of other*

teams too. These members will consequently get to know many other employees and hence may become aware of where the expertise in various fields resides. These references are then offered to other team members who would otherwise be unaware of this i.e. very much a word-of-mouth referral system." (54:29:206)

Influence of diversity

The diversity in this team was limited. One of the team members did indicate that diversity with regards to language could cause problems with people whose first language was not English. He attributed the lack of ideas from these individuals to this poor command of the English language, which he stated was the language in which business was conducted. In his comment related to a separate team from the Technical Project Team he stated:

"In other words when I worked in a French environment and I didn't speak French so I knew what it was like not having command of the spoken languages in a work environment and I definitely think that the Zulu speaking people in our department as a whole are less forthcoming with ideas and with contribution than those who are English speaking as a first language. So I think language plays a role, whether it's culture or whether it's language. I'd say it's probably more language than culture as a contributing factor to certain people being less forthcoming with ideas and innovation, and maybe in comparison to that group, the other's then maybe, appear to be more forthcoming, even more pushy so it's a relative thing." (54:3:36)

However the input from these team members appeared to have improved with time:

"I think what happens over time; the integration into the department gets better to a degree to which people are developing sort of a camaraderie and can kind of joke with each other and understand each other and that improves over time." (53:4:94).

One of the areas where youth seemed to help was in terms of enthusiasm:

"We get a lot of engineers-in-training here, and it certainly helps a lot in terms of enthusiasm. " (54:23:178)

One of the other interesting characteristics that diversity brought to the team was the "enthusiasm of youth". The System Engineer indicated that the older staff could become a little worn down after successive failures and the newer staff helped to restore the enthusiasm:

"Certainly the younger guys coming in here they have lots of enthusiasm and it helps to... it's infectious." (54:26:110)

There was at least one area where the team members felt that the team was lacking, and this was with regards to the appearance of the product. This was however a skill that was lacking in the team and the organisation as a whole:

"I can tell you where we certainly feel the lack of innovation is in the look of our boxes. I know for a long time [the Company] did all its design in-house. I think more recently that we have started talking to external design houses. Engineers are not great at innovation in that sense. They tend to favour function over form." (54:15:138)

The Application Engineer said that having new people on the project resulted in new ideas and ways of looking at the problems:

"But what I found was that working with different people now in this project; they've given us or myself, on the problem itself, new ideas or new inroads into looking at the problem in ways that I wouldn't have thought of probably from working in a previous team or working long term in a previous team." (55:2:48)

One of the team members indicated that the more experienced team members brought a wealth of experience from past projects that they worked on:

"…like a knowledge base from prior projects which are sort of the backbone to this project so they're bringing that wealth of experience and knowledge into the project." (55:8:128)

The youngest engineers indicated that he felt that it helped that he looked at everything with a "sceptical mind".

"it's sometimes the most obvious things that I will probably think about that they would eliminate because they say no it can't be that but because I'm looking at everything with a sceptical mind." (57:7:102)

However team members did not see the value of age diversity in terms of helping to create innovative behaviour in the team. The better ideas generally came from the older, more experience team members.

"What I've seen; there always has to be a senior figure in the team that has the experience and very often, in fact, more times than not, the input given by an engineer-in-training or one of the newer guys, … very seldom come up with something that is better than the idea held by the senior in the group." (56:7:90)

One of the team members indicated that the shared understanding across the team was driven by the many years which the team members had worked in the organisation:

"…everybody I mean, those people who have been for many years at [the Company] know the work environment, they understand the pressures, the timescales and the deadlines, the dynamics of the company or of projects itself so that helps." (55:3:68)

4.1.5. Innovative Behaviour

The Quality Engineer indicated that innovation was not chaos:

"they should make sure that the innovation is channelled in the right way; so innovation to me is not chaos" (53:8:176)

According to him a formal process would thus hamper the innovation in a company:

"I don't think that process should actually hamper innovation. It should just make sure that it happens within the right framework within the right structure and at the right time. You don't want to be innovating when you're trying to put a product into production it's the wrong time to be innovating." (53:9:176)

4.1.6. Summary

The innovative behaviour that occurred in this team was limited because the team members had minimal task interdependence, and mostly worked independently on their sections of the project. There was very little requirement for innovation in the product delivered.

4.2. Core Project Team

4.2.1. Background

The team was a project team from a company listed in the *Consumer Services Sector* of the Johannesburg Stock Exchange. The company has been in existence for several decades. The information gathering took place in a team that was responsible for the implementation of a new software application that affected all parts of the business. This was a major project due to the size of the company and the extensive coverage of the project in terms of different business areas and business processes affected.

There was no specific innovative product that was the outcome of the team. The team was successful in terms of delivery to its mandate. The purpose of the project was to change the IT systems with as little change as possible to the actual business processes. The long term goal was to use the new system, once implemented, as an enabler for changes in the business in future projects. There was thus limited requirement for innovation in actual product that was delivered to the business.

The project was managed according to the project plan. As indicated by one of the team members, the project was not managed qualitatively, but rather quantitatively. He did indicate that given the size of the project this was the only way to manage the project:

> *"The way that the project was initially managed, and it sort of, it declined a bit after that, was it was very quantitative, not qualitative. So it was you need to write up 62 business processes, how many have you done? 'I've done 48', 'Oh well done that's a great result'. … because this was the only real way that a project team like that could get a handle on how far that was going. So in the early days it was far more about quantity than quality" (47:14:76)*

In order to make the project more manageable, the project was split up into different streams:

> *"...we subdivided the project into, what we call, functional streams." (51:20:66)*

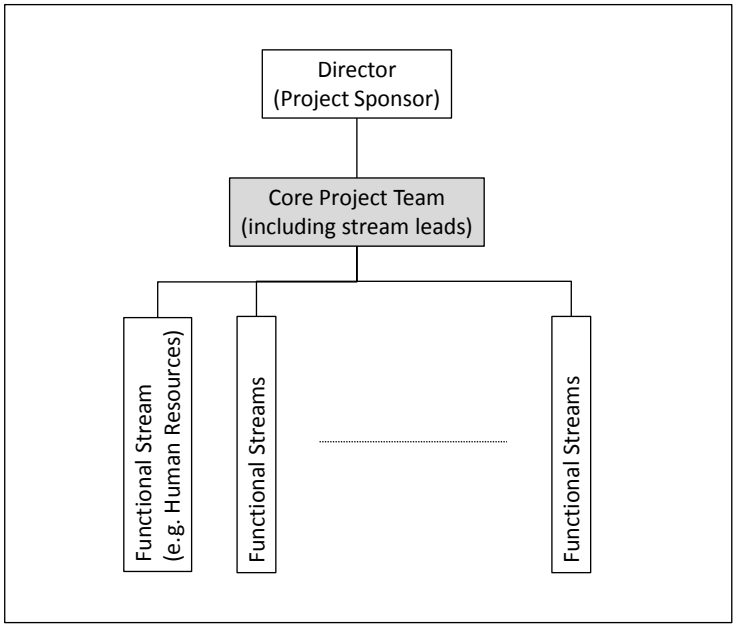
Each functional stream had an associate team that was tasked with the implementation of one or more software modules. A second team from this company was also interviewed and included as a separate team in this dissertation. The team involved

was from the Human Resources Stream and is discussed as Project Stream Team. One team member, the leader of the Human Resources Stream was in both teams.

4.2.2. Team Characteristics

The team consisted of a mixture of staff from the company and consultants from the implementation service provider. There was a large team of over 180 people who were actually involved in the implementation of different sections of the system. However a core group of people existed who were responsible for the successful delivery according to the project plan. This team was drawn from this smaller group. The team structure is indicated in Figure 7 below:

Figure 7: Core Project Team - Project Organisation



The team members believed that this was a high performance team.

Team Composition and Diversity

The members of the team consisted of the team members as indicated in Table 3.:

Table 3: Core Project Team Members

Person	Race	Gender	Age	Tenure	Education	Functional Background
Programme Manager	White	Female	42	6 yrs	Business Management Diploma	Finance, Information Technology.
Account Manager (from Service Provider)	White	Male	48	3 yrs	Chartered Accountant	Accounting, Management Consulting, IT, Overseas exposure
Operations Stream Lead	White	Male	50	>10 yrs	Business Admin	Australia branch
Supply Chain Stream Lead	White	Male	52	3 yrs	MBA	Supply Chain management, IT, other overseas retailer
Operations IT Stream Lead	White	Male	37	7 yrs	BA Music / Psychology	IT
Audit Manager	Indian	Male	37	18 m	B.Com IS	Consulting, Auditing
HR Stream Leader	White	Male	48	26 yrs	Secondary School	Business

Team Member Expertise

The team was chosen to provide the necessary skills for the project based on the project requirements:

> *"So those were precisely chosen in a way that there were representatives from the major business areas plus some of the key areas of IT that were important, and then obviously the consultants as well." (50:39:158)*

There were apparently very good domain relevant skills in the organisation:

> *"And then we had people who are very good in terms of their … expertise" (50:51:204)*

This was supported by another team member who indicated that the team members were *"knowledgeable in their area". (51:38:148)*

Another of the team members found that the diverse knowledge was useful to the team. In those areas where the knowledge was not available the team had little influence.

> *"So where you found that they had most intervention is where they had most knowledge and in an area where there was little or no knowledge … there was very little influence." (47:13:64)*

According to the Programme Manager this was a very highly skilled team:

> *"No problem was too big, I mean they would address it all and from a skill perspective we probably had one of the most highly skilled teams in the country and that's from my consultants as well as our [the Company] business stream leads that were on the team." (51:26:88)*

Team Member Personality

The team members appeared to have a strong desire for the successful completion of the project. There also appeared to be a common feeling in the team that the team members were in this together, despite the different backgrounds of the different team members, including the different companies that the team members worked for.

The Account Manager stated that the team members all wanted the project to be successful:

> *"Yes, I think probably the one common thread through the team is they have a real appetite to make this thing successful." (50:12:54)*

He indicated that this was despite the fact that the team members came from different backgrounds:

> *"I think even though we came from different backgrounds and different starting points there's been a huge, kind of common feeling that we're all in this together and we've got to make it work." (50:14:54)*

This commitment to the project was not present within all of the initial team members. Moreover, he stated that only those team members who had commitment were still in the team:

"So but I think also the team members who've survived this whole process are the ones that are really committed to the absolute marrow to make this thing work." (50:13:54)

The Programme Manager indicated that she felt that no-one was involved with the project just for the money, and that there was a real commitment to deliver the project.

"I never got the feeling that anyone was there, at that level, simply to clock up the dollars and then to go onto the next project. I felt everyone in there was in it for [the Company]." (51:35:140)

This applied to both the company employees as well as the service provider consultants.

"… you rarely know now whether that's a consultant sitting here after 2 odd years or if it's a [the Company] employee." (51:36:144)

And

"But some are, I don't know if it was [the Service Provider's] ability to really hand pick their consultants but they are a phenomenal, phenomenally committed bunch of people and the same with my [the Company] business team leads and in even the people .... You are yet to get as committed and dedicated and knowledgeable in their area." (51:37:148)

There appeared to be a real commitment to the successful completion of the project within the team. It appeared as if all the members, even of the greater team, were prepared to work extremely hard in order to ensure the successful delivery of the project. Part of the reason for this appears to be the selection of the people who were included in the team initially by the team supervisor. However there were certain people who did not fit into the team, and these people eventually left.

Diversity

The team was relatively homogenous from a demographic perspective. It was a mostly male, mostly white team. There were however, differences in terms of the team member's functional backgrounds and their expertise. The team members had been specifically chosen to represent different areas of the business. Another important form of diversity in the team was the combination of business people and systems people in the team, as well as company employees and service provider consultants. According

to one of the team members, some of the ideas that occurred would not have occurred without a combination of these people:

> *"Yes it was, if it was straight systems type people rather than strong business influence it may have never have been thought of." (49:10:90)*

This team member felt that even though the core team was actually quite homogenous from a demographic perspective, the team members had different strengths and that this created something quite "powerful"

> *"I think individually, although we were quite a homogenous group, I think individually there were different strengths and I think that the whole lot came together and created something that was actually quite powerful." (50:52:204)*

Many of the senior people have been in the company for their entire life:

> *"...a lot of the other senior people on the team have been there their whole working lives" (50:32:114)*

However from the point of view of experience the team was quite diverse. There were team members who had expertise in different areas of the business and team members who worked for a service provider who had expertise in the implementation of new systems, Two of the company team members has international exposure with one having worked overseas for the considerable period in a similar organisation. Different team members also had substantial expertise in their specific areas of work such as supply chain management. This diverse range of backgrounds was very important for the success of the project as indicated by the Supply Chain Stream Lead:

> *"If we populated it with a team of great innovators, best in class practitioners, it would have failed. If we populated it with just a group of: 'I understand intimately the way that these business processes work and I'm going to do everything I can just to maintain the status quo,' that wouldn't have worked either." (47:46:104)*

Interdependence

The majority of the team members felt strongly that the team had interdependence between the team members. Some members of the team, did however, disagree. They

felt that the different people needed to interact in order for any one member's area of the project to be successful:

> *"I mean I think we are definitely a team and we do need to function as a team to get the project executed." (46:2:12)*

and

> *"...there was a huge amount of interdependence in the teams and I think that perhaps one of the lessons learnt was the underestimation of the interdependency." (47:7:26)*

and

> *"So the ownership of that particular problem was very much a shared one, rather than one person deciding; 'this is the way it's going to go' and I think that was a good example of how that variety of opinion helped to shape the final solution." (47:21:110)*

In terms of common goals the team members argued that even though people may have had slightly different objectives the goal for the project was the same:

> *"Although we have possibly slightly different objectives; we actually are pushing towards the same goal as far as a specific project goes." (50:19:70)*

This person also mentioned that there was a level of technical dependency:

> *"because in theory HR is very different from everything else, but it's running on the same hardware, it's running on the same operating system, it has integration into finance, there's organisational structural things that you need to set up with [the system] where HR is a key component." (50:41:170)*

However another of the team members, who was in charge of the implementation of the Human Resources module, indicated that the interdependence in the team was low:

> *"I mean other than the initial kick-off stages those teams are sort of, particularly Human Resources, the way [the system] is structured we sort of go on our own, you do your own thing so I've got a group of people who work under me that have assisted. We integrate a lot with payroll. So you*

don't have one huge integrated team sort of all seeing each other and integrating all day. It doesn't work like that." (38:22:24)

The Human Resource Stream was less dependent on the other areas, and was also implemented before the rest. The level of interaction was thus limited. This was exacerbated by the fact that the different sections of the teams were located in different cities. This resulted in:

"So they end up maybe not getting the focus and attention from the rest of the team that they should have received and they end up trail blazing a whole lot of things, and things that they got wrong we don't fall in and did better the next time round." (50:42:172)

In many situations this dependency appeared to be a predecessor-successor relationship where one section of the product could not be implemented unless another section was completed. The interfaces were important since the product was fully integrated. The stream leads of the different sections of the project thus constantly needed to speak to each other:

"Because a product like [the system] is fully integrated, you were forced to interact with [other] stream leads to be able to ensure that whatever you were doing was going to be complemented by their delivery of their module and wouldn't be in conflict of and would sit well within the business.... Constantly, I would say that they were constantly speaking to each other." (51:27:100)

The level of task interdependency appeared to be low. The level of dependency was high, as certain system modules could not be implemented unless others were operational first and what was implemented on one module affected other modules. The team members in the core team did discuss and consult with each other, especially in areas which were common or that more than person involved in a stream.

Shared Leadership and Team Roles

There was an element of shared leadership in the team where the different stream leads would consult with the rest of the team and then make their decision:

"Because at the end of the day each head of that stream had the ultimate accountability to say, 'Look I've taken counsel on everything that you've said, I've understood it, I've taken on board, I'm going to make the decisions as to which way we're going to go and that's the way we're going

to take.' So it wasn't a consensus, it wasn't a democracy, whereby we all voted on one particular of working. We had our input to it, we made our point of view [known], but ultimately it was the stream leader that took the ultimate recommendation to the end user for sign off." (47:22:114)

After multiple people's opinions had been canvassed, the leader of that stream took the decision on the way to go. It did not have to be consensus. Once the stream leader had taken a decision, it was up to them to convince the end users that this was the optimal solution.

There were different roles that different team members performed, based on their strengths and weaknesses:

"I think in terms of personal strengths and weaknesses, I think there was quite a good blend … got people who really are deliverers. They're detail planners or organizers, huge amount of focus on delivery and the stamina not to be put off so I think that's the kind of role they played." (50:49:204)

Other team members had different roles:

"I think my role has been to help promote and protect the project at a very senior level with [the Company]. I tend to go to all meetings with the board and with the [the founders], to kind of explain that we're not busy ruining their business we are actually doing things in a very responsible and disciplined way." (50:50:204)

Overall team performance

One of the team members stated that the team did fantastically well in order to implement the system:

"I think the team did fantastically well given that very few of them, certainly within [the Company], I don't know any of them that had exposure to managing a system of that size and scale. I mean the change was huge there wasn't one area of the business that hadn't been changed. It was a mammoth challenge" (47:26:146)

The team members all agreed that the team was a great team, as indicated by one of the team members:

"I mean I wouldn't pick another, I mean it's a brilliant team to work in. … that's a brilliant, it's a really, really good team to work with." (46:17:272)

And

> *"I think they worked well together." (51:34:140)*

When asked whether the team had achieved its goal, one team member indicated:

> *"Oh yes most definitely." (49:6:44)*

And

> *"I think we delivered materially the objectives that we set out to achieve to date. I mean there's been a whole lot of milestones that have been achieved." (50:7:38)*

Another team member also indicated that other companies had much more disruption in implementing the same system:

> *"Make no mistake about it; 18 months ago, 2 years ago [another company] implemented [the same system] into their operation in Johannesburg and it took them 6 months to recover from it, ... we didn't get the same impact here. So I think as a project it's been a success, make no mistake about that at all." (47:42:234)*

It appeared that the members of the team enjoyed being part of the project. The motivation of the team members was to successfully complete the project and there appeared to be a real commitment to this goal:

> *"I think they were very committed to the 'cause', for want of a different word and there was no-one on the project who never dreamt, felt, loved what we were doing. I think everyone that worked on the project and contributed really did it out of, it was a personal goal of theirs, it almost became like a personal objective." (51:33:140)*

However one of the team members believed that the project was successfully completed because of hard work, not very smart work. When asked if the project was successful because of smart work he said:

> *"Besides late hours and hard work, not according to my knowledge, because the team works exceptionally hard, too hard for my liking." (48:8:178)*

The team appeared to have been successful in achieving its mandate of implementing the system with as little possible change to the business as possible, within the timeframes and budgets set.

4.2.3. Environmental Influences

There were numerous environmental influences that affected the innovative behaviour of this team. These included the resistance to change within the company, the mandate of the project not to change the company's business, the influence of the leadership of the team and the role of project management principles.

One of the environmental conditions that limited the need for change and innovation was that there were no major problems in the organisation and the company's performance was good. The company had continued to do well despite there being only limited change to the manner in which the business was being conducted. There was thus little incentive to change, and innovation was not a requirement. This was expressed by one of the newer members of the team:

> *" … in my experience the only way that you're going to get that change is if there is some form of burning platform and at the moment there isn't. We don't have a burning platform. The company's doing very well. Things are behaving the way they should, so why change? You know, why change for the sake of it? Well you could change because you can actually cream the opposition. Yeah, but well it's not really our style." (47:41:226)*

One of the team members had a comment on the innovation process, indicating that a conducive environment is necessary for the spark of innovation to occur in:

> *"...innovation it takes a spark, it takes a contusive environment to actually come up with something really cool or new way of doing something or innovative. What's your process to do with innovation I don't know there's different theories on that but yes you can't do it while you're at the speed of a bullet trying to solve the problem." (48:10:198)*

Company culture

The company has been in business for decades, and many of the managers have come through the company by working their way through the ranks. There appears to be quite strong resistance to change within the organisation. There were however *"spots of innovation" (46:15:204)* that occurred with regards to the products and

services that the company offered their customers. Even though the team appeared to have discussed things and found ways of doing things, there were certain rules and working practices that could not be changed. The team needed to operate within these parameters:

> *"But in terms of ways of working, yes, it comes back to this point earlier that traditional working practice and techniques were sacrosanct to the organisation." (47:24:138)*

Another of the team members indicated that people in management positions within the organisation did not know about best practices in their industry. This was because they had worked their way up through the ranks, and thus did not have experience from outside the organisation:

> *"[the Company] doesn't know about these things because every person in position here ... they work their way up all the way through their ranks so they don't know about better practices out there." (48:11:234)*

The company generally did not want to be innovative in terms of their processes and went back to the ways of doing things that they were familiar with:

> *"The business always went back to what they know best so we've always pushed, 'Don't do this, go back to what we're used to'" (49:3:20)*

One team member went on to indicate that the company does not have a culture of doing things differently:

> *"We don't have this culture of doing stuff differently or innovating." (46:13:172)*

Some senior people in the organisation felt that change was not necessary as the old ways had been working well and were still working well for the organisation:

> *"... there were some senior people who felt the current ways of working were working perfectly well, have been working perfectly well for many years, and therefore they were almost sacrosanct and shouldn't be changed." (47:5:22)*

Another team member indicated that there is a maximum speed at which it is possible to make change within an organisation:

"But I think we were also quite realistic in saying there's a limit to which organisation with such entrenched practices as [the Company] the speed with which they can change" (50:4:22)

There was thus in this organisation a reluctance to change. The project was thus structured to ensure that there was the minimum change possible within the business processes.

Requirement for Innovation

The requirement for innovation in this project was low, because a conscious decision was taken not to change the business processes and only to change from one system to another. However, the intention was for this project to be a catalyst for change in the future:

"...to innovate the business processes and change some of the real fundamental historical ways that [the Company] has worked by using the [the system] as a catalyst for making that change happen." (50:1:12)

This was supported by another of the team members:

"It was about really transforming from the current technical platform to the new technical platform whilst preserving as best as possible the current business practices." (47:4:18)

When asked if innovation was generated in the core team, the response was:

"No it wasn't. It was degrees of innovation in terms of the innovation of how to deliver an initiative, if that makes sense, but the end initiative itself was very muted ok ... their brief was to keep the show on the road, to adapt the [new] system to reflect current business processes." (47:2:16)

The intention of the project was never to innovate, but rather to create a platform on which innovation could take place in the future. This was apparently part of the initial vision of the system.

"So in that particular case there was a desire to preserve a lot of what was going on... the initial vision for where [the system] will end up would be completely, would be a radical change from where we are today. So the

view was that [the system] would provide the enabler over time to provide slicker processes, more efficient ways of working and so on." (47:6:22)

Even though the project was not intended to be innovative in terms of the effect on the business processes, innovation was apparently necessary to implement this vision within the organisation:

"There was a degree of innovation with trying to adapt new technology with old working practices." (47:8:38)

This team member also indicated that most of the innovation took place at a lower level, and not in the core project team:

"But most of that innovation was done at the lower level. The role of that main project team was to deliver that product, on time, in budget." (47:45:96)

This person also indicated that the innovation was very low initially:

"The reason I say that, is because certainly in the early days of the team efforts, virtually all of the work that was done was at a zero level of innovation. It was all about documenting the business processes, having documented those business processes. It was a machine that created the business processes, configured [the system] to deliver those system processes and then deliver the output." (47:39:212)

Another team member did however also say that even though the high level innovation was coming from above the level of the core project team, the implementation of this vision required innovation:

"So I think the high level innovation was coming, probably from guidance from [the Company], but the level of innovation which is how do you actually then turn that into something, how do you relate that high level vision into a set of systems that can be implemented and have been implemented, was where I think this team came with a lot of innovation." (50:2:16)

The programme manager indicated that there was innovation in translating the ideas of the consultants into something that was understandable to the organisation:

"So effectively what happens consultants sell into the [the Company] people, we then had to internalise it and say, 'How would this work for [the Company]', and I think that's when a lot of innovation happened, because we had to take what they did and break it down into simple [the Company] terminology and understanding, and effectively sell it on to our key stakeholders" (51:6:14)

The requirement for innovation in the core team was not great. The core team had to execute the project according to the mandate given them by the team supervisor, but the actual implementation and any innovation required for the innovation took place at lower level teams. There was thus only limited requirement for innovation in this team

Project Management Principles

The team was responsible for the delivery of a project. The direction of the project was determined at a higher level that the team and was, to a large extent, defined prior to the formation of the team.

One team member indicated that, due to constraints on resources, money and time, the project plan had to be rigidly followed in order to meet the deadlines:

"I mean the constraints on; it is the resources, the money, the timelines that we've got. You need to effectively stick to very structured ways of doing stuff to meet the deadlines" (46:6:102)

This was supported by another of the team members:

"But we didn't always have the time, in some cases the inclination and in other cases the opportunity to be able to make those changes." (47:15:96)

Another of the team members indicated that there was no time to consult with anyone else:

"You know when it comes to the blueprint, you sitting till 11 o'clock of just taking your notes and putting them into business process documents. There wasn't any time to talk to this person or talk to that person; it was head down, bum up. These have got to be signed off by this day, which again may not have been the best possible way; and I'm not saying deadlines aren't important but you become, you had all the workshops then went away and did all the documentation, then you got all the documents signed, then you handed over to development or to the people that configure the system." (49:17:254)

In the opinion of one team member, this resulted in less innovation as adherence to budgets and project plans meant that the company could not be innovative:

> *"But we stick to the budget and we stick to project plans but it means we don't do stuff in a more clever way sometimes."(46:11:164)*

There also appeared to be an unwillingness to take risks, even if there were potential benefits. As indicated by one of this team members:

> *"Yes and because that will introduce risks because the other way they know if you do it this way you will get, you will spend a million it will take 6 weeks. Potentially this other way if it works, 'yes we could be we spending an extra R100,000 and we've finished earlier', but there's no security." (46:12:172)*

Another of the team members felt that because of the excessively hard work, it would have been impossible for the team to be innovative. He said:

> *"...so with that hard work you become tired I mean there's going to be no innovation." (48:9:190)*

Leadership

The team supervisor appeared to have a great effect on the team. She appeared to have engendered strong loyalty to her, to the extent that people were not prepared to fail her. This appeared to result in great commitment to the successful execution of the project.

> *"And I think that working for someone like [the Director] you know that she's put a lot of faith in you as a sponsor of what you're doing. So there's a huge amount of loyalty, I think, amongst that team to actually making sure that's she's not exposed and we actually deliver what she's promised to her board that needs to be delivered." (50:15:56)*

One of the team members indicated that the leader was able to look ahead and plan because she did not have to contend with the details.

> *"I think it's easy to look forward, and it's easier to look forward and to plan, if you're not working in 50 detailed things. So that was the contribution that the leadership made to the project." (51:24:82)*

The leader had an important role in selecting the team members. This selection appeared to have been made on the basis of the ability of the person to work as hard as was necessary in order to deliver the solution:

> *"I don't know if she hand-selected them on. I think it was a lot about personality and knowledge but I think it was more around this person will do whatever it takes and work." (51:39:148)*

This team member also felt that much of the innovation came from the leader:

> *"So I think a lot of the innovation came from the leadership, I believe." (51:23:78)*

4.2.4. Team Processes

The team was successful in the implementation of its mandate. The team was also only formed after the project had begun and most of the team members had not worked together previously. The team showed signs of development and change over the duration of the project. Problems with the structure of the team were rectified as the project proceeded. The levels of trust were initially low, but improved over time.

The team members appeared to have a great deal of enthusiasm and commitment to the team's goals and objectives:

> *"...the team dynamics for me was it was a very, very enthusiastic and resilient team, very enthusiastic and resilient and that the learning curves that everybody went through, was phenomenal." (47:31:156)*

There were, however, differing views as to what success meant in the team:

> *"If you speak to [the project manager] and myself you probably get a different view ... the debate has always been from her point of view; get [the system] up and running in the region. From my point of view it's always been; you can't just throw [the system] at it, you have to implement a business process and business rules." (49:7:76)*

The role definitions in the team were initially not very clear:

"What also happened [the Director] started taking a back seat at that stage as well, because [the Director] was also, you know there was conflict of roles between what [the Director] was doing and I was doing and there was this other person, and I think we didn't have clear role definitions." (51:49:60)

One of the interventions of the independent consultants was to rectify the situation and recommended clear role definitions:

"... after he came, he enforced us to have clear role definition; who were the leaders and who was doing what and who was accountable and I would simply feed back to [the Director]" (51:50:62)

The team members understood each other, which allowed for team members to compensate for and assist each other in areas where they did have difficulties:

"You know we were quite structured in our..., we knew what our roles and responsibilities were. Everyone knew this is my, this what I have to implement and this is what I'm accountable for and so forth. But if I take someone like [...], [...] is dreadful at managing timelines and deadlines and so on, but as a team we recognize that. So I'd be the one hammering the timelines" (51:11:34)

The team was prepared to request external assistance and evaluation if necessary:

"The other thing that we've done ... this is more around ensuring a successful implementation, we haven't been shy to bring in other people to come and do audits for us." (51:19:66)

The team also put into place various informal sessions where people could "vent" and express their feelings:

"I would often do it away from the office. I'd go to a little coffee shop, maybe, and have breakfast with the team and that type of thing or we'd go have an early supper. A couple of times we went and we had early suppers and so forth and just created an opportunity where my main business team could talk gloves off, effectively, and I think that really worked well for us." (51:12:36)

The Company created an environment where communication between people was possible.

"But it also became another environment for the team to talk because they simply needed the opportunity to talk wherever... So that's the one thing we did we created as many forums that allow people to share their concerns." (51:25:84)

Within the team there was a smaller group that met more frequently:

"I mean there's certainly not 12 people in the team as such. I mean we don't work together like that. It's basically [the Programme Manager], [The Operations Stream Lead], me, [Franchise Stream Lead]." (46:29:144)

Team Development

The team showed definite signs of development over a period of time. As indicated by one of the stream leaders:

"There was a lot of enthusiasm in the early days, which was quickly replaced by a little bit of uncertainty, perhaps a little bit of tension, bit of fatigue. But at the end of the day everybody rose to the occasion." (47:32:160)

The team evolved a way of working during the project. The team members also according to this person, displayed common work characteristics and developed a common language over a period of time:

"Well I think as the team members have become similar, I think we found a common way of, you evolve a common way of working and a kind of common language and a common way of addressing issues; so you understand there is a specific problem that we need to resolve, that we kind of understand how to do it, we understand who needs people together and we understand what the process is. So in that way I think we have become ... we've evolved a way of working which I think is quite effective." (50:26:92)

The power relations in the team changed over a period of time as the company employees became more confident:

"So I think where the team changed significantly; to start off with we were in the background, halfway through we were on par, the time we went live with our first region we as [the Company] were definitely in the driving seat." (51:48:214)

The company staff eventually took the lead role in the team as indicated by the Programme Manager:

> *"We also never allowed the consultants to … by the time we actually went and implemented [the system], it was all [the Company] people training and doing the change management. Although we had consultants preparing the training material and helping with us, it was always the voice of [the Company]." (51:52:214)*

One intervention that was put into place was to put the team together in the same physical environment. This appeared to have enabled better team operations:

> *"The minute some of our stream leads, when some of the modules went live they went back into the business, but you still needed their input. It became a nightmare to get them back, even to come and participate in workshops and stuff like that, so don't underestimate the values of a team sitting together to actually achieve results." (51:29:122)*

However all of the core project team members did not did not share the same physical space as they had other business duties:

> *"Of the 12 that I'm talking about, they were probably a bit more separated because some of them still had business duties and stuff like that and I've never had an office in the project team. I'm there fairly regularly 3 or 4 times a week, but I've never had a specific office that I sit in [the Company]. I kind of move around." (50:44:184)*

There were a number of changes to the team members from the service provider that occurred over a period of time, whereas there was limited change on the company side. When asked whether any of the team members changed during the project it was said:

> *"Quite a few, yes quite a few, especially on the consultant's side, but on the [the Company] side it was fairly stable all the way through." (47:33:164)*

According to one of the team members there was initially a low level of trust in the team. Many of the people in the team had never worked together previously, and did not even work for the same organisation:

> *"I think initially there was some scepticism and some unwillingness to really trust so I think initially in the teams there was a lot of second guessing so*

we would say things like, 'We've been here before. We think you need to structure the team this way and this is the way you need to do things,' and they wouldn't accept that to start off with and there was a lot of challenging and second guessing and involving other people." (50:17:66)

Part of these trust issues were caused by what some of the team members had heard about the Company:

I think there was quite a bit of just them learning to trust us and us also learning to trust them in a way because the other things you hear about [the Company] before you start working with them is that they are, they can be bastards to deal with, they [are] not good payers, they'll use very legalistic things to get the best deal out of you and all the rest of it, and to be honest ever since we've worked with them they've never been like that." (50:18:68)

He also explained that team members were sometimes defensive or suspected hidden agendas:

"Yes, I guess they're not bad people or not incompetent people, where people couldn't work in the way that that team culture was developing. Some people were tend to be a bit defensive, for example, if they were challenged about a certain idea or certain structure or whatever the process they put in place. They would act very defensively suspecting some ulterior motive" (50:24:84)

Those team members who could not trust, eventually ended up leaving the team:

"And the other thing I would say about the team is there were certain individuals that just didn't fit in within the team, some from [the Consulting Partner] and some from [the Company]. If you see the original project launch photograph you can actually look at the faces of all of the people who aren't still here and you know there are quite good reasons in each case why they're not ... they weren't able to trust, they weren't able to really be a team player" (50:23:76).

Trust developed in the team over a period of time:

"…we've learnt to realise that, although we have possibly slightly different objectives we actually are pushing towards the same goal as far as a specific project goes. So I think what's really happened, matured us, is we're starting to trust each other and jointly delivering on our commitments." (50:21:70)

Success also led to the team starting to trust each other:

> *"I think over the period of time, as a collective team, we've delivered against all of those milestones so we've learnt to trust each other" (50:20:70)*

The team had reached a stage where there appeared to be great trust, where people were no longer questioning each other's motivation for bringing up issues:

> *"I think the disagreement is made and their comments are received on the basis that you actually trust and respect the person who's making the comments and you trust that they're not making up any other motive other than to achieve the success for the project." (50:25:88)*

It was stated by one of the team members who believed that there was little innovation in the team that the structure of the team and the way that people worked together was important for the success of the project:

> *"I think if it wasn't for the team structure, or the way that we fitted together, it would have been, could have been a complete nightmare and luckily it wasn't." (46:21:272)*

Discussion and Debate

There were varied opinions in the team about the amount of discussion and debate that took place in the team. Some team members felt that the *"openness of discussion was phenomenal" (51:51:184)* whereas others felt that the discussion was limited:

> *"if we think about something like that in the team it will go to discussion between us and [the Director] and that's where it ends." (46:18:124)*

This also seemed to indicate that the decision making took place at the team supervisor (director) level.

The Account Manager said that they eventually gave up challenging issues despite them not agreeing with the Company view:

> *"I think they sometimes got frustrated with us because we were challenging and it took a number of iterations before we were kind of beaten into submission, so we said 'Ok, fine we accept that's the way you want to do it,*

we still don't agree with it, but that's the way we're going to do it and that's the way we have to do it'." (50:10:50)

Part of the reason for this could have been the initial lack of trust between the company staff and consultants in the team. However the same team member said that as the team had developed a level of trust and the amount of challenging had increased due to this:

"So I think we've got to the stage now where I think the relationships are so sound that you can actually say what you really think and challenge to the extent you really want to, without having to worry about how it's going to be taken." (50:28:94)

"But I think there's enough people within the group who actually start thinking, 'Well Ok, if that's not working how about this,' something completely different and try another angle so I think it is something that does work well." (50:29:98)

This appeared to show that as the level of trust improved in the team, people became more open.

There was initially scepticism in the team that the project would be possible at all:

"I think even some of the new members of that team were very sceptical initially and had been involved in a number of the initiatives that had failed previously and that would show how difficult it was to do the stuff that we were doing." (50:34:128)

According to the Programme Manager there was only limited conflict that took place in the team. Some conflict did occur prior to the replacement of the original service provider project manager:

"I, honest to goodness, never had, other than that episode with that lady 9 months into the project, had any unpleasantness on the project whatsoever, people screaming, rating, raving, not wanting to work with each other. It's the most phenomenal team, it's the most phenomenal team." (51:40:152)

Part of the reason for the limited conflict that occurred was that the organisation had made it clear that change was not welcome and that the purpose of the project was to

change the application but keep the business processes the same. The inability to change did create frustrations in some of the team members:

> *"I think there were frustrations because although we were challenging some of the holy cows in some cases you know even from [the founder] down we were told we can't challenge this even though it's not, what we would regard as current base practice or the standard [new System] way of doing things." (50:11:50)*

4.2.5. Innovative Behaviour

The team members saw many of the ways of making the project work as common sense rather than innovation:

> *"It's difficult to say what else, what was really out of the box and what was just common sense to try and make a situation work." (51:8:24)*

Some of the team members did feel that the level of innovation in the team was low:

> *"Innovation was, I don't think we innovate at all." (46:1:12)*

The team member further explained:

> *"Essentially what we've done to a large extent is to make [the new system] work the way it used to look in our old system." (46:3:34)*

This was supported by another of the team members:

> *"I'm going to say, no, they were not innovative at all. The reason I'm saying that is because the solution was always found in, 'how did we always do this. Let's call up someone from the business and ask them how do we approach this problem.' Then they'd actually make whatever we were implementing the same as that" (48:1:12)*

This person differentiated between solving a problem and being innovative

> *"... that's not innovation, that's solving a problem, that's not innovation." (48:2:16)*

Innovation Process

The project structure consisted of a very large group of people who were involved with the implementation of the project, and a smaller core team that steered the project. The consultant account manager felt that this created a situation where the entire group was involved in the generation of ideas, but these ideas then filtered up to the core team, where the decisions were taken:

> *"So I think a lot of that innovation in terms of generational ideas would have come from the breadth and range of different people that were on the project that, within the teams, then filtered into our group which is really the steering group for the project." (50:46:192)*

The programme manager stated that the catalyst for change within the organisation came from the combination of company staff and consultants in the team,

> *"So we became the catalyst for change within our company because our project team was comprised of consultants that have been there, done this before and 50% split probably of [the Company] people that have never been there, never done this before." (51:5:12)*

Despite the consultants on the team, the company obtained additional advice from other consultants:

> *"We got an independent guy from [a company] in the UK to come and give us a synopsis 9 months into the project to tell us how things were going; an independent view. Boy and did he give us a rude awakening and he actually brought us on track, he said now you've got to lead, it can't be this other person" (51:17:58)*

When describing how the team operated, one of the team members indicated that it was not just the generation of the idea, but also the realisation of the idea that was important in this team. There was a very large team of people working on different parts of the project, and this was a source of ideas which needed to be communicated to the senior team:

> *"So yes I would say that we had this vast pool of people that had bright ideas and we had the ability to filter those upwards and then give it to a group of people that were actually going to implement them, in a very common sense no nonsense way, so yes I'd say this really sums up I think the success of how that project team has worked." (50:53:208)*

Impact of diversity on innovation

The team members felt that there was value in the combination of company staff and consultants in the team:

> *"… I think there's a lot of good business knowledge … in that team but then the [service provider] team came up with a very fresh view about a whole lot of things." (50:8:42)*

Part of the value of the consultants was that they could challenge the thinking in the team:

> *"[The service provider's] role in a lot of cases was to ... challenge some of that thinking so I think yes the fact that we were different to them was a very positive factor in innovation." (50:9:46)*

However the team member who expressed this opinion also indicated that homogeneity may have helped with team dynamics but not necessarily the innovation in the team:

> *"I guess I think it's helped in terms of team dynamics. Whether it's necessarily helped in terms of innovation, I don't know." (50:30:110)*

This team member also stated that the homogeneity with the team could have had a positive effect on the promotion and implementation of the innovation:

> *"I would say the 2nd and 3rd were probably benefited by homogenous nature of the team because from a promotion and implementation point of view, the fact that there was such a cohesive group of people that had a common way of working, a common way of doing things, I think there's quite a lot of energy around you know just getting things done, so there was no distractions and those sort of things created by diverse views and things like that." (50:45:192)*

The programme manager, who had a relatively short tenure in the company, was involved in motivating for the entire project:

> *"She was quite instrumental I think in getting the thing off the ground and she's been incredibly instrumental since then in driving the implementation process. So I think the fact that she's not dyed in the wool of [the Company] is a good thing." (50:33:120)*

The consultants had different experiences from the company team member and were thus seen as valuable to the team:

> *"From an innovation perspective our team of consultants, I think, came with quite a lot of experience which, for us as [the Company] was ground breaking, effectively, and so we could utilize a lot of what was there." (51:1:12)*

The team members bought into the team these new ways of doing things and eventually became a catalyst for change in the organisation:

> *"...effectively what happened is, the [the Company] people on the project bought into this new way of potentially doing things. So we became the catalyst for change within our company" (51:5:12)*

4.2.6. Summary

This team was a project team tasked with the implementation of a system with minimal changes to the business users. The system implementation consisted of a major systems change that affected the multitude of locations that the company operated in throughout South Africa. The project was not innovative but was a success. There was some need for the team members to work together and interact, and there was strong motivation that appeared to be shared by all the team members to ensure that the project was successful.

4.3. Project Stream Team

4.3.1. Background

This is a team in the Human Resources Section of an organisation listed in the *Consumer Services Section* of the Johannesburg Stock Exchange. The team had been formed for the purpose of implementing a Human Resources system for the company. The team is one of the project stream teams from Team 2, the systems implementation team. The team members within this team worked on different sub-modules of the overall human resources system. The physical layout the team worked in was a single open plan office, with no division between the team members. Once the sub-modules began to be completed then people moved away from their open plan offices into their own areas. The system implementation started 2 years prior to the commencement of the interviews, and was complete at the time of the interviews.

4.3.2. Team Characteristics

Team Composition and Diversity

The members of the team consisted of the team members as indicated in Table 4:

Table 4: Project Stream Team Members

Person	Race	Gender	Age	Tenure	Education	Functional Background
HR Manager	White	Male	48	26	Secondary School	Business, Human Resources
Organisation Management (OM) Manager	White	Female	38	10	Diploma	HR, Sales and Marketing
Training and Development Manager	White	Female	48	18	Masters	Social Work/Training
HR System Manager	White	Female	28	3	Honours	Recruitment / HR
Recruitment Manager	White	Female	44	4	Uncompleted degree	HR

The core team comprised a white, male team leader and four white females. Various assistants and consultants were also involved. The company's central IT department also had resources that the team used for specialised skills (38:4:86). The team was apparently a very strong team, with people with strong personalities:

> *"I mean we've got a strong team. I mean we've got very strong natures and personality, … we know what we want and we've all been career driven in a sense." (43:22:140)*

The team members appeared to support each other.

> *"…just a team where we reinforced and support each other and it was just like a tap on the back, 'Well done you've done a great job,' and we were always so excited for each other." (43:34:174)*

One of the team members indicated that this was a great team with good respect and understanding amongst the team members:

> *"I think we're a great team. I think there's a huge amount of respect I think there's a huge amount of understanding." (43:26:160)*

The team members relied quite heavily on consultants to provide expertise and guidance regarding the system being implemented. Only the OM (Organisational Management) Manager *(45:1:26)* had any experience with the implementation of a system. There was thus great reliance on the consultants to provide technical input about the system.

In the case of the inexperienced consultants this became a problem and the consultants had to be changed. As indicated by the Training and Development Manager:

> *"My first experience with the consultants, particularly working with me on the Training and Events Module that I worked with, was that they didn't understand Training and Events that well. So from an innovation point of view because we didn't know the system we relied on people to say, 'Potentially you could get this out of [the system],' and if the consultant doesn't understand a particular module that well that really limits your potential innovative use of a system like [the system]." (42:3:18)*

This was supported by the HR system manager:

"... we'd gone through a couple of consultants during this time because the consultants weren't as experienced and we don't get a lot of HR consultants that's experienced in the field and that could give us what we wanted." (45:2:34)

The inexperienced consultants eventually left. The Training and Development Manager indicated that the last consultant knew the subject matter area very well:

"The last consultant we had on the particular module that I worked with was very, very good and she knew her subject matter and she would advise and say, 'This is what you could get, these are the downfalls, if you go that route these are the positives'." (42:34:26)

The team was apparently selected based on expertise in various aspects of the business. As indicated by one of the team members, expertise, not personality, was the basis of team selection. This applied to all the staff, not only the team members, but also to the assistants to these team members:

"I don't think there was much thought in terms of the contribution, from a person, personality-wise, ... I think we were selected based on our expertise in certain parts of the business" (42:2:16)

The team members appeared to have a variety of personality styles, ranging from "airy-fairy" through to emotional, dramatic and passionate, to quiet and focussed. This was expressed by various team members:

"… frustrated me because I found her very airy fairy." (44:29:52)

"Then you have one that should have been in drama school you know who would be the one that would jump up and throw her arms up and get very involved and draw on the board." (43:18:124)

"Our team members were different. There was [the HR manager] very quiet very focused and I think he loved just sitting around watching all of us go." (43:40:124)

"We had somebody that was so task orientated and focused that she just focused on the task at hand." (43:19:124)

"...extremely passionate about what I do." (43:20:124).

The team members all seemed to value and embrace change as explained by the team leader:

> *"Most, all, of those people will get bored out of their minds doing the same thing over and over, very much like me." (38:13:136)*

The team leader went on to describe the nature of the team members:

> *"All of the people I had in the team are high energy, all confident, all not afraid to say what they want to say or express their thoughts. All of them are personality types where, if allowed, would work 12, 24 hours a day when required to get something done." (38:10:130)*

This is supported by another team member who indicated:

> *"Well, we are very dynamic. All of us are very dynamic. We are all, sort of, extroverted and people orientated and task driven and I actually think that makes a good makeup." (45:14:162)*

The demographic diversity in the team was limited. The team was predominantly white female, with the only exception being the team leader, a white male. The HR Manager has human resources as well as extensive business experience in the same company. The amount of functional diversity was also low with everyone being from a Human Resources background. This was not unusual considering that the team was involved in the implementation of the Human Resources Module of the system.

Some of the team members felt that diversity was important for the team. One of the team members indicated that there was a need for there to be differences between the team members or else it would not have been fun or challenging. She did not indicate that this would be valuable for the team outcomes:

> *"Can you imagine if we all agreed to the same thing, I mean it wouldn't be fun, the challenges wouldn't be there. No, I think it's great. I think in any project team you've got to have a diverse..., there's got to be mixtures of people." (43:13:112)*

There was a wide range of education levels in the team, from only secondary school to Master's degree. The team members did not see the educational differences as important in the team because each person was apparently an expert in their field. The Training and Development Manager who had a Master's degree said: *"I don't think*

education [is important] because they're all experts in their own field" (42:12:104).This was supported by other team members who indicated that she had not noticed any impact of the educational levels. *(44:13:58).*

The tenure of most of the team members was relatively high with some who had been within the company for 10 years and over, but with two team members who had been in the company for 3 and 4 years respectively. There was some age diversity, with one team member in her twenties. However all the others ranged from 38 years old to 48 years old.

Within the team there were people who had been in the company for long periods of time and had a thorough understanding of the business. The Training and Development Manager had been in the company for 18 years but was apparently someone who was not resistant to change.

> *"But at the same you've got somebody like [the Training and Development Manager] who understands the business from top to bottom and understands where all the prickly issues are and what has been done before, but is not an inhibitor." (44:9:44)*

This was seen as being valuable as this meant that someone apparently understood the linkages in the business and could thus guide the rest of the staff:

> *"That's an important thing in the business because it links to this, this and this and to understand those linkages and so that you have a sense of comfort while you're innovating at the same time, but she's not inhibiting." (44:10:44)*

The team members did see value in the differing lengths of time that people had been employed in the company. The newer employees could look at things from different perspectives than the people who had been in the company for a very long time:

> *"So to have people working in that team who either like [the HR System Manager] who is relatively new to [the Company] ... and make suggestions or look at things from a perspective that's not necessarily 20 years of [the Company] experience, I think, adds to a team." (44:8:42)*

This team member who was the youngest also indicated that her youth was never a problem in the team and that she was treated in the same way as any of the other team members:

> *"It's not a problem, not a problem at all. They actually treat me, I've never felt in this team that I'm inferior to any of them." (45:19:266)*

She did however indicate that the people who were older had generally been in the company for longer and thus had a wealth of experience that was useful in order for her to learn about the workings of the company:

> *"...the older employees, except for [the Recruitment Manager], have been in the company longer, so the nice thing about that is I learn a lot from them on the way [the Company] does certain things so that's very, very good.." (45:27:270)*

At the same time she indicated that her background outside the company was useful as she had been exposed to different technologies:

> *"I've worked in a couple of other companies before and so I've been exposed to the different technology as such. So the nice thing of that is I know about different things out there." (45:28:270)*

The team was very homogenous in terms of gender with all team members, aside from the team leader, being women. Furthermore these were all white women. The gender homogeneity could have helped the team members identify with each other:

> *"I think there's certain commonalities on just general social issues so when you come in on a Monday there is a certain commonality to saying, 'so how was your weekend.' If somebody's having boyfriend problems or somebody else is having problems with their kids you relate and so you create that kind of basis; that social type thing that you'll use going forward." (44:12:52)*

Some of the team members did feel that more males could have been an advantage to the team and could have reduced the amount of irrelevant discussion:

> *"I don't think men somehow are wired to just discuss irrelevant stuff about other people." (42:33:110)*

Others however, felt, that *"the women part is not a problem." (45:13:154).* Part of the reason for this was apparently that the women understood each other very well and understood when to back off or when to pursue a discussion.

> *"We work very well together and I actually think that we understand each other very well; you know that it's time to back off or to just go into someone's office and let it out and leave again." (45:12:154)*

This team member believed that the fact that the team was predominantly white female made no difference whatsoever:

> *"I actually don't think that makes a difference. I honestly believe it doesn't make a difference." (45:18:218)*

She indicated that it was dependent on the person and whether the person was task orientated, not the gender. When asked specifically if the team would have worked better if there was another male she indicated:

> *"It most probably depends on the male. If the male was task driven and would get the things done then it would be fine." (45:17:194)*

Common Goals and Interdependence

There were differing responses when the team members were asked about the level of goal and task interdependence that existed in the team. Some appeared to think that the goals were exactly the same, whereas others felt that they were different, and that they worked separately.

One of the team members felt that the common goal was to successfully implement a Human Resources system module:

> *"I think our targets and our goals were exactly the same." (43:22:140)*

However the same team member did describe the dependencies between the team members earlier and this indicated that the level of interdependence was relatively low in the team.

> *"So if I haven't created a position on the system … couldn't do recruitment. So if … hadn't recruited and put somebody on the system … were not able*

to put somebody onto training so we all worked, it was a like a chain we were all linked." (43:2:20)

Different team members had to deliver their sections of the project for other team members to be able to continue and successfully implement their areas, but this did not really require people to work together in order to complete each of the different modules. There was more consultation than working together. Another team member indicated that they worked separately on their own modules at the beginning of the project:

"At the very beginning we were all pretty much on our own streams." (45:6:54)

And

"Yes, pretty much but we had to interact with each other to see what the other one's doing, so that we don't overlap with each other" (45:7:70)

And she further pointed out that each person had their own area of responsibilities:

"We actually work very well together. We have strong drivers in our team each person driving their area of responsibility." (45:11:154)

However it appeared that the teams needed to work together later once the initial system had been implemented:

"So and now whenever someone wants something done on the system or if [The Recruitment Manager] implementing job profiling we need to see where we can store the job profiles on the system so we need to have a big interaction." (45:9:98)

Within this team there was a common high level goal to successfully implement the entire Human Resources Module. However each person then had an individual sub-module for which they were responsible. There were interfaces between the modules and some had to be implemented prior to others, and the team members thus had to discuss aspects of the project with each other. There was however very little requirement for the team members to work together on the tasks required to implementing any of the sub-modules.

4.3.3. Environment Influences

Company Characteristics

The company had a culture that was resistant to change. This impacted on the team members as they were unable to force change onto the company, and have to move at the company's pace. This created limits on innovation in the organisation

> *"... but you also have to realise the organisation has it's own pace of moving towards the new, towards the better practices. As an individual you can't force this change." (42:32:214)*

This particular person had learnt from past experience that the company was not accepting of change:

> *"...very much like that when I was young. But then you realise, because you're a bit like a butterfly and you have these ideas and then you just get too close to the, like a moth, you get too close to the candle and you burn your wings a bit and then you burn your wings again and then you think, no." (42:35:214)*

This was supported by another of the team members:

> *"but you work within a corporate environment that has its own culture very, very strong. It's relatively resistant to change at lower levels" (44:25:132)*

This person then went on to explain how this hindered innovation in the team:

> *"But as for innovation; could the team have been more innovative; yes it could have been more innovative, absolutely, freed from the shackles of a corporate company." (44:26:132)*

Another person said that the longer you remain in the company the more resistant to change one becomes:

> *"I had more ideas when I was fresh in the company as opposed to now because you really start to fall into the [the Company] way of things" (45:21:294)*

Another employee who had been at the organisation for more than 10 years said: *"You know I think I'm now very much part of that" (42:31:206).* Another who had been at the company for only 3 years also indicated that she was already falling into the company

way of doing things: *"Yes, but it's very difficult not to fall into the [the Company's] ways of doing and to keep your way of thinking. I'm already starting to go into the [the Company] way of things" (45:20:290).*

Drivers/Inhibitors of Innovation

The team members indicated that since they had not seen, and were thus not constrained by what the new system's capabilities were, they had to be more innovative:

> *"It was a good thing that we didn't see the product because then we had to think out of the box and we had to come up with the ideas and we had to be innovative." (43:12:108)*

However another of the team members indicated that the amount of innovation necessary was not high:

> *"You know from my team perspective … I was given where I was needed to go and do and you basically go out and you do it." (43:7:80)*

One team member did indicate that the strong internal focus of the company and what had worked for in the past restricted the possible innovation in the company:

> *"I think we have a very strong internal focus so we will be so internally focused, what worked for us in the past that we sometimes don't open ourselves enough to new innovative ideas." (42:29:186)*

Leadership

Even though the culture of the company was generally resistant to change the team leader made sure that the team thought about new ways of doing things almost constantly:

> *"How do I make sure that is maintained, is just about every day I throw something new at them, a new idea or, 'Can't we do it in a better way?, What about I saw this piece of software it does this couldn't we take it? Why don't we turn the whole thing on its head and do it a different way completely?'" (38:14:136)*

This was supported by the team members who said that:

"... but [the HR Manager] is a fantastic manager and he's very much on top of innovation and things going around, innovation type of thing, technology and stuff like that. So he really tries to get us to explore different ways of thinking and things and concepts." (45:22:294)

The leader appeared to have a very strong influence on the team as stated by another of the team members:

"... and he in particular has a huge effect because he's an awesome leader and I use the word with all its connections. He has the uncanny ability to allow people to just go off verbally or mentally into their own directions and have vigorous discussions and make you feel like you've contributed" (44:14:62).

She went on to indicate that he would not allow discussions to go on unendingly but would:

"...at some stage stop that discussion, and move it on, and move the issue on in such a way that everybody feels like they've been consulted and whatever decision has been made, they've been made part of ..., he'll stop it and pull it together." (44:15:62)

The HR manager also appeared to be able to allow people to be themselves:

"Doesn't matter who you are, what your expertise is, what kind of personality you bring to that table being a confrontational or quietness or whatever you bring he makes you feel like he's glad that you're there and you play that role and he's quite happy for you to play that role." (44:16:64)

The leader also allowed people to debate, to think differently and to make decisions:

"And he allows people, he allows people to make decisions, he encourages debate and he encourages your thoughts and he encourages you to be different, if that's the way you want to be" (44:17:64).

Part of this could have been driven by the belief that he had in each of the team members:

"... has a great belief in each one, I think anyway, or comes across as if he has a great belief in each one of the people in his team being able to give invaluable input." (44:18:64)

Another of the team members indicated that the leader was supportive, was always there but he was able to give you your task and leave you to perform it:

> *"[The HR Manager] was just absolutely wonderful. He always supports, he was always there, he was in the forefront, managed brilliantly and what I liked about him is the fact that he leaves you, he gives you your task and he leaves you." (43:24:148)*

When asked whether he was the team manager or a part of the team the HR manager indicated that in a systems implementation of the sort that they had implemented, different people took responsibility for the delivery of different components at different times, and the leadership was thus shared to a certain extent.

> *"Yes I would often be part of the team. You know a project like that, nobody's the boss. Obviously I allocated; there were certain people that had the responsibility of ensuring that a particular sub module was put into place; they were in charge." (38:8:122).*

The team leader appeared to be always prepared to listen and he had an open door policy.

> *"He would give us what we needed to do and we always knew that we it was an open door policy, 'Come in with problems, let's bash it out, close the door, scream, shout.' Once a week, get together on Friday, sit around a round table, discuss it, 5 'o clock in the afternoon bring out the wine, let's chat about things" (43:25:148).*

The leader encouraged innovation in the team, despite his long tenure of 26 years. He did this by challenging people to think of new ways of doing things. He also supported people and had an open door policy if they had any problems. He however did not take over peoples work and instead allocated tasks and expected the team members to perform them.

> *"We were a very informal team that took responsibility for what we did. [The HR Manager] doesn't manage us to the nth degree. He will give us the responsibility, you get on and do it, and I think if you don't he will pull you in and say listen ..." (42:12:104)*

4.3.4. Team Processes

Team Development Process

As explained by the team members, there were problems with the team initially, which were resolved over a period of time. This created conflict and posturing during the initial days. This also resulted in the departure of some of the consultants with replacement by more experienced consultants.

Most of the team members had not worked together previously and *"so the whole team had to get to know each other and to get established." (45:5:46)*

At the start of the project, on the recommendation of the consulting company, an intervention was put into place where all the project team members were put into a single large open plan office space. This was done in order to speed up the integration of the team members:

> *"I got hold of a huge office and we put everybody in a big open plan box basically with everybody's desk around the wall so at any given point in time everybody else in the room knew what was going on ... open with no dividers, nothing. So I think there were some physical layouts that helped for that integration because that created a situation where everybody was sort of half listening to what was going on, even if you weren't involved in a debate." (38:6:108)*

This was not an innovation from within the team or even the organisation, but had been suggested by the consultants.

> *"…the consultants that come in and suggested that we all work together and we all sit in one and we share information" (43:32:174).*

One of the team members did not like the open office idea and found it difficult to focus as was possible in her own office:

> *"I was sitting in that office when we had still everybody in that office right in the beginning. I'm the kind of person that can switch off. I can focus on my work and I can get on and I can do that. It became very difficult for me to switch off because we're different individuals ...I was very glad when I had my own office. I think I just preferred to work like that, own office." (42:14:106).*

Others however felt that the open plan environment was very valuable:

> *"...thank goodness we all sat in an open plan office. You'd be sitting at your desk somebody would be having a meeting literally in the middle of the room talking about things and you could lift your head up at anytime and sort of say, 'No hang on that interfaces with such and such; have you thought about it from this perspective'." (44:6:26)*

Conflict did initially occur between some of the team members, but this dissipated with time. According to one of the team members this occurred once the status of some of the more junior members was assured when they received their managerial status and the different roles of the team members had been clarified. The open plan office initially seemed to create some of the problems in the team:

> *"You know put us all in a room it was like a bullring and I think once the dust had settled and our roles were very clear and we knew exactly what was expected of us then things seemed to settle but in the beginning yes it was crazy you know trying to get used to working in an open plan office." (43:30:166)*

One of the team members felt that she grew as a person during the course of the project:

> *"But I think you know what I grew as a person I can't tell you how this project has made me as a person grow." (43:33:174)*

Discussion and Debate

Extensive discussion appeared to have taken place between the team members:

> *"…we spent many days around a round table calling in HR expertise, discussing things, because you know you've got to put a business process together and that kind of thing. So, no, there was a lot of team discussion and I mean that's what we did for 2 solid years." (43:39:88)*

One of the more experienced team members also indicated that she would sometimes wait for other people to respond in order to ensure that others voiced their opinions:

> *"I know I have a good solution but sometimes people will wait for you to respond and they become more; they are not that open or spontaneous in expressing their view so I will sometimes make a concerted effort not to*

speak up initially. I think it goes with the level of maturity of a group." (42:18:114)

Conflict did occur in the team, however the team members appeared to handle this easily, expect in a few situations. As indicated by one of the team members *"We address an issue when it arises and move on." (45:15:170).*

Part of the reason for some of the conflict that occurred was the strong personalities in the team:

"She came from one of our [big branches] a very strong personality, very strong. And I've got a very strong personality and I mean I'm talking from my personal perspective and she felt that she wanted to try and control me ... the dynamics were bizarre." (43:31:166)

The team member also indicated that part of the reason for the conflict in the team could have been that the team members are experts in their own areas and were quite headstrong. They did however seem to handle the conflict effectively:

"…but there was conflict and I think it's just the dynamics of a team. You have all these headstrong people and they all the experts of their little module and yes you're going to have some head bashing but we handled the conflict and the disagreements." (43:9:102)

The conflicts at some times did appear to get personal and was caused by the proximity and familiarity of people:

"I think it also becomes like that when you start getting to the end of a project and you've been living with these people for so long and eventually, emotions take over. But I did, personally I had a day where I just couldn't anymore so I just excused myself and went and sat quietly in another office and worked there for the day." (43:16:116)

At times the conflict did reach the stage where people would not contribute anymore:

"Sometimes people would be upset about it and say well they disagree and they not going to engage in conversation about it anymore leave it and actually sit back and let the other members discuss it." (43:14:112)

On at least one occasion a team member actually left the room:

"There was a day when I actually got up and walked out the one day because I just was not going anywhere and the more I was trying to explain where I was coming from, I was blocked, it was like going in a square the whole time and I actually excused myself from a meeting one day and never came back." (43:15:116)

The team leader appeared to take a very light handed approach to handling the conflict situations. In the situation where the team member actually physically left the meeting and the room the team leader did not attempt to force an end or resolution to the conflict. He appeared to ensure that everyone was fine and then left the conflict to solve itself.

"[The HR manager] handles conflict very well and he just came to me and said, 'Come on, you know we're going to have days like this there are going to be good days, bad days.'" (43:17:120)

One of the team members did indicate that some of the conflict that occurred initially was caused by people's egos:

"There were a lot of egos involved then, to the detriment of the end result initially ... A lot of competition sometimes what I saw a bit of backbiting 'this one does that, that one does that'."(42:22:154)

She attributed this to the status orientation of the organisation and some attention seeking but indicated that the situation improved once the people involved got their manager statuses:

"...we're a status driven organisation and once you get your status ... it was like trying to get [The HR Manager]'s attention through what they were doing, sometimes positive, sometimes negative." (42:23:154)

Over time and when the team member's status was assured the situation improved and one of the possible reasons for this was that people were more secure:

"I do believe I think that they feel more confident more secure in themselves" (42:24:158).

Energy and determination in Team

Energy had been mentioned by more than one person in this team. The team leader indicated that there were some individuals that can suck energy out of a team, and one needed to avoid these type of people:

> *"The one thing that drives me crazy ... is when you have people who will continually find 1000 reasons of why you can't. I don't mind if you say that but then come up with some positive constructive alternatives. ... They'll spend all of their energy and they'll suck the energy out of everybody because they will find every way and reason as to why you shouldn't change or why you can't do it and why it's going to fail and that drives everybody nuts. It just sucks you dry. It just takes the energy out of everybody." (38:17:158)*

The team leader liked to find people who had a point of view and were willing to criticise, but were also prepared to put forward alternatives:

> *"...find people that have a point of view; that are willing to have a different point of view, that are willing to express that, who are able to criticise yet come up with alternative solutions." (38:21:158)*

Another of the team members mentioned energy, but from the perspective of people discussing issues unrelated to the team task, as a result of the open plan setup. She found that the open plan resulted in *"negative energy being generated within a team." (42:16:110).* A contributory factor that she also mentioned was that men are not wired to discuss irrelevant stuff about people, where as in this team with the majority being woman this was more of a problem.

4.3.5. Innovative Behaviour

There were differing views within the team about how innovative the team was. One person indicated that the team was very innovative at the beginning of the project:

> *"We were initially very innovative and I think [The HR Manager] there pushed the process. He said, 'what would best practice be from a business point of view?'" (45:2:34)*

Another team member also indicated that innovation was required at the beginning of the project:

"So I think innovation was very important for us in the beginning because we had to be innovative to be able to get the picture and see what we wanted at the end and how we wanted the system to work and that kind of thing. So I believe that innovation was huge in the beginning. It had to be as you're calling experts throughout the company; sit down and try and tell them how we see it working and how they see it working." (43:3:24)

This was driven by the team leader when he encouraged the team members to implement best practices. Another team member however later indicated that the company and department could have been more innovative

"But I think to come to your question on innovation I think we can do much more as a company, as a department, to be more innovative in our thinking." (42:25:158)

To a certain extent, even if the team was not innovative, in some areas the boundaries were stretched as indicated by the Training and Development Manager:

"So I think I was happy with the business solution, that it provided something that we've never had before. Other companies are not using [the training and events module] for skills reporting purposes so I think the solution we got to, was a good solution." (42:6:36)

The innovation process in some cases seemed to involve mainly the HR manager and the team member who specialised in and was responsible for that relevant area of the business. The rest of the team were not involved in that process, but their opinions were obtained as input for the subgroup involved in the process. This was indicated by the Training Manager:

"We will go and visit some companies that are using the shared service centre and then we will have informal discussions around it afterwards. But [The HR Manager] actually said the other day, he and [the OM Manager] will mainly work on that because it's something that she will be involved in and she must send the document to the rest of the team so that we can comment. So they've already brainstormed some thoughts and then he will send it to the rest of the team for input on paper." (42:11:96)

One team member was fairly clear that you could not just innovate in a vacuum and that consultation with the business was essential.

"Yes, because I mean obviously you consult. You don't just innovate in a vacuum, you walk in here and say 'let's change the whole company and

walk out and change it'. I mean you have to consult, get people on board." (44:22:118)

The innovation comes from team members in combination with other business people. IT thus makes it difficult to localise the innovative behaviour to a specific set of people who were from the team:

"I can't think, because the people involved they didn't do any of the innovation in isolation. They did it with influential players in the business, some of which inhibit, some of which critically analyse, discuss and verbalise there. So you had in all of those meeting although the [new system] project team is driving that implementation very similar to what we do with other initiatives, at the moment, it's about who you have in those initial meetings I think as well." (44:27:114)

The team did not appear to have members who inhibited innovation from occurring:

"...because if you had people in that team who would constantly say, "But we've always done it this way and we tried that once and it didn't work so we need to," and only looked at what they'd done before and didn't have the ability to lift their heads and say, 'Ok well that being as it is what does the future hold, and let's not build it for today let's build it for tomorrow,' and if you had people that couldn't do that then that would have definitely inhibited." (44:7:42)

The team was very persistent in what they wanted, and did not change this based on what the consultants had to say, or what was standard in the system:

"Very persistent in what we want and didn't change what we want and said 'this is what we want, this is what we've asked for,' and ultimately we actually got that." (45:3:34)

Due to the nature of the projects the team members did appear to form subgroups to work on certain aspects of the projects. This appeared to be due to the specialised areas that each of the team members had as their responsibility:

"In that aspect, it was myself and the person from the training department working together and the consultant." (42:10:52)

4.3.6. Summary

The requirement for team level innovative behaviour was low in the team, although innovation was required form the different areas represented by members of the team. Extensive discussion took place in this team. Some conflict took place in the team, but this reduced once the positions of the staff members were secured. The team was successful in the implementation of the module for which they were responsible for.

4.4. EXCO Team

4.4.1. Background

This team was the Executive Committee (EXCO) from a listed group of companies that has been in existence for more than 10 years. The company was listed under the *Information Technology Sector* of the Johannesburg Stock Exchange. The company did supply some products that can be considered to be innovative, but these were similar to products offered by companies in the industry but outside of South Africa. The team leader left shortly after the interviews with the team started. The reasons for this were confidential. This event could however have had an impact on the team and their responses in the interviews.

Even though there was no major innovative product that the company released, there were problems that needed the entire team to work together to find the best solution. One example as indicated by the Services Manager was:

> *"We had a challenge when one of our major projects, at the last minute, hit a snag. And we had a major delay, a three-month delay. It was highly political, and highly important. And, almost the entire EXCO, the MD, Key Account Manager, the Sales Executive, Innovation Executive, all got in a room with me, and we brainstormed 'how do we address this'. And we came up with a solution that was kind of, off the wall, you know what I mean. That had to be justified, that we felt was the right decision, and it was the right decision. So that worked extremely well. We had a need, that innovation was driven by a problem." (16:59:53)*

The Managing Director indicated that innovation was important for the business, and even the survival of the business depended on the company being innovative:

> *"Innovation is the lifeblood of us going forward, and the reason being is that the business has tended to be staid - in its box dropping mode of selling the [product]. That is the origins of a lot of the business. In order to survive, innovation is a fundamental success factor" (19:1:12)*

This was supported by another of the team members:

> *"There is continued room for innovation, I think one it is one of the biggest requirements that we have got. In the strategy we've identified what are the key areas where we need to excel in. And innovation is a key part of that." (23:64:40)*

4.4.2. Team Characteristics

Team Composition and Diversity

The team that participated in the research was the executive management team from the company.

The members of the team consisted of the team members as indicated in Table 5:

Table 5: EXCO Team Members

Person	Race	Gender	Age	Tenure	Education	Functional Background
Managing Director (MD)	White	Male	48	2 Years	Financial	Financial
Key Account Manager	White	Male	46	7 Years	Marketing / MBA	Sales/Marketing
Innovation Executive	White	Male	42	2 Years	Chartered Accountant	Financial
Sales Executive	White	Male	66	>35 Years	None	Sales / Information Technology
Services Executive	White	Female	54	37 Years	None	Information Technology
HR Executive	Black	Female	35	9 Months	HR Diploma	Human Resources
Business Unit (BU) Executive	White	Male	35	12 years	None	Sales / Finance
Old Finance Director (left months before interviewing process)	Black	Female	-	< 2 years	Unknown	Unknown

There had been some change in the team from the time when the new Managing Director joined two years previously, with the departure of the Finance Director and the appointment of a Human Resources Executive. With the departure of the Finance Executive, the Innovation Executive, a person with a financial background, took over the finance function.

The process by which the team was formed included an element of self-selection. When the Managing Director was appointed he arranged a large strategy session with

30 staff including the previous executive committee members and numerous other managers. Some of the people were distrustful of the process and did not contribute during this session. The Executive Committee that was eventually selected did not include any of these people, but only those who were prepared to contribute. This was stated by the Services Executive:

> *"I think the people that were mistrusting; they did not make it to the EXCO team. If I very really look at it, they did not make it to the EXCO team." (16:63:73)*

Only two of the team members had worked together previously, with some from outside the company, some from remote offices, and some from sister companies:

> *"What is interesting is that, it was predominantly a brand new team." (16:20:93)*

One of the team members, the person in charge of Human Resources indicated that that she had requested to be excluded as she had not worked much with the team. She had only been in the team for 9 months unlike the others who had been in the team for approximately 2 years:

> *"I requested to be excluded because I haven't really worked with the people much. There's not much that I can say" (17:1:10)*

This team member also when referring to the debate that took place in the team stated: *"They would sit and think and come up with different ideas" (17:51:86)*. She almost did not see herself as one of the team members. This could have been because she was new to the team, or that this was a technical discussion and she was in a non-technical support function.

At least one person, when indicating the competence of the team leader forgot to mention the Human Resources Executive:

> *"And he did that very successfully, he knew what we were trying to do, as if he knew the sum of the parts, and he could turn on and off the [Sales Executive]'s, the [Key Account Managers]'s, the [Innovation manager], the [Services Executive], when he needed to do so." (13:82:132)*

To a certain extent this could be due to the non-core nature of HR, despite what had been said earlier by the same person about the importance of the resources. The HR person was also female, black and not used to operating at the same level as some of the other executives.

External consultants were used extensively to facilitate the creation of the company strategy.

> *"So we have come through this extensive strategy and we have been very fortunate. We have managed to work with the likes of the [a Consulting Organisation], who provided us the platform and the methodology to formulate the new strategy, test the new strategy, implement the new strategy." (22:10:34)*

The company apparently did not outsource the innovation, but rather had the consultants involved to facilitate and ensure that the right process was followed:

> *"So the process that we have embarked on in terms of the strategy is an innovative process on its own. It makes use of a company called [Consulting Organisation], so there is very clear guidance and structure on how you reach your strategy. But the strategy is being built internally by yourself." (23:66:40)*

Interdependence

Various team members had stated that there was a need for the team members to work together in order to achieve their goals. As indicated by the innovation manager:

> *"And all three businesses need specific focus. But they all operate as a unit because we share the same common customer, and we all share the same common supplier. So no one of the businesses can operate as a single entity without inter-affecting and dependence on the other units." (23:61:32)*

The company had been structured to remove the segmentation between the different business units:

> *"The whole strategy was also changed to do away with silos, so that the company specifically cannot work in silo environments." (23:63:36)*

This organisational structure change and the manner in which the strategy was implemented apparently meant that the team members had to work together in order to achieve their goals:

> *"We had to put a new structure in place, we had to realign the staff, bring new staff on board. Some of the staff unfortunately left because they could see that this strategy would not match their way of doing business etc. And the team is important, in that aspect; it is not one individual that drives a specific area. Although they are responsible to make that aspect happen, it involves everybody to make that process happen." (23:15:52)*

According to the Professional Services Executive there is a need for the team members to work together very closely in order to achieve their goals:

> *"I think one of the things you mentioned earlier, my division, I deliver what [the Key Account Managers]'s team sell. Now they can't sell it on their own without my team's involvement. And I cannot get the business without them selling it in the first place without our involvement. And then I have to deliver it, but again, we have to work very closely. So whatever we innovate we tend to do in those teams." (16:42:27)*

To a certain extent this may not have extended to all of the team members. Those who were not in a customer facing side of the business such as Human Resources would not have been depended on as much, nor would they have been as dependent on the other team members. However the Services Executive did indicate that the support area of Human Resources was very important because of the need to obtain, train and retain resources:

> *"Between my area and human resources, human effectiveness, we have a lot of overlap in teaming because we have to find innovative ways to be able to find resources, to keep resources, retain resources, train resources, in a world where resources are very expensive." (16:41:33)*

According to the team members there appeared to be a requirement for them to work together in order to achieve their goals. The reward system also supported this:

> *"We are all remunerated on the same exact objective. You've got to get so much profit into this organisation. All our variable remuneration is on the same thing. The fact that I'm doing this and [the Services Executive] is doing that, etc., at the end of the day, we are all on the same metric." (13:102:202)*

Diversity

The team was relatively diverse, with considerable variation in the age, tenure and educational background of the team members. There was also diversity in functional background, with people from financial, sales, information technology and human resources backgrounds and race and gender diversity in the team. The types of diversity in the team included:

- **Age**: There were substantial differences in the age of people in the team, ranging from 35 years old to 66 years old.
- **Tenure**: Some people had been in the organisation for less than a year, whereas others had been there for 37 years.
- **Educational**: There was variety in the education levels of the team members ranging from no tertiary qualifications to one person with a masters degree.
- **Functional**: The functional background varied from people technically involved in the company's products, to sales, finance and human resources.
- **Race**: There were whites and blacks in the team.
- **Gender**: There were both genders represented in the team.

Some of the team members indicated that the diversity in the team was important. The BU (Business Unit) Executive indicated that the strength of the team was due to its diversity:

> *"If you look at our executive team as a whole, we come from a wide array of backgrounds. We have got some very strong financial guys, in financial positions; we've got some very sound financial guys in non-financial positions. We've got people very strong in processes, operational procedures; we've got some sales, very strong sales." (22:39:10).*

He went on to further explain:

> *"Putting all these people around the table allows us the opportunity to analyse the situation as it stands from complete different angles. If anything, it allows us the latitude and flexibility to put the certain situation into a complete different perspective. And to analyse it in complete different angles, different viewpoints because of the different participants that we have, and because of the nature of the difference in their perception, their approach, their experiences and their knowledge and understanding to what they've built up in the past to where we are today." (22:28:12)*

However the racial and gender diversity was limited and the black females held non-line management functions. As indicated by the Innovation Manager:

> *"I think the diversity of team is one aspect where we are still white male dominant. And we all feel the pressure because the market dictates that that is not the way we should be driving the business." (23:144:212)*

The black women in the team were not seen as strong. At least one team member believed that more strong woman in the team would have been beneficial. This person did indicate that he felt that women brought a different perspective and as he stated:

> *"I think they talk through the problem a lot clearer. They don't make assumptions." (23:48:216)*

In some ways the diversity of the team impacted on the level of interaction within the team. There were white salesmen, who were rowdy, and the black female human resources and finance people, who were much quieter. In the words of the Services Manager:

> *"That's what finance and admin and HR is. It's not in the firing line of the customers, so you've got this external focus to this extreme and the internal focus to this extreme. As well, is their cultural background, being different and I would say, and I'm pretty sure, that there's a lot of good ideas that they would have had that didn't come to being exposed." (16:66:127)*

This, potentially, according to the Services Executive, could have reduced the number of good ideas that were exposed. The Services Executive felt this was the worst aspect with regard to the operation of the team:

> *"The worst bit was, the diversity of people, not only outgoing, but people who had stayed behind and have a couple of drinks after work, and talk about the day and some crazy ideas, laugh a lot and chat a lot versus others that would go home spot on time, or would rather focus on very much the workload. I mean, different kind of personalities. So the bond, the innovation was kind of left out." (16:16:167)*

It was identified that one of the problems in the team, which manifested itself when the new strategy was implemented, was that there was a lack of skills in the team to do with the field of communications:

"There was one big area of weakness in terms of diversity of our team. There was not one of us that were experts in marketing communication. We weren't. And I think, probably due to lack of understanding, or ignorance in terms of not being experts in the field." (22:22:120)

Another type of difference that was identified was the internal focus and the external focus that existed in the team:

"That's what finance and admin and HR is. It's not in the firing line of the customers, so you've got this external focus to this extreme and the internal focus to this extreme." (16:49:127)

The people who staffed those areas tended to have differences in their interactions with people:

"... who because of their very background, they are salespeople through and through, they are very outgoing. Outspoken, noisy, partygoers, fun, laughter, you know, say what they think. So you have that extreme in this end and you have these quietly spoken ladies, not only because they are black ladies but the very function is more of a supportive back-office function." (16:26:127)

The youngest team member had considerable impact in the business, perhaps due to the person's flamboyant character. This team member was a high achiever from a young age:

"And our MD said, 'What the hell does an accountant know about sales'. I said, 'Give me a bash, I'm either going to make it or I'm going to fail'. And I was there for three years and got appointed as the youngest general manager in the Group." (22:54:136)

He felt that he was found to be valuable to the team because of his youth, passion and energy:

"I would like to believe and hope that they find me valuable, probably because of my youth. I'm very passionate, very energetic about what I do." (22:57:146)

This was supported by another team member who indicated *"He's young, very energetic, and really goes all out" (17:88:182).* The youngest team member believed that he had earned the respect of the other team members due to his achievements:

"I would like to believe that I have earned their respect through the years of my service to the company, but also in terms of my ability to deliver." (22:56:138)

Despite his youth he has been within the group of companies for 12 years.

One of the team members was identified as resistant to change due to his age, long track record and experience. It was apparently not just a matter of that he was resistant to change, but that he would not change:

"The one issue sometimes is, his age and track record and experience can also become an inhibitor. He's so set in his ways that he won't change." (13:64:118)

At least one team member indicated that older, longer tenure and more experienced individuals were resistant to change. In their opinion:

"So how do you now sit and defend your strategy versus someone was been here for 25 years, and saying, 'No, but I've done well, by doing that. Why are you changing the strategy'" (23:101:134)

This view was even subscribed to by the actual team member involved, who started reminiscing about the past:

"It's a great pity because it is a very strong company and now suddenly we are just a very small company."

And when asked to indicate what the solution could be he laughed and said:

"Change the names back"

The level of experience appeared to have had a major impact on the members of this team. Some team members due to their relative inexperience could not or would not contribute during the meetings in any area aside from their own area of expertise.

Another of the executives explained the need to appoint black people due to the need to meet black economic empowerment targets. To enable this to occur, people who were not at the same experience level as the rest of the EXCO were included in the senior management team.

"He again took the initiative knowing that BBBEE [Broad Based Black Economic Empowerment] was the issue, knowing that we had to get up to speed. And he took the decision to appoint those two ... to very senior positions knowing, that they in terms of the criteria, were not 10 out of 10, they were six out of 10, but they had the potential to grow and develop." (13:69:170)

The consequence of this was that the black team members were very quiet in the discussions because of possibly being overwhelmed:

"... that brought different dynamics into the team, some good, some bad. The bad was that they were overwhelmed by the level of seniority that they were in and they would keep quiet. They wouldn't talk much." (13:81:170)

Another team member went on further to explain that one needed to get people who are able and willing to be on the EXCO:

"But, get the right people there, get the people with the right confidence, don't put somebody in who does not fit the scenario, maybe someone like [the HR Executive] does not want to be on the EXCO" (23:50:226).

He then indicated that the HR executive was vocal on issues within her scope of control, but was however quiet when topic outside her area of expertise occurred:

"Because she is much more a doer, and getting things done, but she is fairly outspoken and animatedly outspoken when it comes to her area of expertise. But she is quiet on the other areas." (23:51:226)

The Human Resources Executive involved also indicated:

"And I made it clear [emphasis] that I'm not at the level you want me to be" (17:18:50)

And

"You were thrown in the job, and you had nobody to say, please hold my hand, and yet immediately you were expected to give." (17:22:64)

One of the team members indicated that the team leader, the Managing Director, was a great strategist, whereas he himself was not good at that but rather better at tactics and operations:

> *"What was important was [the MD] was a great leader, he was a great visionary, and my success at working under the leadership, I am very good tactically, very good operationally. I'm not necessarily the strategist." (13:26:86)*

The company needed to partner with experts at the supplier for various jobs, as they did not have the expertise in all areas. The Key Account Executive indicated:

> *"It's a virtual teaming. That is probably one of the concepts that's new to our business. It's emerging going forwards, and even the sales force have got to learn; not only about working in a team but also working in a virtual team." (13:52:28)*

4.4.3. Environment Influences

There were numerous characteristics of the environment within which this team worked that could have had an effect on the innovative behaviour in the team. These included the company culture, which was impacted by the previous Managing Director, the suppliers, the customers, financial consideration and the current leader of the team and the organisation.

When asked whether innovation was driven more by internal or external factors in the organisation, the innovation manager indicated that although impacted by both, the environment played a stronger part in the innovations than internal requirements:

> *"I think that they are largely driven by both. But I would give a heavier weighting in terms of the environment. The area where we play in, dictates how we will survive going forward." (23:16:64)*

There were some factors that drove the need for innovation. One, which the Services Executive, highlighted was the Football World Cup in 2010:

> *"But something like 2010 World Cup, drives a need for innovation, because here we saying, here's an event that we know is coming. How we can maximise the solution sets that we have access to internationally, the experiences of [Supplier N] who participate and do solutions in the Olympics, in Greece, Athens, not so long ago." (16:19:35)*

The supplier also created the requirement for innovation when the supplier split into two different companies along the lines of the two different solution sets that the company provided to its customers. The Services Executive indicated:

> *"So we are going to have to get very innovative, how we bring both of those to the market. We will now be represented in two separate companies and we now have to be innovative as to how we bring that to the South African market without causing confusion." (16:29:159)*

The amount of innovation possible was also limited by the partner that the company had. The company was limited in what it could do because of the need to focus on what the partner had done.

> *"The pressures, of our partner, for us to become more focused, more specialised could inhibit us getting there. And therefore that innovation, the innovation might be more about: how do we take some of our partner's solutions and ideas, that we are not already implementing, how do we take that new stuff to market in South Africa." (13:38:158)*

The customers had also changed their focus and were becoming much less willing to spend money on large projects:

> *"If we carried on doing business the way we'd done in the last 10 to 15 years, we would have been out of business." (22:15:50)*

There were also directives from the government with regards to the facilities that the government expected them to provide to their consumers.

> *"Furthermore that was, further emulated by government's directive, for lack of a better word, to the [customers of the company]." (22:62:54)*

Company Characteristics

There were numerous characteristics of the company that could have had an inhibiting effect on innovation in the company. The Human Resources Executive believed that the conditions for innovation did not initially exist in the company due to the low employee motivation:

> *"So for an employee at that point, 'I'm coming to do what I'm paid for and going home, I need the salary'. There was no motivation and I felt they did*

not exactly understand what they were doing. When you wanted information, 'No go to this one, go to that one, you know, what do you sit and do, what can you give me?' How do you innovate, how do you talk about innovation when you have all these, ground problems and everything else. It's obviously blocking the company. You could be climbing the roof as an EXCO, but everyone else is just sitting there at the bottom not doing anything." (17:14:22)

The company was also apparently limited by the requirement to deliver against certain financial targets:

"I think our intent, our thinking, didn't have the resources whether it was finance, the people to take it to the full implementation phase. And I think as a result of that we really haven't been innovative at the strategic level, because we get sucked back into the operational plan that says you've got this budget, you've got this relationship with your suppliers. You have those financial commitments." (13:39:158)

The organisation had been affected by the previous Managing Director of the company. This person was dictatorial and effectively stifled innovation as indicated by the Human Resources Executive:

"The company came from a very, what shall I say, dictatorial, not autocratic, I can't think of the right word. It was a very aggressive culture where it stifled innovation." (16:7:47)

And

"... people weren't allowed to be taking time to think, or to be seen to be thinking, or to be seen sitting around a table and innovating. Because that wasn't necessarily regarded as work." (16:7:47)

This was supported by other team members who said that the previous Managing Director:

"…was very autocratically driven. We had quite a different calibre of Managing Director, was pretty brutal, very hostile, he was very, it was either 'his way or the highway', and there was almost like a fear factor, for lack of a better word, that was instilled as a culture within the organisation." (22:20:92)

This changed when the new Managing Director was appointed two years prior to the interviews, and changed again, when the Managing Director left whilst the research was being conducted. As indicated by the team members, the old culture did not encourage innovation or even thinking.

The Human Resources executive initially had major problems in the company in that people were not prepared to change, and were not prepared to adhere to policies and procedures from Human Resources:

> *"There was a great resistance in the sense that, not in that way, but, you know, 'Who are you to tell me, I've been doing this and no one has been complaining. When you go on leave you have to submit your leave form. I will not do it, I've [not] been doing it for so long, and why should I do it now'" (17:4:14)*

The HR Executive also mentioned:

> *"But the basic point is there are people that you can change, there are people that no matter how much you train they will always be the same, they would remain the same" (17:16:22)*

She believed that the change was not brought in correctly to the employees:

> *"EXCO was focusing there and forgetting the people. They had this focus, this is where they want to take the company, they were growing the company. But they were forgetting the people" (17:11:20)*

Leadership

The new Managing Director was seen as much more consultative and less dictatorial than the previous team leader. He also appeared to have a good understanding of the EXCO team members, and he placed great expectations on the team members. He was also apparently prepared to take decisions when this was required.

According to the team members he did not micromanage, but rather ensured that the objectives were achieved at a strategic level:

> *"If anything, he gave us the freedom to reach our potential. He would lead us, not at the micro level, but at the macro strategic level. The 'how'*

component he left up to the individual's preference. He managed the output. That's what he was focussing on and he did very well." (13:34:144)

Another team member indicated that the leader created a participative team environment:

"He very much promoted a participative team environment, 'Put your thoughts on the table. I might not agree, or we as the team might not agree. But put them on; we need to be able to agree to disagree.'" (22:25:94)

This was very different from the old retired Managing Director:

"He had a very different management style. He was very ferocious, he managed by fear. The point was that nothing got done in this organisation unless the old MD said." (13:35:148)

The Managing Director expected the team members to find out for themselves what needed to be done. He apparently forced people in that direction:

"I think as a result of that, we as individuals have grown. We're going to areas that were unknown to us, but we were led, we were supported, we were forced in a way to bloody well do it. Go find, go and research, talk to this person, that person, come back, what have you made of it." (13:94:130)

The leader also seemed to understand the team members and was able to understand their strengths and weaknesses and take advantage of the strengths, as indicated by the Key Account Manager:

"And that's where I think, [the MD] was good. [The sales executive], being 65, he's retired, he is really consulting with us at the moment. He has got a particular way of working. So you play into that guy's strength not into his weaknesses." (13:85:86)

The Managing Director was prepared to step in and take decisions if he felt that the team was not progressing, as stated by the Innovation Executive:

"I think that's where the strong leadership of [the MD] came in. The minute when [the MD] sensed that we were wheel spinning, he will take charge and say 'this is where we're going to. End of discussion, this is how we'll do it, no, that's the direction.'" (23:39:176)

However one of the team members mentioned that the Managing Director often made up his mind before he entered a room and that it was impossible to change his mind:

> *"I said to you, [the MD] is CA, he's an MBA, he's very clever man, a very capable man, well liked, popular, very good leader and, all the good things. If I said to you what's the worst thing about [the MD]. The worst thing is; [the MD] walks into a room, he's made up his mind. And you can't change it. He makes his decision, you can't change it. That was his, my worst criticism." (18:34:112)*

4.4.4. Innovation

Examples of Innovation

The team members cited numerous examples of innovations. Many of these innovations cited were however not particularly novel and could thus not be classified as innovative according to a definition of innovation where ideas needed to be both novel and useful ideas.

The team members also indicated that the amount of innovation that took place was low. Most of the team members indicated that the amount of innovation was below the requirement, generally because of operational issues taking precedence:

> *"We started out with thinking like that, but what happened, like with any business, is that the operational matters took precedence, overwhelmed that. And that then became smaller and smaller and that's why it's down to [the Innovation Manager]." (13:36:156)*

The examples of innovations cited included:

- Innovative multidisciplinary solution to a major problem faced at a customer. This appeared to be a truly innovative solution that was created by the majority of the members of the team working together.
- Reorientation of the company from being reactive to the customers, to becoming proactive. This, even though novel to the company and possibly even among competitors, is not particularly new in the work of business in South Africa.
- Changing the ownership of the service delivery mechanism from the customer to the company. This innovation actually was conceived prior to the formation of

the team, and can thus not be considered an innovative outcome of the team members.

- The manner in which the higher value and lower value customer areas were shared between the customer and the company.
- In one customer where the interactions of the customers with a particular customer was problematic the company tried many different people to interface to the customer until the correct person was found by trial and error..

In the one major problem the company faced, the entire team needed to work together in order to find an acceptable solution, because the different perspectives of the different people were required for the finding of a solution as indicated by the Services Manager:

> *"So it turned out to be, in my opinion, the right solution. We came up with something, had we not all gone in as an EXCO team, with all the different functional areas; I don't think we would have come up with the same solution." (16:9:57)*

One of the innovations cited by the team members was the manner in which the company strove not to be reactive to customer needs but rather to proactively understand their future needs:

> *"We now start doing research, we understand a lot more about our major customers then we did two years ago. It was the research that management and key account managers do. For first time, the key account managers would actively go through the financial results of their customers, and look through their strategy documents, and understand the organogram and the structure. And understand what is it that drives those companies and what is it that drives the individuals in those companies." (23:158:64)*

Another innovation cited, was the manner in which the delivery mechanism, typically managed by their customers was changed:

> *"It was like that when we started with the strategy; where we went into [the product] franchise arrangement with a major [customer]. And what that means is, instead of selling this equipment onto the customer we retain ownership and we go into partnership with them, where we maintain the equipment, they utilise the equipment, there is a third-party that benefits from the equipment." (23:18:66)*

Even though this sort of arrangement may have existed in other industries, this did not previously exist in this industry sector in South Africa. However based on conversations with other team members this innovation may not have come about from this team, but may already have been in existence prior to this team.

The team managed to arrange, for the areas where the company and the customer delivered an identical service to the consumers, to give the high volume sites to the customer in return for exclusive access to the low volume sites. This was an innovation that came into being very close to the time when the new team was formed. The innovation manager thus stated:

> *"They could increase their footprint and not worry too much about whether that site would be high-volume or low-volume. They would by default take the high-volumes and we would be okay with that. But we would also play in the low volumes and grow that into high-volume sites. The arrangement with the [customer] is flexible, if they want to own the high value or high-volume sites. When was this, about 18 months ago, we sold some of the [sites] back to the [customer]. We said, 'You can have them back, but give us the right to roll out exclusively into the lower volume sites. Give us exclusivity in how we, give us your business. We will help you grow'. And that relationship with the [customer] has gone from strength to strength." (23:77:72)*

Another example given by a team member was a trial and error mechanism that was tried in order to get an interaction with an individual at a customer working:

> *"The previous individual worked and had a longer term relationship with that individual, was not really successful. So we changed the interaction, who would actually deal, who would become the key interface. And we tried various individuals and personalities in our team until we found the right individual, that had the right interface." (23:159:78)*

Even though this was cited as an example of an innovation, it is really not particularly innovative to try various options until one works. However, the interaction and change of person may not have been possible if the company did not have a common strategy and understanding of the interaction with the customer. The individual went on further to state:

> *"If we did not do that with the same strategy, the same knowledge, the same drive, if it was different individuals interacting it would not have been that successful." (23:80:86)*

There were certain innovations that were implemented in the organisation that did not work out and were eventually restored to the old way of working:

> *"Well, we thought it was, I think that was a mistake. And right now we have got two different divisional managers. We've split it into two. Because to start with ... they were too diverse; those solutions. [The key account manager] and the people working for [The key account manager] were accountable for selling both solution sets. And they are just so completely, the whole process, the whole amount of time, the whole complexity, very different." (16:51:143)*

One of the most successful departments, managed by the Business Unit Executive, was formed to expand the footprint for the customer and an innovative mechanism in order to do this needed to be put into place:

> *"To be perfectly honest, it was honestly a critical business decision that needed to be made, and I think we were forced into it, because for the business, it was a question of survival. We needed to come up with something brand new, we needed to come up with something really creative, something really ingenious, otherwise we are going to be out of business." (22:63:60)*

By his own admission however, the Business Unit Executive did indicate that this was not an idea which was new to the world, but only new to South Africa. The idea was also identified prior to the EXCO team being formed, and thus even prior to the employment of the Managing Director.

Within this team however, there was at least one example of an innovation that was clearly dependent on the team members working together to be created.

Requirement and Restrictions on Innovation

The Services Executive identified that there was a need for innovation in the manner in which the human resources in the company were managed:

> *"There is a shortage of skill, there's huge new competition coming in the resource area, and, you know, you can't just keep people on board doing nothing. They are the most expensive cost in a service organisation. So you've got to be really innovative in how you do that. So Professional Services is very much aligned to HR in that respect" (16:61:33)*

Part of the reason for the lack of innovation in the team was cited as the creation of the position of Innovation Manager. This appeared to have shifted the focus of innovation from the business areas to the innovation area:

> *"I think a lot more could have been done. I don't think that would be, if we look back on the year, and look purely at innovation. Because we had a head of an innovation division, it almost became that division's accountability, and then call us in, perhaps." (16:4:39)*

The focus on innovation in this team was also not on the creation of new products as this was restricted by the supplier for which the company was the representative in South Africa.

> *"It became apparent that we had to innovate not so much about new solution sets just yet, because our core business is [the supplier's] core business, but more about how do we focus on those and bring those to market in South Africa." (16:17:21)*

The company was thus restricted in terms of the innovation that was possible. This was different from the original idea of innovation within the company. This was also indicated by another of the team members:

> *"The innovation there needs to be more about, how are we going to manage the projects that we do in an innovative way, so that we deliver on time, in budget, in scope, all that good stuff. But not only that, the innovation that we need to think about is; how do we innovatively make sure that at the end of this deliver, the solution, it is actually adding value to the customer. And in what innovative ways are we going to help the customer make sure they derive the expected benefits out of the solution, and continue to drive it up." (16:43:27)*

The potential of innovation in the team was hindered by the amount of changes taking place in the company:

> *"I think one of the reasons for that is also that, as a company, we are going through major change. When we did our strategy we made some radical commitments that we were going to do a big bang approach. We were going to go into a whole new organisational structure, we are going with a whole new ERP system, end to end, within a year. We were going with the.. Those were the main ones. A whole new strategy, not a wholly new strategy because we were realigning focus mainly on [the supplier's] solutions. A lot of new people. But there was many changes done, new*

management positions as I said new ERP systems, outsourced IT completely. Growth needed for black economic empowerment. So we set ourselves very high expectations and commitments to do in that first year." (16:65:119)

These changes could be seen to be creative new ideas that were being implemented in the business.

One of the team members indicated that even though there were ideas, people did not have the time or resources to implement these ideas due to the pressure of the operations:

"We find that when we kind of can get these new ideas we don't necessarily have the manpower or the time to take them to the next step. Because go back and you get involved in your day-to-day operational challenges." (16:64:119)

The Sales Manager indicated that the type of innovation necessary in the a corporate is quite pragmatic:

"The first flavour is; it is all very well to think that you've got to weld an electric lantern onto a fan to have a cool light. That is pie in the sky stuff. I don't believe in that. In corporates, innovation is; where's there a niche market? Where have I succeeded before? How can I bring it to this market? And how can I drive some decent business out of it? (18:11:22)

There appeared to have been a real requirement for innovation from the team in this organisation.

4.4.5. Team Processes

This team was only formed after the new Managing Director was appointed two years prior to the research. The majority of the team members had not worked together previously, some had never worked in the industry, and some had limited experience generally. The team thus appeared have gone through a process of team development.

"I think the team at this stage it is still very young in their success rate of bringing new solution sets to the market. There is a measure of hesitancy still with us." (23:97:118)

With the less experienced team members there was a changing of the relationship with the rest of the team from when they first started until when they started to "add value" to the team.

> *"then as time progressed ... our relationship and understanding of who they are and what we are, improved and we realised that we in it as a team, then they started to come out and add value." (13:44:174)*

This was expressed by more than one team member regarding the process by which the less experienced team members were assisted to operate at the same level as the rest of the team. An important part of building the relationship with the less experienced team members was the informal sessions that were held:

> *"And I think we just created an environment in which they could talk and speak their minds. And we had other informal sessions, not every day, where we would go out and have a meal, have a bit of a laugh. And that's started to break down and build the relationship." (13:45:182)*

Over a period of time the impact of the inexperience was reduced by the peer support that was provided by some of the team members. The informal session lead to increased involvement in the formal sessions. This was indicated by one of the team members:

> *"… largely from the informal, and we saw the result of the informal coming out in the formal sessions. Where they would stand up and would be accountable for what they were saying, whereas before they would sit back and keep quiet." (13:77:178)*

The Key Account Manager did indicate that he felt that in order for the team to be successful, all team members needed to be successful. This was apparently the reason why the team members were prepared to help the less experienced team members.

> *"Because we realised the need for them to engage, we realised the need for them to be fully functioning and we were concerned about their well-being and them to be successful. Because if they were not successful, we were not successful. It was a very team thing." (13:96:182)*

There were many changes that took place in the company after the team was formed. The team set itself *"very high expectations and commitments" (16:65:119)* which,

according to the Services Executive, helped the team to bond better, but not necessarily to become more innovative. She did also indicate that some of the bonding at a more personal level took place between a subset of the team members:

> *"Yes, but it was not necessarily innovatively. It was at possibly the expense of some, we could have innovated better, but we sure as hell, bonded very well." (16:46:123)*

And

> *"Some of the EXCO team bonded very closely on a more personal level as well. Because they go bicycle riding together, they go and have a few drinks together. Something like that and I think that there's an awful lot of innovative discussion that happens in those sort of session. I don't go to most of them." (16:47:123)*

She also indicated that she did not go to these sessions, because it was *"more of a personal thing" (16:48:123)*.

There were planned sessions created with the purpose of the EXCO members getting to know each other and their families. At least one of the team members felt that the processes that enabled people to understand each other's circumstances and family were important to ensure that people could understand each other in the meetings.

> *"It was important for us that we all understood what are the key drivers that each one of us needed to have, personal drivers? What is your family makeup? What are the things that can cause you to be unhappy? And we all understand each other's families, we all know them. We all add a big premium on the happiness of the family. And I think that gives us the openness to talk to each other." (23:115:166)*

In order to do this there were compulsory meetings with family members:

> *"Some of the meetings were compulsory that all of us were there, it's an EXCO meeting and you bring your wife or your spouse... We want to meet your family set up. It was compulsory; we had three or four or five of those meetings" (23:116:170)*

One of the factors cited as being an advantage was the similar interests of some of the team members outside of the working environment which created a good spirit and

competitiveness within the team. This however, applied only to the male team members.

> *"One of the last things I can say which is as individuals we are very competitive, in our own ways, whether that's in sports through golf or ... I'm cycling and golf. [The MD] and I would always, he's both cycling and golf. [The MD] was a very good golfer. Him and I would always compete. [The Sales Executive] and [Innovation Manager] are also golfers. [The MD] being good we would play golf and we would challenge one another. The competitiveness and the positive spirit with which we did that, from a dynamic perspective in the team, was powerful" (13:46:194)*

This competitiveness apparently strengthened the team and resulted in better performance as a team. The competitiveness, according to the Key Account Manager did not negatively impact the team, because the team was measured and rewarded as a whole, rather than as individuals:

> *"We were competitive in our own personal way, I like to use the golf as an example. It's all done in good stead. But that builds that competitiveness which is needed for us to win in what we need to do, and do it as a team." (13:98:202)*

One of the team members indicated that he enjoyed the process, even though this put pressure on the time he could spend with his family. He indicated:

> *"I loved it. I liked that pressure I like that sense of belonging. I liked the dynamics that we were putting into place." (13:18:78)*

And

> *"So, I enjoyed the pressure, I enjoyed the camaraderie, there was fun, there was good spirits." (13:21:78)*

For this particular person the support that he received when he was ill was particularly important:

> *"But the support that those individuals had when I was ill was unbelievable. I think that was always there. There was that a real personal support from the individuals." (13:23:82)*

Trust and Respect

When the Managing Director joined the company approximately 2 years prior to the interviews there were major problems related to trust in the company. The previous Managing Director has been extremely authoritative and aggressive and this led to trust issues when the new Managing Director adopted a more consultative approach.

When the Managing Director started at the company, a large team of 30 people were taken on a strategy planning session. Because of the previous culture of the company, there were apparently many people who did not contribute during this session because they felt that there was an unknown agenda. There were people who participated, and others who may have had good ideas but were not prepared to contribute until they understood what was "going on". This was expressed by the Services Manager:

> *"So certain people had that, I think they were capable of innovating a lot more, but my perception is that some people withdrew because they felt threatened. "What is really happening here? Is there an ulterior motive or some politicking behind here or something? "Which I don't think to this day, definitely don't think it was. So there were people that were just openly participating, and with those people it was superb. The other people, certain people withdrew even if they had a good idea. It was like, big question mark; 'let me see where this is going, before I participate in this innovation'." (16:35:47)*

The team members were all people who did contribute at the session. The Services Executive felt that the team had developed trust, even friendship with each other:

> *"I'm kind of in the middle of the road, but I feel like I've made true friends. There's not one member of the EXCO if ever I had a problem, I feel that I wouldn't trust to go and have a chat to. Not one. That's my view. I personally trust every single member of this EXCO, including the Managing Director." (16:57:203)*

The Innovation Manager did state that some of the team members become friends and he considered this to be a good thing. He stated:

> *"I think you will always find that in any EXCO team, some of the members would become personal friends. And how does that affect the team? I think very positively." (23:133:198)*

He further went on to explain that this would not reduce the argument that took place in the team:

> *"I think it is very good if you realise that people have become personal friends as a result of working close together in sharing in ideas. It does not stop us from having a good argument." (23:45:198)*

Even though the team members may at times have been defensive, the Services Executive indicated that she did not at any stage detect distrust among the team members:

> *"And I think, everybody else trusts. There might be a bit of defensiveness, but I actually have not, and never, sensed any distrust amongst the EXCO members at all. Which is a plus. Open and honest communication is another one. It happens." (16:58:207)*

The Executive Team were apparently virtually forced to trust each other due to the responsibility that they had for the welfare of the company:

> *"I think by default we were poised to have to trust each other. There's a bit more to that. I want to start off with that. We sort of went through the strategic session. We put the strategy in place, we agreed on the new strategy and we basically bluntly said, 'Guys, either we going to make this work or we all going to be out of work'. It's not just up to the five or six of us, we've got 160 or 180 people's jobs dependent on us. So, we have no choice, but to trust each other, but to back each other, and to be there for each other." (22:65:154)*

The team members indicated that the sense of trust and camaraderie evolved over time:

> *"I think it is evolved through the process. With the breakaway sessions that we had, with some of the golfing sessions that we had, with some of the dinner parties that we had with our partners. It just evolved. I think we started to earn that respect and trust amongst ourselves. It was very jovial; we were serious when we had to be. It was also fun when it had to be. There was a constant sort of teasing of one another which is done in very good spirits." (13:95:82)*

According to the Business Unit Executive, the team environment was such that people were prepared to ask for help from the entire team when needed. This was cited as an example of the value of the openness and positive criticism that existed in the team:

"We have created an environment and culture where we would call a forum, lay the foundation, 'These are the issues, these are the challenges, this is what I'm faced with, I'm stuck, I don't know how we go about this'." (22:51:18)

The Managing Director seemed to have been instrumental in setting up this environment which allowed people to be open:

"and [the MD] stepped in, he came with a very, very, very different approach. Completely. And I think that set the platform for us as a team to be able to put suggestions on the table and to be able to criticise, to be able to disagree without getting slated or getting your head blown off." (22:21:92)

There appeared to be very honest and open communication within the EXCO team. This was seen by the Business Unit Executive as a very important factor for the success of the team:

"I think very definitely also, is the open, honest and transparent manner in which we communicate. I think that is fundamental to our success as well." (22:41:14)

The Business Unit Executive cited the very supportive environment as important for the open and honest communication:

"It is a very supportive environment; it does promote open and honest communication." (22:31:14)

The team members were not, at the same time, overly sensitive to the comments of others, and instead of comments of a personal nature harming the team, it resulted in a strengthening of the team. One person who had a potentially embarrassing medical problem said:

"The way they were teasing me, if I was sensitive to that, they could have destroyed me. And could have left me out. And the fact that I played into it and got the positive out of that, there was more to gain than to lose.... And that just strengthened the link with the guys." (13:97:198)

The Business Unit Executive further indicated that the open and honest communications resulted in predominantly positive criticism:

"And I think that comes through very nicely, where we allow positive criticism. We don't, we are fortunate by the nature of the people on the executive committee, no one is negative or derogatory, or in a sense breaking down things. We would complement each other, accept the criticism, that is very often positive and it is a lot of the time, valid and justifiable." (22:32:14)

The team members seemed to exhibit honesty in their dealings with each other, according to more than one team member. The reason put forward for this by the Innovation Manager, was that this was as a result of the team members coming up with the strategy together:

"No, it has not always been like that. I think that the basic reason for that is we all started working on a new strategy together as a team. It has been a team input from the start." (23:87:98)

According to the innovation manager, the leader listened to everyone's input. However if there was no meaning in what was said then it was swept aside:

"Everybody's input was valued. But it was also swept aside if it was meaningless. So there was an openness, but an honesty. We would not listen and entertain an idea if it did not make sense." (23:23:98)

Another team member indicated that there was no idea without value:

"So it's a lot, a lot can be done, and I think mixing at EXCO and allowing people to bring in, there's no idea that is stupid." (17:84:170)

This is in contrast to the statement that ideas that did not make sense, would not be listened to or entertained. From a different point of view, the Innovation Manager said that the team required that people should say so if they felt that something was not right.

"The one thing that is very important for us is that within the whole team that we don't fool ourselves, just because we are team, we believe in something, that inherently you feel is not right. You must say so. The freedom in the team creates that space for you; to disagree when you disagree." (23:31:142)

He did however indicate that some of the individuals in the team may not have been comfortable with and concerned about having to convince the team that something was wrong, and may thus not have commented and instead remained silent. These were the two more inexperienced employees, who had not been involved in the business before and were in the supporting roles of finance and human resources:

> *"I think they were quiet in cases where they disagree, rather than bring it out in the open to discuss it in order to, in some cases, convince the team, you've got to really convince the team. You've got be goo., It's not that easy. I think, in my opinion, they were cases where they may have disagreed but they kept quiet." (23:32:146)*

The openness in the team was thus not complete and did not apply to all the team members.

The sales executive found that the similar backgrounds that the team members shared was useful in creating a "common thread" among these team members. This apparently resulted in more openness in this team than the team the executive had previously worked in, and he suggested that this could help innovation to occur:

> *"What we found was a common thread that was very useful, the three key members of the team, the new team, were all from the one area of the business. And the fact that we had a common pattern, had come from a software background, and we been in the call centre business together." (18:7:16)*

And

> *"When we took on this challenge, the honesty and the aggression and the passion was strong, but it was upfront. If somebody thought you were wrong, they would just tell you, you were wrong. I would encourage that from innovation. Just say it. If you think I'm wrong tell me. I'm not always right, nobody is always right. It's that sort of thing. Get it on the table and just say it." (18:8:16)*

There appeared to be a great deal of trust and openness in at least a subset of the entire team, and this could have led to more robust discussion and debate.

Discussion and Debate

The discussion and debate that took place in the team was apparently positively affected by the composition of the team, the level of expertise of the team members and the listening and honest criticism that took place. The discussion and debate was negatively affected by the perception that the leader listened and took consideration of only what some people had to say, the lobbying behaviour that took place, and the defensiveness that existed with some of the team members.

There was a variety of functional backgrounds in the team. This resulted in different mindsets, which apparently allowed the team to analyse problems from different angles:

> *"Putting all these people around the table allows us the opportunity to analyse the situation as it stands from complete different angles. If anything, it allows us the latitude and flexibility to put the certain situation into a complete different perspective. And to analyse it in complete different angles, different viewpoints because of the different participants that we have" (22:28:12)*

The Key Account Manager felt that the different backgrounds of the team members enabled the team members to complement each other:

> *"I think the guy's individual track record and experiences complement one another." (13:1:12)*

The value of the discussion could have been because the other team members may not have been as involved with the problem, or they were able to look at it from a different functional point of view:

> *"And the other team members will then say, "Well I think I will do better, because I'm not emotionally inclined or I'm not looking at it from a number's point of view, or I'm more this way inclined"" (23:84:90)*

The discussions that took place were apparently directed at the problem in order to achieve a suitable end result, rather than being personal:

> *"... whether it's conflict or whether it's a problem area, or it's an opportunity, we tend to firstly respect one another for what we having to say. We do listen explicitly to what each individual says, and rather than destroying or*

attacking or playing the man we tend to build and evolve into an appropriate end result." (13:3:12)

He went on to explain that this was the case because of a respect for those individuals due to their track record and experience:

"I think out of the track record that those individuals have had in the past. So when they give input to any particular situation or issue, invariably they link it and relate it to something they have had experience on." (13:51:16)

This did not apply to all the team members as all of them did not have the same level of industry knowledge.

There appeared to be culture of honest and openness in the team such that the team members were prepared to comment on other team members areas of responsibility. People apparently accepted that others would comment about their areas:

"We've created a culture no oft, "What does he care about my business, it's not your business, don't ask those questions" ... I think the fact that we do have a good relationship, as individuals and as a team. I think trust is also significant, and I think that is one of the key success factors of our executive committee." (22:61:150)

However another of the team members did indicate that there was some defensiveness in the team that could have stifled innovation:

"I think what sometimes stifled creative thinking was defensiveness. 'You know, don't step on my toes. I know my business'." (16:13:175)

This team member indicated that they did not confront the defensiveness, but was rather satisfied with having planted the idea:

"With me I wouldn't confront that. If I have made a suggestion to someone who gets kind of defensive, then "who are you to make an idea about my business because I'm a specialist". I say, that's okay. But I know I've planted the seed. and what's interesting later on, that seed gets discussed again." (16:14:183)

The team apparently displayed flexibility in decision making, acknowledging wrong decisions and correcting them:

"In many instances we've had to say we think we are wrong there, let's change it." (23:90:106)

And:

"Because we realise that it's dynamic and we may in some cases be in a cul-de-sac. Then we turn around. We discuss it with the team and we say 'right, we need to find another way to get there'" (23:25:106)

At least one of the team members believed that the team leader listened but made the decision based on what he felt was right:

"I've worked with [the MD] but to me it's always been that he says and, yes there is debate and everything, but at the end of the day we all have to do what, or apply what he believed then was right, but he allowed people to say whatever, to debate whatever." (17:53:94)

When prompted as to whether the MD actually considered what people had to say, this team member indicated:

"I think he listened, and to answer correctly, he considered, whom he favoured." (17:54:98).

This person felt that the Managing Director only really listened to some of the team members:

"But it was basically to say, it was based on who said it. I think that applied to a lot of people here. Depends who you are, depends who says it, then it happens." (17:58:100)

This team member then went on say the team leader's orientation depended on who he was discussing something with and would go through the motion of listening if the person was not favoured. She articulated that the Managing Director could have had the following thoughts in his mind:

"I know in my mind that I can sit and listen to [the innovation manager], I know I can give him room, but if [the HR executive] comes then I will not entertain, I will just listen, for the sake of just listening." (17:55:98).

There also appeared to be situations where the issue could not be resolved in a meeting or a team member was not satisfied with the way the matter was dealt with in

a meeting and they would then raise the issue with the Managing Director directly, and then he would them make a decision on a “consensus basis”.

> *“Many times when we've disagreed on a specific way of handling, maybe a specific issue, and then personally raised our concern with [the MD] so that he can make that call on a consensus basis.” (23:35:162)*

The differences in opinion with the team did seem to create some conflict. This was driven by team members who were resistant to change:

> *“The one issue sometimes is, his age and track record and experience can also become an inhibitor. He's so set in his ways that he won't change. That's where you get some of the conflict some of the time.” (13:64:118)*

This was managed by always referring back to the strategy as indicated by one of the staff members:

> *“And we then say yes, we hear you, that's what we need to do because that's what the strategy says or that's the business plans.” (13:71:122)*

At times it appeared that the sufficient discussions and debate did not take place. In these cases one of the team members indicated that a less than optimal result may have been obtained. This was linked to similarities between the team members:

> *“I think yes, in a sense it does, because if you have somebody that has a very strong strategic thinking and let’s say its 80% correct. And maybe another team member has a similarly strong vision on where they think it should go, maybe 80% is ok then. You're not going to challenge if it's generally in the right direction. But you could have achieved 90 percent. You could have achieved 90% if the two individuals had a more interactive discussion and the rest of us were drawn in.” (23:136:206)*

He also indicated that although one could not challenge all the time, more challenging may have resulted in better results:

> *“So over time you learn which of the EXCO team members are very good at doing certain things. And you don't challenge it. And I think if the challenge is sometimes more; you will achieve better results, but you cannot challenge everything.” (23:139:206)*

Subgroups and Fault lines

Fault lines and subgroups did exist in this team. These subgroups were divided based on gender. The men were interested in golf and cycling and would meet outside of work hours to go cycling or to play golf. The men tended to spend time together after the completion of the meetings. The woman did not participate in these. According to one of the men this was unfortunate because as they said;

> *"we decide to, sit down and have a chat, often you get into the deeper issues outside of the meeting, and basically [Female 1] goes to work and [Female 2] and [Female 3] would leave. They did not partake. It was a pity because; sometimes you are getting into the real deep issues." (18:27:68)*

This view was supported by another team member:

> *"We had many golf games together in the team, but herein lies the risk as well; because the males tend to go play golf, [the Services Executive] feels left out. Maybe she doesn't say it, but you can see, purely the fact that she's not a golf player and she is a tremendously hard worker. She would use that time and work." (23:129:190)*

This team member also stated that some issues were not discussed in full team meeting:

> *"And you have time socially to discuss issues which maybe, you would not have discussed in a boardroom level." (23:41:180)*

This means that the women were excluded, and presumably therefore had less influence on some of the decisions.

One of the other team members indicated that a bloc existed in the team, and this restricted all of the other team members:

> *"but they still had to come back, come back to this bloc, with ... and ... being the strong ones" (17:87:182)*

4.4.6. Innovative Behaviour

The Business Unit Executive explained how problems that occurred and that were requested to be discussed by the EXCO team were dealt with. The steps in the

process included analysis, commenting, asking questions, generating ideas and eventually coming to a consensus on the way to deal with the problem:

> *"We then as the team would naturally, through our inputs, start analysing, passing comments, raising questions, coming up with ideas and suggestions. We would actually analyse and regurgitate the whole situation and through that then, almost form a natural progression to us almost streamlining and reaching a common ground and a common understanding of the situation. And through that formulating a solution." (22:34:20)*

The team analysed the problem from as many angles as possible before reaching an eventual decision:

> *"We analysed it from all the different angles that you could possibly throw at us. And we honestly believe that it's fair and an equitable decision to go forward" (22:44:20)*

The innovation in this case was driven by a specific and rather severe business problem:

> *"We had a need, that innovation was driven by a problem." (16:8:53)*

Part of the reason why this process was followed appeared to be to get everyone's input and everyone's support. The individual involved thus has assurance that they were following the right path:

> *"And we've been very successful. 9 1/2 times out of 10, we've walked out with absolute consensus, absolute peace of mind in terms of the proposed way forward, the suggested solution, and I think more importantly, which is probably very supportive, is the fact that we walk out there 100% backing each other in terms of the decision." (22:6:20)*

The company conducted research in the form of surveys of the customers and then used this data to check new ideas that the team had:

> *"[Because it was] fresh new ideas all the time. We would have this idea in terms of our strategy, we would test it with factual evidence like our customer surveys that we did. We had true data with which to work from. And we analysed that and we made decisions around factual data, as opposed to emotional, irrational type decision-making." (13:20:78)*

The team also appeared to have frequent new ideas that they could check against the data they had collected.

4.4.7. Summary

This was a senior management team that had both the requirement and room for innovation. Various circumstances of the company inhibited the innovative behaviour of the company, including the numerous changes that had occurred when the team was formed two years prior to the interviews. There was however one major problem which required an innovative solution to be found, to which the majority of the team needed to contribute.

4.5. Private Company Management Team

4.5.1. Background

This team was the Executive Committee (EXCO) of a private company. The company was a supplier of a commodity product. The identical product was supplied by all companies in the industry as described by one of the team members: *"...you phone our competitors for the same thing, that's exactly what you going to get. Even the test certificates are exactly the same. Exactly the same." (32:8:32)*. The company strategy was to *"is to innovate and collaborate and add value to customers in a way that other guys are not doing." (28:6:56)*

The company had been innovative and managed to differentiate itself based on the response and delivery time to customer requests. Another example of a recent innovation was the loyalty programme that had been put into place whilst the interviews were conducted:

> *"We are the first in our industry to ... put a loyalty program in place." (30:11:76)*

At a later stage the company introduced a new offer that more directly appealed to the customers in the harsh trading environment:

> *"Mafia offers are distinguished by three elements, it is an offer a customer cannot refuse, if it addresses a significant need that a customer has that is not addressed by anyone else, and it is an offer that out competitors can't or won't match." (28:44:251)*

The team members were interviewed twice, once when the team was in the process of being formed, and again eight months later when the team was operational. The initial set of interviews was with all five team members, however at the second set of the interviews the team had been reduced to only three members.

4.5.2. Team Characteristics

Team Composition and Diversity

The members of the team consisted of the team members as indicated in Table 6:

Table 6: Private Company Management Team Members

Person	Race	Gender	Age	Tenure	Education	Functional Background
CEO	White	Male	42	13 years	Executive Education Programmes	CEO of company
Chief Operations Officer	White	Male	38	7 years	Chartered Accountant	Finance and Operations
Trading Executive	Indian	Male	39	2 years	Matric	Sales (related industry)
Sales Executive (left team)	White	Male	28	8 years	Matric	Sales (in industry)
Customer Collaboration Manager (left team)	White	Male	35	11 years	Matric	Sales (in industry)

The team changed during the course of the research with two members, the Sales Executive and the Customer Manager, leaving the team. All of the team members had worked in the industry previously. The remaining three team members had non-overlapping areas of responsibility. The CEO was responsible for strategy and innovation, the COO was responsible for operations and finance and the Trading Executive was responsible for sales. The COO felt that the smaller team with only 3 people in the EXCO team was the correct size for the business:

> *"the smaller team you know we were 5 and now we're 3 so it's the right size for this business." (30:15:179)*

The diversity of the team was limited. There was little tenure diversity with only one of the team members being in the company for only 2 years, whilst the rest of the team members had been in the organisation for 7 years or more. All the team members were male, and only one team member was not white.

The ages of the team members was similar with one team member only being less than 30 years old, even though this person had already worked for the company for 8 years. The Sales Executive indicated that that the age of the team members was much younger than the rest of the industry, who are generally older men:

> *"I just think, for the industry, ... there's no new faces, the guys are all elderly men, not all of them, the majority, there's no young blood." (29:4:84)*

There were educational differences with most having only secondary school qualifications. All had been in the industry for a long period of time.

The EXCO team used consultants at many different stages to assist with its innovative rewards programme and in formulating the company's strategy. In order to design their rewards programme they used a consultant who had been involved in the creation of a major South African rewards programme:

> *"...we are working together with one of the chief architects of the ... programme who's building the actual processes and reporting underneath." (28:13:155)*

At least four consultants (31:24:197) were involved in different stages of the development of the programme. The COO indicated that none of the consultants were involved throughout the development of the programme. He indicated that the current consultant was only involved in the current session and one previously:

> *"In the last two, this session and the one before. He's just come on board and he's done other rewards programmes and for other companies." (30:21:225)*

These consultants were apparently essential in order to reframe the conversation with the customers and to determine their requirements:

> *"Secondly to help me reframe the conversation with a customer he was vital and thirdly visiting the customer having him there where we come from a particular perspective." (28:26:227)*

The consultants apparently had the expertise to take the idea generated by the company and refine it into a workable solution:

> *"They've got the expertise to strategise it properly. We have the idea and we have the concepts but they have the strategy and the expertise to make it work that's what we're drawing from them." (31:23:227)*

Another form of diversity that apparently existed in the team was the role orientations of the individuals in the team. The company profiled each of the individuals and thus determined their optimum roles. The CEO indicated that he was a creator, not a trader:

"... but we're in a trading business and I don't wake up every morning going 'I want to trade some more' I fall into what's called the creator." (28:10:145)

There were also different styles of decision making among the team members, where some were more emotional and some spent more time considering the details prior to making the decision.

"He [the CEO] would always make a flat decision, based on what he thinks. I was able to assess the situation and make a constructive decision regarding that particular thing.. And he mentioned that, "you pay attention to detail, you know what to do, and you doing it better than I, so I want to come off and let you do it." (31:29:96)

Even though the EXCO team was very new, the team members had all worked together previously:

"We've all worked together in the past. It's always been a team I would say, but now it's sort of formalized under the EXCO." (29:8:56)

In the new EXCO there was a clear separation of roles. This was explained by the Trading Executive:

"Each person has got a portfolio suited to run the business adequately without him (the CEO) being there; before he had to be involved in everything. With the new EXCO trading is completely one aspect, operations and finance is completely one aspect, he [the CEO] doesn't have to get involved and he knows it's happening." (31:30:440)

The Customer Collaboration Manager indicated that not all of the team members in the EXCO were open to innovation:

"Because I think that they aren't open to innovation. I think you need people that are more open to innovation. I don't think everyone is, I think 50 percent is open to innovation, the other 50 percent is just black and white." (32:12:88)

Common Goals and Interdependence

The team members believed that the company had a common goal. The common goal for this team was a financial goal, essentially consisting of achieving a revenue target and a margin target for the company as a whole.

"And our vision is to get to a billion rand at the 10 percent profit" (28:2:36)

One of the team members did note that even though there was a common goal, this goal was financial:

"Yes, we have a common goal but it's more a financial goal" (31:39:12)

The team members believed that the common goal assisted the team by ensuring that the EXCO members worked together.

"There's no question, it definitely is a common goal and I think that's why they've formed this EXCO. There's, you know we've got certain targets to reach and obviously we want to get the business to a certain level. And it's not possible for one person to do it." (29:15:20)

This common goal also apparently ensured that the directors were not competing with each other as occurred in other companies:

"...you take some of the other guys, the other companies, the directors are competing with each other." (29:12:144)

This person also indicated that there was interdependence between the team members in achieving the common goal:

"I will identify niche products, do my homework, bring it in and also depend upon sales guys to sell and market, also to give information, to do the research. Who is using it? What's being sold in the market? What's happening in the market? They come to me with a list of stuff; I outsource, look for it, tie up the deals, bring it in and also give them to market it. So there is interdependence there." (31:7:16)

Another team member however saw this as more the sharing of advice, rather than needing to work together:

"It's more of a, it could be more of advice, should I or shouldn't I do this thing, but not really need to." (32:6:20)

The COO indicated that with the formation of the EXCO team the original interdependence that existed between him and the CEO had reduced since each person now had their own portfolio:

> *"So traditionally, [the CEO] and I were interdependent. Every decision that was made was discussed, and I still like to do that. So does he. So we were very dependent on each other. We've kind of now each person focussed on their own portfolio. So we are less dependent on each other, but we still like to discuss the issues around the table, or on the phone or via SMS." (30:4:56)*

Requirement of Innovation

There was a real requirement for innovation considering the harsh operating climate in the industry between the first and second set of interviews. Even though the product sold was a commodity the company had to be innovative in order to survive the period.

The product sold by the company was a commodity with the exact same physical product being sold to every company in the industry. It was thus very important that the company innovate in order to the able to differentiate itself from the other companies in the industry:

> *"I think so, you've got, the ... industry, it's a basic straightforward sort of industry, so the guys that innovate as we have with our service and would our speed are the guys that get ahead. There's always space for innovation, and you have to innovate. If your products the same as the next guy you've got to do something different in order to be better you know." (29:6:28)*

The type of innovation that could take place in the company was constrained due to the fact that the physical product being sold was a commodity:

> *"there's nothing more you could do, like if you were in a food company or a pharmaceutical company you come up with different ideas to make things and you sell" (31:25:225)*

Another team member indicated that constant innovation was also required. A company could not remain the same as the other companies would catch up on any advantage that the company had:

"...you've got to do things differently to the next guy and once you've reached a level, you've just got to keep on going. You've got to keep on innovating to get, to stay ahead basically." (29:7:36)

The customer collaboration manager indicated that in the commodities industry, if you were not the biggest you had to be innovative in order to succeed.

"I think that is a need in the company, because we try to make ourselves different from every other [industry] company in the world and to do that you have to be different. In the commodities markets the bigger you are the better you do. We are not the biggest, so we have to be innovative." (32:7:28)

The Trading Executive however indicated that the team members had new positions and needed to "find their feet" before they could concern themselves with innovation.

4.5.3. Environmental Influences

The industry within which the company operated had a significant influence on the nature of innovation that was possible for the company.

During the course of the interviews the company was affected by the decline in the business for the industry:

"last year prices then declined every single month for 7 months together with the fact that demand dropped significantly so for the last few months there's been an absolute bloodbath in the industry." (28:7:133)

This person also indicated that the level of innovation was not great during this period because it was more important to secure the business than to be innovative:

"... but also we've been trying to save the business for the last 7 months so give us some oxygen first and then we can get all into the innovative process." (28:11:153)

Another of the team members however indicated that the company needed to be innovative in order to survive the downturn in the industry:

"...because of the bad business environment we've had to innovate ways of bringing stock in you know funding that stock, holding off stock at the supplier, everyday has been kind of an innovation." (30:22:249)

He indicated that the company had to be innovative just in order to survive:

"Maybe out of necessity because there's been no choice but because of circumstances we've been forced to; innovating to basically stay, keep your head above water." (30:23:253)

The CEO did however indicate that there had been some recent changes and that innovation was now becoming more important:

"...everyone in the discussion is engaged and believes there's some value and in the back of their mind they are not thinking 'listen I've got more important things to do like save a business'. That means that we're actually maybe entering the season of innovation again." (28:22:203)

The COO indicated that they could not be innovative about the product and thus had to be innovative about the way the product was delivered:

"It might not be innovation as such because we are selling a homogenous product steel but it could be innovation in terms of how you deliver something, how you process something, how you do something differently and we saw it there at that company we did it different when I used to work there, so a lot of those ideas come." (30:16:183)

The trading executive felt that every person in the team needed to be innovative:

"High requirements, especially now. Each guy has got to do something creative, innovative, something new to actually get better and bigger. I won't say bigger, bigger in the sense that, in profits bigger, but to become smarter. We've got to be innovative. Now the market is dropping badly." (31:8:40)

The trading manager however felt that there was more to success than just innovation:

"So that international trade is dependent on so many factors, for its success. Not just innovation." (31:11:68)

He then indicated that the type of innovation was different due to trading environment in the previous six months:

"Also the last 6 months was the toughest period the [product] industry ever had where the prices plummeted stocks were sitting at the floor which we had to give away at minus levels and it was fighting for survival so innovation came more on cutting costs, innovation came more on getting new ideas to sell and looking for other areas where we could generate income." (31:17:141)

Leadership

The team leader was happy for the team members to work on their areas of responsibility in the business while he provided the innovative input for the business as a whole:

"I would be happy if they simply maintain or improve profitability and efficiency in the business at this stage, let me go and have the journey that I need to, and it can only come into their world or be integrated if it makes sense and I've got their buy-in." (28:18:179).

And

"In the back of my mind, however, I'm positioning these guys to run the business completely so I can focus on creating a new business methodology that will drive the sales and loyalty of customers and market share in a way that benefits us and our customers, which is innovation." (28:12:153)

The CEO also indicated that he was responsible for the pipeline of the ideas:

"I think that I'm clearly in that creative space which means I provide the pipeline of ideas that we need to develop." (28:16:175)

However as indicated by the other team members numerous innovative ideas to assist the business in the tough trading period were created by team members aside from the CEO. These were however generally applicable to their individual area of responsibility.

The CEO clearly believed that different people have different roles and orientations and that his role was that of creator. He indicated that merely running the business would bore him:

"...wanting to create the next thing and to feel great to continue to feel great about the business in a trading business that essentially can bore me tears so there's a constant need for innovation in creating something." (28:23:215)

He also stated that he felt that in smaller businesses the role of the CEO was that of the creator:

"...the more robust, the more corporate, the bigger teams you speak about the more gravitas each person in the team has, that individuals will come with weighty ideas for use to consider but in the small business the CEO really comes up with the idea. ... I see my role as the creator and the team are the productivity specialists." (28:42:269)

This was supported by the sales executive and the COO who said:

"We have the same goal, but [the COO] is responsible to make sure that we run, [the CEO] is the innovation hub of the business basically." (29:2:72).

and

"...it is his passion and that's his portfolio and you know if he didn't do that he'd be bored and I mean I'm not saying that negatively but that did drive him, there's no doubt." (30:18:201)

The innovative culture of the organisation was driven by the CEO as indicated by the COO:

"Well I suppose from [the CEO], originally his passion for the business and then driven to the EXCO and our passion driven down..." (30:25:273)

The trading manager mentioned a situation where the EXCO team in conjunction with the non-executive director had made a decision to close down a unit. They did however change their minds and took a suggestion of how they could save the unit from one of the EXCO team members:

"... after a week or two a suggestion came forward, "listen if we change it and we do this and if we make a bit of a profit we can actually save it" and

then guys looked at it and said 'well we'll give a shot and see what happens'." (31:27:436)

This was however prior to the full formation of the EXCO team.

The rest of the team appears to draw from the energy of the CEO:

"And as I said before we draw from an energy, and the energy has always been the CEO. And now what happens is, the energy is supposed to be in terms of the EXCO." (32:1:104)

4.5.4. Team Processes

This team was very new team which had not even been completely formed prior to the first set of interviews. At the second set of interviews the team structure had been changed and two team members had been removed. This was thus a very immature team in terms of team processes during both set of interviews. Some evidence of the team processes that occurred were however found. The team members had all worked together previously.

The team changed quite substantially between the first and second interviews. In this space of approximately 8 months the team size was reduced from 5 members to 3. One person left the organisation as he felt he needed more experience and another was removed from the team but was still located within the business.

This was a very young team, and various team members indicated that development of the team still needed to take place. Complete trust and openness did not yet exist in the team. According to a team member people did hold back their opinions at some times, possibly because of the newness of the team:

"I think so, I've done it. Like I said, it's still early days, and you still got to find your feet. Although you know the guys, and some things we don't know whether it's the right platform, or the right forum to say it, I don't know if that's the right word. So, yes, I think definitely. We all hold back, I don't think anyone would say that they don't." (29:9:88)

This team member felt that with time the bonding and the trust would improve:

"I think the more time and the longer we are together and the more we go through this together, obviously the bond will get greater and the

understanding and the trust and everything will come together, I would imagine. Not that there isn't any of that now, but I believe obviously with time it will get better, and stronger." (29:16:60)

The trading executive indicated that the team was new and the purpose of the team had not been fully determined yet:

"It's a fairly new team, we've been put together about two months now, we haven't finalized or signed what we supposed to be doing." (31:9:44)

The team appeared to have developed over the period of time between the interviews. During the second interview with the CEO there was a meeting regarding the rewards programme taking place next door and a very animated discussion was proceeding, even without the presence of the CEO.

"Listen to the conversation next door; I'm not there. [Referring to a meeting taking place in a room next door with the rest of the EXCO and the consultants]." (28:27:231)

Prior to the formation of the EXCO team there was an element of groupthink that appears to have occurred between the two shareholders of the business, the COO and the CEO:

"And last year we had a bit of a bumpy ride, self-inflicted, we grew a bit too much, we realised that most of the decisions made by the two of us was actually detrimental to the business, because we were siding with each other or not maybe telling the other person that it was the wrong decision." (30:7:32)

When the team consisting of the five team members was originally formed the CEO had decided to remove himself from the business and appoint one of the team members as the CEO. This went badly as some of the other team members were unhappy with this. The structure was thus changed with the CEO retaining his role as CEO:

"...there was a few guys that said "No". Threw up a fuss, you know. Within the next few weeks we readjusted it again, to where it is now."

Because of the way the business and the team was structured there was no need for continuous interaction to take place between the team members. Each person continued with their normal area of responsibility independently:

> *"But the sales function, he's running on his own, is not asking anyone, he's not; he's going on his own. He is doing his thing and on the operations side I'm running the businesses and we not asking each other on a daily basis, must I do this, must I do that." (30:8:56)*

Each person also had the authority to implement innovation in their own areas without consulting with others:

> *" No one is waiting... everyone's got the autonomy to do their things, so if you want to innovate, you want to put in a new something to track speed in another branch in a different way then you've got the ability to do." (30:10:60)*

The Chief Operating Officer indicated that even though the team members did not discuss smaller issues within their area of responsibility, they did discuss the bigger decisions that the company took:

> *"But, the bigger decisions, we going to buy a truck, we going to take this cutting line and split into two, we going to extend the premises and make away but it's going that way, because things don't just happen. Because we could say, "I wouldn't do it that way because I've seen something like this done in another company and maybe you should do it that way". And we feed each other off like that." (30:9:56)*

There thus appeared to be fairly extensive discussion that took place around new ideas in the organisation. The CEO indicated that there was discussion around any new ideas, and that he felt that he needed to ensure that there was buy in and that the buy in only occurred if his ideas made sense:

> *"I think that when it comes to the innovative process, part of what I need to be doing and I think I am doing it successfully is bringing people into the discussion making sure that people are contributing that they buy-in and the buy-in can only come from what makes sense, and that has been [thoroughly] tested, because I don't seem to be allowed, and that's the culture of the company to be doing anything that doesn't make sense." (28:17:175)*

The team members appeared to regularly consult with each other in order to find the best solution to any problem:

> *"...instead of bumping your head, you already know where you stand, or whatever the case is. So you get advice, you take the advice, which is really something." (29:13:148)*

However, at least one of the team members did indicate that since the team was new some team members held back their opinions. He indicated that this was because people were unsure if this was the right forum for them to bring up these comments. When asked if he ever held back his opinion he said:

> *"I think so, I've done it. Like I said, it's still early days, and you still got to find your feet. Although you know the guys, and some things we don't know whether it's the right platform, or the right forum to say it, I don't know if that's the right word. So, yes, I think definitely. We all hold back, I don't think anyone would say that they don't." (29:9:88)*

He did however feel that this situation would change in the future because people had strong opinions. As indicated by the team member he expected some clashes to occur in the future:

> *"Not yet. No. Yes, they will come. I think, we are passionate about our goals and I think that if you take all the guys that I in the team, they are. Everybody wants to win. And with that everyone's got the own ideas and sometimes. Each of the guys have got the own opinion, which is a strong opinion. And I think that in time to come there will be one or two clashes. But like anything else, it is healthy for the team as well as the company." (29:10:96)*

There were different views from other team members who believed that everyone spoke their minds:

> *"I think from EXCO point of view everybody spoke their minds." (31:22:181)*

The newest team member however believed that due to their long tenure many of the team members were not prepared to argue with the CEO. He felt that since he had only been in the company for a short period he was prepared to tell the CEO when he felt the CEO was wrong:

“And the problem that I found with this team as well is that, all these guys have been here too long with him, and they scared to go up against him. I can, I'm only here two years, I don't know what the background and the culture of the company is. I can tell him, ‘no, you wrong, you don't know what you're talking about’.” (31:31:289)

He felt that the people who had started out a long time ago in the organisation wanted to maintain the status quo and not offend others.

“You know, 11 years, 8 years, 10 years is loyalty. That's what I feel, it's loyalty, which is very good as well. And loyalty kind off, kind off breeds a sense of, ‘yes sir. I don't want to offend you; I don't want to go against the grain.’” (31:4:293)

He thus indicated that new people were important because they see things as they are and are prepared to express this:

He sees things as it is. White is white and black is black, and this is it. And you bold enough to say it.” (31:15:106).

Subgroup discussions appeared to take place regularly:

“... basically I speak daily with [the CEO]and then it's just him and I. I speak daily with [the COO], a lot with [the Trading Manager], [the Customer Collaboration Executive] is more out so I don't speak too much, we do, but definitely. Not as a group, we are speaking to each other all the time.” (29:14:160)

In the discussions that took place the Customer Collaboration Executive was not sure whether he influenced anyone else or that anyone influenced him, even though there were conversations between the team members:

“We have conversations; we haven't, I haven't influenced anybody's job and nobody's influenced mine.” (32:10:56)

4.5.5. Innovative Behaviour

During the course of the interviews a loyalty programme for the company’s customers was created. This was unique in the industry. The process by which the loyalty programme was created started with the company finding out more information about

the customers. Consultants assisted to ensure that the company was not limited in the questions that they asked the customers:

> *"we said we want to add value to our customers, we went out, there doing research and we spent, we visited like 50 customers we took consultants with who weren't asking the same questions or having the same paradigm as us." (28:14:163)*

By interviewing many clients the company was able to determine common areas of concern from the customers:

> *"We went in there asking what are his unmet needs, what keeps him up at night and we discovered that through a process that there were certain themes that were coming out." (28:24:217)*

The idea apparently changed substantially from when it was first conceived during the meetings that were held to discuss the ideas. Numerous different consultants were involved at different times with different aspects of the service:

> *"Yes we've changed a lot. The whole thing basically, no not the whole thing but even today we did a lot of changes you know and that came from everyone in the room and everyone that was involved in the process." (30:19:205)*

The innovation process that followed the initial generation of the idea consisted of a refinement of the idea even though the original was fixed in the mind of the CEO:

> *"... at first, yes, maybe fixed but as you put it down into a workable template then a lot of those ideas don't make sense and simplifying a lot of stuff and not maybe changing it, but changing categories and headings and all of those kinds of things you know allocating points to it that's quite involved." (30:20:209)*

Prior to the formation of the team one of the important innovations had been the speed at which customers' requests were dealt with and the fast delivery time. This was however an idea from before the creation of the team

The CEO felt that there were ideas being generated by the entire team, but that the execution of those ideas had traditionally only been driven only by himself:

"So what I found with the whole team is that the ideas are great but the execution has been led by me completely." (28:8:139)

The team members however saw this differently and attributed much of the ideas to the CEO where different ideas were generated by a team member and checked for viability by another team member:

"Well, [the CEO] found it, [The COO] did the numbers and saw whether it made sense." (29:17:120)

The Sales Executive felt that it was too soon for the team to be innovative. He felt that some of the changes made were made for the sake of change:

"No, it's way too short a time. Nobody has, you see, the one thing I would say is, where's, people tried to change some things just for the sake of changing them. That's where we went wrong. So they weren't trying to be innovative, let's just change things for the sake of changing." (32:13:60)

The team members needed to be individually innovative in order to try and achieve their goals in their own areas:

"I've got to be innovative, as you say, creative, try and get something going to make international trade come off the ground." (31:2:68)

He also felt that since it was his area of responsibility he needed to come up with the ideas in that area:

"Yes, yes we discussed on it, but of course it came as ideas, now I'm head of sales and those are the propositions I've got to come up with." (31:19:153)

The innovations that occurred within the different units of the business appeared to have been problem based. In one case the company was seeking ways to reduce the stock at a time when the market was difficult:

"The main idea was, of course, the stock is at high levels; sell that bring in cash buy at the new levels and make some monies because you can." (31:18:145)

This was a very new team. The team changed in size between the first and second set of interviews. The innovative behaviour in this team was driven by the CEO. The CEO generated the innovative ideas and the rest of the team member assisted in refining the idea.

4.5.6. Summary

This team was the top management team in the organisation. The team was newly formed and was not fully developed at the time of the interviews. At the time of the interviews the company was in the process of implementing an innovative new product. The company was however hampered in terms of innovation due to the harsh trading conditions. Individual rather than team innovation was required from the company to ensure the survival of the company. The team changed substantially during the course of the interviews and reduced in size from five members to three.

4.6. Product Development Team

4.6.1. Background

The team was the top management team from a company listed in the Financials Sector of the Johannesburg Stock Exchange. The company had been in existence for more than 15 years and had a reputation of creating innovative products. There were a number of subsidiaries and the information gathering took place in a team that was responsible for creating a new and novel product for one of the subsidiaries in 2008. The product was successfully launched in 2009.

The majority of the information collected related to a new product that was introduced; however examples of other innovations were introduced by the team members for illustrative purposes.

The basic concept was created in the very short space of time of approximately half an hour. Whilst waiting for a meeting with the group CEO the other team members started discussing ideas for that year's annual launch. The initial idea suggested, was a loyalty concept that did not really match the company's business proposition to its customers. This rapidly evolved during the ½ hour session into a viable idea that more closely matched the business purpose of the organisation. The subsequent meeting with the Group CEO further clarified the idea, and increased the scope of the product so that it had a much bolder product and a more compelling value proposition. After this initial meeting many aspects of the idea were refined, with detailed analysis being conducted in a number of different areas. This was followed by the promotion of the idea to implementation partners and the announcement of the product to the public.

4.6.2. Team Characteristics

Team Composition and Diversity

The team was a top management team and consisted of people from more than one Group Company and also included the Group CEO. This team was involved in new product development on an annual basis and were responsible for the creation of the original "headline" idea. Subsequently numerous other people from the group company including members of the company's EXCO team were involved in refining the idea in order to make implementation possible and the actual implementation of the idea.

The members of the team consisted of the team members as indicated in Table 7:

Table 7: Product Development Team Members

Person	Race	Gender	Age	Tenure	Education	Functional Background
Group CEO*	White	Male	44	>10 Years	Financial	Financial
Company CEO	White	Male	39	>10 Years	Financial	Financial
Sister Company CEO*	White	Male	44	>10 Years	Financial	Financial
Chief Operating Officer	White	Male	41	6 Years	Financial	Financial, Own business
Marketing Director	White	Male	34	>10 Years	Financial	Financial
Technical Specialist	White	Male	38	>10 Years	Technical	Technical
Project Manager	White	Female	36	1 year	B.Com / MBA	Projects

* It was not possible to arrange an interview with the Group CEO or sister company CEO. The innovation was however not created at a group level but at the subsidiary company level and the majority of the work done was at that level.

The top management team that came up with the idea was a very homogenous team, being predominantly white males, of a similar age, who had a similar ethnic background. They also have very similar educational backgrounds and many had worked in the organisation for over 10 years. Many of the team members were involved in the founding of the company.

The extended team that was involved in the refinement of the idea was slightly more diverse, with people from different functional backgrounds, who had not been in the organisation for as a long period of time and included one female. The team was, however, still entirely white. There were people with strong financial skills, specialist technical skills, systems and operations implementation skills. At least one of the people has previously owned and run a retail operation. People with other required skills were called into the team as required. At least one of the team members felt that there was a diverse range of skills which was useful to the organisation.

> *"So there's really like a good mix of skills. So, I think that's what gives rise to the, I think that gives rise to the innovation." (34:29:44).*

One of the team members did highlight the advantage of the long tenure of the top management team, pointing out that this perhaps led to a certain rapport and trust, which reduced the time and effort spent with political activities.

"So I'm sure that that has some benefit [of the similarity in terms of ethnic background] in terms of when you come into the workplace, you already got that rapport and the trust associated with that." (36:29:212)

This was thus an example of a homogenous team. However the CEO did indicate that even though the team members were similar on the surface there were subtle differences in orientations of the team members:

"But I think that we each bring different styles, one person may be more pushing on the boundaries, not really boundaries, and one person may be more blue sky. The Group CEO is much more blue sky; I probably am much more pragmatic. You get that combination coming through. The same thing could be said of the others. It's those combinations that don't appear to be as overt, that are maybe more subtle." (25:84:212)

The team was not static with a fixed set of people. Different parts of the teams were involved with different parts of the product at different times and to different degrees:

"Look, they're not the only players in this, there are other players in this as well. But this is the core team. But the team also, it expands and contracts as you go on." (25:71:206)

This is interesting as the innovative new product consisted of many different facets, and different sets of people would have been able to contribute to different parts to different extents. There were areas of debate and discussion where certain members did not really contribute. There were then other areas where extensive analysis and consideration of different options were done by a subgroup and subordinates and then presented back to the Product Development team, or the EXCO team which was different from the team that initially setup the idea. Different people also had different ideas of who the team consisted of.

The team had both strong domain relevant skills and strong creativity relevant skills. Different team members had technical skills from different domains. As the CEO indicated:

"I'd say that you have got good creativity sitting in a guy like [the Marketing Director] and [sister company CEO]. So that would to be a kind of creative skill. [The Technical Specialist], the strength was the kind of [specialist] knowledge and he is also an innovative thinker. And [the Project Manager] is very much, very strong on process, being able to see through how something would work operationally." (25:24:98)

The COO supported this view and stated that the team comprised a number of highly qualified professionals who were apparently “really smart” and he also stressed that the importance of the mix of skills:

> *“It may just be something random. Usually not random, because these guys are really smart guys. I think there's an incredible, if you look at the people around the table, there's an incredible amount of intellectual ability.” (34:2:14)*

> *“... each person has got a different way of looking at the world, and you may see things from different angles.” (34:12:22)*

They also appeared to have a very good grasp of their business, and the areas of expertise required to run that business. The Marketing Director indicated that this was a very technical team and that everyone has *“got strong, strong, strong technical skills” (35:47:136).* Many of the team members had long company tenure and thus had a deep understanding of the business, the industry and the customers. The team members also understood each other’s strengths:

> *“Yes, yes, this is a close-knit team. And I think we all know each other's strengths.” (25:23:90)*

Different people were pushing different requirements and aspects of the idea:

> *“[The group CEO] was pushing the ... rigour and credibility of it. I was pushing the sort of, quantum of the benefit. And the breadth, then this could not be a benefit that was only applicable to ... just people that qualified.” (35:12:44)*

This was not a team that relied on external consultants to provide advice to the team. To a certain extent this was a problem as the team did not consider their partner in the initiative to be part of the team, nor did the team include anyone who had expertise with the partner’s line of business.

Team Member Motivation

There was strong motivation in the team to succeed and to be seen to be innovative. This also seemed to be a part of the work of the team members that they really enjoyed. The marketing director felt that the team was driven by the pride to succeed:

"I think expectations are important. But I think we're driven by the pride, I think the people in the team have that sort of motivation, that we can't fail" (35:37:168)

As affirmed by the Technical Specialist, the members of the top management team "live for the next big product" and the excitement of this process:

"This is what these guys live for; the next big product, obviously there is the day-to-day running of the business, the financial side, but this is what gets people excited, within the company." (33:34:34).

And they also lived for the company:

"And, these are people that live [the Company]. It's part of their lives and it's not, this isn't a job." (33:76:76).

The COO explained that people enjoyed the process and wanted to "be better and do better":

"Yes, people do enjoy themselves. Look, it's not a bed of roses. The work is tough, make no mistake, you've got to be bloody focused and you've got to work hellava hard. And you've got to be on your toes every day, but there is a real hunger and a drive. You know, it's unbelievable that you would think sometimes that you would get to a certain success level, and you may be, I'm a bit tired, I'm working, let me sell a bit, let me relax a bit. But there is not, the foot's on the gas all the time. There's just a drive and a desire to just be better and do better" (34:35:72)

Other team members explained:

"In this process, if you speak to anyone, I can't imagine anyone is saying 'I couldn't go through that again' in fact, I think most people would relish the opportunity and look forward to the next cycle. Because you know you are creating something out of nothing." (33:164:174)

One of the other characteristics of this team was that there is no concept of job descriptions at the upper levels. This team was the team that effectively decided on the direction of the organisation:

"There is a core of people had almost run the organisation, so the Group CEO is very close to the various CEOs of the businesses, and other

experts within the business, and again there is no concept of; here's your job description" (33:105:124)

Long Team Tenure

The majority of the team had been working for a decade or more. Only the implementation person for the project, who was not involved in the initial idea generation but only after most of the idea had been formulated, had been with the organisation for a shorter period. The Marketing Director indicated that the team members who formed part of the core team had *"grown up together" (35:14:60).*

Part of the impact of this long time working together was that the team members knew each other's strengths:

"...this is a close-knit team. And I think we all know each other's strengths." (25:23:90)

The team members had also been in different parts of the company in different positions over a period of time.

4.6.3. Environment Influences

Expectation of Innovation

There was an expectation from outside the company that an innovative product or service would be released annually. This deadline had been set by the company with a major announcement planned every year. The expectations from the business partners were high that something innovative would be introduced each year. This was expressed by the Project Manager:

"Well, I think, because there is a launch every year, there is a requirement to have a good idea at least once a year, for the launch. So there is an expectation. You have to go to launch with something. You if you don't, that's obviously problematic, and you have got this whole ... community that you have to try and get on your side, so the bigger, the better the idea, the easier you will be able to do that." (36:19:114)

This was a self-imposed deadline. Over the years the company had released innovative products each year, such that this was now the expected norm.

International Operations

There was some pressure from the international operations to provide products that more correctly matched the company value proposition than what was currently the case, and reduce the focus on the generic loyalty aspect *(33:141:12)*.

4.6.4. Company Characteristics

Company Value Proposition

One of the concepts that seemed to be really important for the conception of the innovative product, was the clear understanding that the company and the team appeared to have regarding the value proposition to its customers. The core purpose of the organisation was *"very much lived throughout everything that we do" (34:23:34)*. This, together with good technical understanding of the industry, customers and data available regarding customer behaviour, meant that an innovation of this kind was possible.

The initial insight was thus created on the basis of a clear understanding of the purpose of the organisation in terms of value to customer, and the understanding that the company wanted a product that would get to the imagination of the customer. As the COO indicated:

> *"Everything that we've done has enabled incredible value to be created for the customer and for the partner. It's always the concept of one plus one equals three." (34:19:26)*

An example of the importance of the customer was one of the debates that "raged" was eventually decided on the basis that the intention was to provide value to all of the customers, not just a subset of the customers *(25:78:130)*.

There appeared to an absolute clarity of what the relation of the organisation to its customers was. The company also appeared to consider the customer most important, to the extent of which, one of the important metrics within the company, was the perception of the customers:

> *"Yes, the [customer] experience, it absolutely overrides everything at [the Company]. We measure our success by what people think of us. And it's bloody difficult that, because it's hard to keep people happy but the service*

levels are absolutely critical ... that you are giving members good service." (34:54:174)

Within this company the member experience was literally a key measure:

> *"Those are key measures in every single business here. What do people think of you, outbound surveys are done, what's the perception of you, and that you maintain the service levels." (34:76:174)*

The data about the customer behaviour that the company had collected, was used to determine the impact of different options regarding the product and to predict what the impact on customer behaviour would be. The company also had such a clear understanding of their risk and pricing that they could offer the customer and partners "rich deals" *(34:71:230)*.

Company Culture

The culture of the company constituted many aspects including the desire to be seen as innovative in the industry, a focus on the success of the team rather than the individual, the willingness of senior management to contribute to areas that did not fall within their area of control and the willingness to give honest feedback.

The company had a deliberate desire to be seen as innovative as expressed by the CEO:

> *"Innovation is core to the culture of the group. We've grabbed, I think, the thought leadership space within our industry. And to us we want to be the benchmark. It's fine if everyone copies us, so long as we are setting the pace. And I think we have done that quite successfully" (25:7:18)*

This was supported by the COO:

> *"The [company] culture is innovation, its entrepreneurship ... its intellectual leadership" (34:66:182)*

There was a desire within the company to create radical innovations, not just small changes or improvements:

> *"And do something at that sort of scale, as opposed to just marginal innovation, to actually do something big. It is also part of the culture of the company, making big innovations. As opposed to, a little bit here and little*

bit there. I mean, there're some areas that you tweak, but always try and come up with the one big thing." (33:8:18)

The team strives for a visible radical innovation at least once per year at the annual product launch, and there was a commitment to this:

"A real commitment to doing new innovative things I think, are some of the key things that for me, stand out as part of this process." (33:68:62)

This idea was not just important for the customers, but also for the company to give the right impression of itself from a marketing point of view as indicated by the CEO:

"But no one was in any doubt here that it was going to be a big, big marketing coup for us if we did this."(25:65:24)

In creating this innovation there was a desire to capture the imagination of the customers *(25:64:22)*. The culture of innovation was largely driven by the Group CEO:

"The Group CEO himself is a big innovator. He is not your kind of professional manager that comes in and says "this is finance; this is products and so on". He is, his very nature is entrepreneurial and innovative. So he is driving that. I would say he has been a big part of driving that innovative culture." (25:9:18)

This was supported by another of the team members:

"He has a key role to play in creating this innovative culture" (33:128:176)

Whilst the company wanted to create something radical there was also the desire to provide a credible product. Much of the research and analysis conducted in refining the initial idea was based on ensuring that credibility. The technical specialist stated:

"There was no money needed to be spared in making sure we had a credible programme. The worst thing for us is to go and put something out and people say "well what about this, why not that, you guys, this is a moneymaking thing"." (33:147:40)

This drove another characteristic that made the company innovative; the company attracted people who are naturally innovative as expressed by the CEO

"... because of that I think we have attracted people who are naturally innovative." (25:61:18)

The company had a culture of not being driven by the existing environment and capabilities or products, but rather by what was required for the customers. They thus said:

"We shouldn't be driven by what expertise we currently have. It should be driven by what we want to think up. And I think that's what helped this business grow." (33:90:94)

He further explained:

"But if you looked to see what we have first, and you work backwards it doesn't work. So we hardly ever have discussions around, when we developing products, what is practical. I'm not saying we don't, but it's not what dominates the discussion" (33:91:98)

"But, I believe that if you bring in the operational side too early, you stifle innovation. Because, it sounds like a prejudiced generalisation, but the mindset is very different" (33:89:94)

The team generally considered and created what they believed would add value to the clients, in accordance with the company value proposition. Implementation problems or difficulties were not taken into consideration from the point of view of complete rejection of the idea. If the idea and product made sense they will ensure that whatever was required was put into place to make it possible.

The top management team did not believe that anything was impossible:

"Because, even though the idea might seem bigger than, or unlikely, is that as an organisation they don't feel that it is. They don't feel that anything is not possible." (36:6:46)

When problems were identified in refining the product the onus was on the people involved to find solutions to these ideas. Robust thinking was expected in relation to this as indicated by the project manager:

"So, the thinking is still robust. It's not that it's this and this is what it is. It's just that when certain barriers come to the fore ... the requirement is to

think about how to get around those barriers, rather than seeing that barrier as an end to the idea." (36:8:62)

The people in the team appeared to see the success of the product as a benefit to the company and did not strive for individual achievement:

"Everyone is focused on getting this out, and the individual personalities drop away" (33:48:50)

And:

"I think it's just an amazing thing also that, and I'm not sure how it developed, but that is the culture in this company. This isn't about me getting my name up in lights ... This is about [the company] doing great stuff, and that every person realises these are strengths that they have. "(33:49:50)

And:

"And so when it comes that there is the press release, and I'm quoted or the CEO was quoted, whatever, no one gets offended. It was this, the kind of a team thing. And everyone recognizes that is. I think an important part of the culture in helping that innovation in getting it to market." (33:52:50)

One of the aspects of the culture mentioned was that people from different areas of the group got involved even though it may not have been their area. They were "pulled in" even though it was not their function. This occurred as a result of the team members having worked closely together for a long period of time:

"These people that have worked closely together and they'll continue, you will have five or six people sitting in a room, whatever the issue may be and people will be pulled in... There is no concept of, "Here's your job description". You know, it is more you come in and here's your expertise, and if the expertise is needed anywhere, they'll call you in" (33:102:120)

It appeared that the tendency for people to be asked and to have given their views could be linked to the level in the organisation. At lower levels people could be focussed more on their area of the business only. In response to whether people held back their views the Technical Specialist indicated:

"I think it's to do with, primarily, the level. If you look at a tier below, sort of deputy general manager, I think it is a little bit different, and people tend to be more focused on their business, at a Holdings EXCO level, and even at the various EXCOs of the businesses, people will give their views." (33:107:132)

The team appeared to rely on norms rather than rules to determine the way in which the team and the organisation should work:

"I would say that the value is summarised in the culture. Because when you've got good values you don't need rules. Because people live by the values. So if you take the values as sacrosanct, then you don't, when I say you don't need rules you kind of got a road map as to what to do." (34:65:182)

The culture of the company comprised many aspects that could have given rise to the innovation that occurred in the company. There was a deliberate desire to be innovative and to be seen to be innovative. This innovation was required to be radical and visible. The innovation was however expected to stand up to scrutiny and be credible. There was a strong focus on the value added to the customer. There was finally an orientation, within the team, of working and contributing for the good of the organisation rather than trying to obtain individual recognition. These characteristics created an environment where innovation would be possible and this innovation would be valuable to the client. People within the team were willing to assist and work with each other for the benefit of the team and thus, due to the level of the team, directly impact on the company.

Leadership

There were two levels of leadership in the team. This consisted of the Group CEO who was involved in the initial product concept, and the Company CEO, who was responsible for taking the product to market.

Leadership appeared to play a major role in the operation of this team. This was from multiple perspectives:

- The Group CEO, who was also one of the founders of the group, created an innovative culture in the company and hired people who would be able to drive innovation throughout the business.
- The leaders were both apparently highly intelligent and innovative and contributed directly to the product development process.

- The Group CEO set high standards for the team and for the product, insisting that the original idea conceived was not big enough and would need to be much bolder. He also highlighted the importance of the credibility of the product to the rest of the team, which also fundamentally changed the magnitude of the product.
- The leadership despite having strong views in many areas was prepared to listen to the team and accept their better judgement in aspects of the final product.
- At times when the debate had "raged" for too long the leadership was prepared to make a decision so that the team could proceed.

In these ways the leadership of the team set up an environment where radical innovation could occur.

The Group CEO was identified by some of the team members as the main driver of the innovative behaviour in the team. This person had a clear vision of the business and what needed to be achieved from the point of view of what the value to the customer should be. He also insisted that the products created should be bold and was thus instrumental in changing the original innovation from a relatively niche product into something that was likely to be a major benefit for the customers.

The leadership not only set up the environment in which the innovation could occur, from the point of view of the company culture and expectations of value to be delivered to the customers, but also created the vision for the organisation and employed the people in the most senior teams, then set up an environment in which innovation could occur in this team.

The Group CEO was seen as highly intelligent and innovative as articulated by one of the team members:

> *"Whenever you're in a meeting with the Group CEO, it's just fascinating. Fascinating to see how he thinks, and how he questions things, and the angles that he'll come from." (33:120:150)*

When one of the team members was asked how much of the company's innovative culture was as a result of the leader he said:

"… if I had to give a score, at least 50% of comes from him, his sort of thinking, his style of thinking, and I guess other people have developed that." (33:134:154)

The CEO was similarly regarded as being an exceptional thinker:

"The CEO firstly, he is one of the smartest people that you will ever meet. Just an unbelievable, an unbelievable way of looking at the world and understanding right and wrong and what should be done and what shouldn't be done. He's got an amazing vision and clarity." (34:14:22).

After the conception of the initial idea, the Group CEO played a role that was almost equivalent to being an outsider to the team, who provided external input at different points in time. At times the Group CEO almost played the role of devil's advocate as described by the Technical Specialist:

"The Group CEO was very involved in this process, and the amazing thing with the Group CEO is that he'll come in and completely turn things around." (33:21:28)

The Group CEO set the standards for what needed to be achieved where he required something that was "bold" as was stated by the Marketing Director:

"And the group CEO as I said, the first-time we pitched it to him said, "Listen, it's got to be much bolder than just ... " (35:30:118)

This fundamentally changed the scale of the idea. After this a substantial amount of the refinement of the idea took place without the Group CEO. Later fundamental decisions, were however, debated with the Group CEO.

Both the CEO and Group CEO were concerned about driving innovation in the business. They saw the value of innovation and ensured that this occurred in the team. According to the Marketing Director the impact of the Group CEO was:

"He is, what he did, which changed the product fundamentally is that he said "it's just not good enough". He wants every single... item... to be rated scientifically." (35:46:30)

The leader took on the role of stretching the team's targets but this was however balanced by the rest of the team and the ability of the leader to accept the views of

others in the team and acknowledge when they may have been right. This was not a "*dictatorial innovator" (33:133:154),* even though he did tend to pull the team to greater things and better ideas than they had initially conceived.

The leader challenged the team and did not accept assumptions and would not allow rejection of his ideas until they had been tested and then included, partially included or rejected. He was not prepared to accept that it was not possible until it had been considered. As one team member put it:

> *"..He challenges to the point that we've explored in every single way, but at the same time didn't push it to the point where it was dictatorial." (35:16:60)*

One the team members did however state that the strong leadership in terms of idea generation may create problems in the future:

> *"So I think that in ways, the fresh talent that probably in most other organisations grow, probably in some cases leaves, or doesn't get fully realised; because of the strength of the senior leadership. So that might have potential problems in the future once they get to a particular ... age" (36:38:244)*

One aspect of the final product was not accepted by the leader, even after the product was launched and proved to be successful. The leader was against this aspect, unlike every other member of the team, so there was never unanimity. All the other team members disagreed with the leader and the leader eventually accepted the opinions and decisions of the other team members. One of the team members indicated:

> *"And, to this day he is still upset that we didn't go that route." (35:13:52)*

There were times when the team needed to make a decision, usually after long debate. At those times the CEO was prepared to step forward and make those decisions:

> *"And we call him the judge. Often he'll sit quietly and, but he'll make those key decisions, when people debate them and when it needs to be debated he'll give his strong views around these things." (33:54:50)*

At times he was prepared to sit back and listen, at other times he expressed his views, but when it was necessary, he made the decisions. There were times when the

decisions about the form of the innovation were not clear, and there was not a clear route forward. At these times the leader would step forward to make the decisions.

4.6.5. Team Processes and States

This team had weekly strategy sessions which involved the Group CEO, CEO's of the different businesses and the Marketing Director. Once the product development process started there were initial brainstorming meetings to decide on the overall product; many information sessions between subgroups of the team, extensive research and analysis involving individuals outside the team; sessions with the EXCO and sessions with the Group CEO as the product developed.

Flexibility of People's Opinions

An interesting aspect of this team was the ability of people to change their opinions. It did not appear to be an ego driven team at an individual level. It appeared to be more important to the team members for the team to succeed, rather than to get individual recognition. As indicated by the CEO, who was described as being particularly flexible by other team members:

> *"People may come in with preconceived ideas and so on, and certain expectations, but if rational debate persuades them otherwise, the whole meeting will move on." (25:37:122)*

> *"The rest of us would argue the details ad infinitum. And we all have strong views over it. And we will kind of, kill each other in the meetings and so on, but ultimately somehow the right view prevails. It is not an ego driven team either" (25:36:122)*

The CEO himself changed his opinion frequently with regards to at least one area of the product.

> *"I was a bit schizophrenic about it. There were times when I thought that it's a no-brainer that it should be for everyone and at other times I thought it was a no-brainer that it should be ... And I was frequently flipping between the two." (25:40:142)*

In relation to this, another of the team members, when asked if the CEO would admit when he was wrong, said the following:

> *"Yes absolutely, very easily. The thing about him is that he's got no, almost like he's got no ego. He has an amazing demeanour. If wrong he says is, 'I'm wrong, let's do it this way'. And he laughs at himself and you moves on. He has such a nice way about himself." (34:70:226)*

Part of the reason for this level of flexibility existing in the organisation was the culture of non-individualism that appears to exist in this team. Once everyone was focussed on the idea, the individual personalities fell away. The success of the product was not taken as belonging to a single person, but to the whole team.

> *"I think it's just an amazing thing, and I'm not sure how it developed, but that is the culture in this company. This isn't about me getting my name up in lights, or one of the [others]. This is about the company doing great stuff, and that every person realises these are strengths that they have" (33:49:50)*

Part of this could be attributable to the senior management being able to prepare to admit to being wrong and even apologising in person. People moved on very quickly from these problems. One of the aspects of the idea was never supported by the group CEO, but this idea was not forced through by the him.

However the project manager did indicate that even though the team members listened to her, they had already made up their minds:

> *"They listened to me, but they have made up their mind." (36:25:128)*

Honesty, Openness and Trust

Honesty and openness was encouraged in the team. As the CEO apparently said to one of the team members a few years ago it is better to say something that could be "stupid rather than not say it for fear that it would be considered stupid":

> *"Rather say something, people will laugh at you, they'll mock you, whatever, but it's not personal. It's not that I'd better keep quiet because I've said something stupid. And I think it makes a big difference, but people know that they can always come up with stupid things and that haven't worked and whatever, and that's fine." (33:111:138)*

People were not fearful to express their views quite vehemently *"people give their views, express them vehemently" (33:131:136).* People's opinions seemed to be valued in the team, and people wanted criticism and feedback of their ideas

(33:113:142). In the opinion of the team members this makes the business better. Part of this could be related to the relative security that people had:

> *"If you make a mistake, people aren't going to jump down, you not going to lose your job." (33:117:146)*

According to the COO you needed to be part of this team to get a sense of the lively debate and trust that existed in the team:

> *"So there's this backwards and forwards, you need to be part of this, what I'm explaining to you, to actually get a sense of the lively open debate, and the absolute trust in people have in each other. So you can have this free-flowing ... the intellectual dialogue is incredibly interesting and incredibly fascinating." (34:25:38)*

There was intellectual respect for each other in the team; however this did not mean that people held back their comments:

> *"As I say there's a huge amount of familiarity. So there's no, there's respect, intellectual respect; but we don't hold back in terms of the level of debate. And it's robust and for somebody at a lower level, or maybe not as familiar quite daunting to kind of jump in and to criticise one of the heads of the businesses." (35:22:86)*

At the same time the Technical Specialist indicated that groupthink did not occur despite the long time that people have worked together because there was simultaneously respect and disrespect. People were not so respectful that they were not prepared to question others. People argued for their views:

> *"People feel, do you start to get groupthink, but, there's a huge amount of respect and disrespect at the same time that takes place within the team. So you've got people listening but coming with their own views and arguing them very strongly, and very different views of how things should be done, where they should be done." (33:20:28)*

Part of this openness appeared to be driven by the familiarity that the people in the top management team had with each other, having worked together for more than 10 years in most cases. This was perhaps only applicable at a high level. As indicated by the Marketing Director staff at a lower level may have found it "daunting" to criticise one of the heads of the businesses.

Friendship

The CEO considered the team members to be friends and this was as a result of having worked together for so long. When asked about social interaction between team members, the CEO responded:

> *"We are all friends here, just by having worked together so much. I think the relationship is a big friendship relationship within this. These are not kind of, strangers you're working with here." (25:53:198)*

However he clearly indicated that this friendship did not extend to personal friendships and social interaction outside the work place.

> *"Not really, but there's a lot of social interaction that takes place here. Just, so, but it's a team that there is a lot of friendship in the team. Do we have get-togethers for braais (barbecues) in the evening -- no. But I don't think you need to get to that level of friendship." (25:54:202)*

Discussion and debate

One of the interesting areas in this team was the amount of discussion and debate that took place, and the intensity of the discussion and debate. Many aspects of the final product were discussed at length, with areas where people had strong and differing views on what should be included in the product. This was expressed by the CEO *"It is an argumentative team, a* very argumentative team" *(25:34:122)* and was also *"And it is a team that gets into the details" (25:35:122).* The team also comprised of people who were good at debating. *(25:38:122).*

Many aspects of the idea were extensively debated by the team prior to the complete idea being announced and implemented. Different aspects of the eventual product were analysed in detail and options presented by either subgroups or individuals in the team for debate. Extensive work was done outside of the team environment for this purpose prior to the information being presented to the team.

The discussion and debate was not of the kind where the team leader listened to the team members and then decides, based on what he or she felt initially. The team members here believed that their views were taken into consideration in the making of the decision and evidence of this existed in the interviews.

The team members saw the debate that took place as being very useful. The COO indicated that the ideas tended to flow out from these debates:

> *"You have these intellectual debates. These ideas flow from a business sense out of this intellectual sparring, this intellectual chemistry." (34:9:20)*

The COO also saw this as important for the development of the new offering because this developed and changed due to the discussion that occurred and the exchange of ideas.

> *"There is a backwards and forwards and an exchange of ideas, and a development of ideas, one person may say something, and another person says 'yes I like that but what about this'." (34:11:20)*

The COO explained that some companies and people tended to make some good decisions and some bad decisions and that they thus tended towards the average over a period of time, whereas others tended to follow good decisions with good decisions repeatedly and thus move to a *"far better place" (34:79:238)*. When asked why this team tended towards making the good decisions he indicated that this was due to the vigorous debate that took place.

> *"Because we debate things so vigorously and you challenge. So even if the [Group CEO] comes in with something unbelievable, we say to him 'Hey, you talking rubbish here, where do you come with that.'" (34:72:242)*

The team members were not prepared to sit back and accept, and they would put forward their ideas and concerns, even if they were eventually proven to be wrong. The Technical Specialist said that people were prepared to *"fight their cause" (33:63:58).*

The debate and discussion that occurred typically focussed on the offering to the customer and the key decisions to be taken. According to the Technical Specialist, this assisted the product take-up in the market:

> *"So these are the kind of decisions that, I think were key decisions. And these were the big things that we debated, but have actually made quite a big difference in ... the take-up. And the response from the market that have come through." (33:74:68)*

When asked whether the debate was not just a case of analysis paralysis the Marketing Director disagreed:

> *"But you see, the analysis paralysis I think is stuff that doesn't impact the client. All of these things impact the client. They hold the product looks and feels, and works. So it is not, in that sense we are not analysing things that the client will never experience." (35:42:208).*

This debate happened because "straight talk" is one of the company's values *(34:74:250).* "Lively" debate was also encouraged and in some case insisted upon. The COO encouraged his team to debate the business principles since he did not want people who always agreed with him:

> *"It's encouraged. Intellectual debate is absolutely encouraged. I always tell, and I tell my team, I don't like people that agree with me. If you always agree with everything I say then one of us isn't needed. So the thing is I say, "as long as you talk about the business principle and you never get personal," that is a message that you need reminding people." (34:75:250)*

The team did not have fear of including people and being criticised. As indicated by the Technical Specialist, *"I think that's also part of the important dynamic, is that we're not scared to get people to come in and criticise" (33:45:46)*

The reasons why the debate appeared to be so robust and open was that there was apparently great intellectual capability within all the team members, there was a great deal of trust between the team members and team members had different backgrounds which allowed them to provide input from different perspectives. One of the team members indicated that there was an *"incredible" chemistry between the different team members (34:8:20).*

This was seen in the robust and intellectual debate that took place in the organisation. Some of those debates *"raged for quite a long time" (25:78:130)*. The COO indicated that there was a *"lively open debate that took place" (34:25:38)* which appeared to be facilitated by the *"amount of trust in people have in each other" (34:25:38).*

The discussion and debate that took place was not about the broad concept that was agreed to fairly quickly, but about the details and components of the product as indicated by the Technical Specialist:

"The concept when you look back is fairly simple, and a lot of the discussion, the debate that actually took place was in refining it." (33:146:24)

"But it's never 'Here we've got it'. There's always on-going questioning that takes place. So I think that comes from having a core team that's working on things, and then almost external people that aren't." (33:64:58)

The team was continually questioning and discussing the ideas that were developing. Part of this was driven by people who operated almost externally to the team and did not get involved in the detail. This was perhaps one of the advantages of subgroups in a team. The subgroups had discussions and perform detailed analysis; then another member of the team who had not been involved in the detail provided their feedback, suggestions and criticisms. This has previously in this team changed the direction of the thinking in the team:

"What dominates the discussion is what we want to do. What do we see as being amazing for our clients? I think that is an important process. That is step one." (33:92:98)

Subgroups and Informal Meetings

Aside from the formal team meetings there were very frequent subgroups and especially dyad discussions that took place in this team. These were apparently of great value as they allowed the discussion to advance and also ensured that people kept thinking about the new product. These subgroups were informal and frequently took place after other unrelated meetings. People discussed things at all times, not just during working hours. There was a risk identified with these subgroup meetings that it could be destructive if it resulted in other people feeling undermined. The way in which this was managed, was to constantly keep people informed of the new discussions.

A large amount of discussion occurred outside of the full team. When asked how much of in-group and out-group discussion took place, the team members said:

"Once again, we speak to each other the whole day, every day, this group. So, on the back of that, we are discussing these things all of the time. Very, very frequently." (35:34:152)

This was supported by the other team members who stated that these meetings were not restricted to normal working hours:

> *"And these discussions are not restricted to formal meetings here. A lot of this is [the Marketing Director] and I on the phone at 10 o'clock at night discussing an aspect of it." (25:47:170)*

The CEO also indicated that these two person discussions happened "*much more than you think" (25:48:178)*

Another team member also indicated that many of the discussions were informal:

> *"Firstly, a lot of this is informal. The only formal thing is that there might be an update given at EXCO. And you might then have a whole debate opening. But, generally a lot of this is informal." (33:124:158)*

These discussions appeared to be a very important part of the refinement of the product and were critical to ensure that progress with the idea occurred. These were particularly important as this was only a small part of the role of the team members. The CEO indicated that these were critical to advance the discussion and keep people thinking about it:

> *"And, it's for two things, one, it's to try and advance the discussion and also to keep these guys thinking of it. But those two-person discussions are very; I think it's critical." (25:55:182)*

He also indicated the importance of these discussions, which given everyone's other operational work commitments, allowed for progress to be made and kept everyone thinking about the idea:

> *"But without the two person interactions going on you don't make progress ... we are all busy. We've all got other portfolios and so on. This is not our only jobs here. We've all got big portfolios that we looking after. You're going to get this brainstorm session together once a week maybe. But in between that there's a lot of work that needs to be done. There's decisions that need to be made." (25:50:182)*

He did however also indicate that the two person discussions could have been destructive and explained:

> *"Yes, yes. It's a very valuable and I think it's potentially destructive, because it can really undermine the spirit of the rest of them. Because if we having a really long discussion in taking it down somewhere, and they've*

[referring to the other team members] kind of being excluded from it you risk that you haven't got their input. So you got to keep everyone informed as you're going along here." (25:49:182)

The team rather than the individual took credit for these ideas. This was indicated by the Technical Specialist:

"This isn't about me getting my name up in lights, or one of the others. This is about [the company] doing great stuff." (33:49:50).

Some of the subgroups that worked on individual areas of the product were not actually part of the team. Some members were part of the team, but others are called in as required to assist with particular aspects that needed to be researched. Considerable analysis of different aspects of the project took place outside the team with perhaps one team member involved. These were then presented back to Company EXCO and the Product Development Team for the selection from a range of options.

4.6.6. Innovative Behaviour

In the creation of their innovative product, the team combined ideas from different domains. As indicated by the team members, none of the components of the innovation were actually unique. However the overall concept was novel and potentially unique in the world. Part of the reason why this combination of ideas may have been possible was the company's past experiences and innovations. These products and the associated information provided information and knowledge about the behaviour of their customers that was valuable for the creation of the new product. The systems that were in place enabled the company to understand what was possible without having to check if the new idea could be implemented or not.

The product was novel as evidenced by the company partners when the idea was suggested to them. The response of the partners was apparently:

"And the guy also said "but how can you do this", and we knew that the fact that that response was, "this can't work" in the sense of, financially it's ridiculous, and the way that their eyes pop out when you talked about …. We knew we were on to something." (33:72:64)

This was supported by the CEO when he described the response of the project manager responsible for the implementation of the product. She indicated:

> *"There is no way, it was inconceivable that this type of thing could be conceived of and executed, not only in terms of time but even ever in [another] environment" (25:77:102)*

Based on the novelty of the product, both in South Africa as well as throughout the world, this could be classified as a radical innovation. One of the team members did indicate that no similar product existed in companies in the same industry globally.

There were two phases that the innovation process followed, initially the phase where the idea originated, and later when the idea was refined from a concept to the final launched product. The team structure varied between the different parts of the process, with many common areas and interfaces between the different team forms. As stated by the team members, there was no formal innovation or research and development process within the company.

Conceptualisation of Innovation

There have been numerous incidents where the team members had indicated what their understanding of what the concept of innovation was. One concept was that the innovative idea created was actually simple, and that where the company had gone wrong previously was in creating products which were *"intellectually fantastic, but too complex, that consumers don't really engage it." (33:13:20)*

The team members saw the enhancement and fine tuning of the product as important. This occurred after the initial insight. When having discussions about features and details of the product, people would fight for their views:

> *"But these are the type of discussions that take place, and people will, they'll fight their cause. And, what it does is, "what if we create a component of that in this model". So you throwing around for a while various ...], we tweak the product. It doesn't take away overall from what we're trying to do but I think that's a great process of how we actually enhance the ultimate offering." (33:63:58).*

Innovation was seen as taking more than one concept and putting them together in a different industry to create an innovative product. The Technical Specialist indicated

that a number of the concepts in the eventual product were not new, but the combination of these concepts was novel:

> *"You may be taking a whole lot of concepts putting them into your world, that creates something completely new. The idea of having [certification] is not new. The idea of having discounts is not a new" (33:128:176)*

The team members did also indicate that the possibility of innovation varied according to the environment in which the company operated. The company in the group where this innovation took place had room for innovation to take place, whereas other companies in the group has very limited room for innovation to take place because of the regulations that applied to those environments. The Marketing Director did also indicate that in those areas which were highly regulated, innovation had had "infinitely" greater value than in the industry where the expectation was that you come up with something innovative every year (35:36:160).

Innovation Process

More than one of the team members said that the process that was followed was an iterative process, which went backwards and forwards with ideas, followed by analysis and feasibility, then further by changes to ideas. Potential implementation problems were not allowed to constrain the product, however the past experience would have informed the team as to what was viable and what was not.

According to one of the team members the process was chaotic. He could not describe what the process followed was, nor what brings this process together. His suggestion for the factor that brought it all together was that there is a defined deadline, and an expectation of delivery of a new product specification at that time:

> *"I can't draw diagram about how this happens I think it's almost this chaotic process that somehow comes together. I can't tell you what it is that brings it together. But something brings it, and part of it is the fact that we know that there is this deadline." (33:28:32)*

The company put itself under pressure in terms of time available to conduct the work, and this, according to one of the team members, assisted the process:

> *"If you've got lots of time, or you don't have that deadline you'll often play around with these things. When you've got that deadline, you make sure that you come up with, you pushed, and you'll spend those hours. Your*

mind almost shifts into a different gear, you don't realise often that you can do this" (33:151:50)

The CEO was overseas for some time during the refinement of the idea, and this to a certain extent served a role as an external person. The Group CEO was also only involved at certain times in the project. The Technical Specialist found this to be important as they believed that it would be difficult for them to criticise something when you had spent many hours working on:

"You caught up in the detail and you spent hours working on something it's hard to criticise it yourself." (33:155:80)

The process via which the new product was developed occurred over two phases; the initial conception phase, where the basic idea emerged; and the idea development phase, where the specific characteristic of each idea was developed until the idea was ready for announcement to the customers and intermediaries.

Idea Conception

The company had created a deadline for a product announcement which occurred annually. There was thus an annual "Research and Design" phase where new products were created. The team stated that there was no customer research done beforehand, nor were there any preconceived ideas of what was required:

"When we sat down it was really blank sheet of paper. We want to do something bold in the company, something new, but, we really had no idea." (34:1:14)

The CEO indicated that one of two brainstorming sessions were typically held, and this was where the idea of the particular product occurred *(25:16:46)*. The idea developed over time rather than instantaneously. The CEO indicated that the offering "*developed over a good few weeks."(25:21:74).* The CEO also indicated that most of the innovative ideas in the company took a long time to be generated:

"It is more the latter. It is not that common that we say, 'Ah, this is the idea'. I think in most cases we are scratching our heads, thinking what we should do." (25:85:256)

The Marketing Director indicated that there was no market research conducted *(35:44:256)*, something that had been mentioned by more than one of the team

members. He indicated that they started with a blank sheet and asked the question: *"what benefit, what product would we want" (35:49:140).* The company also did not rely on external consultants to assist with the process.

The moment of inspiration or insight occurred at a moment in time when a sub-group of the team had a chance informal meeting prior to a meeting with the Group CEO. There was literally a half an hour during which time the team subgroup thought of and transformed the idea prior to it being described to the Group CEO. The Group CEO then changed the scope of the idea substantially by taking the original idea and insisting that it had to be "big enough". At this time the basic idea came into being.

Even though prior experiences may have contributed to the creation of the new product, past experience and existing competencies were not allowed to limit the new product. This was illustrated by what the Technical Specialist had to say:

> *"Our process is often; let's come up with the ideal product and then afterwards see, is this doable, are we able to implement this." (33:158:82)*

He also indicated:

> *"…been a bit of the culture here, we don't try and see what we can do, we try and think up the best thing, and then worry about how we going to do it afterwards" (33:88:94)*

The team members came from different backgrounds and did not even work for the same group company. The team apparently took concepts from the different markets and "moulded" them together to create new innovations.

> *"And it sort of comes together either at an EXCO meeting, people throw ideas out or opportunities arise and we'll take concepts from the various markets that we working within and almost mould them together." (33:27:32)*

The meetings that occurred were not sessions to ratify existing ideas but idea formulation. Maturation occurred during the course of a series of meetings. This was illustrated by the Technical Specialist for a different project that was underway during the interviews:

> *"You sit in a meeting and you come out, you've got a couple of slides and you come out the meeting an hour later with something completely different." (33:127:176)*

Even though the innovative product was completely new there had been some discussion 2-3 years, previously in areas related to this idea. There was also a minor product introduced into this area which did not have a major impact on the customers or customer behaviour. The company also considered another product in the area a few years previously but did not pursue this because there were other major initiatives underway:

> *"We looked at it and, but we thought, no, the timing was not quite right, we had other things on the go." (33:5:14)*

But the area was then in people's minds as indicated by the team members *"a seed had been sown" (33:143:16)*. This may then lead to the creation of an idea in the future.

Prior projects that the company had implemented did to an extent contribute to the new product innovation. The data from this product, which related to customer behaviour, enabled the company to predict the likely outcome of the new innovation. Another way that previous project contributed was that there was already an existing relationship with the partner and an existing systems interface, which ensured that the transfer of information that would be necessary would be easier to implement. Prior projects also illustrated limitations with regards to all customers not being able to access the benefits and this product specifically ensured that this was not repeated.

Prior experience also meant that some aspects of the new innovation were already in place, and could have affected the innovation process via which this idea came about.

Once the headline idea has been developed there was little room for discussion about the viability of the headline idea as stated by the project manager:

> *"And so it wasn't a question whether the idea would work, or whether it should work, it would work, if you know what I am saying [laughs]" (36:5:44)*

Idea Development

The initial idea was, however, not the end of the innovation process. The refinement of this idea to make this into a viable product then took place over a number of months and included formal and informal meetings, meetings with the team and subsets of the team including a number of two person discussions, extensive analysis of different options and selection of best options.

As one of the team members stated *"I think that the concept when you look back is fairly simple, and a lot of the discussion, the debate that actually took place was in refining it."* (33:16:24).

This was supported by the Project Manager who indicated:

> *"Those aspects were developed, the actual main idea never changed. It was just how to make it viable." (36:2:24)*

The project manager also indicated that the idea did not develop by people sitting down in the group to discuss the idea but rather:

> *"So it wasn't like a group got together and plotted out exactly what it was looking like, where it evolved more through different conversations that took place." (36:3:28)*

A great detail of analysis took place to ensure that the product was structured correctly, credible viable, the impact of the product understood and different aspects of the product investigated and decisions taken *(33:147:40).*

The process was also iterative with ideas being taken to various business units for analysis and then the idea being changed based on the information received from these sessions.

> *"So, there's a very nice iterative process, between the discussion, the debate in the EXCO, on a broader scale, you getting more people's input." (34:31:46)*

Another of the team members explained that the pace of iteration was important:

> *"I think that the pace of iteration is high. We rework the product many, many time." (35:44:256).*

The team also appeared to work in bursts during these iterations as indicated:

> *"We work in sort of bursts. It's not, we've got three months, and we need to do this. It's kind of, burst created almost as quick as possible, review it, not quite working, we need it to go into the next burst of work and. There might be nothing for two weeks and then it's another..." (33:139:162)*

The idea needed to be promoted outside the organisation to a partner as this partner ultimately was the entity that would interact directly with the customer. Detailed analysis of the idea took place prior to the partner being approached, to ensure the team and organisation had thought through everything and that fundamental changes did not have to take place after the partner had bought into the new product. This was expressed by one of the team members:

> *"When we went to see partner marketing director, we already have an inkling of how this was going to work. We'd already done our homework with that. It wasn't just "a presentation and we don't know how we going to make it work". We actually were clear about how we were going to make it work." (34:78:198)*

> *"We couldn't go to them and pitch [xxx} to him, and say to them afterwards that [xxx] was a bit rich, we actually should be, we actually meant [yyy]." (34:67:202)*

In part, because the idea was so radical and unbelievable, there was initially scepticism. But when the idea was presented to the partner CEO he immediately decided that they must do this, and put plans into place to ensure that this occurred.

The product that was created resulted in a by-product which could help the company in the future:

> *"I think setting up a [resource] has created an amazing asset for the business which wasn't the original intention" (33:73:66)*

As indicated by the CEO, part of the reason why implementation was not considered as a constraint was that the implementation person on the team had a "can do" attitude despite having some reservations, as he said:

> *"Could have at that stage said "Look, this is way too much risk, you'll never do this operationally and so on," and kind of dissuaded us from doing it. But*

[the Project Manager] didn't do that. [The Project Manager] put the things out there and I think [the Project Manager] was probably was a bit worried about how this thing would roll out and execute. But [the Project Manager] did have a can-do attitude with it." (25:31:110)

The implementation person was also not part of the core team that came up with the original idea, and was only involved a few months later, once the idea was being refined. This also limited the scope for possible implementation difficulties and company workload hindering the product. As indicated by one of the team members:

"I believe, to an IT person within business who just sees thousands of projects, they going to say, you'll get that push back." (33:167:82)

There was little consideration given to the amount of work that would be required for the innovation to occur. The idea once formulated was considered important enough that this had to be implemented within the promised timescales regardless of possible implementation difficulties. The amount of work required was huge as indicated by the CEO:

"Huge amounts of work that went into this. It is a massive, massive project." (25:86:26)

This however did not deter the company from successfully launching the product.

4.6.7. Summary

This team has a history of developing innovative products. The team members are very homogenous from a demographic perspective and have spent considerable time together for more than 13 years. New products are developed annually by this team. Extensive discussion and debate occurs in this team, involving either the entire team or subsets of the team. Additional company staff are called in and included into the product development process if the core team decides that this is required.

4.7. Marketing Product Development Team

4.7.1. Background

This team was responsible for the creation of marketing campaigns for its client base. The nature of the industry was such that each product supplied was different. This company thus existed in an environment where “different” was the norm, and innovation was constantly required. The extent of the innovation was based on the requirements of the client. The level of innovation also varied from company to company in the industry.

The products developed by the company were innovative and was described by the team members*, “quite revolutionary” (58:2:18)*. This was supported by articles that appeared in the press. One of the team members stated, when describing a particular product:

> *“Well, the product was very innovative and from a campaign point of view it was quite, it was quite different from what the usual financial marketers expect from them.” (58:1:14)*

There were two major innovative campaigns that were investigated in detail. One involved a financial services product, which had some unique aspects in the South Africa, and another was a campaign showing support for the FIFA 2010 World Cup by a company that was not an official sponsor of the World Cup.

There was extensive media coverage of the World Cup related campaign, even though many South African citizens were not aware that their client was initially was involved in the campaign:

> *“Look it’s an interesting campaign in that it got a lot of media publicity and we got a lot of positive publicity because of it, so did [Client C] yet there’s still a lot of people that don’t know that [Client C] was even associated with (it)” (60:39:58)*

4.7.2. Team Characteristics

Team Composition and Diversity

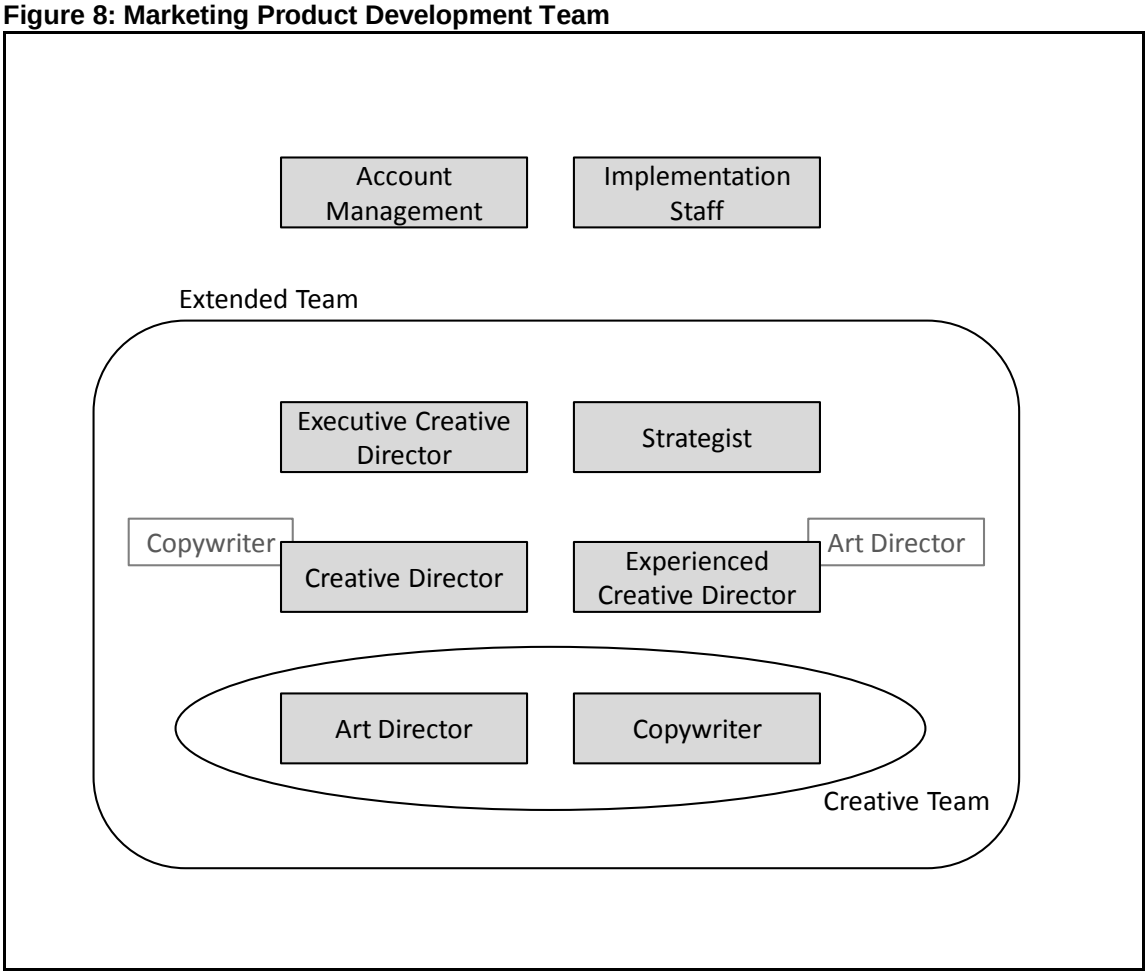
The members of the team consisted of the team members as indicated in Table 8:

Table 8: Marketing Product Development Team Members

Person	Race	Gender	Age	Tenure	Education	Functional Background
Executive Creative Director	Indian	Male	37	5 years	Diploma	Marketing
Strategist	White	Male	28	3 years	Diploma	Marketing
Creative Director	Indian	Female	32	3 years	Diploma	Marketing
Experienced Creative Director	White	Male	31	10 months	Diploma	Marketing
Art Director	Indian	Male	28	10 months	Diploma	Marketing, Education
Copywriter	White	Female	30	10 months	Diploma	Marketing

Although this was the team interviewed, teams in this organisation were very fluid. The team members did not work together all of the time and different sets of people were involved at different stages of projects. There were also others involved in the overall project; account management that initially liaised with the client and obtained the work, and the implementation team that executed the ideas developed by the team. An illustration of the overall structure is presented in Figure 8:

Figure 8: Marketing Product Development Team



The Art Director and Copywriter worked together almost all of the time. This was referred to as the Creative Team:

> *"It's just the 2 people. As a standard structure teams [in the industry] are made up of an Art Director and Copywriter." (60:14:106)*

One or both of the creative directors were regularly involved in progress reviews with the Creative Team. This took place as often as every two days. The Strategist was usually involved with the project before the Creative Team, and generally defined the strategic plan for the specific customer requirement prior to the project briefing when the Creative Team was informed of the project. The Project Briefings included any persons who were interested in the project and sometimes even the entire organisation was included. The Executive Creative Director was involved at the project briefing and subsequent review once the product had been designed. The interval between when the Creative Team received the project brief and the review by the Executive Creative was generally only 2 weeks.

One of the team members described the operation of the more senior members of the team:

> *"They (The Creative Directors) worked together in the team as well; so [the Experienced Creative Director] is an Art Director by trade and [the Creative Director] is a Copywriter but they're a Creative Directors team, so they don't always work together. Sometimes they split and they review and they take ownership of certain jobs with certain teams working on it and [the Executive Creative Director] is our Executive Creative Director but he works in strategy as well with [the Strategist]." (62:23:94)*

Earlier in the product development process the team structure was very loose. Later it became more defined and people were given specific tasks to perform:

> *"It is on a practical level, like who's the team that's responsible for the outcome of this job, like the nitty-gritty stuff … seeing it through. It is in that stage quite formal, but in the initial thinking stages that can be quite loose and often it is" (63:50:322)*

The allocation of work to teams, and the structure of the teams were very flexible in this organisation:

> *"...we're open to everyone being in the team." (60:28:254)*

And

> *"…anybody can get involved anywhere." (61:33:206)*

Even people who were not part of the team had important roles in the projects:

> *"I don't think, without them [referring to Account Managers outside the team], we could have made the idea happen because we're good at certain things but they're very good at selling it and organizing timelines and all the stuff that I'm atrocious at." (62:7:38)*

The size of the team varied based on the time that was available for the project:

> *"…we've had a lot of instances, where we don't have time, where a client will brief us on a project and the goal. We need something by tomorrow morning and then we don't work in a team of 2 because we know we need a lot of brain power and we need it quickly. So we call everyone in and,*

'we go we're going to put up a chart here just throw at us whatever ideas you have.'" (63:7:86)

Smaller teams were used in when there was more time:

"But when you've got more time and you know you've got a really strong proposition and you've got time to really develop an idea we definitely break away in small teams." (63:6:86)

However as the workload increased within the organisation, teams became more formally defined:

"As we got busier we kind of needed to go, you know, 'this is a formal team' and we're starting to, we still break away a lot just because of pure practicalities. So sometimes in one team, one person is not as busy as the other one, if you're not busy you can help out.'" (63:35:240)

At times even the customer was involved in performing tasks related to the project:

"They would go back and we'd say, 'Oh they've come up with this idea', we were like, 'It's not remarkably challenging enough, it's not redefining,' send it back and they would go and sweat the numbers." (61:7:106)

A number of the team members had worked together previously, prior to joining the company, and some close personal relationships existed in the team. Examples of this were team members who were siblings, partners, and a team member who gave another team member their first job opportunity.

"I've known [the Creative Director] for very long, [the Creative Director] and [the Copywriter] are family they're brother and sister so I've known [the Creative Director] for very long and I've worked with [the Executive Creative Director] as well, prior, in Cape Town. He employed me over there and I don't know who else is on the list…. I've worked with [the Strategist] before as well when [the Copywriter] and myself came and did a project for [the Company] so apart from [the Experienced Creative Director] I've know everyone before we started working on this specific project in varying degrees of well we know them." (62:3:22)

There were close person relations between some of the team members:

"[the Copywriter] is my brother, [The Art Director's] my future sister-in-law." (63:15:104)

Characteristics of Individuals

In order to be effective people needed a certain amount of *"raw talent, that natural ability" (63:20:180),* however creativity was a skill that they, *"… learnt to hone that skill and learnt to use it." (63:19:172)*. Many of the people within the team appeared to very hard workers:

> *"[The Copywriter]and myself will be the work bees so we will work and will write a lot of copy, do a lot of executions, do a lot of art directional options together." (62:56:178)*

Another of the team members was *"very good and very hard working". (62:49:158)*. This person was however, also very orderly and structured:

> *"...she likes to order and structure so she's definitely the person who at that stage would go like … and what she did is she took everyone's ideas, everyone in the room and captured it in short, little thought bubbles almost." (62:37:130)*

The team members were considered by the Executive Creative Director, who was also the company founder, to be very intelligent people:

> *"[Our industry] somehow attracts, in my opinion, some of the most intelligent thinkers" (59:4:80)*

The company also had someone, the Strategist, who had *"a knack for a strategic approach to problem solving." (59:34:258)*. This person also had *"...his finger on the pulse of youth culture," (59:32:258)* and was also *"...extremely open minded" (59:33:258)* and was *"not afraid to express that opinion."(59:35:258)*

The workers in the industry generally appeared to have strong internal motivation to be seen to be creative. Their work was seen as creative art rather than just the selling of product.

> *"They don't see it as that quote from Fight Club as 'trying to convince people to buy things that they don't need with money that they don't have' you know it's seen as a truly creative art and people enjoy being able to put themselves on that creative map so in the industry generally people will be exceptionally committed to coming up with great advertising and dedicating themselves to their career." (60:46:176)*

The Executive Creative Director indicated that the level of education of the team members was not important:

> *"They don't always have the theory behind or the academic record for it but they're smart people because they deal with problems and solutions every day and people problems and solutions are always the most difficult." (59:5:80)*

The Executive Creative Director felt that the team members were "down to earth people" and this helped make collaboration possible:

> *"I rate them in terms of intelligence and quick thinking, but they're also quite down to earth people which helps, which helps in that there's more collaboration there isn't my thing, where often in agencies people do like this [gesture that they hide things from others] they don't want to show other people what they're working on because they want glory to be mine only." (59:14:120)*

The copywriter considered that, *"the one thing that is actually universal is probably that they all, at some point, are rule breakers" (58:47:144)* in the team. He also indicated that the team members had varied interests. These interests were however, not necessarily similar.

> *"I've found very similar types of people, people that are interested in more than just the day-to-day of work they do. Here almost all of them have many and varied lives and live beyond just this environment." (58:45:142)*

It was stated by one of the team members that creative people tend to expose themselves to different influences:

> *"…a big thing for the creative people that helps them hone their skill is exposing yourself to all sorts of influence, as much influence as possible." (63:22:186)*

Experience was identified as important by the less experienced Creative Director, in order, not only to be able to detect problems with an idea, but also to be able to suggest solutions:

> *"Because I'm just starting I can go, 'I don't like the idea, I don't like it because of this,' but I haven't got to a solution yet because I haven't had*

enough practice with that. So for me practice is a really big thing and experience on as many types of jobs as possible." (63:21:182)

Diversity

There were many differences between the people in the organisation. These included differences in age, personality, gender, race, language, religion and sexual orientation. The average age was low but this was explained as the norm for the industry.

"It's all resolved itself now and we've learnt to live with the fact that there's this guy that's different to who we are. There are younger people, like really young, like 22 years old and he was 32 and there's a gay guy and, you know, like there's quite a difference." (63:29:228)

Within the team there were also differences, with two races, different genders and personalities. Within the smaller Creative Team, one of the members indicated that one person was optimistic, whereas the other was the "voice of reason" testing and questioning the idea:

"So he was definitely, I think my personality is, my personality is by nature optimistic and I get very excited about ideas. He was more like the voice of reason and made us question a lot of the things that we did." (62:10:52)

This team member also indicated that the different perspectives that people held were important and not necessarily dependent on demographic characteristics:

"I don't like stereotyping people and I don't like to think that it's race, age or gender but people definitely have different personalities and I don't think it's dependent on any of those things." (62:46:154)

Different people preferred differing amounts of structure in their work.

"I'm very structured, you can ask anyone else. I like to make a list, I like to have 1-10 of things that I must do and I like to tick it off. It drives certain people crazy; it keeps me sane. [The Experienced Creative Director] for example is nothing like that." (62:47:154)

The Experienced Creative Director was described as having very good emotional intelligence which assisted with client interaction.

"…is very good with clients I mean he's gotten us like really out of some tough situations and it's not that he's saying anything new. It's how he approaches it. He's a very good listener, he's very good at understanding. He's got very good emotional intelligence so picks up much easier in a situation like that this is a good time to raise this issue or not." (62:51:160)

The Experienced Creative Director also had a "very strong" personality:

"He walks in a room and immediately you notice him and so a very strong personality, very opinionated" (63:40:256)

Possible gender differences in the approach to work were highlighted by one of the Creative Directors:

"I find sometimes, a guy and a girl team can be difficult because girls tend to be more like, 'Let's get this done and tick off this box and let's do this,' and guys are a bit more like all over the place and you've got to drag them into the process." (63:12:98)

Diverse points of view and perspectives appeared to have been important for this team. Diversity assisted with allowing people to look at the requirement from multiple perspectives:

"…you've got a group of people who are quite opinionated and know what they want to achieve and are so diverse; the creativity has to go under quite a bit of scrutiny and you sort of have you approach it from, everyone's looking at it from a different point of view, and from a different purpose and I think that keeps everything in check." (58:12:42)

This, however, was important in reducing the risk in creative projects. As indicated by the Copywriter:

"…creativity hinges on the fact that it might just fail as well and there's always that doubt when you go in and present something that you could be off the mark." (58:60:42)

Aside from the benefits of diversity, it could also be a hindrance as the team could need to spend time to reach consensus rather than focusing on a single idea:

"…you talk about diversity, when you've got so many different opinions, it's very hard to focus on the one that the group has to buy into and a large

part of the process is coming to a consensus especially in a creative process." (58:7:34)

The team members felt that the different perspectives of the different team members were important:

"It's nice to once you know what you think have another person to tell you what they think and then to feed off that and often from there I find like in our relationship where we work as a team that's where the magic happens because you know you need a different perspective to question your ideas, often to see the flaws or the greatness of it." (62:14:60)

Sometimes the individuals got to a stage where they were stuck and could not see a different perspective. They then spoke to other members of the team, or even people from outside the organisation:

"I think you get to a point, and I'm at that stage with a job that I'm working on at the moment where I don't see another perspective. It's just there's only one way of writing this spot and that's all I can see and I just spoke to [new Creative Director] now and she threw a little spin on it and now I've got a brand new opening." (58:24:90)

Another of the team members also indicated that the different perspectives were important because individuals could sometimes be too close to a problem:

"…most of the time other people make it better because you're too close to it."(62:37:130)

Even though diversity was important, the importance of experience was stressed by one of the team members. This person said that even though she was capable of assessing an idea and determining problems with the idea, she was not then capable of offering viable solutions, as other more experienced staff could.

"Because I'm just starting I can go, 'I don't like the idea I don't like it because of this.' But I haven't got to a solution yet because I haven't had enough practice with that. So for me practice is a really big thing." (63:21:182)

This team had generated a number of notable innovations. The innovation process in this team was well defined, and the roles of the different team members were clearly

differentiated. The innovation process in this team was the core business process of the company.

There were also people who had different life experience that were useful when the company needed to create products that targeted those communities:

> *"So for instance the conservative guy he is also a bit of a, I think he's like a Rasta kind of guy, he knows township life very well, and when we want to do something that involves writing headlines for billboards in Soweto or something, we'll talk to him because he comes from that environment, he understands it." (63:31:232)*

Goal and Task Interdependence

Each project was based on a requirement of the client. This was translated into a strategic objective for the project by the senior team members, which was effectively the common goal for the project. This strategic objective was made clear to the entire team (and sometime the entire company), and was discussed and, finally, the company's perspective on the goal was agreed upon by all involved.

> *"So in that briefing, I've been in sessions where people don't agree with the strategy and then it changes and all it basically means is that the work will be better because it's been questioned before everyone buys into the common goal." (62:43:146)*

Each project had one line which defined the objective of the project:

> *"We've managed to get this down on our briefs; it will have in the first liner which is basically in a nutshell, 'What is the issue at hand?'" (59:20:136)*

The common goals were important in this team because they served as a baseline against which the outputs of different stages of the project were judged:

> *"...campaign line will be very important because it's the one thing that you can keep on measuring your creative work against." (62:45:150)*

The team came up with the core idea, and the team members thus had a common goal and needed to have a belief in that idea:

"...but the trick is that you're working in a team and you've got to honour and respect the core idea which is something you came up with together." (62:22:90)

There was a high level of interdependence between the Art Director and the Copywriter, who come up with the ideas and possible implementations for those ideas *(62:36:128)*.

This Creative Team had the responsibility of creating a conceptual design based on an agreed upon strategic orientation to the client's requirement:

"…we are a team and we conceptualize ideas together so we get given a certain strategic platform where we've got to come up with a conceptual route and then that conceptual route has got to fulfil stuff." (62:21:90)

Requirement for Innovation

There was a high requirement for innovation in this company. The requirement for innovation was driven by the type of industry that the company operated in and the overall vision of the company. Given the company's role in marketing the products of other companies, the team members indicated that it helped that their client's products were innovative.

"... firstly the product was innovative, so I mean it helps that the product is innovative when you're trying to communicate something innovative." (58:10:40)

Another team member felt that in the marketing communications industry, it was important that the product being marketed was innovative, or else it would be difficult to be innovative in the communication:

"...having the product to back it up because often you have a really nice creative idea and your product is not really that strong (63:3:62)

The innovativeness of the organisation was closely linked to the client and their appetite for innovation. The company could only be as innovative as the client allowed them to be.

"I think if I had to be critical it's probably the clients that you have, the type of work that you basically you're only as good as your client allows you to be. I think that's the decider. If you can build trust with your clients then

you're allowed to go crazy, because like I said creativity hinges on that and the more you prove that it did work, the more they allow you to expand on that creativity." (58:51:148)

He also indicated that that all companies in the industry have good creative staff, but that their company was lucky because their clients were brave:

"I think there are brilliant creatives across every [company in the industry], it's just the amount of scope and [this company] is lucky that they've got very brave clients." (58:53:160)

This view of the importance of the client was supported by the other team members when the team came up with a particularly innovative idea:

"we thought the client would say no ... she was the one who went, 'No that's exactly the way we should do it,' which was amazing; so we've got like-minded clients which makes these things work." (59:3:66)

The importance of there being room for innovation was stressed by one of the team members:

"It's almost impossible to change a business or change the way you approach [the industry's] business if there's no room to do that." (58:52:160)

The Experienced Creative Director noted the importance of having clients who were prepared to allow the company to develop the products for them rather than prescribing what should be done, and how:

"...you can't have innovative thinking if you've got exceptionally prescriptive clients stating you will do it like such and such." (60:9:62)

Even if the company's client did not wants to constrain innovation, they were sometimes limited by their brand as to how different their campaigns could be:

"It's not that they don't want you to do something that's different and unique. Look sometimes there are brands constructs that they need you to operate with them so [Financial Services Company] for example you know there are limitations because it's a licensed franchise brand so not that they don't want you to be unique but you've got to work within the parameters of strategic constructs." (60:41:70)

The company was specific about what they want to achieve as a business and what their relationship with the client thus needed to be. This was communicated to the clients:

> *"Yes well I mean we tell them that we have a uniquely close relationship with our clients and we like to be able to develop the kind of communication that we do, which is remarkable and we do that with our clients and it's also the relationship that we have with our clients is exceptionally important in order to be able to create that so it's not the dictatorial kind of relationship that does exist with some companies and their agencies. We need collaboration and we need to be given the information as to what their business objectives are as opposed to, 'do an ad'." (60:42:88)*

The company did turn down clients if their business or interaction model did not meet the company's requirements:

> *"… but we also turn down some clients." (60:11:80)*

One of the factors that could have enabled the company the room for innovation with a large number of their clients could have been the long relationship that they had had with many of the clients. In describing a particularly innovative campaign, one of the creative directors stated

> *"...they've been with us for a couple of years, so that kind of flexibility truly allows good solid thinking to happen and also for fresh thinking to happen, and innovation if you'd like to call it." (60:10:66)*

4.7.3. Environmental Influences

There were numerous environmental influences on innovation in this company. The industry had an influence on the extent of creativity that was possible and the perceived value of creativity. The company had a vision and culture that encouraged innovation, with organisational leadership that encouraged innovation. The physical environment affected the manner in which people interacted. Project time constraints also impacted innovation.

Industry Influences

Creativity was valued throughout this industry:

"…creativity is something that we measure ourselves by as a standard" (60:1:20).

Another of the team members indicated that: *"…it's an ego industry … to show we're the most creative in what we do." (61:37:186)*

The companies in the industry, even those that were not regarded as particularly creative, apparently allowed space for people to share ideas:

"Every [type of company] that I've worked at even some of the not so brilliantly creative [types of companies] are designed to allow you that space where you can share ideas." (58:39:128)

The level of creativity varied from company to company in the industry and even the level of creativity within an organisation varied from team to team:

"We're a money making business but we're a creative one and the degrees of creativity vary; very much so from agency to agency and even within the agency from team to team." (60:38:20)

Companies could also be constrained by the constraints on their customers. Customers who operate in environments strictly controlled by legislation and regulations restrict what is possible from companies who market their products:

"I think they work on a very controlled environment where there's certain things you just can't do. There's legal and business model challenges that are in process and it's always that lovely thing that we have in every organisation, the shareholder demand." (61:8:118)

Company influences

The company and the team members had a clear picture of where the company wanted to position itself and the manner in which they were expected to work on client's jobs. One of the important strategic intentions of the company was to create products that were remarkable. The company wanted their products to be remarked about and "loved":

"The driving force has been creating communication that is loved and spoken about and we talk about it being remarkable and remarkable in the sense that people remark on it." (60:3:22)

Another of the team members highlighted this quest to be seen as remarkable:

> *"You've got to do something that's remarkable and we talk about this often; it's worthy to remark about, which becomes our internal [metric] so when we do something it needs to be spoken about." (61:23:164)*

The company had a clear vision of the service that it needed to deliver to its clients:

> *"Our function as an agency is to move a business brand, to build a brand." (59:12:102)*

The company was very specific about the type of reputation that they wanted to have in the market, and the company was thus careful in their choice of clients that they were prepared to accept.

> *"We've said, 'No', a lot to business and being a small agency it's probably considered a very stupid thing, if you think about it, from a business point of view." (59:10:92)*

The company had set standards for their work that affected the innovative behaviour in the team:

> *"But it's also about the objectives that we have simply set out for ourselves, and it's become customary to deliver work of a certain standard, and I think we constantly looking to better that standard, and for that idea really to shine and looking for that, like idea, that is that glimmer amongst everything that is bland, is what we constantly searching for. We always wanting to do things that are different that are beyond the norm and it's become very much a trend in advertising in the more creative agencies. Not just to approach ads as ads but to look at them as things like movements and things that can affect society and things that can change behavior and influence perception in far greater a way than just, you know, I like this brand because of X, Y & Z and the way that they behave." (60:45:160)*

One of the team members indicated that the relationship with the client was crucial for jobs to be successful:

> *"I think the biggest trick is, cases where I've seen it go really bad, is where you client feels like your client and not part of your agency." (62:58:192)*

The World Cup related client also trusted the company and were thus not prescriptive about how the campaign needed to be executed:

> *"…whereas the way [Client C] has come to work with us is that they trust [the Company] and we collaborate with them and they contribute to the creation of ideas and they allow us the freedom to be able to suggest to them the kind of thinking that they're looking for." (60:40:62)*

The company apparently dedicated considerable attention to even the smaller jobs:

> *"Even the smaller jobs have, are given a huge amount of attention and are given a lot of focus and dedication." (60:36:246)*

The company allowed anyone to come up with ideas related to any of the projects that the company was involved in:

> *"All briefs are open to the entire agency because, I mean, there's no reason why someone sitting at the coffee machine can't just come up with something impressive, and then just because they're not on the brief, it's not a reason not to accept it is a good idea." (58:59:204)*

A practical example of this was highlighted by one of the team members in explaining how they got involved in an idea that was not a project that they were working on:

> *"We were not part of it and we saw that she was struggling a bit and we got involved and when she read that script both [the Art Director] and I went "that's hands down the best idea on the table and we need to make this idea work" (58:22:82)*

A possible mitigating factor was, however, the close personal relationships that existed between these three team members.

The company's internal systems did not impede the innovation process:

> *"The difference here is that, we come up with these ideas and we think that they make sense, strategically (it) will work and the creatively cut through we will take that to our clients. A lot of those ideas get killed in other agencies within the internal system." (59:7:84)*

One of the ways that this was done was that the client was given the options that were available without necessarily filtering them out before the client saw the ideas:

"The difference here is that we give the client the benefit of the doubt." (59:6:80)

There was an element of competitiveness that occurred between teams in the organisation:

"...the way that we work, there's also a competitive edge that we put on things." (60:6:34)

And:

"And if they come with a better idea than the senior team that's earning 3 times than what they are, and they've had 4 times as much experience they get to do the work. If the idea's better, the idea's chosen, and that team gets to see through the work that they create, so perhaps a little bit of competitive edge is also..." (60:7:34)

One of the other advantages of the company was that it was dynamic and rules were not rigid:

"... coming into this small dynamic little environment where rules are not so hectically defined." (63:38:254)

The small size of the company had an influence on the dynamics within the organisation and the innovation that occurred within the company.

"Possibly because it's a relatively small company ... 25 people at most." (58:40:128)

The advantage of the small size was that the organisation had more collaboration and credit was given to anyone who came up with the best idea. This was part of the non-individualistic nature of the company.

"... we're far more collaborative because we're small and credit is given to anyone who comes up with an idea." (59:8:92)

With bigger companies, the longer review process meant that ideas changed "dramatically" from how they were initially conceived:

> *"[The companies] I've worked at before have got many approval processes and the result is often that you, you'll review with the first person and then you get some sort of direction; then you review with the person above them and automatically the idea starts to change shape and by the time you reviewed with the highest person in the group, the idea is then changed quite dramatically." (58:41:130)*

This person also indicated that larger companies had systems that constrained innovation:

> *"I worked at right before this in a very rigid, big company and very strict processes, very top-down hierarchy and you, although there's people who are very creative and have got weird and wonderful hobbies, the actual system doesn't allow for that person to necessarily shine as easily (58:46:142)*

He did, however, indicate that other factors aside from size could impact on the innovativeness of the organisation. A large organisation which he had worked for previously was also creative despite their large size with over 300 staff:

> *"…and have got a very good record of producing good, creative work and that was a huge [company] with over 300 people for an [a company in the industry] that's a pretty sizeable company. And that was very similar to this [company] in the sense that your creativity was encouraged, there was a sharing of ideas, ... so I don't think size is necessarily the decider, but I think it does affect the way it works." (58:50:148)*

One of the apparent disadvantages of the larger agencies was that people did not know each other:

> *"I've worked at 2 very big [companies] … people don't know each other." (62:59:194)*

One of the positive consequences of the small size was that the company apparently operated like a family:

> *"...also there's a lovely, I mean it really is a bit like a family." (60:31:270)*

Another of the factors that could have affected the operation of teams in this organisation was the physical layout that has been created. The environment in the company was open plan, and this facilitated communications.

"So it causes, it allows us to communicate with each other a lot more this open plan environment and it allows us to also have our ear, be within earshot of what's happening continuously. So you can contribute to ideas and you can help each other make an idea better and bigger and everyone jumps in on helping contribute." (60:37:250)

One of the team members indicated that good ideas do not only happen in fixed environments and described a good idea that occurred to him when he was at a friend's house:

"I was at his house. It's an interesting thought! I mean Tom Peters always talked about when last was a great idea ever cracked at a boardroom?" (61:10:128)

The members of the Creative Team sat across from each other, as there was great interdependence within this dyad.

"We sit across from each other while we work. I won't work in a separate space to [the Copywriter], very rarely, across from him and whenever I need to ask something we will interact to make sure that piece of work will happens as it should." (62:38:130)

Leadership

Even though there was no formal leadership in the team, the product development process that was followed included more senior people becoming involved in the project. The Strategist and Executive Creative Director were important senior staff, who were involved with the team at different times. The Executive Creative Director was also a founder of the company and he was important in setting the vision of the company.

The expertise, experience and creative ability of the Executive Creative Director was seen as important for the product development process. This was due to his ability to evaluate ideas. As stated by one of the team members:

"So we presented that idea and again [the Executive Creative Director] comes into the mix, being a person who understands the importance of ideas and he was able to measure ideas."(61:35:168)

One of the projects was related to a campaign during the Fifa 2010 Soccer World Cup held in South Africa. The Executive Creative Director was able to *"mould the idea" (61:25:168)* based on his knowledge and understanding of what was likely to occur as the event drew closer:

> *"But what [the Executive Creative Director] knew was that people would naturally start putting flags up and stuff like that as it got closer to the time. There is always that groundswell that happens. So he understood what was going to happen within the environment." (61:36:172)*

One of the Creative Directors commented when given a more senior role that the company leadership expected her to raise her level of performance to match the new role:

> *"So we're already raising your bar and we're expecting you to do it and do it like someone who's more senior." (63:27:204)*

One of the team members had great respect for the leader, due to his belief in them when they were first employed:

> *"[The Executive Creative Director] was the person who saw potential and hired us so … obviously you've got a huge amount of respect for a person." (62:4:34)*

Pressure and Time Constraints

One important factor in the innovation that occurred in the team was apparently the tight time constraints under which the team operated:

> *"..., it's a 2 week turnaround from the time that a brief hits the creative department to presentation to the client." (60:19:136)*

This meant that the team members frequently worked very long hours:

> *"We work, I'd say, not only in this agency but in advertising, I'd say, it would be very strange for you to go through a week where you don't work late a few times or where you don't have work to do over a weekend." (62:19:78)*

The copywriter indicated that the deadlines forced the team members to make decisions:

"…we had to make a decision and then start solving it because you've got a client's presentation and deadlines are, you know, deadlines force you to make decisions otherwise this process goes on." (58:36:124)

He felt that deadlines forced people to think about exactly what needed to be done:

"So deadlines really make a huge difference in terms of focusing on what exactly needs to happen." (58:38:124)

He however felt that there could be a time period that was too short:

"…you've got a time that's too short and then, no creativity results because there's not enough time to be, to extend and really stretch your legs." (58:43:134)

He also felt that there was a time that was too long where the process starts to move backwards because the team members begin to doubt their ideas:

"It's actually counterproductive because you reach a point where you start firstly doubting the idea, you start changing the idea, and you end up moving backwards." (58:44:134)

Another of the team members was ambivalent and suggested that a good idea could come from a very short session, but in other cases a few extra days could make the idea better:

"So busy sometimes restricts you because you think of a few ideas and if you had four more days you could have possibly taken that even further or it does the opposite where because you had an hour sometimes the best ideas come out of just one little squashed session." (63:24:196)

This was a highly stressed environment:

"…but I think there is a factor of burnout that comes with the high stress, with very fast deadlines, turnarounds. It's a very stressful career." (60:23:176).

Having creativity and innovation did not mean that people were relaxed and had lots of time to work on projects. In this company deadlines were very tight and people had to work hard in order to deliver creative outcomes. The company set high standards for their work and measured themselves against these standards:

"…but generally we're hard on ourselves, so our standards are what we measure ourselves up against." (60:13:92)

The team members had to work hard in order to meet their deadlines:

"But I'm saying the guys who work here through the night, sometimes they work late hours" (59:23:190)

The ability to not only handle pressure but also to thrive under it was important in this team:

"I think it's the kind of teamwork where if you can't handle pressure then you're not going to be happy in the team. You need to thrive under it, ... I'm always amazed the less time you give [the Copywriter], the better his [work] is." (62:18:78)

4.7.4. Innovative Behaviour

Conceptualisation of Innovation

It was clear in this team that ideas that were not implemented or that were not accepted by the client were not considered to be innovative. The Executive Creative Director indicated that ideas that were not implemented were not innovations, despite the number of good ideas that existed and the number of great people that the company had:

"Because the clients think like us, they help us make great work. Agencies are full of great ideas, they're full of great ideas, they're full of great people who come up with great ideas, but if they don't see the light of day they're pointless they go into a bin. So you need to find clients who identify great ideas and then help you make them because it's for their business." (59:11:94)

This was supported by another of the team members who stressed that an idea could not be judged to be innovative until it had been implemented:

"I think that's the, it's a creative idea if it lives. If it doesn't get beyond the boardroom you know internally then it falls into something that sticks at the bottom of my.... I've got a whole drawer full of ideas at the bottom of my cupboard and it's not an innovative or creative idea until it's been made

and that's because there's no other way of judging if its innovative until it's done." (58:56:172)

Innovation involved thinking about something in a slightly different way that had not been thought of before:

"...a good idea opens you up to something that you haven't thought about before so it makes you think about something in a slightly different way." (59:29:236)

In their business, creativity was seen as a tool of the business:

"...and our tool that we employ is creativity." (59:13:104)

The Experienced Creative Director believed that creative ideas could come from anyone, not just people defined as creative or the creative team:

"...creative thinking is not exclusive to creatives." (60:4:32)

The Innovation Process

The innovation process was not seen as a rational, linear, well defined process in this company. As indicated by one of the Creative Directors, the path to an innovative solution did not always follow a rational direction:

"… sometimes you think of the rational first and then you think of the idea, but a lot of times you just think of something funny and you go. 'Well actually that idea has a lot of meaning.'" (63:5:78)

Another of the team members also indicated that the creative process was not fixed:

"In terms of how the idea actually came up, it's a very tricky one to answer, purely because the creative process is at times very structured and often pretty random" (58:17:70)

The creative process was not seen as linear:

"…because it's not linear, that's the easiest way I can explain it." (58:54:172)

Even though there was a defined process, the interactions were not very formal:

"So a nice thing is, what we do is quite fun and I think that's what makes the process unique in the sense that it's ideas, it's fun, so you talk a bit, you laugh, it's definitely very informal, it's not a formal kind of thing…" (62:26:106)

There were numerous stages in the product development or innovation process in this company. The process was not random or chaotic, but was disciplined, with short timelines and clear deliverables. This was something that had apparently been instilled in the people who worked for the company:

"...So that's one thing that is instilled here; come up with an amazing idea but make sure it is directed at a specific problem, it needs to solve a specific issue." (59:18:132)

Other team members also supported this view:

"...you'd think that to be creative you don't really have to be organized, but you do, because you have to be disciplined." (63:14:102)

Others indicated that some parts of the process were more, or less structured and that this was important:

"So when we all got to the end of the session ... I suppose this is where the, it's not where the 'not fun' section starts, but where, in what we do, you've got to be disciplined. Up to this point we don't want to have to be disciplined." (62:31:114)

The Executive Creative Director stated that the best ideas often came up very early in the process:

"...some of the best ideas, I think, came up in the first couple of hours of tackling the problem." (59:27:224)

Another of the team members disagreed and stated that in the idea generation process, the standard ideas would appear first. The team needed to think deeper in order to come up with creative ideas:

"…we force ourselves into that situation because with creative thinking, the stock standard ideas are the ones that come out first." (60:35:92)

The Copywriter felt that ideas started out in its “purest” form and then muddied up as time passes:

> *“…the thing about the creative process well the creative idea is that you start off with it in its purest form and it always starts in its purest form and you distil it down to exactly what you want to say and then as the process goes along it does muddy up a bit.” (58:57:180)*

One of the team members indicated that there was no formula for achieving creative outcomes. Creative ideas can come instantly, or after long periods of time:

> *“…the thing with creativity is there just is no formula you know. Sometimes you can come up with an amazing idea within ½ an hour over a coffee. Sometimes it’s when you’re in the shower. Sometimes it’s 3 weeks later after you’ve had the entire team here eating take-a-ways night after night after night trying to search for that idea and you’re absolutely exhausted.” (60:12:92)*

The team members had well defined processes and well defined roles. The team members with strategic roles would first take the clients requirements and break this down into the core message that needed to be communicated. The creative team consisted of two people with different roles and different, although overlapping, expertise who were responsible for creating multiple ideas of how the core message would be communicated. This would then be frequently and regularly taken to a Creative Director for comment and validation. The Creative Team would then take the recommendations and comments into consideration and change the idea appropriately. In this way the idea was refined. The Creative Team often got other people in the organisation involved in informal discussions. Individuals within the creative team also spent time alone considering the ideas, although this appeared to depend on the personality of the person involved.

Different people in the team were given different areas of responsibility based on the strengths and weaknesses of the team members:

> *“So it’s not so much that you play off each other's weaknesses, it's that you try and make use of everyone’s strengths, and assign, I think in our team especially, you try and give the thing that people are good at and that you’re bad at to the person who’s good at doing.” (62:50:158)*

Different team members also have different levels of involvement at different times in the process:

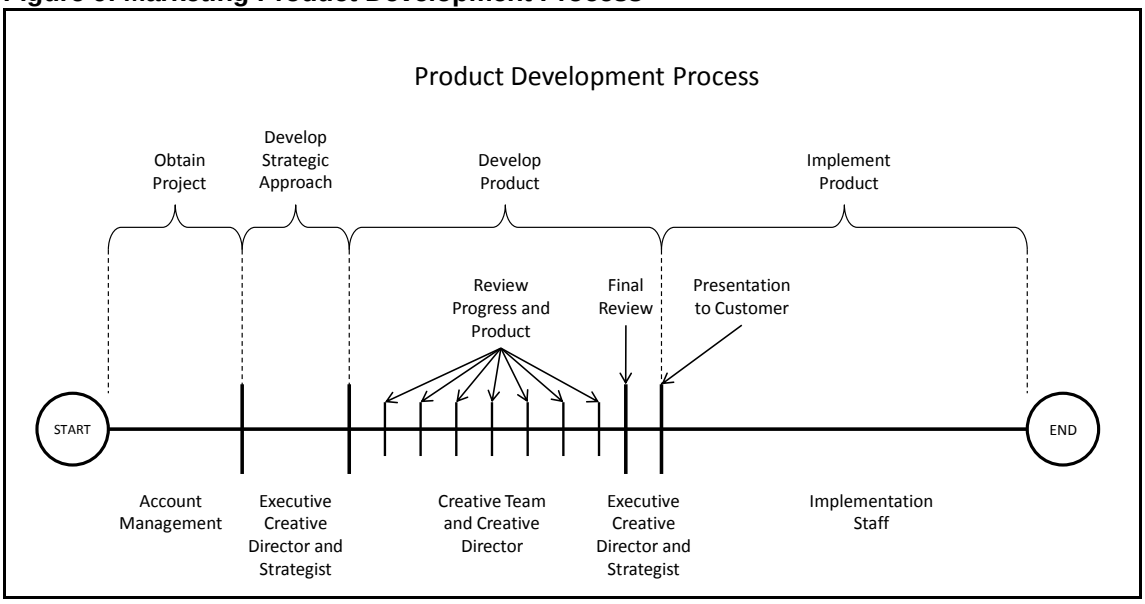
> *"…the strategist; his involvement will fall away dramatically because he's happy that the creative work is on strategy. He's happy that we're going to achieve what we need to achieve and he doesn't have to come up with a new strategy."(62:53:164)*

There are different roles in terms of the product development process:

> *"…the role of a Creative Director is to direct it and to push it and to push it to the nth degree till it can't be pushed anymore." (60:20:116)*

The product development process is illustrated in Figure 9:

Figure 9: Marketing Product Development Process



The start of the innovation process in this company was a brief that was given to the company from the client:

> *"[The work] starts at a communication level so there was a brief from client" (61:13:142)*

This brief was not given directly to the team working on the project. The proposition for the client and the strategic direction to be taken for the project was first determined, normally by the Executive Creative Director and the Strategist:

We develop the positioning essentially; so that's really where the core idea then comes, we develop a positioning…. In this particular case I've worked with our [Executive Creative Director], (who is) very strategically orientated, as well and we developed a proposition for that particular brand." (61:1:22)

The strategy for the project was then presented to and discussed with the team that was to be involved in the project, and anyone else who was interested and sometimes even the entire company. The senior team members "put forward" the problem and strategy, indicating that there was room for debate, discussion and comment. This apparently commonly occurred in this company.

"That briefing session will take place with all the members involved and I always think it's almost the hardest part. But between [the Executive Creative Director] and [the Strategist], they present a strategy and they put it forward to everyone in the room to say like we think this is the problem or, 'This is the challenge' or 'This is what they need.'" (62:39:138)

Once the approach to the client's requirement was clarified, the Creative Team then attempted to come up with multiple ideas of how to realise this "strategy". The Creative Team was expected to come up with multiple ideas, *"generally about 5 to 10" (60:43:140)*. In the examples investigated this involved coming up with a single campaign line that encompassed the essence of the idea:

"…it was a Thursday or a Friday and by the Sunday the 4 of us; me, [the Copywriter] and [the Creative Directors] and [the Experienced Creative Director] got together. It was quite interesting because everyone had so many ideas and from so many different angles that they approached it." (62:11:52)

The company had a formal brainstorming session that occurred in many of the projects:

"We actually sit with a big white board and write down every single idea. You go through literally pages and pages of ideas, that you just stick them up on the wall around you and then, at the end, you revisit all of them and try and compare them and see which ones have merit and which ones can be adapted to work." (58:27:96)

However, it was not only in teams that ideas were thought about. Individuals also spent time thinking on their own:

"But the process of analysing it from different perspectives is both a group thing and an individual thing." (58:28:96)

One of the team members that felt that ideas occurred best when the team members thought of ideas individually and then discussed them with others afterwards:

"[The copywriter] and myself were a team. We both like to gather our thoughts to use the other person as a sounding board." (62:13:60)

They then took time to come up with a single campaign line:

"we actually look to try and get our campaign line to take all of these ideas that everyone's got and put it in one simple line that makes sense" (62:12:52)

The Strategist was clear that an idea or initial insight came from individuals and not from groups:

"…from my experience is that somebody always comes up with the idea, be that the spark." (61:18:184)

And:

"I don't think anybody can come up with an idea as a group, and that's just completely subjective." (61:19:184)

He did, however, concede that the inspiration could come from something that someone else had said:

"I mean, its inspiration, so you can look at it as; somebody could have said something that inspires your thought, to then come up with something." (61:38:184)

One of the team members felt that the brainstorming process was a lot more efficient if individuals worked alone prior to team discussions. He saw the value of team work and the related diverse opinions, but felt that it did introduce inefficiency:

"… you've got a diverse group of people sitting in a room together so you on the one hand its productive and that you've got all these perspectives,

but on the other hand its counterproductive because there's almost too many, there's too many approaches to the problem." (58:31:102)

And:

"…a group brainstorm, you will tackle 50 ways of doing it and it's productive in certain cases, but I find it hinders a more efficient way of working. I find that if you narrow that 50 down to 10 and you bring that into the equation everyone's focuses are a lot more precise because you know exactly what the core idea is and you try and expand on it as opposed to sifting through a whole lot of ideas." (58:33:104)

One of the first steps in the innovation process was the appearance of a core idea:

"At that stage it was just a thought, it was sort of like a, and it was very different to what it ended up being, but it was kind of, it was kind of the core of the idea before we refined it." (62:8:50)

Once an initial insight had occurred the rest of the team members refined the idea by adding to it:

"It's got to be one person that articulates that and people, then they buy into it, and then they add to the idea." (61:20:184)

And:

"I think somebody's idea gets bought into and then they build onto that and they discard all the other periphery that happened on the outside." (61:29:184)

This was supported by another of the team members:

"…free kind of thinking and the other person feeds you and helps you build that idea." (63:4:74)

This was also supported by another team members who indicated, in an example, that the initial idea was just a thought or the core of the idea which was then built upon.

"At that stage it was just a thought, it was sort of like a, and it was very different to what it ended up being but it was kind of, it was kind of the core of the idea before we refined it." (62:8:50)

One of the team members indicated that the best ideas came from casual conversations:

> *"I find that the best ideas come in conversation and more often than not, a casual one." (59:26:220)*

The teams came up with a multitude of ideas from which the actual idea was chosen:

> *"…we'll pen up every possible approach to it, so we'll go; there were other ideas there were tons of other ideas on the table at this stage." (58:18:70)*

It was not always the case that all ideas were good. In some cases all the ideas could be poor and the role of the Creative Director is to provide direction to the creative team:

> *"Sometimes you can have a review with the team and they've got 10 ideas or 20 ideas but they're all shocking so and then you need to as a Creative Director sort of give them guidance give them some catalyst some thought starters." (60:44:146)*

Many of the ideas and implementations that were initially thought of were rejected though the process:

> *"I think by having all of those different ideas and presentations of it on a table all at one stage when it was still quite young and, to be honest out of all those ideas only one survived in the final campaign" (62:16:60)*

In one of the example projects undertaken by the company, the idea that was eventually selected was initially rejected:

> *"…there were probably 3 routes that were still on the table at that stage and this wasn't one of them. They thought that there was some potential in it but it didn't survive the review. It was kicked out." (58:20:70)*

A formal evaluation process existed for all ideas:

> *"…you ultimately have a review again with Strategy and Account Management to make sure they're strategically in line and meets all the objectives of the clients brief." (60:18:116)*

The Strategist indicated that what marketing communications companies did well was reject ideas that were not suitable:

> *"I think what [marketing communications companies] do particularly well is cull ideas" (61:21:186)*

It was clearly understood in the team, that at some stage the ideas generation and selection would have to stop and they would need to continue with implementation.

> *"…so this is kind of where you have to reign the idea in and you've got to make it work." (62:32:114)*

Coming up with the initial idea was seen as very important. However keeping the idea and implementation creative was also important.

> *"The creative process is very heavily weighted on coming up with that initial idea and then equally weighted on actually getting that idea to live creatively." (58:55:172)*

Creative thinking did not stop with the idea generation in this team. Even during the implementation, ideas needed to be generated around aspects of the implementation:

> *"This part of it was pretty intense in terms of, it wasn't just sitting on it; it involved a lot more from all of us as well. What music are we going to have? What are we going to do with the wardrobe? Do we like that wardrobe effect? So the process continues." (63:52:346)*

And:

> *"...it has so many points of interaction that it constantly has the ability to improve, so there needs to be innovation happening from the beginning to the end." (63:54:354)*

Once the design had been finalised, the team members had clearly defined tasks which they needed to execute.

> *"So it means that the work needs to be divided, It's a huge project, so people need to take ownership of a certain section of the work. For example I ended up taking ownership of the print stuff." (62:33:114)*

There was an element of serendipity in a number of the projects of the client, where they had considered something along the lines of a creative idea previously, for another company or for a different event:

> *"…was something we've been thinking about for the insurance category for a long time so not necessarily for [a company] insurance specifically" (63:2:46)*

4.7.5. Team Processes and States

A high level of trust and openness appeared to exist in this organisation, and this seemed to facilitate honest debate. People in this team apparently did not hold back ideas that they had, despite the "threatening" environment mentioned by the team leader:

> *"It's quite an interesting scenario that happens in a brainstorm; where you've got 10 people around the room and, as independent and strong minded as they are, it's quite a threatening environment to be in, to expose who you are by saying 'I have an idea'." (59:17:124)*

Extensive discussion and debate appeared to take place in this team. Reaching consensus on ideas also appeared to be very important in this team:

> *"So these are the kind of things that, when I say, the analytical side comes in, that team will discuss and will debate and will argue about until we were all kind of on the same page and in agreement that, yes, this is the right way of saying it." (62:30:112)*

Dissent was allowed in the company:

> *"I've been in briefings where people don't agree with the objectives and you're allowed to." (62:41:138)*

In one of the projects described, there was a member of the team who did not initially accept the idea. This person needed to be convinced that the idea was good. This person, however, posed some questions that were important to ensure that the product was eventually successful:

> *"...it initially took some convincing to get [the Experienced Creative Director] on board; he did not see it, he did not see it the same, but he*

posed very vital questions which if we hadn't considered, I think it could have not worked" (62:9:50)

Another team member felt that intensive questioning of ideas was important in order to ensure that potential problems were not overlooked:

"You have to interrogate, and you've got to feel free to do so, because it's testing an idea. If you don't test an idea, someone else is going to, and then it's too late when you realise you're actually wrong, so we do nail ideas, we nail them like we go like this thing and sometimes we override all those fears." (59:36:262)

However the same team member indicated that ideas could be over-analysed, and that often the first ideas were the best:

"What happens then is you have 10/20/30 other sessions which seem to always come back and then maybe it's just because its unadulterated, not over analysed." (59:28:228)

The debate was facilitated by strong opinions that people had:

"Yes there was a lot of debate as to which way is the right way to go and people have strong opinions." (62:29:110)

There thus appeared to be considerable openness in the company and the team. A culture of mutual respect had apparently been created in the organisation.

"So here we've got, like, we've managed to create a culture here that's probably our biggest asset; where people feel there's a healthy, there's a mutual respect for each other, not everyone will love each other, it's an office, but there's a mutual respect for each other." (59:16:120)

One of the team members, who had only recently joined the organisation, indicated that there was honesty and openness in the company, which was different from some of the other companies in the industry:

"I find people are very honest and also there's a lovely, I mean it really is a bit like a family. Like in bigger environments people will be scared to say an idea that they may think is a bit [bad] or came off the top of their head, but they like, worried that it's not as good as somebody else's idea." (60:30:270)

Being open and honest was seen as being advantageous to the individual:

> *"I think in a lot of cases if you're honest, open and direct it works to your advantage." (62:52:160)*

Trust and openness appeared to develop over a period of time:

> *"…you're working with someone you don't know that well because you're still polite with the person, You're still very formal." (63:10:94)*

This person indicated that it is, *"very difficult to tell someone's ideas not great if you don't know them" (62:1:18)* Another of the team members indicated that people were comfortable with each other and thus forthcoming with ideas:

> *"People are more forthcoming with their ideas because I think they feel comfortable around each other so that comfort level, I think, is quite an important one." (60:32:270)*

One of the team members preferred to work alone on an idea first, prior to sharing with the team:

> *"I'm more comfortable working alone and then sharing what I've got in a group environment." (58:29:100)*

This team member indicated that sometimes people got attached to an idea and needed others to assist then with seeing the requirement in a different way:

> *"…she threw a little spin on it and now I've got a brand new opening. If you, you often get to a point where you fall in love with something about it and you don't let go of that thing that you love whereas that's not really the idea it's just a bi-product of the idea." (58:25:90)*

The manner in which people joined into teams and product development was very loose in this organisation:

> *"It's so difficult to explain that dynamic because it changes so often. Because you're working with different people the whole time and talking to different people about the idea. You could be walking past somebody and you hear something, you like. You could be bored and say, 'What are you guys doing can I sit in with you guys.' I mean there's plenty of times where*

I've sat and I like thought about this here and I just throw it to the wind and then it becomes something someone builds onto." (61:31:198)

People in the team and organisation appeared to have fun:

"…and there's a lot of fun that's had and I think that's a very important one as well. " (60:33:270)

It was indicated by one of the team members that knowing the other team members was important in a session where ideas needed to be generated. If people did not know each other well, they felt more likely to be judged by others which could prevent people from suggesting ideas:

"…you don't know them, so you're a little more reserved when you're thinking of ideas because there's a lot more potential for judgment when you don't know the person." (63:9:94)

Part of the team development was identifying which people were good at which tasks or roles:

"…when you work together for the first time on a project like this what I think is very important, is to isolate what personalities is good at what." (62:48:158)

One of the team members indicated that the team was a lot more efficient once people knew each other:

"You're a lot more efficient and get through a lot of the things like when you work in a team. There's a lot of time, there's personal barriers that you first have to get to know the person and how you approach the person so if you've worked with a person for a long time you can exactly say what you think and as well you know when it's a good day and when it's a bad day and how to approach things." (62:2:18)

Another of the team members supported this:

"The other part of that that works is that once you're in a team you really get to know the other person and you really get to know their strengths and weaknesses and how you feed off each other and that, I think, is really important in the brainstorming process and then the ideas are created." (63:8:86)

One of the team members indicated that people needed to have compatible work practices or they would not be able to work together, even if they got along socially:

> *"They get along very well socially but work wise they're not compatible, because your creative process might just be so different and the other person can't work with a person who,... some people like to leave it up to the last minute before they even do something. Some people don't care if there's a better idea out there, so if there's not compatibility in a team then it goes really badly." (62:57:190)*

The smaller teams in this company meant that people relied on each other more and had to understand each other better:

> *"Whereas here, because there's smaller teams, a fewer number of people to rely on, you have to pick on people's strengths and know what everybody's good at so you can draw on them." (63:17:158)*

Some conflict did occur in the team when new member joined the team from another organisation. The conflict was of a personal nature and did appear to affect the performance of the team members who were working together:

> *"I felt like he was encroaching on my right to have and do whatever I needed to do so it was a bit of ego as well" (63:41:256)*

Part of the reason for the conflict was that two people with similar positions and levels in the organisation had different levels of experience and the more experienced person had a very strong personality:

> *"I didn't know because I'm still learning as well. I'm brand new in this role and then I'm dealing with a guy who has a very strong personality." (63:39:254)*

The project that this subgroup needed to work on was apparently affected by the conflict that occurred:

> *"So that project was tainted with a little bit of conflict and a little bit of difficulty because of these huge dynamics that we were faced with." (63:36:248)*

The conflict between these individuals had not been completely resolved. The individuals tended to avoid each other rather than work together:

"So I think we've learned to work with each other well, but because we've also learnt to separate on jobs, so there's not that much need to be in each other's face." (63:43:256)

A team member indicated that the conflict needed to get worse before it could get better:

"But it was good that it happened because it needed to happen … you need to kind of get it out there and it needs to get to the worst point before it can get better." (63:44:264)

The senior management eventually informed the team members involved that they needed to rectify the situation because they were managers:

"So it was a bit of a rocky road after that and then we also got a directive from above, 'you'd better sort yourselves out because you are managers overseeing everybody else, and if they look at you as kind of having conflicts, it's not good so you'd better put yourselves right." (63:37:250)

In one of the major products discussed the original team was having trouble coming up with a suitable idea. This could have been partly attributed to the conflict that occurred between some of the team members. Another Creative Team then came to the assistance of the original team"

"We were not part of it and we saw that she was struggling a bit and we got involved and when she read that script both [another team member] and I went 'that's hands down the best idea on the table and we need to make this idea work'" (58:22:82)

One team member mentioned that it was important to be a part of something of good quality that has "contributed":

"…and feeling like you've been able to be a part of something that has contributed, with good quality at work." (60:24:184)

This team member also mentioned that having good projects was important to raise their own credentials:

"…to develop the kind of work to have on your portfolio, to raise your own personal credentials." (60:5:34)

Another team member mentioned that it was important to deliver beyond expectations due to the trust that had been placed on you:

> *"…you always try and prove that you're worth it and try and exceed expectations." (62:6:34)*

The company was considered to be a good place to work because the success rate with clients was high:

> *[The company's] lovely, one of the reasons people will want to work here is because our hit rate's quite good, because it's very frustrating if you're a creative and you keep on getting it wrong. I mean it's kind of like your egos on the line every time they [the client] says no. So that's what makes it a lovely place to work at, is I believe we mostly do get it right. " (62:67:188)*

One type of motivation in this industry was to be respected by peers, both within and outside the company.

> *"They want to be seen as good, they want to be respected by their peers. It's a huge thing in [the industry]; respect and respect from your co-workers and the people within the industry and other [companies in the industry]." (60:25:212)*

A team member indicated that one needed to elevate one's work standard to match others in the organisation:

> *"You're forced as an individual to up your own level because you're surrounded by people like that." (63:26:200)*

One of the team members saw that being creative involved taking risks:

> *"…when it comes to creativity you've got to have a bit of guts. You've got to at some point go, 'we're not sure that this is going to work', because there's no way you can be creative and know that it's going to work." (58:11:42)*

For the product to be innovative in this sector, the client also needed to be prepared to take risks:

"So the idea could have died at that level, 'No we can only afford …'. This small (indicating small size), it wouldn't have been as impactful, so it required selling again from our side and courage from the client's side to take that step." (61:28:180)

4.7.6. Summary

This team was involved in many innovative marketing campaigns. The innovation process in this team was formal with defined timelines and short timeframes within which to achieve various objectives. Different parts of the team were involved with different parts of the process. The core production process in this company was inherently innovative because of the requirement of the company to be seen to be "remarkable" The innovative behaviour in this company was also driven by the requirements of the customer.

4.8. Case Narrative Conclusion

This chapter detailed a narrative description of each team that was investigated in this study. The purpose has been to provide an authentic written record of all primary data from individual interviews in each team. The narratives provide a context for the Case Analyses and ultimately the cross-case analysis and theory development that follows.

5. CASE ANALYSES

This chapter consists of an analysis of the concepts related to the innovative behaviour identified in each of the teams in this study. The purpose of this analysis is to obtain and present an in-depth understanding of the factors that affected innovative behaviour in each team as a unit. The technique used for the analysis of each team consisted of the coding of incidents in each interview, the creation of memos of the developing findings, the comparison between codes from different team member interviews in order to create higher-level categories (code families) and the analysis of these categories. Table 9 presents the codes, code families and memos per team.

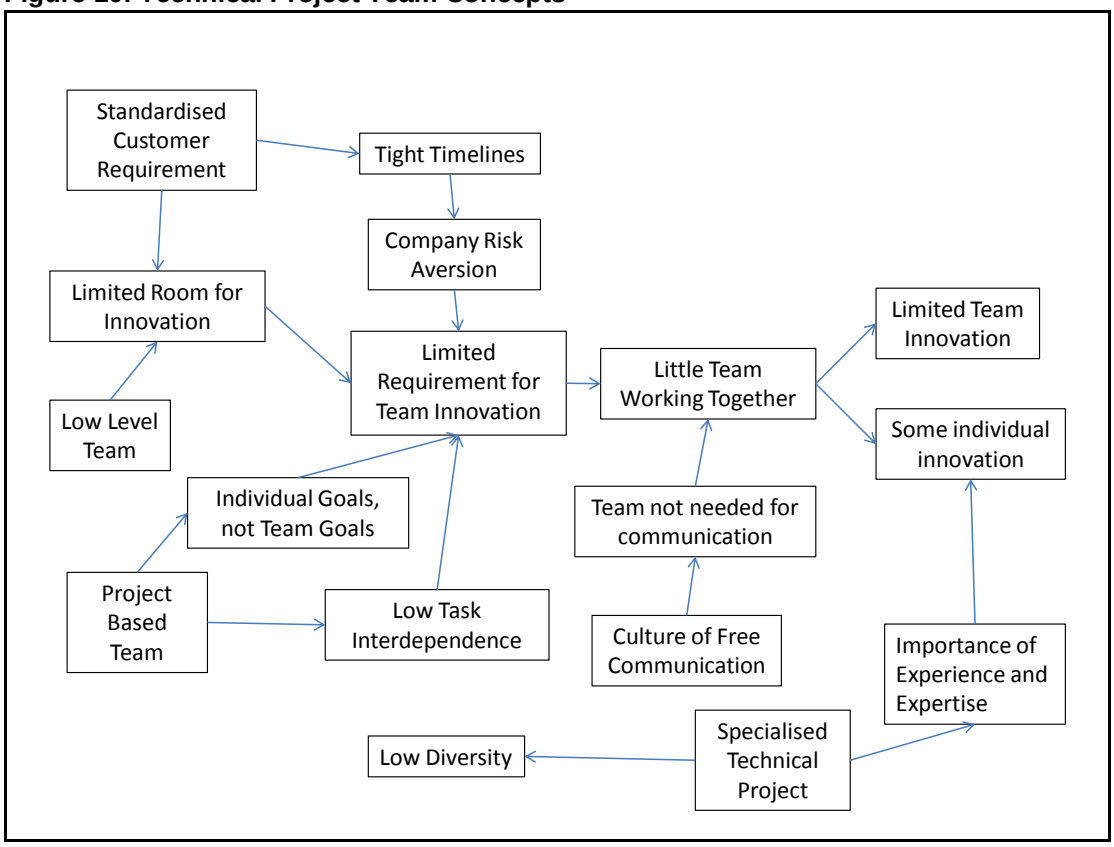
Table 9: Frequency of Occurrence of Coding Units

Team	Codes	Memos/Code Comments	Code Families
Technical Project Team	69	26	16
Core Project Team	189	57	21
EXCO Team	444	55	28
Project Stream Team	154	59	17
Private Company Management	133	44	14
Product Development Team	364	64	22
Marketing Product Development Team	289	52	23

5.1. Technical Project Team

This team was created for the purposes of designing a product for an overseas client. The product was not substantially different from other products that the company supplied, but had to be tailored to the client's environment and requirements. A project plan had been created and different project team members had been allocated responsibilities for the completion of different aspects of the product. The concepts that were evident in the Technical Project Team are illustrated in Figure 10.

Figure 10: Technical Project Team Concepts



5.1.1. Requirement for Innovation

The innovative behaviour of the Technical Project Team as a whole was limited by the characteristics of the product delivered to the client and by a number of decisions that had been taken by the company. The product requested by the client had very little differentiation from other products that were available from this and other suppliers. There was thus little reason to change a product from the many other standard products of this nature that were being supplied to other customers. The innovativeness of the product was thus limited.

There were very tight timelines for the delivery of this product. This meant that the company chose to take a standard product which was already in their suite of products and modify it to meet the requirements of the customers. This was done in order to reduce risk, and to ensure that the product could be completed within the very tight timelines. The team thus ended up changing only very little of the standard product, and thus did not need to be innovative in the manner in which the product was created.

Some innovation from the individual team members was required in order to complete their individual sections of the project; however innovation from the team as a whole was not a requirement. The team members, for example, needed to be innovative with the software to overcome limitations in the hardware but this did not need to be done as a team. These consisted of many small innovations rather than large innovation.

One problem, which was detected by the QA (Quality Assurance) Manager, needed a solution involving the Project Manager, QA manager, and experts from outside the team. This was a serious problem and could have posed great risk to the organisation and an innovative solution that met both the company's and customer's requirements was required. The team as a whole was not involved in rectifying the problem as this only affected one area of the project.

5.1.2. Diversity

There were substantial differences in age and tenure in this team. Other differences were limited, with all the team members being male, qualified as electronics engineers with similar functional backgrounds.

This was a highly technical project, where the domain relevant knowledge and experience was absolutely critical in order for the project to be completed in the short time available. The team members were thus all electronic engineers. One of the team members did indicate that for other projects the teams could include members with other skills such as mechanical design skills and hardware rather than software development skills.

The performance of this team was however not hindered by the lack of diversity in the team. In contrast, considering that the requirement and room for innovation was very low, a team with team members with very specific skills related to their part of the

project was a requirement. There was no benefit that heterogeneity could have brought to the team, since the interaction between the team members was limited.

There was some benefit to having team members with different ages in the team. The more junior engineers were not capable of coming up with new ideas, due to a lack of knowledge and experience. The more experienced team members generally had the better ideas. The enthusiasm of the younger team member's did help with motivation of the other, older team members and thus improved the team dynamics, but did not assist in enabling innovation to occur in the team.

5.1.3. Team Characteristics

The team members had a high level goal that needed to be achieved. This was basically the generic goal of any project. The team needed to complete the product development on time, on budget and according to the client's specification. The team members had well defined individual areas of responsibility, with very little overlap between these areas. They needed to complete their areas individually to have a successful project. There were dependencies where some of the team members needed to complete their areas before others could continue. Failure to complete tasks on time would affect the other team members. What this effectively meant was that even though the team members had a common overarching goal, the individual goals were more important.

The level of task interdependence was low. Because of the segmentation of the work, the members could easily work almost independently and still achieve the objectives of the project. The Project Manager's input was thus critical to ensure that the project plan was structured correctly. Innovation may have been required at this level; however this would have been innovation required of an individual rather than the team.

5.1.4. Team Processes

The team operated within a relatively small organisation where there was constant contact between people who did not necessarily belong to the same team. The team members, even the more junior team members, were thus able to liaise with people from outside the team when faced with problems, without having to rely on people within the team for assistance. The team was not critical in order for team members to

obtain access to experience and expertise. Team processes were thus limited in this team.

5.1.5. Team Findings

A number of findings were noted in this team:

- **Need for Innovation**: The innovative behaviour in this team was constrained by the requirements of the product to be delivered. The product to be delivered was a modification of a standard product that was already part of the company's product line. The customers requirement for a standard product this limited the possible innovation in the team. There were very short timelines and the team thus needed to change the product as little as possible to reduce the risk of missing the deadline. The amount of innovation required of this team was therefore low. There is evidence that problems that only affect a few of the team member rather than the team as a whole can be experienced in teams. This subset of the team may then need to display innovative behaviour in order to find a suitable solution. The innovative behaviour in a team can thus be limited by the room and the requirement for innovation in a team.

- **Decision Making Power of Team**: This team was at a fairly low level, where they could not make decisions regarding the products being delivered to the customer. Higher level teams are likely to have more autonomy in decision making with regards to the product being delivered to the customer. The decision making ability of the team can thus affect the innovative behaviour in the team.

- **Goal and Task Interdependence**: The team members did not have a common goal. Each has a goal related to their section of the project, and if each was delivered successfully the project as likely to be successful. The team members did not need to work together in order to complete any of their tasks, although there were dependencies between the individual tasks. Some of the team members needed to complete their tasks before other team members could proceed with their tasks. Task level interdependence was thus low, limiting the likelihood of innovative behaviour being displayed in the team as a whole. This is something that could generally affect project based teams. It is possible that a team without a common goal would not exhibit task interdependence. This

project team, and perhaps others, may not meet the definition of "team" as used for the purposes of this research. In teams without substantial task or goal interdependence innovative behaviour from the team as a whole may not be required.

- **Importance of Domain Relevant Knowledge and Expertise**: The tasks in the project were allocated on the basis of expertise that the team members possessed regarding certain components of the final solution. In order to complete the project, domain relevant expertise was essential, and all team members were thus electronic engineers. In this company, expertise and experience were critical in order for new thinking and new ideas to come about. Part of the reason for this was the specialised nature of the work involved. Team members needed to have the relevant educational background, as well as substantial experience idea generation. Having the educational background was in itself sufficient to come up with viable new ideas.

- **Communications channels**: Communication in this organisation was not dependent only on the team due to the culture of the organisation. People from different areas of the company were familiar with each other. Team members could and did obtain assistance for their areas of the project from outside the team, without needing other team members' assistance in identifying the correct individuals with whom to speak or for an introduction. The team was therefore not necessary in order to facilitate communications.

- **Impact of Diversity**: There were age and tenure differences in the team that did not affect the innovative behaviour in the team, but did affect the spirit of the team. The younger team members brought enthusiasm to a relatively mundane project. Any new ideas that occurred came from individuals within the team that had vast experience in the industry and product. The only diversity required in this team was differences in skills, not in order to enable innovation in the team, but rather to have the correctly skilled individuals in order to be able to execute different parts of the project.

Methodological Issues

Team Selection for Research: One key point ascertained from this team was that the selection of the team was important in order to ensure that useful data was obtained

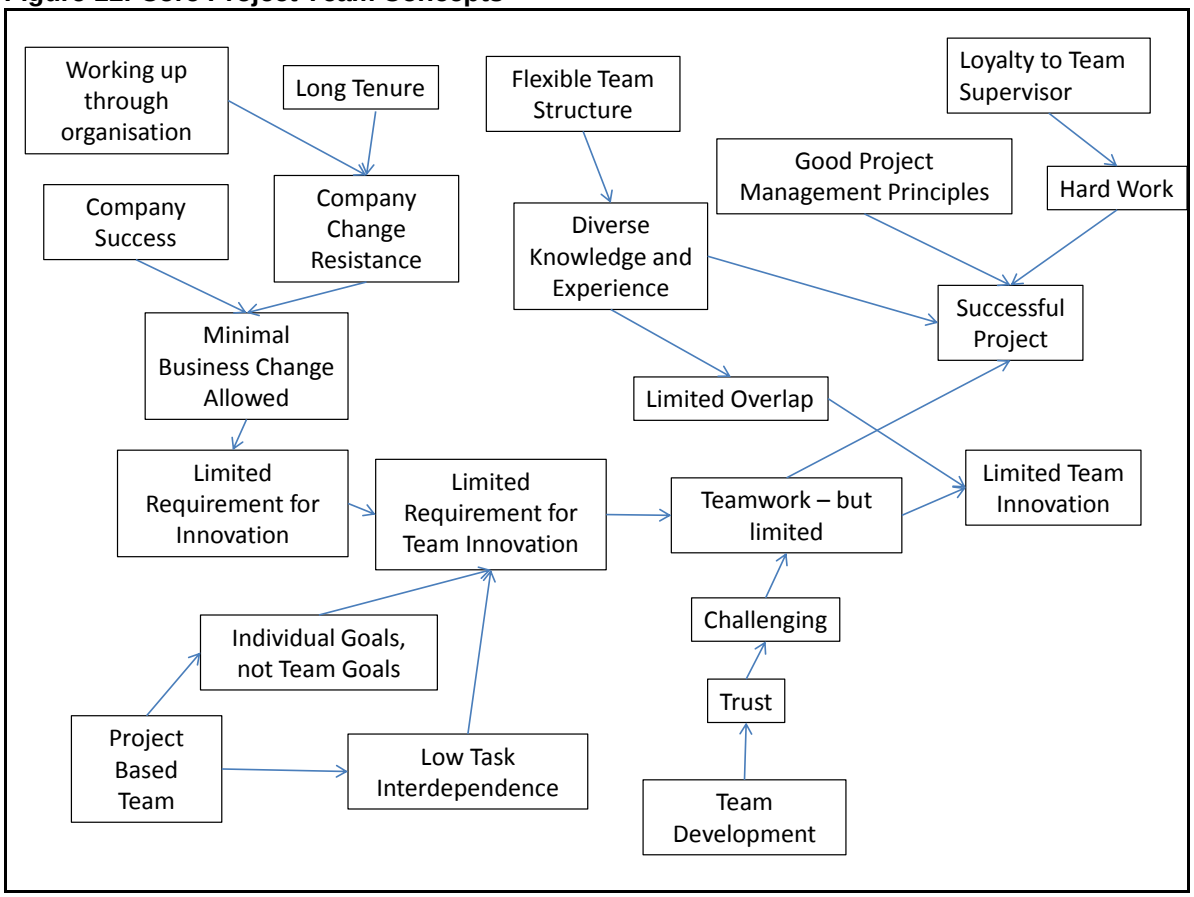
for the research. Low level project teams, where the project manager or project supervisor determined both what should be achieved and how this should be achieved were not likely to exhibit team innovation. For a team to be a useful participant in the research the following criteria had to be met:

- The team members have to have a common goal, and they need to work together, to some extent, in order to achieve that goal. There needs to be goal and task interdependence in the team.
- There has to be a requirement for the team to be innovative in order to achieve the goal. The company and environment in which the team operated also needs to allow the team the room and time necessary for the innovation to take place. This is possibly more likely to occur in a senior team than in a junior team in an organisation.

5.2. Core Project Team

This team was a core project team within a large and successful organisation. The team was responsible for the implementation of a major new Information Technology (IT) system that affected all aspects of the business. The team had a very strict mandate with very little room to manoeuvre. Project stream teams reporting to individuals in this team actually implemented the projects. The team was at a very high level in the organisation and reported into a company director. The concepts that were evident in the Core Project Team are illustrated in Figure 11.

Figure 11: Core Project Team Concepts



5.2.1. Requirement for Innovation

The overall objective of the project was to replace the existing system with a new system to create a platform with which future changes to the business would be possible. This team was the core project team, and the manner in which the project was specified, managed and executed was via a fairly complex project structure. The Director, who was not a part of the team, made decisions regarding the direction of the

project. Lower level project stream teams executed the project. The Core Project Team was responsible for ensuring that the project was delivered on-time and within budget according to the requirements of the Director, who liaised with the Board of Directors regarding the project. This structure limited the potential for innovation in the core team.

The mandate of this team was to execute the project with as little change to the business processes in the organisation as was possible. There was necessary to reduce the disruption to the business. This was seen as an innovative approach to enable change to take place in an organisation where there was a strong culture of resistance to change. This decision reduced the risk of disruptions caused by the transition, whilst creating a platform for changes in the future. With the old system, changes were difficult to implement. Change to the business processes would be possible with the new system. This decision may have been innovative but it was not a decision taken by the Core Project Team, and appeared to have been a decision of the Director in consultation with the Board of the company.

There was innovation necessary within the project streams when individual system modules were implemented in order to modify the systems to match the existing business operations and existing systems. This was not innovation that occurred within the core project team, the team under investigation, but rather innovation in a lower level team. (Note that a separate team, the Project Stream Team for the Human Resources module was also investigated)

The company had a culture that was not conducive to change. It had been in existence for a long period of time and had generally been successful over that period of time. The company employees, including senior employees, therefore saw little reason to change. As indicated by one of the team members, unless there was a “burning platform” there was only a small possibility of change taking place. Most of the people in management positions had reached their positions by working their way through the company. They therefore had little exposure to new or different ways of doing things.

The team had a project plan, against which all aspects of the project were measured. This adherence to the project plan potentially limited any project related innovation that could occur, as any change to the project plan would potentially affect the budget or increase the risk to successful completion. This meant that, even though certain changes could have reduced the cost of the project and potentially improved the

project performance, these were not implemented due to possible increased risk. Risk aversion thus also reduced the potential innovative behaviour in the project.

5.2.2. Team Characteristics

It was stated by numerous of the team members that the Core Project Team had a common goal, and this goal was the successful execution of the project according to the project plan. However this goal was, in practice, subdivided into different areas related to each software module. Different team members, or sets of team members, were responsible for different software modules. In many cases the teams needed to consult with others regarding interfaces between the modules and thereafter only needed to ensure that the modules that they were responsible for were executed according to the plan. In reality the common goal could be and was broken down into sub-projects which could be executed largely independently. Even though there was a certain level of a common goal, the team members effectively had individual areas, which were clearly defined by the project plan that they needed to execute. One team member, the person in charge of the implementation of the human resources module indicated that he only met with the full team once.

Even though the team members stated that there was a high level of interdependence between the team members, this dependence did not appear to be at a task level, but was rather at module interface level. The different team members needed to interact with each other to ensure that there interfaces between their own separate modules was correct. This is not task level interdependence, which is where people need to work together in order to complete their tasks.

Regardless of this, the team appeared to have been very successful in the execution of the project according to their mandate; the systems were delivered and the disruption to the business appeared to have been relatively low in comparison with other companies implementing the same system. One of the team members did indicate that this success was due to hard work, rather than smart work.

5.2.3. Diversity

The team was specifically chosen to have members from each of the major business areas. These were experts in their area of the business, but not necessarily people who had experience in each other's area of the business. There was thus functional area diversity in the team, but little overlap. For one large implementation area, two

people were allocated from the company, one with a business orientation and one with a technology orientation.

Another type of diversity that existed in this team was the company for which the team members worked. This was a cross-company team with both company employees and consultants from the service provider. The consultants involved in the project had different expertise and experience from the company team members. This was an important form of diversity that apparently had performance benefits for the team. The company staff understood the manner in which the company operated but were limited as this was the only company many of the team members had worked for. The consultants had varied experience. The combination of the consultants and the company staff enabled the team to bring different perspectives to bear on problems that were encountered by the team.

Different team members had different skills, styles or work and expertise. Some were good at planning and delivery, some were good at promoting ideas, with specialist in each different area of the project. This assisted with the successful completion of the project but did not have an impact on the innovative behaviour in the team.

5.2.4. Team Processes

Strong evidence of the development of the team from when it was originally created, when a fair level of distrust appeared to exist, until later in the project when the team appeared to have significant trust in each other, was apparent. This trust reduced the amount of conflict and led to better discussion and debate in the team.

The team members consisted of consultants and representatives from different areas of the business. Most of the team members had never worked together previously. When the project started, this was effectively a new team. In addition some of the consultants had heard negative comments about the company. This initially created distrust in the team, and limited the amount of open discussion. Some of the team members did not fit into the team and eventually left, including the service provider's original Project Manager. This team member had been involved in significant conflict with the Programme Manager. The role of the person was also incorrect. The team did not realise the nature of the problem and rectify it until suggested by an unrelated external consultant. The team members who were unable to develop trust displayed dysfunctional behaviour and suspiciousness and were thus distracted from using their minds and energy for the project and the benefit of the team. These people eventually

left or were removed from the team. This apparently resulted in a much better core team.

Trust did eventually develop in the team as a result of people realising that they had the common goal to successfully implementing the system, even though their objectives may have differed slightly. Trust also apparently developed as a result of the success that occurred within the team.

The power relations also changed in the team over time, with the consultants being dominant initially, until the company staff eventually were “in the driving seat” after the first module was implemented. This was due to the expertise that the company staff developed, as well as the company staff being the primary interface with the business users.

One of the interventions put into place in an attempt to get the team to work better was to put all the team members into a large, open plan office space. This may have had an impact on information sharing in the team however some team members did indicate that this just created a distraction from their work.

There appeared to be strong motivation for the team to succeed. Team members appeared to have strong loyalty to the Director because of the faith that she had put in the team. Some team members seemed to be motivated by ensuring that the Director was not compromised by the team not delivering. This inspired the team to deliver in order to protect the Director. This did not appear to impact the innovation in the team, but rather the amount of effort that team members were prepared to put into getting their tasks completed on time.

The team members eventually became similar, as they developed a common way of working and addressing issues and developed a common language. Thus could be seen as the team becoming more homogenous.

One of the team members indicated that the relative homogeneity of the team members assisted the promotion and the implementation of ideas. This person indicated that the lack of distraction of diverse views helped with the promotion and implementation of the solution. The common working models that developed over time assisted this process. The same person did, however, indicate that the diverse backgrounds and experience of the team members was important in identifying

solutions that would otherwise not have been possible. This was supported by another of the team members who indicated that the systems and business expertise in the same team assisted in coming up with ideas that would not otherwise have been thought of.

5.2.5. Innovative Behaviour

Various project management principles were applied to make the project successful, including dividing the project up into different streams. Other ideas such as *"walking the floor"* which were noted are quite common in project management, and thus not particularly novel. These were also not the outcome of the team as a whole, but mainly of the programme manager alone.

A few of the team members were very vocal in stating that the team was not innovative. They felt that much more could have been done whilst the system was being implemented. They even indicated that changes in the manner in which the project was executed could have assisted the delivery of the project. These changes were not implemented even though there were potential benefits as this was not according to the project plan and would have increased the risk in the project.

5.2.6. Team Findings

A number of findings were noted in this team:

- **Need for Innovation**: The requirement for innovation was not high in this team. Various decisions that were innovative were taken at a higher level than the team and appeared to have been successful. The lower level project stream teams may have had to be innovative in their implementation of the modules. The Core Project Team, however, had little requirement to be innovative, since the function of the team was to ensure the project was completed successfully as planned.

- **Common Goal**: The team members had only an overarching common goal which was the overall success of the project. They had individual areas that they were responsible for implementing. If each team member successfully implemented their area then the overall project would be a success. The overarching goal was however useful in motivating the team members to complete their areas of the project in order for the overall project to be

successful. There was little need for the team members to behave innovatively in order to achieve these goals.

- **Task Interdependence**: The level of task interdependence was also low, since the need for the project streams to work together was low. There was however dependence between the project streams, where different streams relied on others to be successfully completed before being able to implement their streams. Without task interdependence and common goals team members would have little reason to work together thus limiting the possibility of team level innovative behaviour.

- **Multi-organisational teams**: This team consisted of members from different organisations, with other unrelated consultants called in to assist at times. This challenges the traditional norms of the team as being fixed in structure, fixed for the duration of a project or that the team members are generally from the same organisation. This is an alternative form of diversity that may become important as companies form more cross-organisational teams.

- **Organisational Culture**: This organisation had a culture that was very resistant to change, thus limiting the possibility of innovation in the system that was implemented. This resistance to change was fuelled by success of the organisation and the culture of managers working their way up through the ranks.

- **Loyalty to Organisational Members**: There appears to have been great loyalty to the Director who was the project sponsor. This led to people striving to complete the project as planned. This is potentially very strong motivation for a team to succeed in its tasks, as it is not related to an internal motivation.

- **Team Development**: This team was completely new with people who had not worked with each other previously. Team members were drawn from two different organisations and there was therefore an element of mistrust, which appeared to have affected the initial functioning of the team. This was very important as until a suitable level of trust had been reached the team did not work well together. Obtaining trust in the team required certain team members,

who could not trust or work with the team, to leave. Only when the trust had been developed, did the team begin to operate optimally.

- **Project Team Innovation**: This team had a well-defined and thought out objective, which was to deliberately maintain the same business processes whilst changing the system as a platform for future change. This innovative decision was not an outcome of the team, but rather of the project sponsor and the project manager. This team thus had very clear and non-overlapping areas of responsibilities which limited the potential of innovation from the team as a whole.

- **Knowledge and Power**: At the start the expertise in this team resided with the consultants, but during the course of the project, this expertise and the balance of power shifted from the consultants to the company team members. This illustrated a form of knowledge transfer that took place between the consultants with broad experience and the team members who were mostly limited in their experience outside the organisation.

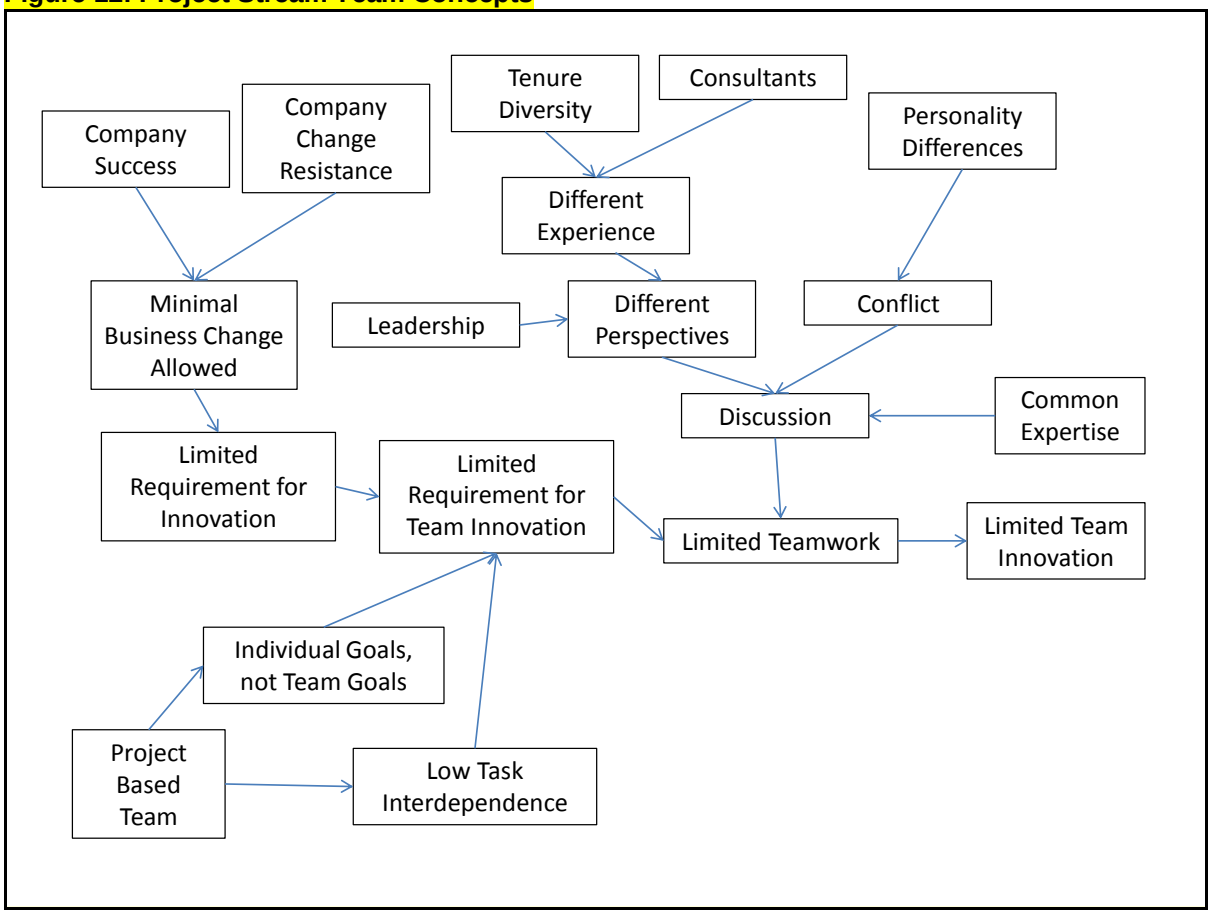
- **Value of Homogeneity**: There was evidence in this team that homogeneity assisted with the implementation of the project. Heterogeneity, though possibly useful for the value of different perspectives may hinder a project which is well planned and needs to be implemented with little questioning.

- **Diversity**: Demographic forms of diversity such as race and gender were not important to this team. More job-related forms of diversity such as functional background and tenure were more important. This did not relate directly to innovation but rather to having the right skill sets and expertise to be able to successfully complete the project. Other forms of diversity, such the cognitive skills of the team members, were also important for the successful completion of the project.

5.3. Project Stream Team

This was one of the project stream teams from the software implementation project managed by Team 2, the Core Project Team. This Project Stream Team was responsible for the implementation of the Human Resources module of the system. The concepts that were evident in the Project Stream Team are illustrated in Figure 12.

Figure 12: Project Stream Team Concepts



5.3.1. Requirement for Innovation

The team has a large and difficult project to implement, with many of the other system modules depending on this module to be functioning properly. The structure of the project at a higher level was designed to limit the amount of change that the business users experienced during the system implementation, and the potential for innovation was thus limited. The team were encouraged to be innovative subsequent to the systems implementation by the team leader.

The system implemented was a very widely used, high end system which had been implemented at thousands of customers. The team mandate was to implement the system in the manner that would limit the change to the organisation, rather than utilise the practices entrenched in the system. This, in combination with the general resistance to change of the organisation meant that most of the useful technological innovation that was entrenched in the system was overlooked. This would have been especially true if the consultants were not experienced and could thus not have countered the arguments of the experienced team members. Some of the initial consultants were not very experienced.

5.3.2. Team Characteristics

Even though the team had overall responsibility for the implementation of the Human Resources module, the individual team members were responsible for separate parts of the overall system. The team members had individual goals that formed part of a group of goals that needed to be achieved in order for the overall project to be successful. If each member achieved their own goal, then the entire project would be a success. There was thus no common goal aside from the high level goal of successfully implementing the Human Resources module.

There were important interfaces between the different areas to be implemented and the team members needed to work together to define these interfaces. Many of the team members could not implement their areas without other modules having been implemented first. There was however little need for the team members to work together in order to achieve their individual goals. The team members only needed to interact to ensure that the interfaces were correct. The level of team interdependence was thus low.

The composition of the team was quite flexible. Aside from the few permanent team members, other people were involved with the team at different times. This included the central IT staff, consultants and business users. The team appeared to be very open to obtaining assistance from other people when different needs or requirements occurred. The team was also quite flexible about who was included in the various projects that the team members undertook. Subgroups consisting of some of the team members, consultants and business users were formed as required.

5.3.3. Diversity

There was limited demographic diversity in the team. All of the team members, aside from the team leader, were white females, whilst the team leader was a white male. There were age differences between the team members. Other forms of diversity that existed were tenure differences and personality differences.

One area that appeared to be important to the team was the knowledge of the company workings that came as a result of the long tenure of specific team members. By having a person who had considerable experience in terms of what works, what had worked previously and what did not work in the organisation, the team was able to make better decisions. This company specific knowledge was important to be able to assess the feasibility of change in the organisation, and thereby assist with the successful completion of the project.

The long tenure of these team members was not linked to a resistance to change. This was apparently different from many of the other managers in the organisation, who had spent their entire life in the organisation and were very resistant to change, and did not have experiences from outside the organisation. In contrast, team members with shorter tenure and experience in working on other organisations had access to ideas that did not exist in the company and understood different ways of doing things.

It was important for the team members to have substantial human resources experience. There were a range of educational backgrounds, with each team member being an expert in their area. The educational level differences were not considered as important, despite there being team members with postgraduate degrees and others with no undergraduate qualifications.

There were substantial personality differences in the team. The personalities in the team ranged from quiet, passionate, emotional, task focussed, confident and stubborn to “airy-fairy”. Most of the team members were had “strong” personalities, were hard workers and dramatic. The strong personalities did create conflict in the team.

5.3.4. Team Processes

Team development initiatives such as the locating all the team members in an open plan office took place in this team. There appeared to be a fair level of discussion and debate that occurred, and some associated conflict. The discussion and debate may

have been assisted by the open plan office, as the close proximity of the team members meant that others could hear the conversations and join the discussions spontaneously. Some of the team members however did not support the open plan office system as they felt that this interfered with their work.

The conflict in the team was apparently partially caused by uncertainty of some of the team members of what their status in the team was. This conflict disappeared when the team members involved achieved the same status as the other team members. Another cause stated by the team members was that as the project approached the end and team members became emotional. The conflict could also have been caused by the headstrong and emotional nature of the team members who were also experts in their own areas. The team members were also apparently prepared to voice their opinions openly and challenge other team members, even if in disagreement with those who were the experts in that area. One of the team members, however, did not label this as conflict, but rather as disagreements. The leader had a light handled manner of handling these conflicts and the team members were prepared to move past the issues.

Energy in the team was mentioned as a factor by more than one team member. The team leader mentioned that some people had an ability to sap energy from a team, and he was therefore concerned that none of these types of people were included in this team. One of the team members felt that the open plan office encouraged discussions that were not relevant to the team and thus created a negative energy in the team.

Discussions about new ways of doing things seemed to centre on the team leader and the team member with expertise in the area. The output of these discussions was then brought to the entire team for their comment. Subgroups of the team discussed various ideas and then introduced these to the rest of the team.

5.3.5. Innovative Behaviour

The innovative behaviour of the team was limited. There were frequent discussions between the team members about their individual areas of responsibility; however this generally appeared to comprise obtaining advice prior to individually taking decisions. Two reasons for these discussions were the overlapping knowledge that the team members possessed and the close physical proximity that everyone was required to work in.

The team leader, who was a part of the team, encouraged the team members to think of new ways of doing things. This did not occur in the project, but rather after the project had been completed and the team members became managers of the different areas in the Human Resources department. The team leader was mentioned by many of the team members as one who was constantly looking at new and different ways of working.

5.3.6. Team Findings

A number of findings were noted in this team:

- **Need for Innovation**: The perceived need for innovation as a team was not high in this team. The mandate of the project was to implement the system with as little change to the business as possible. To this end the staff were not guided by the consultants on the features to implement, but rather by the existing business processes.

- **Common Goal**: Each team member had their own area of responsibility in the project. If each team member successfully implemented their area then the overall project would be a success. There was thus no common goal for which the team members needed to work together to achieve, aside from the overall aim of implementing the entire Human Resources system.

- **Task Interdependence**: The level of task interdependence was also low, even though the team members did discuss requirement and issue in their areas with each other. These discussions were driven by the common or overlapping knowledge of the human resources field that the team member shared, and was facilitated by the team working in close proximity in an open plan environment.

- **Energy**: The concept of energy was mentioned in this team, both from the point of view of people who energised the team and from those who drain energy from the team. The open plan office environment was considered by at least one of the team members to waste the energy of the team.

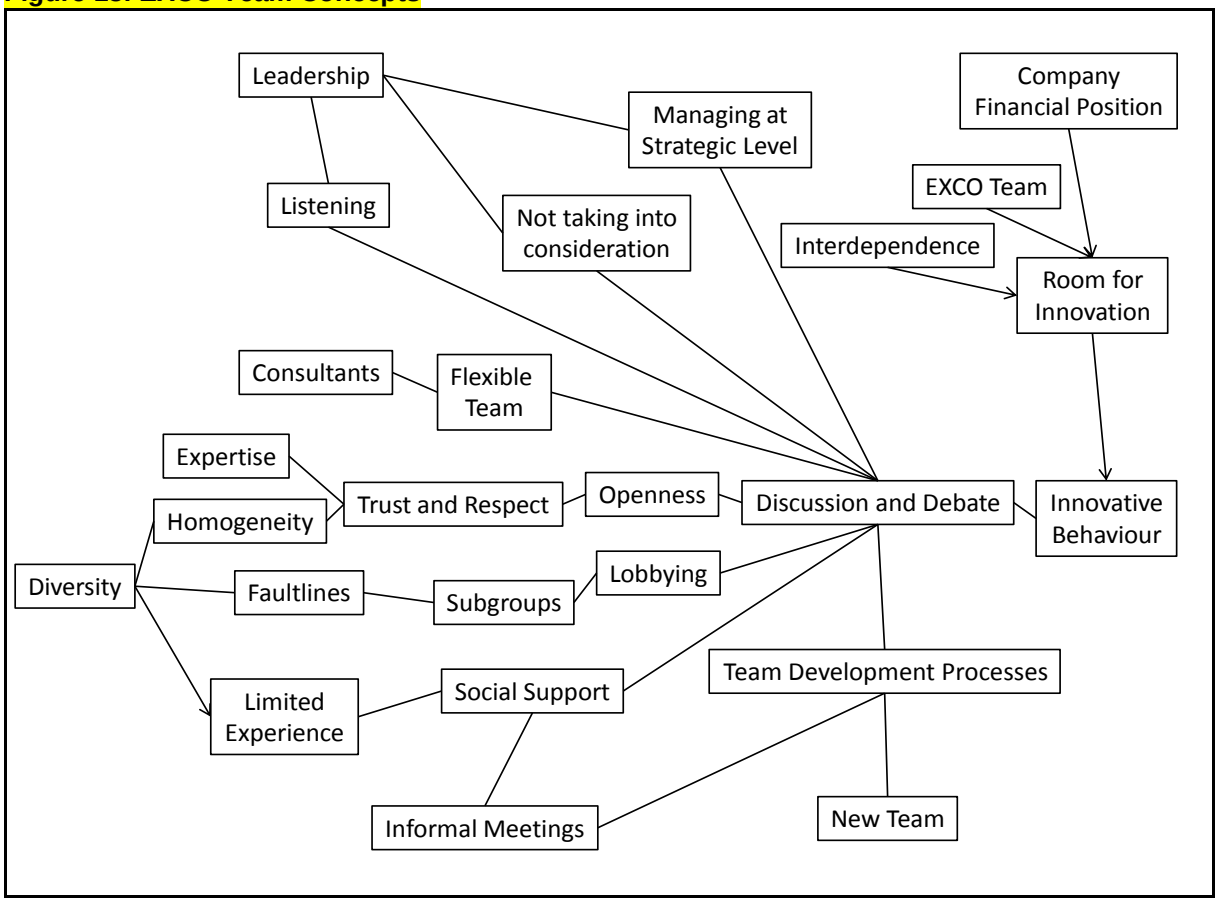
- **Leadership**: The team leader was instrumental in constantly challenging the team to look for better ways of working. This created an environment where people were encouraged not to accept everything at face value in the business and were prepared to challenge the way things were. This was a driver of innovation in the team, especially after the completion of the project.

- **Diversity**: From a demographic perspective, this was not a heterogeneous team, with the majority of the team members being white females. The differences in educational level did not appear to be important as the team members each had sufficient expertise in human resource management. The most important form of diversity was tenure diversity. The longer serving team members did have the advantage of having a detailed knowledge of the organisation, whilst the newer team members had knowledge of different ways of managing human resources in a business. The long tenure did not relate to resistance to change, unlike other long tenure management in the organisation. There were personality differences between the team members; however all appeared to be driven to succeed. The personality differences and similarities, such as willingness to challenge others, did not hamper the operation of the team. However personality clashed, possibly by team members with similar “strong” personalities did create some conflict in the team.

5.4. EXCO Team

This was a company Executive Committee (EXCO). The Managing Director of the company was one of the team members. There was at least one example of a major innovation that occurred within the team and required most of the team members to work together in order to find a solution. The concepts that were evident in the EXCO Team are illustrated in Figure 13.

Figure 13: EXCO Team Concepts



5.4.1. Requirement for Innovation

Being the Executive Committee of the organisation this team had the authority to make decisions for the company, and thus had the ability to innovate. There were however various circumstances that hampered the ability of the company, and therefore the team, to be innovative.

One factor that could have had an impact on the innovation was that the company was required to deliver according to certain financial budgets and did not achieve those results. The focus, in the company, was focussed on ensuring the company was

operating optimally, rather than adding new innovations to the company. The company has also put into place a number of major changes, which were decided upon prior to the formation of the team, and thus did not have the capacity for further major changes.

A team member did indicate that strategic innovation should take place at the group company level as innovation that occurs at company level could be in conflict with the group's overall vision. Various team members did however that innovation was essential for the company's future.

The company also could not be flexible in the goods and services that it delivered because the company had an exclusive relationship with their major supplier and were constrained by the products that the supplier sold. Innovation needed to centre on how to complete projects more successfully, deliver value to the customer and ensure the customer derives the anticipated benefits.

5.4.2. Team Characteristics

In this team the team members appeared to have a common goal and task level interdependence. Being an Executive Committee, the team was responsible for the success of the organisation. This was also supported by the manner in which the team member's remuneration was structured to emphasise team goals more than individual goals. This became much clearer when the Managing Director left, and the remaining team members understood that it was up to them to ensure the success of the organisation. The team members also indicated that there was a need for the team members to work together in order to achieve their goals, due to the manner in which the business was structured.

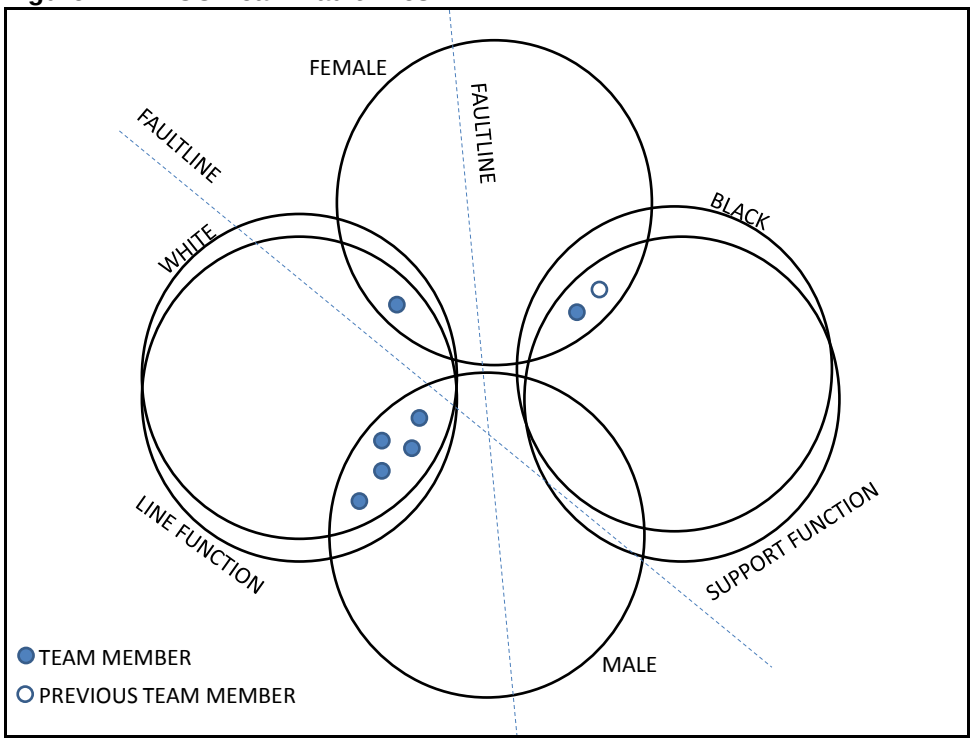
The team structure of this team was not fixed for the duration of the interviews. In this team members left the team, and even the team leader left the organisation shortly after his interview. The structure of this also varied at times, when consultants and the partners were used by the team for specific purposes. An interesting aspect of this organisation is that there was a definite need for teams within the company to cross the organisational boundary and include members from the supplier who was located in another country. This was because the organisation could not efficiently employ and train up experts in all aspects of its products and services for all the different customer segments.

5.4.3. Diversity

The team was white male dominant. There were large age differences in the team with the oldest member exhibiting some resistance to change. This is aggravated by the amount of time that the white males spend together during or after working hours at recreational activities. Aside from the white males there are three females, two black and one white. The black females, who were included in the team, were relatively inexperienced and were in the support functions of finance and human resources. Several of the white team members had extensive experience in the industry, unlike the black females who had limited or no technical knowledge.

Strong fault lines existed in the team around race, gender and functional area (line management or support function). This is illustrated in Figure 14.

Figure 14: EXCO Team Fault lines



Two different fault lines existed, one consisted of white males, who spend time together socially after hours and at engaging in sporting activities. The other fault line was between the white team members who also had direct line of business functions and black team members who had the supporting functions of finance (prior to the departure of the Finance Director) and human resources.

These fault lines did appear to create subgroups of the team and consequently insider and outsider groups. According to at least one white male team member the most valuable discussions took place after the formal meetings, often over drinks. The females did not generally join these sessions due to different priorities that they had. Females were not deliberately excluded and did have a choice to attend or not to attend. The combination of the black females being more introverted and the project focus of the white female, who would after the formal meetings rather go back and finish her work, meant that the females did not generally join these sessions. Some of the male team members did indicate they saw the females as being valuable because of their different, more methodical way of thinking through problems. They felt that the exclusion of the female team members from these sessions adversely affected the team decision making. Another of the team members indicated that even though male and female team members might have differences, males and females may also "like" to think that they are different, and may in fact be more similar than they feel.

Part of the problem with these sub-groups is that a subset of the group spent much time communicating and discussing ideas, whilst not including other parts of the team, which consisted of the women. To a certain extent this would have had less of an impact related to the black females, as these were involved only in the supporting functions, but the professional services executive who actually delivered all the professional services was also generally not present.

In the example of the major problem that the team faced, and the multi-disciplinary solution that eventually solved the problem, different perspectives and expertise from many of the team members was required in order to find a solution acceptable to the client. This is a clear example of how functional diversity positively affected the team. However the team members did indicate that the relative demographic homogeneity within the team apparently resulted in stronger bonding and could have facilitated the team's ability to deliver. The minority group in this team, comprising black females had relatively low impact in the team. Different forms of diversity could thus have affected the teams in different ways, the more cognitive functional diversity positively impacted the manner in which innovative solutions to problems were found, whilst the relative homogeneity enabled the team members to work better together.

The fact that the team member who appeared to have the least contribution was black could be partially attributed to the fact that this team member was inexperienced and included in the team despite the reservations that the managing director had regarding

her capabilities. The team members did however feel that she had the potential to develop into the role. It was later stated by one of the team members that the black female eventually became excellent and successfully delivered and led the human resources area of the company.

Differences in personality were noted between the styles of the Managing Director, who left around the time of the interviews, and the new Managing Director. The Original Managing Director was outgoing, emotional and wanted to be seen and heard by the staff. The Managing Director who replaced him was quiet and conservative and did not interact much with the staff, though he was seen to be a 'peoples' person. These differences were differences in personality, which were apparently independent of race. Neither of these was seen as better or worse, and it was expected that the team should have made allowanced for them. The Managing Director was white, whereas the new Managing Director was black.

5.4.4. Team Processes

The team was formed two years prior to the interviews, and perhaps did not have sufficient time for the full development of the group of people into a team. This problem could have been exacerbated by the inexperienced individuals in the team. Only two of the team members had worked together previously for the company, two of the team members had worked together previously for a different company and one person only joined the team none months prior to the interviews. The prior history of the company and its leadership could also have retarded the team formation processes initially.

The leadership was consultative rather than authoritarian. The after effects of the previous "*it's either my road or you hit the road*" leader, who was extremely aggressive, still had some impact on the organisation two years later. The leadership however did not attempt to stop the visible subgroup interaction that occurred in the team.

There was an element of self-selection in this team. The original strategy session was, in effect, part of this selection process. Those that were prepared to and did contribute at the session became part of the EXCO team. Those who were not trusting did not end up in the EXCO team. This is different from the scenario where a new Managing Director either continues to operate with the existing EXCO with no input into their choice, or when the Managing Director hires people who he gets to know only from an

interview. The team members were selected based on how they contributed and performed whilst in a team environment.

The informal support that was given to the less experienced team members outside the sessions did appear to lead to better contribution of these team members in the formal sessions. This is possibly an example of social support within the team. Some of the sessions held were formal, but personal sessions, where team members are their partners were required to attend. The intention appeared to be to ensure that people understood each other's circumstances.

Substantial bonding appears to have occurred between the male team members (all white) at either sporting activities or in discussions following after formal EXCO meetings, typically with drinks. The white female generally did not attend this session, feeling that it was more important to continue with work. The black females also did not attend. The fact that some of the team members did not attend these sessions could have impacted on the contribution and the understanding of the missing members.

One problem noted was that; neither the team members who attended the informal sessions, which appeared to go too far and sometimes involved drinking at a pub at lunchtime, nor those excluded from the sessions, discussed their concerns with the team leader, despite the loss of respect for the leader that was associated with these informal sessions. The team was not strong enough to confront the leader.

Extensive discussion and debate took place in this team, even though it did not always involve all of the team members. Discussion and debate took place during the formal sessions but the more in-depth discussions appeared to have taken place only after the meetings, when only the male team members were involved. The sessions that involved a subset of the team and that dealt with business issues or problems, sometimes included only some of the team members. This was not seen as a negative as the different team members who were involved in or could contribute to the problem were included.

There appeared to be openness in the team, which was expressed by a few people, and this appeared to have occurred due to the trust and respect that existed in the team. This trust and respect appeared to be an outcome of the homogeneity in the team, the amount of time which the white males in the team spent together, and the expertise of the team members.

The discussion and debate was apparently facilitated by the different perspectives of the members because of their different functional backgrounds and respect for individuals due to their track record. The Managing Director apparently listened and took into consideration what people had to say. It was however also stated that the leader listened and took into consideration only selected people. The team did not entertain ideas that made “no sense”.

Even though there was discussion and people appeared to be open, one of the team members did indicate *“but it was also swept aside if it was meaningless. So there was openness, but an honesty. We would not listen and entertain an idea if it did not make sense” (22:41:14)*. What makes sense and what does not could be difficult to ascertain prior to extensive debate about the idea, and this could thus have limited the possible ideas considered. There is thus the possibility that because people are experts in their fields, they could reject ideas which may have merit or that could advance the thinking about a subject. Other ideas which are linked to the original idea that was “meaningless” may actually emerge under these circumstances. At least one team member indicated that ideas mentioned that were initially rejected were often reconsidered at a later time. This team member thus ensured that these ideas were mentioned despite the possible initial rejection of the idea that would occur.

Lobbying of the team leader apparently took place if certain team members were not satisfied with the outcome of the full EXCO meetings. These team members would attempt to obtain a decision on a “consensus basis” from the team leader. This could have however been as a consequence of the resistance to change of some of the team members. This appeared to take place with people who had “the ear of the MD”, and could have been harmful to the debate and discussion in the organisation. This would have also disrupted to the operation of the team, and could have led to less innovative ideas being implemented and resulted in the disempowerment of the team discussions.

5.4.5. Innovative Behaviour

A number of innovations were introduced into the company as a result of a major strategy session which was facilitated by consultants to the company. At least one of these did not really have utility in the company. This was related to how the company was structured. The company was restructured shortly after the Managing Director was appointed to route all sales to a customer through a common channel. Some of the

team members indicated that this was not a suitable structure considering the differences in terms of the value and business cycles of the two major areas of the business. The structure was in fact changed shortly after the Managing Director had left the company, to be closer to the original organisation structure.

This was an example of an innovation, which was implemented even though at least one member of the team did not agree with the introduction of the structural change. The Managing Director also introduced this major change to the company, after only having been in the company for a very short while. The Managing Director's knowledge of the business may not have been sufficient at this time to determine how the business operated and therefore what a suitable structure should be. The Managing Director was also not from the same industry and was a non-technical person.

An important innovation that occurred in this team was as a result of a critical problem that occurred for a project being implemented for a customer. There was strong pressure to solve this problem as the consequences could have been the failure of the project or financial loss. The pressure in this case could have been sufficient such that all ideas were considered and different perspectives were a requirement. The problem area was also customer facing, rather than an internal issue, and the customer would have been the ultimate judge of the solution proposed. The solving of this problem involved most of the team members having a detailed discussion and eventually coming up with a multi-disciplinary solution that required staff from different functional areas to be involved.

The company called in external consultants to assist in the strategy formulation process. Teams can decide and do decide that the either the necessary skills or the time does not exist internally so they obtain the skills of external consultants to assist with the innovation process.

The company had also created a position of Innovation Manager and employed someone whom the Managing Director has worked with previously in this position. The Innovation Manager however had to work as a stand-in financial manager after the previous financial manager left. This created a vacuum, with the team members leaving the innovation up to this individual, who however could not deliver due to becoming the person in charge of finance.

One of the limitations that could have occurred in this team is that if a solution or result appears to be generally in the right direction team members may not challenge especially if the team member suggesting the solution is known to be an expert in this area. In this particular team this could have been caused by a number of factors:

- Having a very strong strategic thinker in the team could have resulted in less debate due to a “halo” factor. Someone who is generally right and that thinks things through very clearly may lead to others “trusting” their judgement and not debating.
- Team members who do not have sufficient overlap in their knowledge bases may not question each other sufficiently due to limits on their understanding of each other’s areas of expertise.

Both of these conditions appeared to exist in this team. The Managing Director was seen as the majority of the team members as a very capable strategic thinker. Many of the team members were quite specialised in their areas of expertise and may thus not have been able to question others in the team.

5.4.6. Team Findings

The critical areas that appeared to contribute to the innovative behaviour in this team were:

- **Room for Innovation**: In this team there was limited room for innovation to occur. The suppliers dictated the products sold, operational, financial and personal issues hindered the ability to introduce change. The company had also initiated major changes prior to the formation of the team and more change was thus no required. The one situation where innovative behaviour was required was when the company experienced a major problem with an implementation at a client.

- **Fault lines**: The team had very distinct fault lines that resulted in clear subgroups in the team. These fault lines were as a consequence of the diversity of the team. The dominant subgroup was white male, and much of the in-depth discussion and debate that took place occurred only in this subgroup. The other subgroup, white and black females were generally not a part of these discussions as many of them took place after hours and after meetings. To a certain extent this was mitigated by the fact that the black females were part of the support services, and thus may not have been able to contribute to the

mote technical discussions. This was aggravated by the relative inexperience of black females that were included in the team.

- **Openness**: The white male dominance together with some of the team member expertise appeared to result in trust and respect, and thus openness in the team. This was however tempered by the reluctance of the team to listen to ideas that appeared to make no sense. It is possible that good ideas from less experienced team members may not have been taken into consideration, either because they had a lack of credibility or because it did not appear to make sense. The judgement call on the "worth" of an idea may have taken place too soon. The openness

- **Discussion and Debate**: Discussions between two people frequently took place in this team, however only some team members appeared to have influence or were taken into consideration in these meetings. It also appears that team members used these meetings to convince the team leader of their point of view, even after the same issues has been discussed and agreed upon in full EXCO meetings. Extensive discussion also took place at informal sessions after EXCO meetings, and even whilst the team members were participating in recreational sport. The openness of the discussion did not extend to raising concerns regarding the informal sessions that took place. By the time the remaining inexperienced team member had become effective the managing director has already left the company.

- **Social Support**: Many informal meetings took place with the less experienced team members, in order to try and get better input from these team members during the formal meetings. These did appear to have a positive impact.

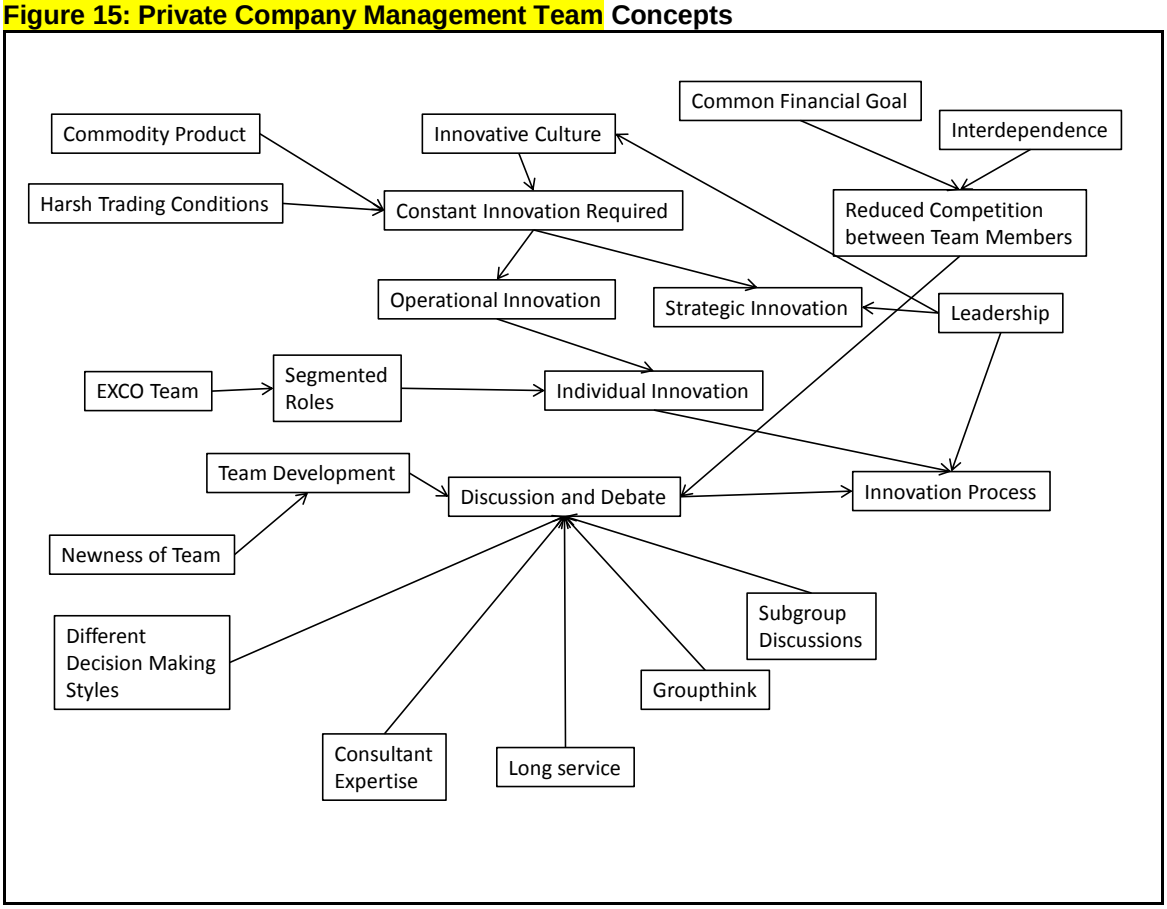
- **Flexible teams**: The teams were flexible and included external consultants as required to assist with various activities. A number of team members changed during the period considered in the data collection process, including the movement of team members from one role to another. In the case of the replacement of the Managing Director then replacement was not only another race, but had a different functional background and a completely different personality.

- **Innovation manager**: One possible reason for the lack of innovation in the team was the creation of the role of innovation manager, which could have shifted the responsibility for innovation from the line management to an individual. This individual was also unable to pursue innovation because with the departure of the Financial Director he had to take on the role of the Head of Finance.
- **Innovative behaviour**: The innovative behaviour in this team can be considered from two perspectives. The first of these is whether there were the correct conditions in place within the team, and within the company environment to allow innovation to occur. The second is the actual innovation process that is followed in the creation of the particular innovation. The team members indicated that innovation did not occur effectively in the team. Examples of innovation that occurred where limited, and some of these where related more to external agencies or consultants assisting the company than innovation that actually occurred within the team itself.

5.5. Private Company Management

This was a private company EXCO team. The company was the supplier of a commodity product and had experienced harsh trading conditions at the time of the interviews. The team was also very new, and reduced in size between the time of the first interviews and the second set of interviews. Numerous operational innovations were required during the poor trading period, and a major innovation was in the process of being refined during the research. This consisted of a loyalty programme. The concepts that were evident in the Private Company Management Team are illustrated in Figure 15.

Figure 15: Private Company Management Team Concepts



5.5.1. Requirement for Innovation

There was a requirement for innovative behaviour in this team. This was driven by the nature of the product, a commodity product, and the industry downturn that occurred during the course of the interaction with the client.

The physical product sold by this company was a commodity. Identical products were sold by all companies in the industry. This limited the type of innovation that was

possible in this organisation. The company could not change the product, but could add services around the product that appealed to the client, or could further process the product to make it less of a commodity. The company needed to be innovative in order to differentiate itself from other organisations that bought the product from the same set of suppliers and sold the identical product to their customers. The company has been innovative and will need to be more innovative in the future.

During the industry downturn the company had to, and did, find innovative ways to reduce stock and convert to cash. The innovative behaviour that needed to occur was, however, not from the team, but rather innovative behaviour from the individual responsible for the area of the business. Each EXCO member had to be innovative regarding their own area of the business in order to survive the industry downturn. This individual may have obtained advice or even approval from the EXCO team but this innovation was actually formulated by the individual rather than in the team. The team needed to be continually innovative in order to gain and sustain an advantage over other companies in the industry. The team members did however indicate that there was more to success in their industry than merely being innovative. Their trading, operations and finances needed to be efficient, and only if this was the case could the company be innovative.

Even though the requirement for innovation was driven by the type of industry in which the company operated, innovation in the company was driven predominantly by the CEO and the desire of the CEO to be innovative. The CEO considered himself to be a creator and was less interested in the day to day running of the business. The CEO had even attempted to remove himself from any operational role in the business and hand over to one of the team members, to concentrate on new business opportunities. This was not successful due to resistance from some of the team members.

One major companywide innovation that was introduced at the time of the research was a loyalty scheme for the company's customers. This was an idea generated by the CEO.

5.5.2. Team Characteristics

This team has a clearly defined goal for what needs to be achieved by the company and thus by the team. This goal was a financial goal. The team members however had individual areas of responsibility. The team members needed to speak to each other in

order to reach this goal, even if this interaction did not need to take place continuously. In some cases the team members chose to speak to each other in order to obtain advice about innovation in their individual areas. This was not a requirement, but the team members tended to consult with each other regarding bigger issues or projects. The team members tended to work out innovative solutions for their own problems without necessarily involving the other team members. Only for bigger initiatives did the team members discuss these with each other.

There was a clear common goal. According to one of the team members they needed to work together or they would not be able to achieve those goals. Another of the team members felt that they did not need to work together in order to achieve this goal.

If each team member individually delivered on what was required from their area of the business it would be possible for the overall goal to be achieved. The level of task interdependence was thus low, even though the goal interdependence was high. This could however have been influenced by the newness of the team and the industry downturn which necessitated that the company focus more on efficiency than on new innovative products and services; in time it is possible that the team members will work together much more closely.

5.5.3. Diversity

There was limited demographic diversity in this team. The team members were all male, age variation was limited, all had worked in the same or related industries for long periods and most had been in the company for a long period of time. There was some educational background diversity. The absolute education levels were relatively low, with many of the team members only having a school qualification. Given the non-technical nature of the product it is possible that the education level was not important for the business operations in this team.

Other forms of diversity appeared to exist in the team. Different team members appeared to have different decision-making styles; some were more emotional whereas others considered the problem in detail. People also appeared to have different role orientations. There appeared to be different roles that the team members were good at and thus roles that these team members were responsible for within the team. The CEO was the creator and was generally considered to be the person responsible for innovation in the company. Others were inclined towards trading or

operations. The other team members did indicate that they needed to perform their areas well in order to ensure that the company had the finances to ensure that the CEO had sufficient funds to implement innovative ideas.

This team involved numerous consultants in different phases of the product development of the loyalty scheme that was being developed during the course of the interviews. These consultants brought in skills and experience that the team did not possess. This provided one of the potential benefits that diversity could have brought to the team and effectively compensated for the lack of experience in the team for an unusual service in the industry.

5.5.4. Team Processes

This team was new and team development processes such as bonding were still taking place. Openness and trust had not fully developed in the team; some of the team members indicated that they were not completely open in discussions that the team had. The final structure of the team included the three people who were perhaps the most open, comprising the CEO, the COO (Chief Operating Officer) who was a shareholder and had worked for the organisation for over 7 years, and the team member with the shortest organisational tenure. This team member indicated that he was prepared to be open due to the short time that he had spent with the team.

The detriments of long service and loyalty had been brought up by the shortest serving team member. This team member indicated that long service meant that people were not prepared to create conflict due to their investment in the organisation, and the amount that they stood to lose if they had to leave the organisation.

The new three member EXCO team had a clear separation of roles with only limited involvement of the CEO required in the day to day running of the business. This could have had a clear impact on innovation as each person was required to find innovative solutions to problems that they experienced in their specific areas of responsibility.

The common financial goal could not be achieved unless all the team members succeeded in their individual areas. This meant that there was reduced competition between the team members. This competition between the senior staff apparently occurred in other companies in the industry. The common goal appears to have led to the team members working together better.

Fairly extensive discussion and debate appeared to take place in the team. Subgroup discussions also appeared to take place frequently. Subgroup discussions could have helped people who were unsure of what they should say due to inexperience. This may be a fundamentally important process in teams with people with different experience levels. Prior to the formation of the team there was a certain element of group think that occurred between the CEO of and the COO, however the addition of the new team members appears to have solved this problem. Some people did however indicate that they were wary of speaking completely open in the team meetings. They did expect this openness to improve with time.

Innovation in this team also did not always involve all of the team members, and did not need to dependent on the nature of the problem or the opportunity being work with.

5.5.5. Innovative Behaviour

The team leader in the team appeared to be the person who generated the innovative ideas that impacted the company as a whole. These ideas were then taken to the team for their advice and the refining of the idea. The ideas of the CEO appears to have been refined by a broad team , consisting of the EXCO team members, but also external consultants who are called in to assist with specific areas of the project. The EXCO team members each had an area of responsibility and they came up with innovative ideas for their specific areas of responsibility.

For the major companywide innovation, the team members worked together on the project once the CEO had come up with the ideas. However even the CEO indicated that this was important from the point of view of obtaining buy-in. The process by which the new loyalty service was developed consisted of the investigation of the customer’s requirements, the generation of an idea and the refinement of the idea. Different set of people were involved in each of these.

Extensive investigation of the customer's requirements was first conducted. This consisted of over 50 customer interviews which were conducted together with the consultants. The company used these interviews in order to determine the requirements of the customers. Common problems that have appeared to affect many of the customers were identified. From these common problems the company identified a solution which consisted of a loyalty programme with benefits. This was essentially

the idea of the chief executive officer. Once the initial idea was generated the CEO then took this idea to the team in order to obtain their buy in and support. Consultants were employed at different stages in order to assist with the development of the idea. Different consultants were employed at different stages depending on the specific areas to be refined. Even though this idea was implemented the take-up of the idea from the customers was slow because the harsh trading condition meant that the loyalty programme, which was not essential for the customer's business, was not important. The CEO then implemented another idea that more directly affected the customer's business and costs. This results in promised to the customer in terms of price and delivery with penalties for non-adherence to any of the promises. Consultants were extensively involved in the creation of this offer to the customers as well as the optimisation of the business operation in order to be able to meet the promises.

In both of these situations the CEO was the innovator and the rest of the team was involved in refining the idea and ensuring that the operations could deliver the new innovation. According to the CEO this was only natural in a small business where the CEO concentrates on innovation and the rest of the management team concentrate on productivity.

5.5.6. Team Findings

The areas that appeared to contribute to the innovative behaviour of the team were:

- **Room for innovation**: The team had a requirement for innovation in order to be competitive in the industry. Since the product was identical to products from other suppliers continuous innovation was required to maintain a sustainable competitive advantage. This was especially true since the company was not the largest company in the industry.

- **Common Goals**: The common goal that the team members had and the need for the team members to work together in order to achieve these goals appeared to have ensured that the team members worked together rather than in competition with each other, which appears to have occurred in some of the other companies in the industry.

- **Team development**: This team was relatively new and changed during the course of the interviews. The team was thus not fully developed. This could

have hampered the operation of the team. Possibly due to the newness of the team the CEO took on the responsibility of generating the innovative product, but at a later stage perhaps all the team members might become involved in the generation of new ideas.

- **Team Roles**: The CEO was seen as the generator of innovative ideas in the company. This was seen as a separate role in the team. Other team members were involved to determine the operational and financial feasibility of the idea. Consultants were also involved in refining and defining the different components of the ideas. This, coupled with the newness of the team, would have restricted the innovativeness of the team as a whole.

- **Discussion and debate**: Fairly extensive discussion and debate appeared to have taken place in this team. Clear evidence of this was seen during the interview with the CEO, when the other team members were having a very animated discussion with the consultants in an adjacent room.

- **Innovative behaviour in Team Subsets**: Innovative behaviour or participation in the innovation process does not need to involve all of the team members all of the time. Specific opportunities that required only a subset of the skills in the team may have only involved some of the team members. Others do not need to be involved.

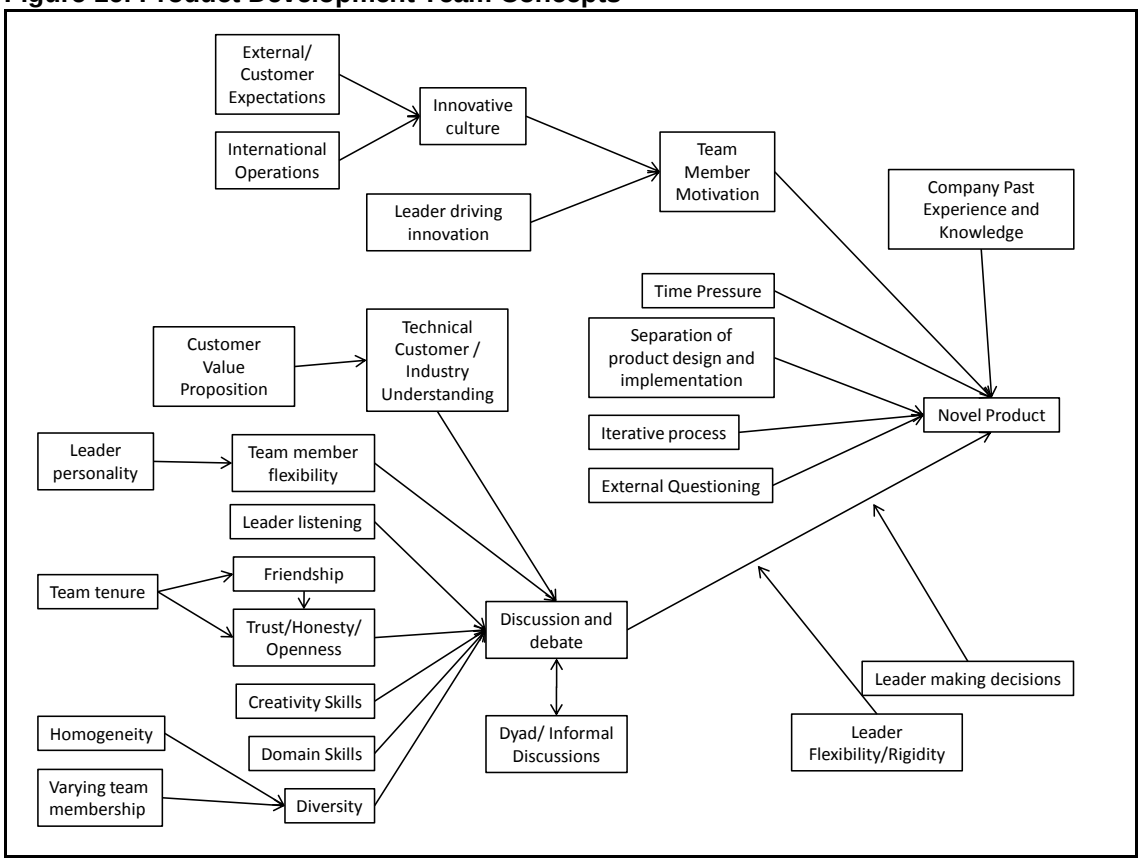
- **Use of Consultants**: The team made extensive use of consultants to assist with all aspects of innovative product development. Consultants were used for their experience with services that none of the team members has expertise with or for their knowledge of business principles or tools for optimisation of businesses. Consultants can supplement the knowledge and experience of existing team members.

5.6. Product Development Team

This team was an executive team from an organisation tasked with the development of a new product for the company's annual new product release. The innovative behaviour investigated within this team led to the development of a novel and useful product that has reached widespread acceptance from the company's customers at the time of the interviews. This product apparently does not exist within any company in the same industry either within or outside South Africa. The interviews comprised largely of an examination of the process via which this product came about in the company, and the conditions that enabled the development of the product to occur.

During the interviews that were conducted a number of major areas were identified as being important to the conception and maturation of the innovative product. Some of these relate to the team composition, some to environmental drivers, the leadership and team processes. There is evidence of the process by which the innovative product was developed. The concepts that were evident in the Product Development Team are illustrated in Figure 16.

Figure 16: Product Development Team Concepts



5.6.1. Requirement of innovation

The external environment, consisting of market expectations and foreign group company requirements, drove the innovation in this team.

The company's products were sold to the consumers via intermediaries. These intermediaries were not restricted to the company and could sell the product of any company in the industry. There was thus a need to make the company's products more attractive and marketable for the intermediaries, and this drove the need for innovation to occur. More innovative products would assist the intermediaries, and attract business. There were thus high expectations on the company to develop novel and useful products. This could have both motivated the team, and also set a clear goal for the team of what needed to be achieved.

There were companies within the group that operated outside South Africa, where industry regulations were different. It was stated by one of the team members that the international requirements filtered down and affected the manner in which the local businesses operated. This drove requirements into the team that were different from some of the current products that were offered. There was a focus internationally on delivering services that more closely matched the value proposition of the core business. This "new" and "different" information was an important determinant of the innovative product that was created by the team.

The company in which the product was developed had much reduced regulation as compared to the other companies in the group. This allowed the company to be very flexible in the products that were provided to the customers. In many organisations the drive may be to improve growth or address some customer need, without the requirement for an innovative solution. Here there was an explicit desire and expectation of an "innovative" product. This could have had an influence on the eventual innovativeness of the product.

The company had a deliberate desire to be innovative. This was expressed by the CEO who indicated that they had a desire to be seen as "thought leaders" in the industry. This would be a reflection of the senior managers and founders of the company, and could thus have formed an important intrinsic motivator for innovative products to be developed. There was a very clear goal of what needed to be achieved

each year. The actual focus or area of innovation was not clear, just that fact that the company must generate an innovative new product or service.

One of the characteristics of the team that could have made the innovation possible was the clarity of the understanding of the value proposition to the customer that the executive management group had. This seemed to be the criteria against which ideas could be evaluated and modified. Without his clarity it is possible that the radical innovations implemented would not have been possible or practical.

5.6.2. Leadership

The team effectively had two leaders, the Group CEO and the Company CEO, although the product developed under the Company CEO. Neither was involved in the entire process, as the Company CEO was overseas for some of the development time.

The leadership in this team was important from the point of view of setting up an environment where creativity and innovation were valued. The leadership of this team had an important influence on the innovative behaviour of the team, partially by setting standards, and partially by their own innovativeness. Part of this was the setting up of a culture of innovation in the team and the organisation, as a whole, which fell under the Group CEO who was the founder of the company.

The leaders also encouraged people to communicate by listening to them and taking what they had to say into consideration. This is not directly related to innovation, but does mean that people will be prepared to contribute and contradict the leadership if necessary. The outcome of this is that there is likely to be a better pool of ideas.

The initial insight occurred without the presence of the Group CEO. The Group CEO liked the idea, but thought that it was too simplistic, and recommended it be much bolder. The Group CEO played the role of the challenger, who would come up with different ideas or more ambitious ideas and challenge the team to take their ideas further. Both the Company CEO and Group CEO were prepared to accept the better judgement and the opinions of the rest of the team. This included accepting aspects of the product even though strongly opposed to the team decision. This is critical as the other members of the top management team thus did not just concede to the opinions of the leaders, knowing that they would be listened to and could influence major decisions about the product.

From the opposite point of view however the leaders were prepared to make decisions when they felt that the debate was going on for too long. This was important to end debates and discussions where the amount of value to be derived from further analysis was low.

5.6.3. Team Characteristics

This team could be considered to comprise the entire product development team and a smaller group that consisted of the core members. The team that generated the original concept of the product was the core group. This consisted of people who had been a part of the organisation from inception or shortly thereafter. The greater team was then involved in the refining of the idea into a viable product.

The team thus varied in composition from the time the original idea was conceived till the idea was announced. Different people were included in the team to provide input at different times. In some cases this was an expansion of the team, whilst at other times this did not consist of inclusion into the team, but rather the allocation of specific work to be conducted by people with different expertise.

It is clear from the interviews that the team members were regarded as having exceptional intellectual capacity, had extensive industry and company knowledge and strong creativity skills. The Group CEO was mentioned as “being fascinating” in terms of how he thought and questioned and the different angles that he came from. The Company CEO was also considered to have superior skills and to be able to see thinks in different ways from the rest of the team members, and was seen as someone who could make objective decisions, even those that he did not initially support. Both leaders were not only seen as highly intelligent, but were also considered to have a very good sense of right and wrong, and to have “amazing” vision.

Part of the reason for the success of the core team in developing innovations could be related to the expertise of the team members, with regards to educational qualifications as well as knowledge of the industry and the strong creativity ability. The domain relevant knowledge, including industry expertise, understanding of customer behaviour, relevant skills such as an understanding of risk, means that the team members could come up with novel ideas that were also useful. The team members

were also very clear on the company's business model, the value proposition to the customer and risk.

The motivation to be seen to be innovative was very high in this team. This was especially true of the core members of the team, all of whom had been involved in the founding of the company or soon thereafter. There also appeared to have been a great desire from all the team members for the organisation to be seen to be innovative. They did not particularly mind if another company copied their ideas, but wanted to be first. These core team members also "lived" the company and according to one of the team members would not leave the company, despite the very comfortable positions they were in financially. Such was the enthusiasm from the team members that during one interview the participant talked with barely a break for 35 minutes of a 70 minute interview after just an opening question.

A factor that could be linked to motivation is that the team members appeared to have fun during this annual period when the new products and services for the following years were developed. One of the team members indicated that this is what they live for and look forward to.

The core team members mentioned a few times that there were no external consultants or market research and they appeared to be very proud of that fact. One negative outcome of this was that a company that was essential for the actual delivery of the product to the client was not treated as a partner in the process, and this did lead to some difficulties in the actual implementation of the idea.

Pride could also become a problem in the future, because it is possible that external input may be essential in some future innovation process and the company may not be prepared to ask for assistance. The lack of diversity could aggravate the problem.

5.6.4. Diversity

The core team showed very low demographic diversity. They were all white males with similar ethnic backgrounds, financial education and all had worked for the group for many years. When expanded by the addition of the specialist resource early in the process the team still white, male with still 10 years or greater tenure in the company.

The greater team which was involved with the refining of the initial idea into a viable, feasible product was more diverse with one female who had only been in the company for one year and another who had experience with running multiple businesses in completely different business areas. The diversity of the wider team is thus greater than that of the core team; however the diversity was still not substantial from a demographic point of view. The diversity that existed was more in terms of functional diversity and some limited educational diversity.

The team members agreed that diversity was important in order to provide different perspectives and different knowledge. This was considered to be very important as there was a need for the involvement of partners when the idea was eventually implemented. Experts were called in to check on specific features of the product.

The team was able to judge the areas where weakness existed in the team, and call in expertise from within the organisation to assist. The team was thus able to supplement itself in areas of weakness.

One of the team members saw value in this homogeneity as possibly leading to rapport and trust, thus reducing the level of politicking taking place, and allowing for people to express themselves. Since this is the part of the team where most of the insights occurred, this trust and openness could be valuable. The company products show evidence of radical innovative behaviour. This occurred regularly, and does not appear to have been hindered by the homogeneity in the team. One team member did indicate that the CEO did have contact with others outside of the organisation, and this could have been a source of ideas.

5.6.5. Team Processes

The original concept of the product was first generated by the core team. Once the idea was conceived there was a very rapid development of the idea during the first meeting with the Group CEO. The idea was then brought to the team to determine how the idea could be implemented and what restrictions should be put into place in order to make the idea viable. It is quite clear that the greater team did not feel that they had any option of rejecting the idea, only making modifications, whilst retaining the core of the original idea. The greater team also did not see itself as part of the idea generation process for these major products and services; they felt that the core team had this role.

Discussion and Debate

One of the critical concepts for innovation in this team appeared to be the level of debate that took place. This robust debate that took place could have had an impact on the company finding the right solution to different problems or challenges with the product. The team members indicated that this was important, not only for the topic being discussed, but also for the emergence of other topics during these discussions.

There is evidence in this team that the level of debate and discussion not only impacted the specific areas of discussion, but also triggered thoughts regarding other areas of the product. The team members did seem to strongly believe in the importance of the level of debate that took place, even when it continued for “hours”. They indicated that the debate that occurred could not be considered to be “analysis paralysis” because the debate focussed on product features or characteristics that directly affected the customers and thus needed extensive debate.

Some of the reasons why the debate appears to be so robust and open was that there was apparently great intellectual capability within all the team members, there was a great deal of trust between the team members and various team members have different backgrounds which allowed them to provide input from different perspectives.

There appeared to very open and honest debate that took place within the team. The team members also did not have an aversion to putting forward ideas that were perhaps “stupid”. People did not feel that they had to hold back ideas because they may be silly or inappropriate. People thus also did not feel the desire to be right all the time, and being wrong was accepted and not considered to be an indication of their abilities. The senior management made it clear that everyone was allowed to talk and contribute, and team members were actively encouraged to speak their mind and this encouraged the honesty and openness. The team members and specifically leadership were prepared to listen to the ideas and thoughts of the other team members.

The apparent homogeneity in the team could also have resulted in less relationship conflict and may have enhanced the trust between the team members.

There also appeared to be a high level of trust between the team members. This trust could have come about for a number of reasons. One of the reasons could be the long

period of time that the team members had worked together and known each other. This team has had sufficient time to go the stages of the team development processes and could focus on achieving goals that the team had, rather than spending time on the development processes.

Part of the reason for the extensive discussion and debate could be the combination of the people who were constantly involved with the idea and others who were only involved occasionally. Included in the group of people not continuously involved in the process was the Group CEO. He appeared to take on the role of questioning the team and the assumptions that they made. There is evidence that the team leader questioning and querying did change the development of products and may have reduced the possibility of "groupthink" in the relatively homogenous team. The Company CEO was also outside the country for a portion of the idea refinement and this could have allowed greater contributions from the other team members in the team involved in the refinement.

The discussion and debate did not take place only in formal full group meetings. There appeared to be many conversations that took place between smaller groups of people that were actually more important than the full team discussions in the development of the idea. These discussions were often dyad interactions, were informal, and took place at any time and either took place personally or over the telephone. The use of these informal discussions was seen as important in order to make progress with the discussion and refinement of the idea, something that would have been difficult with only formal full team discussions.

People also appeared to have a sufficient level of trust such that people do not need to be concerned about these frequent dyad interactions that took place and understood that this was for everyone's benefit. These discussions did not appear to cause problems with people feeling side-lined or excluded because these discussions took place in order to address issues, and were not of a lobbying or political nature. The discussions were also largely between the Company CEO and any of the team members. The CEO did acknowledge that these discussions could be destructive if the rest of the team members were not informed of the nature and outcome of the discussions. Feedback to the team appeared to have taken place.

The top management team displayed elements of flexibility as well as evidence of rigidity. Once the team had formulated the idea, they were not prepared to accept any

changes that would completely alter the idea. They would also not accept the rejection of the idea. They were specifically not prepared to change or rethink the idea based on any implementation difficulties that were foreseen. The view that was taken was that they were prepared to put into place certain limitations on the idea to make it more practical, but were not prepared to debate the concept based on this. The top management team were very clear on what they wanted to provide to their customers. The Group CEO initially thought that the idea was not ambitious enough and expanded the idea to make it much more ambitious. This led to considerable work and analysis being required during the refinement and implementation of the idea, but these issues were not allowed to derail the idea.

Within the team there was however great flexibility whilst the idea was being discussed and refined. Numerous aspects of the idea were debated and changes accepted to make the idea practical for implementation. People were prepared to listen to each other and take into consideration what they had to say. People were also prepared to change their views and accept the better judgement of others, including the group CEO, who accepted components of the idea contrary to his own preferences.

The Company CEO was specifically mentioned as having no “ego” and that it was not about getting your name up in “lights” but rather for the good of the team. The Company CEO (team leader at most times) was prepared to change his opinion and accept the better judgement of others. This could have had a strong effect on the nature of the discussion and debate that took place within the team. If this was not the case there is less likelihood that people would be willing to share their opinions, considering that the chances of acceptance would have been low.

Part of the reason given for the flexibility and ability to change one’s opinion and mind was that there was more concern with the good of the company than the individuals. As one of the team members stated it was not about the individual getting their names up in lights, but rather about the greater good of the company. One implication of this characteristic of the team is that there would be less of a tendency for political infighting. The reduced amount of political posturing as compared to other organisations was specifically mentioned by one of the team members who had experience outside of the company. Part of the reason brought forward for this non-individualist attitude in the team was that the core team members had been together for such a long period of time and were so stable in their positions that politicking was unnecessary.

The trust and the long time that the team members have worked together and the fact that at least some of the team members refer to the others as “friends” does not extend to the team members spending time together socially outside the work context, even if they do meet regarding work at each other’s homes and after hours.

Resource Constraints

There was substantial time pressure on the group to come up with an innovative product. At least one of the team members did feel that this time pressure was important. The time pressure could have focussed people’s minds on finding the right solution and according to one of the team members could have shifted the minds of the team members into a different gear.

Some past research has indicated that either an abundance of time or too little time may be bad for innovation. This could have been a factor in this team, where there was just sufficient pressure to ensure that everyone focussed on finding a suitable product.

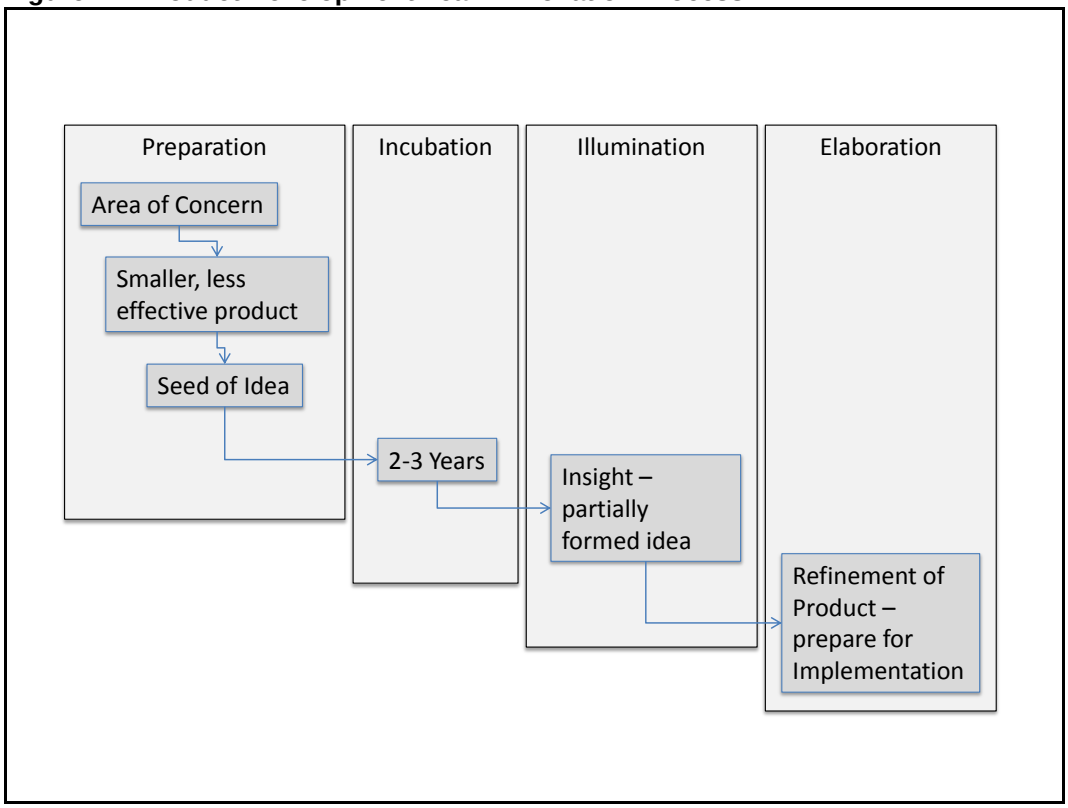
5.6.6. Innovative Behaviour

Extensive research was conducted on many aspects of the idea. Discussion of the possible options was conducted in detail. Much of this ensured that the idea was credible to the customers and viable to implement in the short time available. Even though the insight occurred almost in a flash, the idea was then analysed and defined from every important perspective that the team could identify. External experts were even called in to validate aspects of the idea, even though the company never relied on external resources for any input into the core idea.

Many of the past projects and products of the company were important as this provided information which was used to test the viability of the idea, and enabled the company to have confidence in the ability to implement the idea, even though this meant connecting the company and a partner systems.

The innovation process in this team, as illustrated in Figure 17, clearly followed the steps outlined in some of the seminal works on innovation and specifically Wallas (1926). There is evidence of a preparation and incubation phase, followed by illumination and elaboration.

Figure 17: Product Development Team Innovation Process



There was a preparation phase were a service within the same area was delivered to the client. The impact of this service area was not great at that time. This could be considered to be the preparation phase. There was some thought related to the service area in the following year, however there was a major innovation that was introduced in that year, and the focus was on that idea. In the time that passed till the new idea was developed the company was able to see the impact of the older idea implemented. This could be considered to be the incubation phase where the area had been identified and some thought given to that area, but no real work conducted at that time. The actual moment in time when the insight occurred can be termed illumination. Even though this was a very short timeframe, and it may have appeared that the "idea came out of the blue" as the team sat down with a blank piece of paper, this was not the reality. The company has previously considered products in the same area. Following the insight there was a period when the idea was refined, the elaboration phase.

5.6.7. Team Findings

The critical areas that appeared to contribute to the innovative behaviour of the team were:

- **Desire to be innovative**: There was a great desire to be innovative and to be seen to be innovative. The market also anticipated the delivery of innovative new products annually.

- **Skills**: This team has worked in the organisation for a very long time and thus had thorough knowledge of the industry and customers. All have some tertiary professional qualification and were considered to be very intelligent, even brilliant. According to the team members good creativity skills also existed in the team.

- **Extensive discussion and debate:** The central concept in the innovative behaviour of the team was the extensive discussion and debate that takes place in the team. Honest and open debate took place regarding many facets of the products final characteristics. The debate and discussion did not only take place with the full team in attendance.

- **Two person discussions:** There were extensive conversations that took place between two team members at a time. These apparently led to the progression of the idea, and ensured that people kept their minds focussed on the product being designed. The initial idea was however conceived when a number of the team members were together.

- **Varying team membership**: The team is almost amorphous, taking on different forms at different times. During the course of the innovation process the team moved from being very homogenous to becoming somewhat diverse. This complicates research which intends to determine what drive innovative behaviour in teams. The flexible team is however probably a reality in the business world. It could be argued that teams need to be flexible enough to change as the requirements change, and that a static team, by its nature may not be capable of enabling innovative behaviour to take place.

- **Homogeneity**: This team arguably created a very innovative product, and had a history of innovation, despite being a very homogeneous team. This is contrary to common sense regarding innovation, where it is considered that diverse backgrounds and perspectives are more likely to lead to

innovative outcomes. The innovation that occurred could either be attributed to the varying team membership and thus diversity, or the benefits that homogeneity brings in terms of reducing inefficient team processes. Part of the reason could be that even though the team members are very similar from a demographic perspective, they could be very different from a cognitive diversity perspective. No evidence of this was note in the field work.

- **Separation of product design and implementation**: Implementation considerations were given limited focus when the original idea was created. Only later when refining the idea were implementation issues taken into consideration and the idea limited in certain areas.

- **High standards**: In creating the product the top management team was not prepared to compromise on the “headline” idea, and did not involve implementation people in the development of the idea. Implementation people were only involved once the idea had been determined. The implementation people were involved in assisting with the refinement of the idea to make it practically viable, but for these people it was a given that the idea had to be implemented, with some compromises along the way to make it possible. This separation of the generation prevented the idea from being derailed due to consideration of possible implementation difficulties.

- **Customer Value Proposition**: The company had a very clear idea of its value proposition to the customers and were thus able to create novel products that were useful, rather than eccentric.

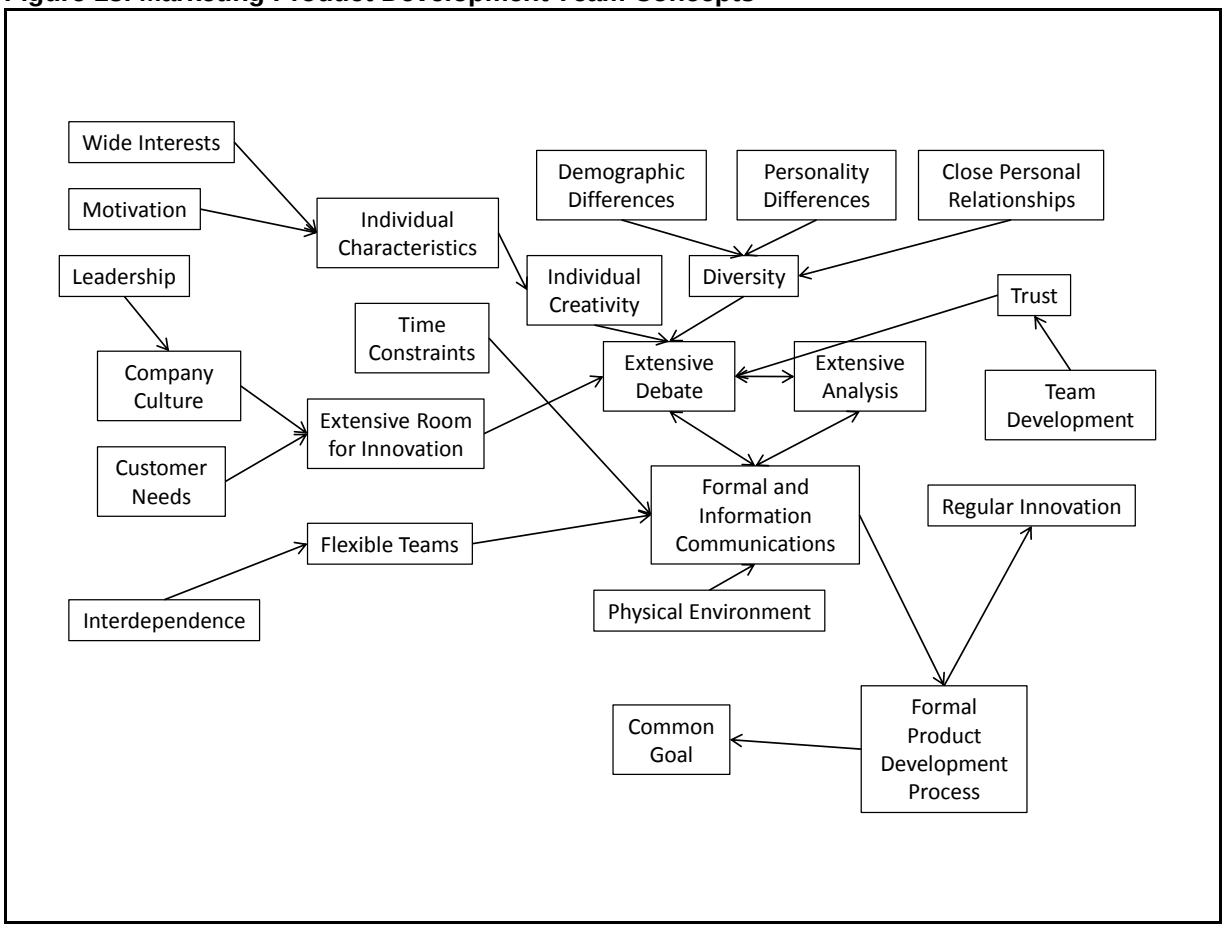
- **Flexibility**: The flexibility in the team members allows for the discussion and debate to lead to useful results. If people were not prepared to change their opinions then the debate would not have the desired result of getting to the best possible solution to any question or problem. Part of this appears to be driven by the team leaders, the Group CEO who was prepared to accept the team decision despite disagreeing with this, and especially the CEO who appears to have no ego and thus no reason to reject an idea which was contrary to his original opinion. It could be argued that this would create a situation where the rest of the team members would also be

prepared to be flexible. The honesty and openness in the team was enabled by the leader behaviour. Leader flexibility could be seen as a necessary but not sufficient condition for team members to put forward their honest opinions. This then would enable the discussion and debate to be possible, thus increasing the breadth of ideas really considered by the team. The end point of this could then be better and more innovative ideas and products.

5.7. Marketing Product Development Team

This team existed in an organisation that was responsible for the creation of marketing communications for its client base. The products supplied by this company were generally seen to be innovative based on the media reports and the success of the campaigns. For this team, the innovation processes for two products were investigated in depth: a financial services communications product and a Soccer World Cup 2010 related product. The concepts that were evident in the Marketing Product Development Team are illustrated in Figure 18.

Figure 18: Marketing Product Development Team Concepts



5.7.1. Requirement for Innovative Behaviour

There was a high requirement for innovative behaviour within this organisation. Part of this was attributable to the industry in which the company operated. The majority of the companies in the industry strove to be innovative. Due to the visibility of product, it was likely that the success of any of the companies in the industry was dependent on the perception of the innovativeness of that company's products.

In this company, which was essentially a product development company, the product developed was based on a requirement received from a client. There are no standalone products in the marketing communications environment. This does effectively mean that the problems are externally presented rather than internally detected, and in other environments this could lead to problems associated with intrinsic versus extrinsic motivation.

The company had a deliberate desire to be seen to be innovative. The company also had a strategy to build its reputation as a company that produces “remarkable work”. This was mentioned by the Executive Creative Director, who was one of the founders of the company and a by number of the other team members. In light of this, the company strove to create products that were “remarked” about, and even chose specific clients based on the requirement for innovation by the client. The company did not generally accept mundane work that did not support its vision. The leadership of the organisation was important for setting up the vision of the team and for the standards for the work to be delivered.

Some of the team members were of the view that the company had been “lucky” that the client’s products that were being marketed by the company were innovative. Innovative products tended to support the marketing campaign being innovative. In their business it was difficult to be innovative if the client did not allow them room to be innovative.

One of the factors that was important in this company was the long relationships which they shared with their clients. This allowed fresh thinking to take place and created trust in the customer that innovative new ideas may be successful.

The team in particular thus had both the room and requirement for innovation to occur.

5.7.2. Team characteristics

Teams in this organisation were extremely flexible. The participation in this team by the different team members varied at different stages in the project. Other organisational staff who were not team members also joined in and contributed to projects on an unplanned, ad-hoc basis. In one of the projects investigated the project started with one group of people but ended up being taken over and completed by another group.

A possible reason for the flexibility of the team structure in this organisation was the small size of the organisation. There were less than 40 people in the organisation. However, this was changing and one team member did indicate that the teams were becoming more formalised as the work load at the organisation increased. The teams also became more structured as each project progressed. This was due to the tasks becoming better defined as the project proceeded. The degree of freedom decreased as the project progressed.

The team did not operate as a single entity for the duration of the project. Different members of the team had clearly defined roles. Different sets of people were responsible for different parts of the overall project and worked in smaller teams for parts of each project. If subgroups of the team needed assistance for their part of the project, they had access to other team members and even staff members from outside the team for assistance. Some of the best ideas appeared to have occurred when team members were either alone, or with someone not involved in the project. The small size of the organisation also facilitated this.

This team comprised people at three different levels in the organisation. The Creative Team met frequently with the Creative Directors to evaluate their work. This entire grouping then met less frequently with the Executive Creative Director and Strategist, for evaluation and comment on the work that they had performed.

The team members were apparently very similar in terms of being intelligent, hard workers, down to earth, rule breakers and exposing themselves to different influences. The average level of education was not high, but it had been suggested that this is one of the reasons the team members worked hard: They wanted to prove that they were capable, despite having relatively limited education levels. The team members also apparently had a talent for their work.

Different team members possessed different expertise that was necessary for the completion of projects. There was however overlap in the expertise of the team members.

5.7.3. Diversity

There were several ways in which the team members were different. Racial diversity was limited with only two races, White and Indian. There were, however, gender, language and religious differences in the team. There were also cognitive differences and personality differences between the team members. Some were more visual and some more verbal, some were more enthusiastic about ideas and others were more skeptical. Another form of difference noted was that some people needed more structure than others in order to work. These forms of diversity were considered to be important for the work that was conducted in the team. The products developed had different components and consisted of verbal and visual components. Having team members with differences in terms of visual and verbal orientation thus enabled the team to effectively deal with these projects, but also resulted in team members considering the ideas to be generated from different perspectives. Having team members who were more enthusiastic ensured that there were proponents of the ideas generated, whilst the more skeptical team members closely interrogated the ideas, assisting to detect any problems with the product prior to this being presented to the client.

Some team members were more focused whilst others were more abstract. Both were considered to be necessary in this team to ensure that the team considered a sufficient number and quality of new ideas whilst others kept track of the requirements and ensured that there is a focus on delivery. It was suggested that there could be a relationship between gender and this dimension of diversity.

Diversity was important to this team due to the different perspectives of the team members, but the different perspectives of the team members were not related to demographics characteristics. Team members also did not consider that the personality differences were influenced by demographic differences either. People in this team and organisation made deliberate efforts to experience things that assisted them to obtain different perspectives. This was considered by the team members to be a characteristic of creative people.

Another use of diversity highlighted in this team was that diverse staff members could have could have knowledge of certain communities and geographical areas. This could be based on team members being part of those communities. In South Africa this could be largely based on racial or ethnic characteristics of the team members.

5.7.4. Team Processes

Most of the members of this team had known each other for an extended period of time. This was due to having worked together previously or to close personal relationships that existed. Only one team member was new and not familiar with the majority of the rest of the team members. This person had only been with the company for 10 months at the time of the interviews.

Conflict occurred in this team when the two creative directors were unable to work together effectively. This conflict was partially due to the lack of familiarity between the team members, but also due to the “strong” personality and extensive experience of the new team member. This had not been totally resolved at the time of the interviews, with the team members agreeing to differ and avoiding working together. When the conflict became visible the organisations leadership intervened.

An important part of the idea evaluation in this team was the considerable debate and interrogation of ideas that took place. One of the team members indicated that the organisation was particularly good at culling ideas. There appeared to be openness in the debate that occurred, despite any qualms that people had about the consequences of being honest in a very opinionated team. This was facilitated by the team members being familiar with each other and the respect and trust that existed between the team members. Some of the team members, even where conflicts occurred, had strong opinions and were prepared to questions and interrogate the ideas in the team. This resulted in better solutions, as any ideas were extensively questioned prior to being worked on further and presented to the customer.

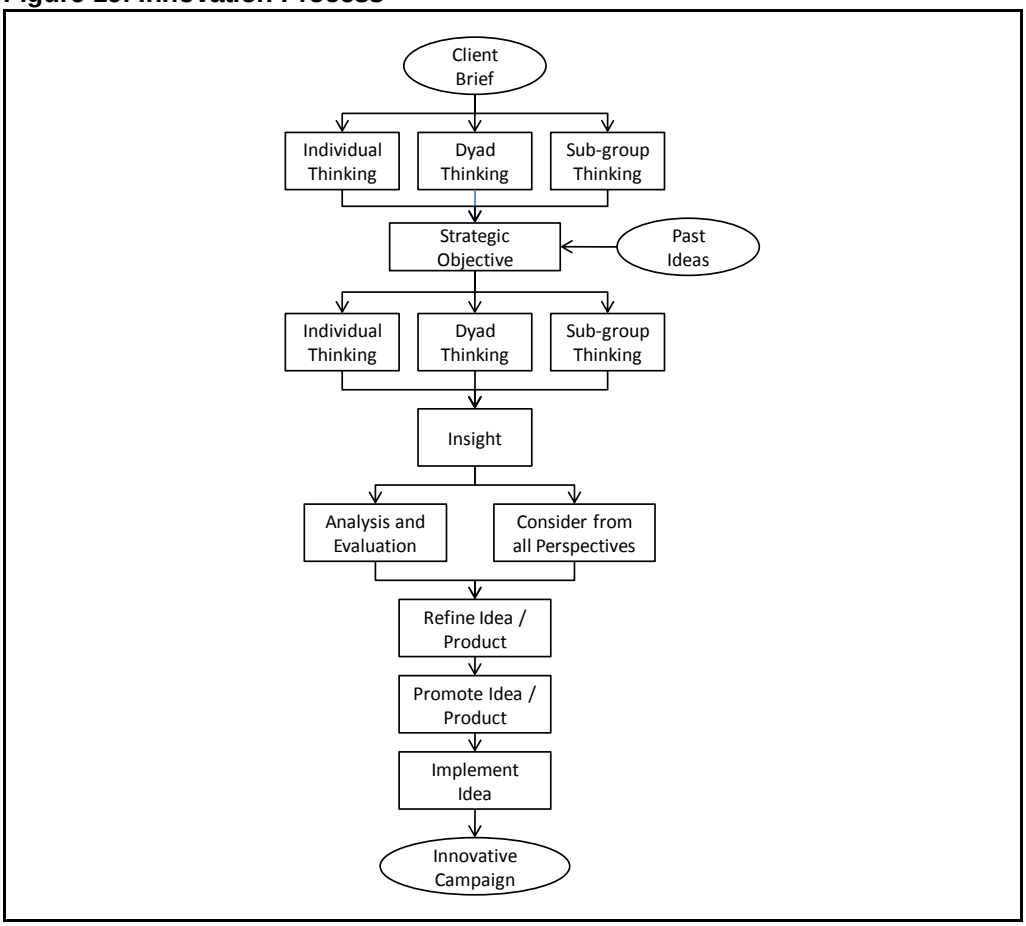
This team stressed the importance of the idea evaluation in the innovation. They possibly felt this was important as the generation of the original idea. Once implemented the company’s product were visible not only to the client, but also to the general public. In some cases the effectiveness of the product implemented could also be measured.

5.7.5. Innovative Behaviour

The product development process in this organisation was very structured. Timelines were short and different people or sets of people had different areas of responsibility. Idea generation, at different levels, was required throughout the innovation process.

Evaluation of ideas also took place throughout the innovation process. This process was very well defined because this was the core business process of the company, unlike other companies where the innovation processes is supplemental to the main production processes. The process is illustrated in Figure 19.

Figure 19: Innovation Process



The first part of the innovation process was the conversion of the brief as specified by the client into the company's strategy for the campaign. This was performed by more senior members of the team. These team members either worked alone, or in dyads, sometimes including people outside the team. Past ideas were drawn on to assist with this process. The insight for the two major products investigated were both developments of ideas that have been considered previously, but not implemented. There was thus an element of serendipity in both of these products; the company had previously thought of ideas that fitted new situations. As one of the team members indicated he had "a bottom drawer full of ideas".

The core idea or insight was typically articulated by a single person. This idea could have occurred because of the previous expressed ideas and thoughts of others, who

were not necessarily members of the team. The idea was then worked on and refined by the team as a whole.

In this team there was a combination of individual deliberation and then a coming together as a team in order to obtain a common vision or view and consensus regarding this. A number of the team members indicated that they needed the time to put together their thoughts individually, prior to getting together as a team.

In this team it was seen that the defined process required creativity to occur at different times in order for an eventual creative product to be developed. These different sections, with different types of innovation requirements, were given to suitably experienced and capable staff members. The company, however, allowed and encouraged anyone to contribute at any level, thus overcoming the disadvantage of having only a few people who were required to generate ideas for certain sections of the project. The team members also called on and utilised others, either within the team or outside of the team, to assist as required. The tight timelines may have contributed to people requesting assistance rather than trying to solve the problems themselves.

The company had high standards, which meant that the task was considered from as many perspectives as possible and was interrogated thoroughly to ensure that it was sound. In this company, innovation did not occur as a result of a loose or vague process. The processes very well defined and there were also usually very tight timelines within which various parts needed to be complete.

Customer demands and internal deadlines meant that the teams operated under high pressure in this organisation. This was apparently not unusual in the industry. These time constraints generally appeared to have a positive effect on the innovative outcome as time constraints tended to ensure that the team members focussed on the work that needed to be performed. The time constraints also forced the team members to make decisions. Even though the customer's timelines were short, the timelines of the internal process were even shorter and ensured that progress took place.

The innovation process in this organisation was very well defined. The reason for this was that the innovation was the core product development process, and was the core business process. This is different from teams where the innovation process is a supplemental to the main business processes.

5.7.6. Team Findings

A number of findings were noted in this team:

- **Innovative Behaviour**: Extensive innovative behaviour took place in this team and organisation. This was however the nature of the business and the industry, where innovation was required in order to be noticed and “remarked” about. There was also extensive room for innovation. This was driven by the customers and the desire of the organisational leadership to develop a reputation for innovation. The core operational process of the business was effectively an innovation process; the company generated a continuous stream of innovative products.

- **Team Structure**: The structure of the teams in this organisation was very loose and fluid. People consulted and volunteered assistance freely. Work moved from team to team. Anyone could volunteer for a project and anyone can take on a project. The organisation thus appeared to be very unstructured. The lack of structure in the teams was counterbalanced with the very rigid structure of the product development process in the organisation. The lack of structure in the teams did not lead to anarchy because it was controlled by the process and the deadlines imposed on the project. The team members also did not work together for the entire task with different team members having different roles in the team and in the innovation process.

- **Diversity**: Numerous forms of diversity existed in this team. These were both of a demographic and cognitive nature. There were differences in gender, language, race, sexual orientation and ethic group within the organisation. The demographic diversity within the team was more restricted; however differences between the team members did exist. There were personality differences within the team. One of these, the need for structure, appeared to be aligned to the gender of the team members. Female team members appeared to need more structure than the male team members. Other differences included visual and verbal orientation, and those who were more enthusiastic and those that were more sceptical. The effect of diversity on innovation was via the different perspectives that the team members brought to the team.

- **Individuals and Motivation**: The individuals in the team were intelligent and hardworking, and had a talent for the work that they are performing. They were also driven to produce good work, which in the industry meant creative work. This motivation was mostly intrinsic.

- **Leadership**: The team did not have formal leadership, although there are roles that the different team members were responsible for and performed. The leadership of the organisation was more involved with setting standards for the work performed. In this organisation, even the small jobs were given considerable attention. The organisational leadership decided on the image of the organisation that they wanted created.

- **Discussion and Debate**: Extensive discussion and debate took place in this team in order to generate and interrogate ideas. There were both formal and informal discussions. The discussions involved subsets of the team, the entire team or could include people who were not a part of the team. These discussions also took place at all times and places, including the work environment, restaurants and the homes of people. The discussions were important for the development of ideas and for the "testing" of ideas prior to presentation of the concept to the clients.

- **Team versus Individual working**: In this team the members did not always work together as a team, but worked as subsets of the team and as individuals at times. The innovation process appeared to be more effective in this organisation because people worked together to discuss requirements. They then spent time individually, in dyads or small groups with people who are not necessarily in the team, and then worked together as a team again.

- **Creativity throughput process**: Two of the areas that were very clear in this team were that creativity is required throughout the innovation process and that the innovation process could consist of "innovation loops" nested within each other. Creativity at a high or more abstract level was required in order to correctly assess the nature of the problem. Evaluation, discussion and consensus took place in order to refine the idea, gain acceptance and communicate the problem. With this as a base, lower level innovation took place to find the best combination of ideas and products that were needed to

address the problem. Analysis, discussion and consensus then took place at this level. Once done, this idea needed to be promoted to the senior management and client. Upon acceptance, the ideas that had been generated need to be executed. This took place outside the team, but was actually a part of the overall innovation process.

5.8. Case Analysis Conclusion

This chapter detailed a within-case analysis of each team that was investigated in this study. The purpose has been to provide a detailed analysis of each team that participated in the study. The narratives provide the emerging categories for the Cross Case Analysis and Theory Building that follows.

6. CROSS-CASE ANALYSIS AND THEORY BUILDING

This chapter and describes and examines the major themes or categories that emerged in the research and the relationship between these themes. The first part consists of a cross-case analysis, where the major themes that were evident in the teams are identified and explained. In order to reduce the danger of researcher bias, the data from each case is considered in multiple divergent ways as recommended by Eisenhardt (1989). The flowchart and findings that were used to describe each case separately in the Case Analysis chapter is used to identify the most important themes. The second part of this chapter consists of a synthesis of the findings across themes.

In the first part, each major theme or category identified in the within-case analysis is examined separately in order to understand its properties, dimensions, and antecedents. Properties are characteristics or attributes that define and describe concepts, and dimensions are possible variations of these properties (Corbin & Strauss, 2008). Categories which are identified as properties of other categories are subsumed into these. A summary of the findings for each team for the specific theme is presented in tabular format. The findings from each of the teams are then examined for similarities and differences. A tactic explained by Eisenhardt (1989), where each pair of cases is compared to list the similarities and differences, was also used (see Appendix K). The properties, dimensions and the antecedents of each category are then investigated. The linkages between the antecedents or effects and properties of each category are then identified.

In the second part an integrative framework that explains the relationship between the major themes is presented. The theoretical relevance and meaning of the findings is articulated within this framework. A new model within which to understand the operation of teams is also suggested.

6.1. Cross-Case Analysis

The team effectiveness framework from Mathieu et al. (2008) is used as a framework within which to understand the diversity and innovative behaviour in the cross-case analysis. This framework was used in their review of the recent team effectiveness review and draws on concepts from other reviews (Such as Ilgen, Hollenbeck, Johnson, & Jundt, 2005). The major areas that their framework considers are this:

- organisational context;
- team context;
- team characteristics;
- team processes;
- team states; and
- outcomes: innovative behaviour.

6.1.1. Consolidated Finding from Individual Teams

The cross-case analysis is based on the findings from the team-level case analyses. The findings from the case analyses were used to identify the common influences on innovative behaviour across teams and to highlight both similarities and differences in this regard. Extensive use was made of higher-level categories (code families) and memos in this analysis. The consolidated findings from the team-level case analyses are summarised in Table 10. A table of the similarities and differences between all pairings of teams is presented in Appendix K.

Table 10: Summary of findings from team-level case analyses

Theme	Findings	Technical Project Team	Core Project Team	Project Stream Team	EXCO Team	Private Company Management	Product Development Team	Marketing Product Development Team
Conflict	Conflict			x				x
Culture	Collectivism vs. Individualism						x	
	Culture - resistance to change		x	x				
	Culture - risk aversion	x						x
	Culture of open communications	x						x
	Desire to be seen to be innovative					x	x	x
	Understanding of customer value proposition		x	x			x	x
Discussion and Debate	Discussion and debate - Challenging		x					
	Discussion and debate		x	x	x	x	x	x
	Discussion and debate - Openness				x			
	Dyad / subgroup discussion / lobbying				x		x	x
	Extensive Analysis						x	x

Theme	Findings	Technical Project Team	Core Project Team	Project Stream Team	EXCO Team	Private Company Management	Product Development Team	Marketing Product Development Team
	Informal discussions				x		x	x
Diversity	Cognitive Diversity		x				x	x
	Diversity - Age	x						
	Diversity - Cognitive - Decision Making Style					x		
	Diversity - Functional Background		x		x	x	x	
	Diversity - Homogeneity		x					x
	Diversity - Knowledge and Experience	x	x		x		x	
	Diversity - Multi-organisational team		x					
	Diversity - Personality			x	x			x
	Diversity - Race	x			x	x		x
	Diversity - Tenure			x		x		
Environmental Factors	Customer Requirements	x					x	x
	Environment - Commodity Product					x		
	Environment - Company Success		x	x				
	Environment - trading conditions				x	x		
	Need for Innovation	x	x	x	x	x	x	x
	Task requirements	x						
General	Past experience and knowledge						x	
	Physical environment			x				x
	Separation of design from implementation						x	
Individual Characteristics	Flexibility of team members						x	x
	Importance of domain relevant knowledge	x	x	x	x		x	x
	Individual creativity skills						x	x
	Individual wide interests							x
	Team member motivation						x	x
Innovation Process	Creativity throughout innovation process							x
	Formal / Informal Process						x	x
	Individual innovation	x	x	x		x		x
	Inn. Process - Team vs. Individual Working							x
	Iterative process						x	
	Serendipity						x	x
	Strategic vs. Operational Innovation					x		
Interdependence	Goal Interdependence	x	x	x	x	x	x	x
	Task Interdependence	x	x	x	x	x	x	x
Leadership	Leadership	x	x	x			x	x

Theme	Findings	Technical Project Team	Core Project Team	Project Stream Team	EXCO Team	Private Company Management	Product Development Team	Marketing Product Development Team
	Leadership - leader as innovator			x	x	x		
	Leadership - listening/ considering				x		x	
	Leadership - Making decision						x	
	Leadership - setting standards						x	x
	Loyalty to leader		x					
	Occasional leader - external questioning						x	
Resource Constraints	Resource constraints - time pressure	x					x	x
Social Support	Social support				x			
Team Development	Team development		x			x	x	x
Team Purpose	Level of Team	x						
	Team decision making power	x						
	Type of team	x	x	x	x	x	x	x
Team States	Close personal relationships							x
	Energy	x		x				
	Fault lines / Subgroups				x			
	Groupthink					x		
	Hard work		x					
	Internal Competitiveness							x
	Openness		x	x	x		x	x
	Robustness						x	x
	Trust & Respect		x		x		x	x
Team Structure	Consultants		x	x	x	x		
	Flexible teams		x		x	x	x	x
	Team members roles				x	x		x

6.1.2. Organisational Context

The two facets of the organisational context that affected the teams studied included influences from the environment and the culture of the organisation.

Environmental Influences

Environmental influences on a company could either restrict or promote innovation in teams. As evidenced by Product Development Team, entities external to the company could have a strong influence on the requirement for innovation in the company and the team: *"… there is a launch every year, there is a requirement to have a good idea at least once a year, for the launch. So there is an expectation. You have to go to launch with something. You if you don't, that's obviously problematic, and you have got this whole ... community that you have to try and get on your side, so the bigger, the better the idea, the easier you will be able to do that." (36:19:114)*. The Marketing Product Development Team also indicated that the clients were really important for the innovation possible when they stated: *"… you're basically you're only as good as your client allows you to be." (58:51:148)*. The EXCO team, however indicated that environmental influence could constrain innovation when the team was informed by the Group CEO to *"… sort off, stick to the knitting. Don't try and do this innovative, type stuff." (13:42:162).*

The findings that related to environmental influences for each team are tabulated in Table 11.

Table 11: Findings related to Environmental Influences

Team	Environmental Influences
Technical Project Team	The customer requirement was for a standard product tailored for the specific market. This led to the team leadership deciding to modify an existing product and to keep any change to the minimum possible. There was thus little or no innovation required from the team as a whole.
Core Project Team / Project Stream Team.	There was little environmental influence on the company. The company was resistant to change, however this was related to the good performance of the company despite the existing low level of change.
EXCO Team	The group holding company had decided that the company should not attempt to be too innovative but should rather focus on achieving the budgeted financial performance. This requirement thus reduced the need for innovative behaviour from the team which was responsible for the company performance.

Team	Environmental Influences
	The company was also constrained by their suppliers and could not be completely flexible in their product offering.
Private Company Management	This company was in a difficult trading environment. The company sold a commodity product obtained from the same suppliers and provided to the same customers as their competitors. The company thus needed to be innovative in order to attract customers and maintain financial stability. This was especially true as the company was not a large company in the industry. The innovation required tended to be lower level innovations focussed on operations, which were required from the individual business areas rather than from the team. Once the industry environment improved, the company was able to implement larger, more extensive and strategic innovations. The type of industry meant that regular innovation was required in order to maintain an advantage over the competition. The harsh trading conditions eventually required this company to create radical new offerings in order to attract customers. This radical offering required associated improvements to operations in order to be able to meet the obligations built into the new offering.
Product Development Team	The intermediaries that the company relied on to sell its products expected the company to create innovative, new products each year. The more innovative the new product, the easier it was for the intermediaries to sell the product. This created tremendous pressure on the team to generate innovative products.
Marketing Product Development Team	All companies in this industry were judged by the innovativeness of the work that they produced. However, the environmental influence on this company was low as the primary pressure to be innovative came from the company itself and its desire to create a reputation for creating remarkable products.

Analysis

There were numerous influences from the environment that impacted on the innovative behaviour within the teams. These included:

- **Customer Expectations**: Companies may need to display innovative behaviour in order to remain competitive in their market. The Marketing Product Development Team and Product Development Team were similar in this manner. The Product Development Team needed to have innovative solutions which enabled their intermediaries to sell their products more effectively. The Marketing Product Development Team was in an environment where the customers expected the output to be innovative. As the client became familiar with the company they also gained confidence and were thus prepared to try more innovative ideas. The Private Management team differed by not being required by their customers to be innovative. They pursued an innovation strategy that was internally driven. Companies and their clients who share similar views regarding innovation can result in increased innovative behaviour in teams.
- **Group company or shareholder expectations**: The principals or shareholders of a company can determine the amount of innovation that they would like in the company. If the shareholders or owners are risk averse, it can put constraints on any innovative behaviour in senior management teams in the organisation. The EXCO Team was constrained in the manner.
- **Industry environment**: Difficult trading conditions can result in a higher level of lower-level innovations from specific sections of the organisation, whilst discouraging innovation at a company strategic level. The Private Company Management and EXCO Teams were similar in that both needed numerous smaller innovations within the operating units that fell under the responsibility of individual team members. Smaller companies in the industry may need to be more innovative in order to remain competitive in an industry where there is little differentiation between products.

Companies exist within an environmental context, and are influenced by that context. An environment which does not value innovation will reduce the possibility of innovative behaviour from teams. The current circumstances of a company will also influence the innovative behaviour within a team. Good company performance can lead to the company not seeing any reason to change, whereas poor company performance could lead to a focus on operational issues rather than innovation.

The environment the company operates in has the ability to affect the requirement and room for innovation in the organisation and thereby the teams within that organisation.

Company Culture

The culture of a company affects the innovative behaviour and the dynamics within teams in the organisation. Some companies could have a desire to be seen to be highly innovative: *"The [company] culture is innovation, it's entrepreneurship ... it's intellectual leadership" (34:66:182)*. Other companies could have a culture which affects how people interact with each other: *"...if you ask anybody what's the main thing about [the Company] that you probably wouldn't find at most other companies it's the culture; it's a very friendly, jovial kind of culture. I think that's what helps; people get along and everyone knows everyone quite well because everyone is so helpful and willing to lend a hand." (57:6:88).* Other companies could have a culture that is historically resistant to change: *"… but you work within a corporate environment that has its own culture, very, very strong. It's relatively resistant to change at lower levels" (44:25:132).*

The findings that related to company culture for each team are tabulated in Table 12.

Table 12: Findings related to Company Culture

Team	Company Culture
Technical Project Team	The company had a jovial culture, where people knew and talked to each other. This allowed team members to communicate with others outside the team with ease. The impact on team innovative behaviour was however limited, as the project did not require innovation.
Core Project Team / Project Stream Team.	This company had a culture that was resistant to change. Part of the reason for this was the long tenure of staff. Another reason was that most managers in the organisation had worked their way up through the ranks. One of the reasons for this culture was that the organisation had been successful by remaining the same for many years and thus did not see a reason to change. However, the project which both of these teams was involved in was preparing the company for future change, whilst limiting the current changes, in order to gain

Team	Company Culture
	acceptance from the generally change-resistant management. This project was thus innovative.
EXCO Team	The previous leader of this organisation had a very autocratic style, which resulted in organisational staff not trusting the senior management. Despite this the company had previously created a number of innovative products and services, and was not resistant to change.
Private Company Management	This company strove to be innovative and change was embraced. The company had previously managed to gain an advantage over other companies in the industry due innovation in the manner in which products were supplied to the customer. The culture of innovation was driven by the CEO of the company.
Product Development Team	This company had a culture of innovativeness and wanted to maintain the innovation leadership within the industry sector. This culture was created by the founder and CEO of the group company. The standards for products developed were set very high and it was required that new products would offer significant benefits to the customer. There also appeared to be a collectivist nature in this organisation where the individual team members did not require sole credit for the products created, and were prepared to share the credit with the rest of the team. The long tenure and similarities between the team members were possibly the cause of this collectivist nature and the lack of politicking that took place in this team.
Marketing Product Development Team	This company had a vision of being seen to be remarkable. Innovative behaviour was needed in order to achieve this. This culture was planned by the founder. This company was small and the staff freely interacted with others, within and outside the team, to create new solution. The company has a “family” atmosphere. People were helpful and easily volunteered to assist each other. The company also gave credit to anyone who

Team	Company Culture
	came up with good ideas and even shifted the work to those people or teams that came up with the best ideas.

Analysis

The major components of company culture that were identified in the teams studies included resistance to change, the desire to be innovative, the individual or collectivist nature of the team members and the way in which people from around the organisation communicated with each other. Some companies also sought to maintain high standards. This could be defined as a culture of excellence.

A number of factors affected the culture of the companies.

- **Leadership**: The leader, and especially the founder of an organisation, has the ability to determine the type of culture that the organisation will have. This determines whether people and teams in the organisation do or do not behave innovatively. The leaders of the Private Company Management Team, the Product Development Team and the Marketing Product Development Team all wanted their organisations to be seen to be innovative. Innovation was sought out in these teams. The EXCO Team did not strive to be innovative, but did create innovative solutions when required by problems that the company faced. Here it was not the desire to be innovative, but rather necessity that drove innovative behaviour.
- **Success**: Companies that have been successful in the past may be resistant to change. However, this did not apply to the Product Development Team which was successful organisation, similar to the Core Project Team. Other factors such as the creativity and entrepreneurship of the organisation's leaders and the desire to be seen to be innovative were more important in the Product Development Team. A history of successful innovation could also encourage teams in the organisation to display innovative behaviour. A history of success without innovation or change could make the company and teams within the company resistant to change.
- **Staff Tenure and Progression**: Companies where a large portion of the management have long tenure, or have worked only for the organisation, and have moved up thought the ranks, appear resistant to change. Two of the teams, the Core Project team and Project Stream Team, which work for the same organisation, were affected by this. However, the long term vision was

that this project would eventually enable the management to drive change in the organisation. The project had to be structured in such a way as to minimise the negative effects of the resistance to change that pervaded the organisation.

- **Size of Company**: The Marketing Product Development Team resided within a small organisation. This assisted in giving the company a “family” atmosphere where people assisted each other when required. A similar culture of helping each other and ease of communication also existed in the much larger company which contained the Technical Project Team.

The culture of the companies influenced the amount and type of innovation that took place in teams within those organisations. Innovation required to solve major business problems still occurred despite an organisational resistance to change. However, a culture of resistance to change or poor business performance did prevent the creation of major new ideas, and rather resulted in a focus on operation issues and effective operations.

One of the consequences of the collectivist nature of the team in the Product Development Team was that people were prepared to accept that they may be wrong and thus changed their minds based on what the other team members had to say. The individual personalities apparently dropped away and the team was not ego driven. People were thus prepared to risk articulating ideas that they had. This collectivism could have been due to the homogeneity in the team or the long period the team members had worked together for.

Summary of Organisational Context

Environmental influences and the company culture have an effect both on whether and to what extent innovative behaviour takes place in an organisation. Companies which exist in an environment where they are expected to be innovative and where the culture of the company encourages innovation, have innovative outcomes. This does not mean that such companies necessarily will have innovative behaviour. Other factors also play a role in determining whether the requirement for innovative behaviour translate into actual innovative behaviour.

6.1.3. Team Context

The context of the team affects the innovative behaviour that could take place in the organisation. The context includes details of the tasks that the team needs to perform,

the leadership of the team and the resource constraints under which the team has to operate. The task delegated to a team determines the level of interdependence that exists in the team.

Common Goals and Task Interdependence

Goal interdependence or common goals is a key part in the definition of a team. In order for a group of people to operate as a team there has to be a sense of shared purpose. In some teams it is possible that there is a high-level team goal as well as individual goals: *"The ultimate goal is obviously to satisfy the customer and work within the timescales etc. Obviously that is broken down into many shorter term goals, 'everything has gone completely pear shaped and we have to get these things out of by next week', then the goals become much more short term. But each member of the group has got their own goals." (54:8:80).* Sometimes these goals can be shared and created by the team itself: *"...but the trick is that you're working in a team and you've got to honour and respect the core idea which is something you came up with together." (62:22:90).*

Task interdependence is when the team members need to work together in order to achieve their common goals. The findings related to common goals and task interdependence are tabulated in Table 13.

Table 13: Findings related to Goal and Task Interdependence

Team	Common Goal	Task Interdependence
Technical Project Team	Although there was a common goal for the successful completion of the project, each team member had an individual goal that was determined by the project plan. If each of the team members achieved their individual goal, then the overall project would be successful. A small portion of the project depended on team members working together on	Task Interdependence was very low in this team, as each person had to complete their tasks according to the project plan and the overall project would be successful. Only a limited amount of interaction was required between the team members.

Team	Common Goal	Task Interdependence
	interfaces between areas.	
Core Project Team	Similar to the Technical Project Team, there was little goal interdependence between the team members, aside from an overarching goal for successful completion of the project. However one team member did indicate that there was interdependence between the different areas of the project but that the project had not been structured in a way to reflect this interdependence. There were common goals between small sets of team members who worked on the same modules.	Task Interdependence between all or most of the members of this team was low. Only small subsets of the team needed to work together on the modules that they were jointly responsible for.
Project Stream Team	The common goal in this team was the successful implementation of a software module. Each team members had their own area of the module to implement. The overall project could not be successful unless all the individual sections were completed. In this way there was a common goal in the team, although if each team members met their individual goals the project would be successful.	Task Interdependence was low in this team as the team members did not need to work together to complete their tasks. There was, however, dependence between the different team members. Many of the Individual team members could not complete their section of the project unless others had completed theirs.
EXCO Team	There was goal	Task Interdependence existed

Team	Common Goal	Task Interdependence
	interdependence in this team since the team members were responsible for the overall success of the organisation. Each team members had individual business functions which they were responsible for. In this way there were also individual goals in this team.	in this team. Since the team members were responsible for different functional areas in the business there were tasks where the team members were not interdependent. However for major business problems the team needed to work together to find solutions.
Private Company Management	The common goal for this team was a financial target. In order achieve the target, all team members needed to be successful at the individual business functions that they were responsible for.	Task interdependence was high in this team as the team members, although being in different functional areas, often needed to work together in order to achieve their goals.
Product Development Team	The team had a clear common goal in designing the product for annual release. The team members also had their own business areas that they were responsible for individually and thus also had individual goals.	For the annual innovation project the task interdependence was high in this team. At other times, since some of the team members were in charge of different companies or functional areas, the task interdependence was low.
Marketing Product Development Team	This team had common goals for each of the products that the team worked on. These were discussed and agreed to at the start of product development process. The goals varied from customer to customer and product to product.	The task interdependence was high in this team. Different team members were involved in different parts of the project, and needed to work together in order to design the product in the time available.

Analysis

Goals in teams exist at two levels. Team members have team goals as well as individual goals.

The type of team or the purpose of the team affects the presence of common goals in the team. In teams created for the purpose of executing projects, overarching goals for the successful completion of the project always exist, but each team member is often given specific individual areas of responsibility determined by the project manager. Projects are also generally designed in such a manner as to ensure that that the successful completion of the individual goals results in the overall success of the project. One of the consequences of this is that a portion of the innovative behaviour takes places in the planning of the project, an activity that the team members are often not involved in. The project manager, team supervisor, or these in combination with a few other people are responsible for this design and project plan. The team members of the project teams (Technical Project Team, Core Project Team and Project Stream Team) in this study were not involved in the project planning, and the majority of the team members were probably not even selected before the design of the project had been completed and overall goals for the team set.

The type of team also affects the task interdependence of the team. In the project teams the work to be done by the team members was allocated so as to reduce overlap between the team members. There was some need for team members to work with each other in order to ensure that interfaces between different areas worked correctly. Ultimately, however the need to work together as a team was limited. There was thus little task level interdependence between the team members in the project teams.

The level of task interdependence determines the requirement for the team members to work together. Without task interdependence or goal interdependence, team members would not need to work together and team-level innovative behaviour is less likely to occur. However, in the case of the Project Stream Team, the team members did work together closely, despite the lack of task interdependence. Part of the reason for this was the overlapping knowledge between the team members and their close physical proximity. Unlike the Technical Project Team this team was involved in the implementation of the system which the group members had little or no experience with. With the Technical Project Team the team members were allocated to tasks that

they had experience with and the majority could complete their tasks without outside assistance. Only the newest team members needed some assistance due to his very limited experience. The level of interaction required in the Technical Project Team was thus limited. The system was new to the Project Stream Team members, and there would be benefit in working together and discussing the design and components of the system, especially because of their overlapping knowledge. For the Project Stream Team another possible reason for the interaction between the team members was that successful implementation of the module required all sections to be completed. It was thus in the best interests of all team members that all sections were completed, and this could have encouraged team members to assist one another.

The three senior management teams (EXCO Team, Private Company Management and Product Development Teams) each had clear common goals. They were responsible for the overall success of the organisation. Each of these teams was responsible for the overall financial performance of the organisation. Innovative behaviour was necessary in each case, although the specific innovative behaviour required for EXCO team, in one important incident, related to a serious problem that the company experienced, rather than new services for the customer. The urgency of the goal was thus high in the EXCO team. The goal was also specific and related to the problem to be solved. The goals for the Product Development Team and Private Company Management were not specific; new product and services needed to be provided to the customer, but there were no specific expectations from the customer. With the Product Development Team the intermediaries and customer had an expectation that an innovative new product would be created every year. The customers of the Private Company Management had no specific expectations regarding innovation. The company was driven by the need to maintain financial performance and grow the company. The properties of common goals this are the extent to which it is shared, the urgency of the goal and whether the goal relates to expectations of the customer.

Some teams, such as the Marketing Product Development Team, had common goals, which were set by the team and could be changed within boundaries set by the customer. The team members needed to work together in order to achieve these goals. This is despite the team members having individual areas in which they are responsible for.

The members in the senior management teams had some tasks for which they were individually responsible and others for which they were jointly responsible. Group innovative behaviour was related to the interdependent tasks and individual innovative behaviour for the tasks where they were not interdependent. High level teams in organisational also had more flexibility in determining the goals to be achieved and tasks to be performed, although this was often decided by the team leader. Lower level teams such as project teams generally have tasks that that are allocated and there is this little room for the team to change the task.

There is a distinction between task independence, task dependence and task interdependence. Dependence existed in the project teams, where certain team members needed to complete their tasks in order for other team members to be able to complete their tasks but there is limited need for the team members to work together. Task interdependence is when the team members need to work together in order to successfully complete their tasks.

Common goals or goal interdependence is a property of a team, whereas task interdependence is a property of a specific task. Team members can thus have different tasks where they have different levels of interdependence and could have some common goals and other individual goals. The major implication of goal and task interdependence for teams is that team innovative behaviour is influenced by the need for team members to work together. Team level innovative behaviour is less likely to occur with team members that are not required to work together either due to having common goals or task interdependence.

Leadership

Leadership sets the context within which a team operates. Organisational leadership is concerned with the determination of the company culture in terms of innovative behaviour, as indicated by the member of one of the teams: *"… but he has a key role to play in creating this innovative culture" (33:123:154).* Leaders may influence innovative behaviour in other ways such as evaluating ideas: *"…that's the idea that stood out for him so almost he's that funnel where all the information goes … he's the person to say this is the idea we're going to go with and that's the idea" (61:5:90)*. The findings for each of the teams related to leadership are indicated in Table 14.

Table 14: Findings related to Leadership

Team	Leadership
Technical Project Team	The leadership of this team defined the design of the product, created the project plan and allocated the tasks to each team member. The amount of change from the existing product was limited in order to reduce risk and meet the short deadline for completion of the project. The potential for innovative behaviour by the team was thus very low.
Core Project Team	The leadership of this team made most of the important decisions related to the project. Some of these decisions took place before the formation of the team. The team supervisor selected each of the team members based in the requirements for the project. One innovative decision that the team supervisor, who was not part of the team, took was to limit the change business people experienced, whilst simultaneously changing the software system. This was an innovative decision that affected the acceptance and thus success of the project. This decision was, however, not a decision taken by the team, and also restricted any changes that the team could implement as part of the project.
Project Stream Team	There was an element of shared leadership in this team with the different team members responsible for making decisions regarding and executing their unique areas of the project. The team leader was constantly making the team members aware of new processes and technologies that may have been applicable to their areas of responsibility. Leader intervened or assisted if conflict arose in the team.
EXCO Team	The leadership in this team was seen as highly competent by most, but not all of the team members. This leader however, did not take into consideration all of the team members. He also did nothing to prevent the creation of subgroups within the team, and was involved in creating the situation that led to the subgroup formation, thus potentially impairing the overall innovative behaviour of the team. This leader was also a very intelligent and strategic person and could have restricted innovation in the team by appearing to be so competent that the other team members did not question the idea sufficiently.

Team	Leadership
Private Company Management	This was a newly formed team with the CEO as the team leader. The leader set standards for the performance of the organisation, set common goals that applied to all the team members and obtained assistance for innovative projects from inside or outside of the company. Since the leader had a strategic orientation and the rest of the team members were more operational the roles were clearly differentiated. The leader was the innovator.
Product Development Team	The leadership in this team occurred at two levels. The one leader was the founder of the group of companies and was only infrequently involved in the product development process. He was responsible for the setting up the innovative culture in the organisation and hiring all the team members. This leader set high standards for the product that was required to be created by the team in terms of innovativeness and impact on the customer, and would interrogate team members on their ideas. Both the leaders in this team were prepared to listen and take into consideration the views of the team members, and were prepared to accept the judgement of the rest of the team. Both were regarded as highly intelligent, creative thinkers with a clear understanding of what was right and wrong in their environment. They also had a clear understanding of the value proposition that the company should deliver to the customer. The leadership was prepared to step in and make a decision if discussion and debate continued for too long.
Marketing Product Development Team	The leadership in this team set the standards for the organisation in terms of the desire to be seen to be innovative. The leader also assisted with part of the product development process and moulded the idea if this was required, to meet the customer's requirements better. The leader took the decision regarding ideas to be implemented, from the many ideas suggested by the rest of the team. The leader was prepared to listen and take into consideration any contribution from the team

Team	Leadership
	members.

Analysis

Leadership was a theme that was important in all of the teams. The influence of leadership ranged from creating a culture of innovation in the organisation, through to the leader being the actual innovator. Leaders can directly influence the innovative behaviour required, or can affect the operation of the team by their effect on the team dynamics. Leaders who do not listen and take into consideration all of the staff members, can restrict team member's openness and thereby reduce the potential set of ideas that are available. Leaders also set the standards for the organisation in terms of the desire to be seen to be innovative.

When the leaders were the innovators, the leader had a direct effect on the innovative behaviour. This could still result in innovative behaviour from the team; the leader may be the person who comes up with the original insight, while the other team members then assist to refine the idea. In other cases the team members may generate the ideas, whilst the leader evaluates these ideas and sets high standards for innovativeness and the depth of analysis of the idea. Aside from this, the leader would have an influence on the team from the point of view of the impact that the leader had on conditions that allowed and encouraged innovative behaviour to occur in the team.

Numerous properties of the leaders of a team emerged during the interviews. These included both the personality of the leader as well as their intellectual ability. Numerous processes or activities of the team leader that could influence the operation of the team were noted.

The individual leader properties that emerged were:

- **Intellectual Ability**: Intellectual ability appeared to influence the team leaders understanding of the environment and their ability to make better decisions. However, in some cases where people fail to question the leader due to their "brilliance" this could be a problem. The evaluation of different ideas is an important role of a leader. Leaders may be able to better evaluate ideas, due to their greater understanding of the business environment and their ability to differentiate right from wrong in their environment.

- **Fairness**: Leaders can either treat all team members equitably or give preference to one or more team members. With a fair leader all the team members are likely to be willing to contribute, whereas with unfair leaders some of the team members may not see any reason to contribute.
- **Approachability, Openness and Supportiveness of Leader**: Team leaders who are open minded and thus prepared to change their minds, can encourage team members to suggest ideas. Team leaders also affect teams by being approachable when team members have problems or need to discuss issues, but can also allow team members space to work things out for themselves.
- **Innovativeness/Visionary Leader**: Innovation can be driven by the leader with the leader as the primary idea creator in the team. Other team members could then be more involved in the refining and implementation of these ideas. This could be influenced by the experience of the team leader relative to the other team members. Different team members can have different roles in the team, and could have more or less responsibility for different aspects of the innovation process. Leaders could have the role of setting the vision for the organisation and can influence the culture of the organisation by their vision and actions.
- **Understanding of Team members**: Different team members can perform different roles in their team, given their strengths and weaknesses. Team leaders who are able to understand these can ensure that the most effective use is made of each team member.

Leaders can directly affect the innovative behaviour in teams. They perform numerous functions in teams, including selecting the team members, ensuring that the skills of the team members are appropriately utilised, energising the team, empowering team members and supporting team members. Leaders also directly affect the innovative behaviour in teams by setting standard for innovativeness, challenging the team members, encouraging different perspectives, intervening to make decisions and evaluating ideas.

By selecting teams, leaders can directly affect the diversity of teams. Some team leaders, by virtue of their good understanding of the team members, are better able to utilise their skills and competencies. This can ensure that the correct team members are involved with, consulted for, or added to the team for specific team tasks. Leaders can also influence teams by absence. By not being actively involved in team tasks, the

leader could allow more room for the other team members to display innovative behaviour. Leaders can also however ensure that the team is making progress by assisting teams to make decisions that are taking place too slowly.

Leaders set standards for the work performed, the innovativeness of the product and the extensiveness of analysis prior to decisions being taken. Leaders could also ensure that the team members move beyond what is normal and even beyond what traditionally appears to be sensible. Leaders can actively encourage team members to look at problems and business situations in different ways, despite how heterogeneous or homogenous the team members are. This could be particularly important in teams which have been in existence for longer time periods as team members may have become similar over time.

The leadership or organisation and leadership of teams can thus have a strong influence on teams, either encouraging or inhibiting innovative behaviour in teams by their characteristics and actions.

Resource Constraints

Resource constraints in the teams in this study consisted of time and cost constraints. Time constraints can lead to a team becoming focussed on achieving an outcome: *"So deadlines really make a huge difference in terms of focusing on what exactly needs to happen and they were reaching that stage where the deadline was, it was not close but it was coming to a point where work needs to start happening so we could go into that presentation prepared." (58:38:124).* It was also suggested that too much time could lead to reconsidering and changing good ideas: "… *it's actually counterproductive because you reach a point where you start firstly doubting the idea, you start changing the idea, and you end up moving backwards." (58:48:144).* The findings related to resource constraints are set out in Table 15.

Table 15: Findings related to Resource Constraints

Team	Findings
Technical Project Team	There were time and cost constraints in this team. The manner in which the project would be implemented was designed prior to the creation of the team. These constraints meant that the team was instructed to complete the project with the minimum amount of change to an existing product in order to reduce the

Team	Findings
	risk of time or cost overruns. In this team the resource constraints meant that team innovation was restricted.
Core Project Team / Project Stream Team	Time constraints had little impact on innovative behaviour in both of these teams. The reason for this was that the projects were designed to reduce the amount of change experienced by the business users to the bare minimum. The individual team members within the project stream teams may have needed to be innovative in order to complete their sections of the project on time and to modify the new system to match the existing systems.
EXCO Team	No evidence of resource constraints were noted in this team.
Private Company Management	No evidence of resource constraints were noted in this team.
Product Development Team	The deadline for completion in this team was regarded as important. The fixed deadline for completion led to the team focussing on achieving the result rather than continuing with a disorganised process. The deadline also resulted in “adrenalin” in the process.
Marketing Product Development Team	In this team, deadlines forced decisions to be taken and prevented the process from continuing unabated. It was noted in this team that too much time being available could cause the process to move backwards because of doubt about the original idea occurring. The team members also indicate that too little time can also lead to no creativity being possible.

Analysis

Time constraints and cost constraints are types of resource constraints. These constraint are externally driven and not generally under the control of the team. The innovative behaviour in a team can be affected by these constraints. The constraints can either benefit or impede innovative behaviour dependent on other factors in the team.

The innovative behaviour of the Product Development Team and the Marketing Product Development Team both benefited from time constraints. The Technical Project Team had existing products that matched the client’s requirements. Given the

short timeframe for completion of the project the prudent business practice in this case was to modify an existing product in order to complete the project faster and reduce risk. The time restrictions for the completion of the project thus resulted in the project being planned to reduce the change to the minimum possible. All teams with time constrained projects which have similar existing products may take decisions to limit change and thus innovative behaviour in the team. The team members may still need to be innovative individually in order to complete their sections of the project.

The Product Development Team benefited from the short and rigid deadline because it energised the team and ensured that the team members focussed sufficiently on the end result. The tight timelines forced the team members to focus on the completion of the task.

With some of the team members in the Marketing Product Development Team, it was noted that the less the time available, the better the output produced. Time constraints may result in individual innovative behaviour that transcends what would be possible without the time constraints. This could be related to the stress associated with a pending deadline ensuring that the team members focussed on the requirement and on satisfying that requirement.

Teams working under time constraints could also select ideas faster and then spend more time refining an idea, compared to teams without time constraints, who could spend too much time creating and considering different ideas. In this way time constraints could facilitate innovative behaviour. It is however likely that there is a U-shaped relationship as both too much time and too little time could constrain innovative behaviour.

Summary of Team Context

The context within which the team operates is important for the team and has an effect on the innovative behaviour in the team. Common goals and task interdependence determine the extent to which the team members are motivated to work together or have to work together. Leadership has a large impact on the innovative behaviour of teams by setting standards, demanding or not requiring innovative behaviour, acting as the innovator, and impacting the dynamics in the team by their approachability, consideration and fairness to the team members. Time constraints are a characteristic

of a task and could assist or harm the innovative behaviour, dependent on the type of task.

6.1.4. Team Characteristics

Numerous characteristics of the teams that affected the innovative behaviour were identified in the teams studied. These included the purpose and type of team, the flexibility of the team structure, the roles of the team members, individual characteristics of team members and differences between the team members.

Purpose and Type of Team

Different types of teams are formed for different purposes in organisations. Teams at a high level in the organisation can have very different areas of responsibility: *"You know in EXCO team members have very different responsibilities." (18:9:18).* Team-level innovative behaviour in project management teams may be limited by the project planning that takes place prior to the formation of the team: *"We don't sit down and work together. There's obviously a spec that's drawn up initially and that will be done by [the System Engineer] and then that gets broken down into the specific roles for [the Junior Engineer] and myself for example." (56:8:66).* As tabulated in Table 16, the type of team did affect the innovative behaviour that occurred in that team.

Table 16: Findings related to Type of Team

Team	Type of Team Effects
Technical Project Team / Core Project Team / Project Stream Team	These three teams were all created for the purpose of executing projects and had various similarities. The Core Project Team, Project Stream Team and Technical Project Team were similar as all were tasked with the execution of a project. One difference was that in the Core Project Team, the individuals in the team did not implement the work items themselves, but rather relied on work teams to perform this role, unlike the other two project teams. These teams were constrained by the mandate of the project and had clear guidelines of what was needed to be achieved, and the manner in which this should take place was broadly defined. The Core Project Team was positioned at a high level in the organisation and was responsible for a major project that

Team	Type of Team Effects
	impacted the entire business. Despite the differences between these teams, all were hampered in their ability to be innovative. Decisions taken by the Project Manager or the Team Supervisor rigidly guided the project. Risk aversion and practicalities meant that the teams were instructed to limit the number of changes. The project plan defined what needed to be done and by when each task needed to be complete. In both the Project Stream Team, and the Technical Project Team, individuals were also required to be innovative to complete their sections of the work. However, this was not team innovation. The required level of innovation from the team as a whole was thus low in both of these teams.
EXCO Team / Private Company Management / Product Development Team	These teams were all high level management teams in their respective organisations. These teams were not constrained by a project mandate and had great flexibility to determine the tasks that needed to be performed. The problems that these teams faced varied widely. By their nature, all of these teams had high levels of interdependence and needed to work together to perform the teams function. The possibility of innovative behaviour from the team as a whole was thus higher than the project teams.
Marketing Product Development Team	This was a product development team where the primary purpose of the team was the creation of innovative products for the company's client case. Innovative behaviour was thus a required part of the team function.

Analysis

The purpose of the team and type of team had an effect on the innovative behaviour that took place in the teams studied. Innovation from individuals or small groups was required in all of the teams, including the project teams. Team level innovation was, however, not required in all of the teams. All of the teams had a type that matched the purpose of the teams. The Technical Project Team, Core Project Team and Project Stream team had defined projects to be completed. The senior management teams were responsible for a range of activities and outcomes, which were not clearly defined

beforehand. The Marketing Product Development Team was a work team that was responsible for delivery of services to the company's clients.

The purpose of the team or the required outcome for the team can have an impact on the innovative behaviour that takes place in the team, by determining the room for innovative behaviour in the team. The Product Development Team had, as its main outcome, the detailed plan for what needed to be implemented which would be presented to its intermediaries. The actual implementation would take place thereafter. The Technical Project Team had a similar situation, but the detailed design was already done prior to the formation of the team and the team members were only involved in the implementation. The Marketing Product Development Team was also similar. This team designed what needed to be implemented, got approval for the idea and the plan. The idea then moved to another set of people for implementation. Teams that design the product have more flexibility than implementation teams that are constrained by the accepted design.

In the project teams, the team members may have needed to be innovative individually in order to complete their areas of the project, but there was little need for team level innovation. The three project teams in the study shared similar circumstances, where the bulk of the innovation had been created by the team supervisor or team leader. The separation of roles and responsibilities meant that the team members only needed to interact infrequently in order to complete their tasks. The project deliverables had been defined prior to the formation of the team. A large part of the innovation took place at this time. The team members were responsible for executing the project, according to the set project plans and within the timeframe agreed. Even though project teams may be valuable forms of teams for completing projects according to requirements, this is not the ideal structure for teams where innovative behaviour is a requirement.

The senior management teams and the Marketing Product Development Teams all had a requirement and room for innovation. This was either internally driven, or required because of customer requirements. The nature of these teams was that each of the teams existed for multiple tasks, projects or product developments. The teams were not created for the execution of a project and then disbanded.

The type of the team is dependent on the purpose of the team, and the purpose is important in determining the requirement and room for innovative behaviour in such teams, and therefore the possibility of team-level innovative behaviour.

Flexible Team Structure

Many of the teams exhibited a flexible structure. Either the people within the teams changed roles, or the structure of the team changed to accommodate more or fewer members. Some of these changes were temporary, whereas other changes were more permanent. Some changes consisted of the addition of consultants from outside the company; in other cases employees of the company were included in the team. In some organisations the organisation can be such that the use of resources outside the team is easy: *"Teams at [the Company] are relatively loosely defined in the sense that one or more members of each team will conceivably be members of other teams too. These members will consequently get to know many other employees and hence may become aware of where the expertise in various fields resides. These references are then offered to other team members who would otherwise be unaware of this i.e. very much a word-of-mouth referral system." (54:29:206).* The findings related to flexible team structure are shown in Table 17.

Table 17: Findings related to Flexible Team Structure

Team	Flexibility of Team Structure
Technical Project Team	This was a fixed team. This was a short term project team that had been in existence for a limited time period. The members of the team were not allocated to any one specific team for long periods, but rather different combinations of people were used on different projects. Team were thus created for each project. Team members became familiar with each other as they changed teams.
Core Project Team	Even though the team structure did not change, the individuals that occupied the different positions in the team did. The role of two of the team members, the programme manager and service provider project manager also changed in the team. External consultants were called in to assist as required.
Project Stream Team	The Project Stream Team also did change in structure or in terms of the roles of the team members, except very early in

Team	Flexibility of Team Structure
	the project.
EXCO Team	The EXCO Team changed frequently. Individuals within the different positions in the team changed. Consultants were also used extensively in order to assist the team. The CEO relinquished his position shortly after the start of the interviews.
Private Company Management	The team reduced in size during the course of the study. Consultants were used extensively in order to assist the team. The roles of the team members also changed.
Product Development Team	The membership of this team was not static. The team varied according to the requirements of the product development cycle. Additional individuals from within the organisation and external consultants were used as required. Team members changed during the course of the project. The core team members, a subset of the entire team, were constantly involved. In this team the structure of the team changed based on the different parts of the innovation process. Only the core part of the team was involved in the original idea generation, after which many different people were included to refine and analyse the idea.
Marketing Product Development Team	The teams in this organisation were completely fluid, with different people from within and outside the team involved at different times and for different product developments. Different team members were involved in different parts of the innovation process. Other people from the organisation who were not a part of the team assisted at times. Work could even move from team to team in an unplanned, ad-hoc manner. Teams could simultaneously work on the same project as other teams and the team with the best ideas would continue with the project. This was not always the team that had been originally given the work. The team was different from the rest of the teams in that the members were from different levels in the organisation.

Analysis

An unexpected finding of this research was that neither the structure of teams, nor the membership of teams is static. Diverse knowledge, skills and experience are thus available on demand. The project teams were more fixed in structure than teams involved in product development or senior management. In some cases the individuals in the teams changed, but the roles of the team members did not change. This was as a consequence of normal staff turnover, or because certain individuals did not perform adequately in the roles. In other cases the team was supplemented temporarily with people with different knowledge, competences or skills. Finally there were some permanent changes in the structure of the team, including the team size and the roles and responsibilities of the team members.

With a varying team membership the diversity of the team is not fixed. A team could move from being homogenous to being heterogeneous during the course of a single project. This actually took place in the Product Development Team. The core team, which was quite static and homogenous, was supplemented with a resource with a non-financial background shortly after the idea insight occurred. The team was then immediately more diverse than the original team, even though all the members had still been at the company for over 10 years. Other people with more differences were included later. An important consideration in the Product Development Team was the ability of the homogenous core team to decide that they needed additional assistance and also determine the nature of the assistance that is required.

Research into the team can be greatly complicated if the structure and therefore the diversity of the team varies over time. The use of consultants to supplement areas of weakness in a team also has a material effect on the impact of diversity on the innovative behaviour. If it is assumed that diversity results in differing views, which could then assist teams to generate better ideas, the use of consultants to make team temporarily more diverse could be a strategy that can be employed to improve team innovative performance. This is a complication that is rarely addressed in the current literature on innovation in teams. Here the teams are usually assumed to be static, and some standard measure of diversity, such as Blau's index (Simons et al., 1999), are used to measure the diversity of a team at a single point in time.

This appears to be the reality in a working environment, where specialisation is common and important for the success of teams. No individual can have all information about all things. In some cases the team as a whole may not have the knowledge or

skills necessary to perform a tack. Virtual teams and other forms of teams with varying membership are thus likely. This needs to be taken into consideration in research into business teams, and further complicates a topic already complicated by the difficulty of measuring or utilising the differences that exist in teams.

Roles in Teams

Different team members can perform different roles in teams. This could be based on the experience, competencies and preferences of the team members. Different team members could have different preferences: *"On the other hand I don't want to be bogged down because I'm an entrepreneur. I get bored, and therefore I like to create all the time, and therefore I don't want to be stuck in skills training, and all of that. So I want to split the people dimension into upskilling and training with leadership training and entrepreneurship. I'll handle that part, you handle that part." (28:32:54).* The findings related to roles in teams are presented in Table 18.

Table 18: Findings Related to Team Member Roles

Team	Team member roles
Technical Project Team	There were very specific roles that each team member performed in the team. These roles were defined, based on the requirements for the project, by the project manager. There was minimal overlap between the tasks allocated to each of the team members.
Core Project Team	The team was specifically chosen to have members from each of the major business areas affected by the project. These were each experts in their own area of the business, but not necessarily people who could comment on other areas of the business. Clear role definitions were very important in this team. The team did not have clear role definitions initially, and this resulted in problems with the performance of the team until the roles were clarified.
Project Stream Team	The team members in this team were selected based on their expertise in certain aspects of the project. There was a clear differentiation of roles based on the modules that each team member was responsible to implement. The team leader took on the role of encouraging the team members to consider different and new ways of solving business problems.

EXCO Team	Each team member in this team was responsible for a specific area of the business. Being an EXCO Team these business areas were disparate. The team leader had the role of determining the strategic direction of the company. The other team members were more operationally, rather than strategically focussed. There was a role of Innovation Executive in the team. However the person in this role was seconded to run the finance area of the business after the departure of the financial director. This person was meant to formulate an integrated plan for innovation in the business.
Private Company Management	The CEO in this organisation had the role of the innovator. The rest of the team members were operationally focussed. They assisted with the evaluation and refining of the original insight, and the implementation in their individual areas of responsibility.
Product Development Team	The team members in this team had different areas of the business and even different companies that they were responsible for. There was limited overlap of roles, except for when the team members needed to prepare for the annual product launch. No single team member was the innovator in this team.
Marketing Product Development Team	Different team members had very specific and different roles in the product development process in this team. This team differed from all of the other teams, as individuals were not responsible for different business areas, but were rather responsible for parts of a process. The goal of all the team members was the successful completion of the process.

Analysis

Roles in teams could either be static and determined by the area of responsibility of the specific team member, or could be dynamic and vary depending on circumstances. Team members could also have different roles, some based on their areas of responsibility and others based on their preferences, cognitions, values or personality. In the Product Development Team the Group CEO took on the role of the person striving to make the ideas as unique and “blue-sky” as possible, whilst other team

members were more pragmatic. This was similar to the Private Company Management where the team leader was the innovator.

Project teams have very specific roles that are required to be clearly separated. This reduces overlap and assists with the efficient running of the project. This can reduce the possibility of team based innovation.

Senior management teams have different areas of the business that they are responsible for even though they may still have common responsibility for the success of the company. Even in these teams the innovation could be a role of one of the team members, usually the team leader. This can reduce the possibility of team based innovation, unless there are problems experienced that require the knowledge, skills or expertise of most or all of the team members for a suitable solution to be found. Roles are also allocated based on people's expertise and this can result in limits on the overlapping knowledge between the team members.

Team members who are not always involved in the team discussions or development of the innovation on a day today basis, may be able to provide counterpoints to the thinking of the others teams members, and thereby assist the team.

Characteristics of Individuals

Teams are made up of individuals, and the abilities of these individuals and their motivation could impact the innovative behaviour in the team. The findings related to individuals in the team are tabulated in Table 19.

Table 19: Findings related to Characteristics of Individuals

Team	Individual Characteristics
Technical Project Team	The knowledge and expertise of the team members was crucially important for the successful completion of the project. The team members needed similar, tertiary educational qualifications, and needed expertise in the specific area of the project that they were responsible for. Only the more knowledgeable and experienced team members were able to generate viable new ideas. The knowledge and experience of the team members was related to the organisational tenure of these team members.

Team	Individual Characteristics
Core Project Team	The team members in this team needed high levels of knowledge and experience in the area of the project that they were involved in. They also needed knowledge of the people and their characteristics within the business area that they were responsible for. The team members were selected for their expertise, but also apparently because the team members would do “whatever it takes” to complete the project successfully. There was strong motivation for the team members to succeed, based on the trust that the team supervisor had placed in them when selecting them for the team. This motivation was, however, not linked to innovative behaviour, but rather to the successful completion of the project.
Project Stream Team	Team members needed expertise in the human resources area with specific experience related to the software module that they were required to implement. They had been deliberately chosen based on this expertise. The team members were also apparently high energy, confident, not afraid to speak their minds and all prepared to work hard in order to get the job done. Their educational qualifications varied widely, however these were not considered to be important as all the team members had the necessary skills and experience for the functions that they needed to perform.
EXCO Team	Some of the team members had extensive experience from many years of working, whilst others had insufficient experience to be in an EXCO Team. Various team members had long tenure and extensive experience in the products that the company sold, even though some team members had no tertiary qualifications. The inexperienced team members did have problems with their interactions with the rest of the team. One of these team members left, whilst the other grew into the position and became very effective later in the team’s life. At least one team member was resistant to change.
Private Company	All of the team members had extensive experience in a fairly

Team	Individual Characteristics
Management	non-technical industry. None of the team members had formal qualifications except for the team leader who had a number of different tertiary management diplomas.
Product Development Team	The team members were all highly qualified and had extensive experience in their industry. The qualifications did vary, with some highly qualified technical specialists as well as many financial graduates. The Group CEO was regarded as a very entrepreneurial and creative person and the CEO was seen as a genius. Many of the other team members were regarded as innovative and were considered to have high intellectual ability. One person indicated that the intellectual ability was, on average, higher than in the previous company and industry that the person had worked for. This team enjoyed and looked forward to the annual product development cycle. Given the domain-relevant and creativity-relevant skills that appeared to exist within the top management team, this high motivation to succeed and to be seen as innovative would most likely lead to innovative behaviour and thereby, innovative outcomes from the team.
Marketing Product Development Team	The team members in this team were considered to be highly intelligent and quick thinking, whilst simultaneously being down-to-earth. The team members were also independent and strong minded. Other descriptions for the team members included creative, hard-working and open-minded. Some people who had “emotional intelligence” had a good ability to deal with customers. Despite the relatively low educational level of the team members, who all had diplomas, the team members had a variety of skills that were useful for the team. Team members have a personal motivation to produce innovative products because of the respect that they gained from co-workers and people within the industry if innovative products are produced. The outcome in this industry is marketing communications and was thus clearly visible. The

Team	Individual Characteristics
	work that the team members produced became a part of their portfolio. For some of the other team members, motivation also existed because of the faith that the founder of the organisation had in them when hiring them.

Analysis

The characteristics of individuals that were evident in this team, together with the teams in which these were noted are listed in Table 20.

Table 20: Evidence of Individual Characteristics of Team Members

Characteristics of Individuals **Note**: This is not an assessment of the team and its members, but rather an indication of the evidence found per team	Technical Project Team	Core Project Team	Project Stream Team	EXCO Team	Private Company Management	Product Development Team	Marketing Product Development Team
High Intellectual ability						Yes	Yes
Creative / Creativity Relevant skills					Yes		Yes
Technical Knowledge and Expertise (includes education and training)	Yes	Yes	Yes	Yes			Yes
People Knowledge and Expertise (understand what will and will not work given the company environment)		Yes	Yes				Yes
Customer Knowledge and Understanding						Yes	Yes
Outcomes orientation (get things completed)		Yes					Yes
Personality							
Entrepreneurial / Innovative					Yes	Yes	Yes
Open and Honest			Yes		Yes	Yes	Yes
Resistant to change				Yes			
Passionate			Yes				
Confident			Yes				
High Energy			Yes				
Down to earth							Yes
Motivated		Yes				Yes	Yes
Hard Workers			Yes				Yes
Strong Minded			Yes				Yes

A high level of technical skill is required in order to develop innovative solutions to problems. Without the appropriate technical skills, it would not have been possible for many of innovations that occurred in the EXCO Team, Product Development Team and Marketing Product Development Team to occur. Technical skills were also required for the completion of the projects of the project management teams and for the execution of both the individual and team based tasks. The Product Development and Marketing Product Development Teams needed a high level of technical skill, but also needed to clearly understand their customer and market. This enabled the creation of innovative new products that were also useful to the customer.

Aside from technical skills, understanding of people, both staff and customers, was important for innovative behaviour. This was important because the innovation involved change and this change affected customers, other staff members or both. Having people in a team who have in-depth knowledge of either customers or staff was necessary to enable the innovation created to have utility and to be successfully implemented. The Project Stream Team needed to have staff that had knowledge of what changes would and would not be accepted in the organisation. Team members with long tenure in the organisation were able to provide this knowledge. The Product Development Team and Marketing Product Team, on the other hand, needed to have knowledge of their clients or customers in order to know which innovative product were likely to be successful. The Private Company Management used consultants and extensive investigation of their customers to identify what their customer requirements were. This was however less successful than having an inherent knowledge of the customer; in this team the innovative product created did not gain the anticipated acceptance of the customers and as indicated by the CEO, *"the initial push for the loyalty programme was taking longer and was harder than we thought." (28:45:247).*

The members of the Product Development Team members were substantially more highly qualified than the Marketing Product Development Team. However, both companies were known to be innovative, and the products developed were seen to be innovative. This was possible because the team members in the Marketing Product Development Team had to deal with problems and solutions for real people on a daily basis and had the experience, if not the qualifications. They were also apparently very smart, similar to the team members of the Marketing Product development team. The Private Company Management Team also did not have high qualifications. However the nature of the industry was simpler and the innovator was the CEO, who had numerous educational qualifications but no university degree. The EXCO Team had a similar situation with staff that had expertise by virtue of experience; but even here the Managing Director took on the role of innovator, rather than any of the other staff members.

All of the team members thus had the minimum necessary qualifications, experience or knowledge for innovative behaviour in their environments. It could be argued that additional qualifications over and above the minimum necessary qualifications would have had diminishing returns. As seen in the Technical Project Team, where all team members had the same qualifications, experience was the deciding factor in the innovative behaviour of the individuals.

Evidence of the motivation to be innovative was apparent in a number teams including the Private Company Management, the Product Development Team and the Marketing Product Development Team. In these teams, the entrepreneurial orientation of the team leaders, who were also the organisational leaders, was important to set standards for innovation in the organisations. They all set standards for high levels of innovation. These standards were set by the team leader rather than any of the other team members.

Evidence of the importance of personality attributes of team members were found, but these were not consistent across teams. These included attributed such as innovativeness, confidence, energy, strong-mindedness, passion and down-to-earth orientation. Passion and energy, though not specifically mentioned were also present in the product development teams, and evidenced by the manner in which the innovation process transpired and amount of effort put into the product development at all times and in any location.

Teams are made up of individuals, and the attributes of these individuals are important determinants or pre-requisites of the innovative behaviour that takes place in those teams. Creativity and domain relevant skills and knowledge are important, as is suitable motivation, for innovative behaviour to take place in teams. It is likely that attributes such as hard work, passion and energy are visible indicators of the motivation of the team members. These are important as innovation involved change, which requires more energy and determination than remaining the same.

Diversity

Different forms of diversity were found in the teams studied. These include demographic, cognitive and personality differences. The findings related to diversity are tabulated in Table 21.

Table 21: Findings related to Diversity

Team	Forms of Diversity	Effect of Diversity
Technical Project Team	Age, Race, Tenure	Diversity was not important to the operation of this team. In some respects, the team needed to be homogenous in order for it to operate properly. All team

Team	Forms of Diversity	Effect of Diversity
		members had essentially identical qualifications which were necessary due to the highly specialised field of work. Diversity could have had an impact on motivation in the team. The younger team members were enthusiastic, which could have energised the other team members in another fairly “mundane” project. The impact on innovative behaviour was low as this was not required in the project.
Core Project Team	Company worked for, Education, Functional Background	Having different functional backgrounds was important for this team due to the need for the team members to have expertise matched to different components of the project. A dimension of diversity that was apparent in this team was the different companies that the team members worked for. The team consisted of company staff and consultants from an implementation partner. These companies had different cultures and different business models. Both were however essential because of the different knowledge and expertise each brought to the team; the system implementation experience of the service provider and the business know-how of the company staff.
Project Stream Team	Age, Tenure, Personality	The level of demographic diversity in this team was very low, with only one male in the team and all members from the same race group. The functional diversity was also low, with all being trained in the human resources field. The older and

Team	Forms of Diversity	Effect of Diversity
		longer tenure team members were affected by the resistance to change of the organisation as a whole, and had learned from experience to maintain the status quo. This made the newer team members even more important as they have not yet adopted the culture of the organisation. Even the youngest and newest team member, however, indicated that she was already falling into the ways of the company.
EXCO Team	Age, Race, Tenure, Gender, Functional Background, Education, introvert versus extrovert, internal versus external company orientation, decision process diversity	The diversity of the team and the alignment of diversity fault lines created a distinct subgroup in this team. The members of this subgroup had considerable interaction with each other both within and outside the organisation. The homogeneity within this group could have created familiarity and also groupthink where the team members in the subgroup did not question the decisions of the team.
Private Company Management	Age, Race, Tenure, Role Orientations (Strategic versus Operational)	The different team members in this team had different role orientations. The CEO was the strategic thinker and was the innovator in the team, whereas the rest of the team members were predominantly operations. Tenure also had an impact in this team, with the longer tenure team members not being prepared to upset the status quo and stand up to the team leader. The newer team member, who was more secure and sure of himself, was open and prepared to question the team leader.

Team	Forms of Diversity	Effect of Diversity
Product Development Team	Functional Background, Role Orientations (Strategic versus Operational)	The core group in this team were very similar, whereas the extended group had more diversity. The members of the core group had been together in the company almost from the start of the organisation. The team accommodated for its lack of diversity calling in other people who are experts in specific areas to assist in the process. This assisted the team members to know and understand each other's strengths and weaknesses. The core group came up with the idea and the extended team was involved in refining the idea. The innovative behaviour in this team is better explained by other factors aside from diversity, including culture, intellectual capability, domain relevant expertise, desire to be seen to be innovative and serendipity.
Marketing Product Development Team	Race, Gender, Tenure, Focussed versus unfocussed thinkers, Optimistic versus Sceptical, Forceful versus Reserved, Visual versus Verbal.	There were demographic differences in this team however the personality and cognitive differences were more important. Team members in this team did not consider that the personality differences were influenced by demographic differences. People in this team and organisation made deliberate efforts to experience things that assisted them to obtain different perspectives. This was considered by the team members to be a characteristic of creative people.

Dimensions of Diversity

The properties of diversity that were evident in this team, together with the teams in which these were noted are listed in Table 22.

Table 22: Properties of Diversity

Properties of Diversity	Technical Project Team	Core Project Team	Project Stream Team	EXCO Team	Private Company Management	Product Development Team	Product Marketing Development Team
Age	Yes		Yes	Yes	Yes		Yes
Race	Yes			Yes	Yes		Yes
Tenure	Yes		Yes	Yes	Yes		Yes
Functional Background		Yes		Yes		Yes	
Internal vs. External Orientation				Yes			
Company worked for / Consultants		Yes	Yes	Yes	Yes		
Gender			Yes	Yes			Yes
Education		Yes		Yes			
Personality Diversity			Yes				
Introvert vs. Extrovert				Yes			
Forceful vs. Reserved							Yes
Optimistic vs. Sceptical							Yes
Cognitive Diversity							
Decision process diversity				Yes			
Strategic vs. Operational				Yes	Yes	Yes	
Focussed vs. Unfocussed thinkers							Yes
Visual vs. Verbal.							Yes

Age: The main impact of age in the teams was that the older team members had more knowledge and experience than newer team members. In the Technical Project Team, this experience was crucial for the generation of any innovative ideas, due to the highly technical nature of the field and the product. The young, inexperienced team members were unable to generate novel ideas that were useful. Nevertheless youth was valued in this team because the enthusiasm of the younger team members motivated the older, more “jaded” team members. This assisted with the motivation to complete the project, but the effect on innovative behaviour was not clear as this team was not required to be innovative. A combination of youth and older team members ensured

that the team had the required experience as well as enthusiasm in the team. Youth was also associated with enthusiasm and passion in the EXCO Team but also did not appear to affect the innovative behaviour of the team.

Tenure: In the teams studied age and organisation tenure had similar effects. This was because age and tenure were closely aligned in most of the teams studied. In the Project Stream Team the older and longer tenure team members were affected by the culture of resistance to change of the organisation, and had learned from experience to maintain the status quo. This made the lower tenure team members important as they have not yet adopted the culture of the organisation. Even the youngest and newest team member, however, indicated that she was already falling into the ways of the company. Both the short and the longer tenure team members were important in the Project Stream Team. The longer tenure team members had extensive knowledge of the company, which was helpful to evaluate the feasibility of implementing ideas that the other team members suggested. Other team members who had short service had different perspectives from outside the organisation.

In the EXCO Team the oldest team member, who had very long tenure, had considerable expertise but was simultaneously resistant to new ideas. The younger team members had more passion and energy. Where team members are both older and have longer tenure, resistance to change may be particularly strong.

Shorter tenure in the Private Company Management Team was related to a willingness to question the team leader, who was the CEO and founder of the company. The newest company employee, who had experience in a different sector of the industry, had new ideas and was prepared to risk conflict with the other team members and the CEO in order to present these ideas. The other team members, who had been in the company for most of their working life, were not prepared to compromise their security, apparently because they had not worked in other environments for a long time and were concerned about exposing themselves if they questioned other team members or the CEO.

In the Product Development Team, the long tenure of virtually all of the team members resulted in the team members having a very good understanding of their industry and customer base. The team members also had diverse experiences because many had worked in different parts of the organisation during their tenure. Despite the long tenure, the team members did not display any resistance to change. They were on the

contrary, very open to change. This was affected by the culture of innovation in the organisation and the expectation of innovation by their intermediaries and customers.

Gender: Differences in the approach of the two genders to performing tasks were noted in several teams. The two genders apparently consider problems in different ways. The EXCO Team indicated that females tended to talk through solutions whereas men tended to deal with problems in one sentence. In the Marketing Product Development it was noted that female team members were more structured in their approach to task to be completed than men. Female team members were also more focussed on the deadlines and ensured that progress was made towards that deadline. Males were considered to be more unstructured and needed to be reminded of the deadlines and the need to make progress. The Project Stream Team also noted that females tended to be more task focussed. However the Product Development Team, in which the majority of the team members were men, was still able to meet very stringent deadlines.

The effect of the female team members in this team was tempered by how prepared they were to speak freely in a male dominated team. The less experienced female team members were reluctant to speak in the EXCO Team where a subgroup consisting of the white male team members had been formed. This was partially due to their inexperience, the fact that they were in charge of inward facing business functions, rather than the males who were all customer focussed, and the amount of time during and outside work hours that the male team members spent together. At least one female team members did indicate that males and females are different, even though this person believed that at a high level management team this is not an important dimension of diversity. To her the orientation of the person to the task was more important than gender. It is possible that the differences in structure and task focus are not completely dependent on gender. It is also possible that males tend to be more “male” and “females” are more females.

Race: Race was not presented as a consideration in any of the teams. This could however be due to the South African circumstances and the sensitivity of race discussions in South Africa. When asked, the majority of the team members indicated that race was unimportant and some team members were even quite testy about the mention of race. However the subgroup that was formed in the EXCO Team was white, and had numerous other aligned similarities that generated a clear fault line in the team. The subgroup team members were all male, all white, all extroverted and all

responsible for customer facing business functions. One example of race was the replacement of the white CEO in the EXCO Team with a black CEO. The two had completely different personalities, however as indicated by one of the team members, this was nothing to do with race, but rather personality differences between the two.

Company Worked For: A dimension of diversity that was apparent in the Core Project team was the different companies that the team members worked for. The team consisted of company staff and consultants from an implementation partner. These companies had different cultures and different business models. This was important for the successful completion of the project since the business experience of the company staff and the software product and implementation knowledge of consults were both required. This was important for the implementation of the different project streams, which fell under the responsibility of sets of individual team members. Innovative behaviour from the team was a whole was not required. The use of consultants, either as full time team members or part time assistance, was a consideration in a number of the teams studied.

Education: In project teams, domain relevant knowledge is particularly important and the educational background of the team members needed to match the requirements of the project. In these teams team members may thus have little difference in educational qualifications. In other teams where the team members are in charge of diverse business units, different educational qualifications are important. The level of education was not important, aside from that team members in all teams needed a minimum educational level that matched the function of the team that they were a part of.

Functional Differences: In many of the teams, due to the nature and complexity of the project, there was a need for different team members to have expertise in different areas of the projects in order for successful implementation. Overlapping of knowledge was not important, but could have assisted the level of discussion and debate that took place. Due to the nature of the product in the Technical Project Team, all team members were engineers. In the Core Project Team, the expertise of the consultants in terms of the functionality and implementation of the new system was important, whilst the business knowledge of the company staff in the team was important. The value of diversity in this team was less to do with people being able to contribute different perspectives and ideas, and more to do with people having to have the correct expertise to perform their individual and different roles in the project.

In the Core Project Team, each team member or set of team members represented a different area of business. Considering that this project spanned the entire organisation, functional area diversity was critical. With the Project Stream Team even though the general functional area was the same, each team member was required to be an expert within their specific area of responsibility.

The value of functional diversity was highlighted in the EXCO Team. This team needed to find an innovative solution to a critical problem that the company faced. The multi-disciplinary solution that was generated in the team required that each of the team members had a different area of expertise. Functional area diversity was thus important in this team.

A type of diversity that is closely linked to the functional area diversity is being in inward focusing functional areas or external customer-facing functional areas. This was evident in the EXCO Team, and did not appear to impact the innovative behaviour of the team, even though it did affect the dynamics in the team.

Personality and Cognitive Diversity: A number of different forms of personality and cognitive diversity emerged in the study. In the EXCO Team there was a combination of introverted and extroverted team members. This adversely affected the team dynamics as the introverts were also the less experienced team members and their contribution to team innovative behaviour was limited. Within the EXCO Team the team leader was the visionary and strategist who would determine the future direction of the company. The majority of the team members took on a more operational role, and were more comfortable to be involved in the implementation of the new plans. Another possible type of diversity in teams is thus strategic or operational orientation of the individual team members. The Private Company Management Team was similar; the team leader was the innovator and the strategist, the rest of the team was involved in refining and implementing the idea.

In the Marketing Product Development Team some people were more focussed whereas others are more abstract. Some of the team members were inclined towards tracking the progress against the requirements and ensuring that delivery took place on time. Others were less focussed on the actual delivery but more on creating the right product for the customer. A combination of these different orientations was

important to ensure that the products were innovative, whilst at the same time ensuing that deadlines were met.

In the Marketing Product Development Team some members of a team were more optimistic and enthusiastic about ideas, whereas other members of a team were sceptical and closely questioned the idea. The more sceptical team members ensured that the ideas were thoroughly interrogated before being presented to the customer. The enthusiastic team members energised the team, supported and believed in the idea. Both are necessary, the enthusiastic to fight for the idea, and the sceptics to check that all aspects of the idea were sound.

In the Marketing Product Development Team some members of a team some team members considered ideas visually, whereas others considered ideas verbally. This was necessary since the products developed tended to comprise both verbal and visual components. The impact of these orientations in innovative behaviour was not clear.

Effects of Diversity

One of the major negative effects of diversity was the creation of subgroups in the EXCO Team. The diversity of the EXCO Team and the alignment of different diversity fault lines created distinct subgroups in this team. The “in-group” had considerable interaction with each other both within and outside the organisation. This resulted in certain team members having greater influence on the team than other team members. These subgroups were the consequence of race and gender differences, personality differences, different experience levels, and differences in internal and external orientations, which were closely aligned. The personality differences consisted of a combination of introverted and extroverted team members. Some of the team members worked in the customer facing business functions whereas others were in the areas that focussed on the internal operations of the team. The result of the subgroups was that the one subgroup had considerable interaction outside of the formal work environment resulting in reduced contribution from the left members left out of these sessions.

The major visible forms of demographic diversity (race and gender) were not important for these teams. In many of the teams, age was the equivalent of experience, as the older team members had more experience, either in the technical area or had a better understanding of the operation of the company. Tenure was also often linked to age

and experience. Functional background diversity was important as a number of teams found value in the diverse experiences and perspectives that occurred as a result of the functional background differences were needed in order to generate the innovative ideas that were necessary in the team. The *company worked fo*r was another form of diversity that resulted in diverse experience and perspectives. Education field or education level diversity was unimportant for the teams in this research. The average level of education and the field of education were more important than differences. A minimum level of education was required in order for the team members to be able to perform their functions.

The potential impact of diversity in innovative behaviour in the Technical Project Team, the Core Project Team and Project Stream Team was limited because the required level of innovation was low.

The Technical Project Team needed to be homogenous in order for it to operate properly. All team members had to have identical qualifications due to the highly specialised field of work. The same background and experience were necessary, the functional background of the team members thus needed to be similar. This was similar to the Project Stream Team, where all the team members to be specialists in their field of human resources. The Core Project Team, on the other hand needed team members with widely varying experience and background in order to be able to execute a project with many widely varying facets. Each team member, who was responsible for a different area of the project needed experience specific to that area of the project. The level of team innovative behaviour required in these teams was limited; all the team members needed to successfully complete their area of the project, virtually in isolation, in order for the overall project to be successful.

The Product Development Team had been together for such a long period that the limited diversity in the team would not prevent the team from now operating as a homogenous team. There was evidence that even though the demographic diversity in this team was limited, more subtle differences such as the more entrepreneurial orientation of the Group CEO as compared to the more pragmatic view of the rest of the team members was important. The team members have also been selected by the Group CEO, and thus have an orientation that matched his requirements, which would be affected by his world view. This team was thus a reflection of the CEO, and the rest of the organisation could be a reflection of the top management team. Despite this, this team was found to be particularly innovative, having created an innovative and

successful new product. The homogeneity and familiarity in this team appeared to have led to trust, and thus open and robust debate in this team. This, combined with the knowledge of the company, industry and customer base obtained by long tenure appeared to have overridden the possible negatives effects of the lack of diversity within the Product Development Team. This is however in conflict with the suggestion that diverse experiences, either as a result of functional diversity or other forms of diversity, would result in a wider range of ideas, or could thus lead to more innovative behaviour in the team.

Summary

All of the characteristics of the teams found in the teams studied had an effect on the innovative behaviour in the teams. Demographic forms of diversity had less effect than other aspects of diversity. The most important considerations for innovative behaviour were the diverse perspectives, knowledge and experience and work styles of the team members. All of these were impacted to some extent by demographic differences such as functional diversity and tenure. However, the inherent personality and cognitions of the team members appeared to be as important, if not more so, with only diverse perspectives and knowledge being more crucial for teams.

6.1.5. Team Processes

Various team processes were apparent in the team investigated. These included team development processes, discussion and debate, conflict, lobbying and social support.

Team Development

There was evidence of changes in the teams from the time when they were conceived till the time of the interviews. In some teams there was initial enthusiasm followed by some concerns and finally working well together: *"There was a lot of enthusiasm in the early days, which was quickly replaced by a little bit of uncertainty, perhaps a little bit of tension, bit of fatigue, but at the end of the day everybody rose to the occasion." (47:32:160*). Relationship building was seen as important in some of the teams: *"And I think we just created an environment in which they could talk. And speak their mind. And we had other informal sessions, not every day, where we would go out and have a meal, have a bit of a laugh. And that started to break down and build the relationship." (13:45:182).* The findings related to team development are given in Table 23.

Table 23: Findings related to Team Development

Team	Team Development
Technical Project Team	In the Technical Project Team, employees throughout the organisation were familiar with each other, even if they had not worked together previously. There appeared to be very little need for the development of trust in the Technical Project Team as the team members had very clearly defined, separate and very technical sections of the product to develop. With low task and goal interdependence, the interaction between the team members was limited and the requirement for maturation of the team was low.
Core Project Team	The Core Project Team showed distinct signs of the development of the team. This was necessary, given that these team members did not work for the same organisation, and had never worked together prior to the commencement of the project. Even the company staff did not know each other well due to the size of the organisation. Trust between the company staff and the service provider consultants was important as the team members responsible for each area of the project needed to work closely together. This was affected by the power relations in the team. Initially the consultants held the power due to their expertise. Later as the company staff became familiar with the system and the requirements for the implementation, the power shifted to them.
Project Stream Team	Until the team member positions were confirmed there was some limited conflict in this team.
EXCO Team	Individual, rather than team development, was evident in this team. Many of the team members had been in senior positions before, and some had worked together. The group of people who eventually became the team were those team members who trusted each other and contributed during the strategy session immediately prior to the formation of the team. Certain team development processes, such as building trust, started from a more advanced state than would be the norm in a new team. All of the team members had worked for the same group of companies before the formation of the

Team	Team Development
Technical Project Team	In the Technical Project Team, employees throughout the organisation were familiar with each other, even if they had not worked together previously. There appeared to be very little need for the development of trust in the Technical Project Team as the team members had very clearly defined, separate and very technical sections of the product to develop. With low task and goal interdependence, the interaction between the team members was limited and the requirement for maturation of the team was low.
	team.
Private Company Management	This team was early in its development cycle as it had just been formed.
Product Development Team	Most of the members of the Product Development Team had been working together for more than a decade and the team was well developed. The core members of this team were completely comfortable with each other and had no inhibition about questioning each other and suggesting any ideas that they had, regardless of the possible response.
Marketing Product Development Team	Team development was not evident in this team. Many of the team members had worked together in previous teams in previous organisations. Some close personal relationships existed within this team.

Analysis

The only property of team development that was noted in these teams was the stage of development. Some teams were more developed than others.

The development of trust was important in the Core Project Team. With increasing trust in this team, more challenging behaviour occurred during the discussions that took place. This did not exist in the team when it was created as this was a new team with major differences between the team members. The team members were not familiar with each other, and the team members were from completely different type of organisations. This team needed to develop a common way of working prior to becoming effectiveness. Some people who could not work within the team had to exit the team prior to the team becoming effective. This team development needed to take

place in the Project Stream Team and the Private Company Management Team to a certain extent.

The development of the team did not emerge as an important consideration in the rest of the teams that were studied. Part of the reason for this could be that many of the teams investigated were high level teams or project teams and team development may not have been as important to these teams as with other type of teams. The impact of team development on innovative behaviour was also not clear for most of the teams. Only in the Product Management Team were the benefits of team development apparent. In this team, the team members were so familiar with each other that open and robust debate took place with little or no impediment.

It is possible that in teams which have not developed that people may still be wary of what they say in a team environment. In some teams this was more as a result of inexperience than the team development. The development of individuals to fit could be another facet of the development of teams. In the EXCO Team and Private Company Management social supported provided by one or team members in an informal setting was believed to have improved the interaction of the less experienced team members with the team.

Discussion and Debate

With the exception of the Technical Project Team, discussion and debate was evident as important in all of the teams in the study. Team members may have individually carried out investigations, thought of different options or considered problems the team was facing before meeting with a subset of the team or with the entire team to discuss these. Many of the teams explained the importance of discussions between team members: *"It's nice to once you know what you think, have another person to tell you what they think, and then to feed off that and often from there I find like in our relationship, where we work as a team that's where the magic happens because you know you need a different perspective to question your ideas, often to see the flaws or the greatness of it." (62:14:60).* Sometimes the team members indicated that insufficient challenging occurred and this was to the detriment of the team: *"So over time you learn which of the EXCO team members are very good at doing certain things. And you don't challenge it. And I think if the challenge is sometimes more; you will achieve better results, but you cannot challenge everything." (23:139:206).* Team members did indicate the value of the diversity that occurred in the team discussions:

"Putting all these people around the table allows us the opportunity to analyse the situation as it stands from complete different angles. If anything, it allows us the latitude and flexibility to put the certain situation into a complete different perspective. And to analyse it in complete different angles, different viewpoints because of the different participants that we have, and because of the nature of the difference in their perception, their approach, their experiences and their knowledge and understanding to what they've built up in the past to where we are today." (22:28:12). Discussion and debate was the main means by which teams analysed problems and ideas and refined these ideas. Discussion and debate was facilitated by various factors in the team and in the context within which the team operated. The findings related to discussion and debate are set out in Table 24.

Table 24: Discussion and Debate Findings

Team	Discussion and Debate
Technical Project Team	Very little discussion and debate took place in this team. This was a project where staff had defined and clearly separated areas of responsibility. Change was deliberately discouraged in order to reduce risk. The only area where some of the team members needed to have discussions, was regarding the testing of interfaces between the different parts of the design. The nature of the organisation was such that team members could communicate to people outside the team without relying on the team structure. The employees of the organisation were familiar with each other and spoke directly to staff members outside of the team if they required advice or assistance.
Core Project Team	Initial distrust between the team members resulted in limited openness during the discussion and debate. Trust developed over a period of time which led to an increase in openness. Much of the discussions within this team were dyad discussions involving the team leader and one other team member. There were limited areas of overlap in this team, as different sets of team members were working on completely separate modules for separate areas of the business.
Project Stream Team	Frequent discussion took place in this team, less because of the common goals and task interdependence, and more because of the overlapping knowledge and expertise. This

Team	Discussion and Debate
	could also have been enabled by the close physical proximity of the team members during the project.
EXCO Team	Extensive discussion took place in this team at formal and informal sessions. This could be attributable to two factors; the presence of goal interdependence and the seniority of the team in the organisation. The more in-depth discussions took place in informal meetings, and these were only attended by a subgroup of the team. Individual team members lobbied the team leader to put across their point of view, even after the matter had been discussed at the formal EXCO meetings. In this team this was seen as negative due to the perception created that the team leader listened only to his “buddies” and sometimes even changed decisions taken by the EXCO. This had a destructive effect on the team, because some of the other team members were aware of this and understood that the team leader listened to and took into consideration some member’s views more than others.
Private Company Management	Frequent discussion and debate at a formal and informal level took place in this team. The CEO would come up with the innovative ideas and the team would then discuss this in order to refine it for implementation. Informal dyad discussions took place in this team, possibly because of the newness of the team and the relative youth of some of the team members. This was more for the purpose of social support than as a part of the discussion and debate around work issues.
Product Development Team	Very robust and extensive debate occurred in this team and appeared to have been important for the success of the product developed. The extensive discussion and debate not only addressed aspects of the product developed, but also apparently triggered thoughts about other facets of the idea. Extensive informal discussions took place in dyads in this team. These were apparently very important to make progress

Team	Discussion and Debate
	with the product development. The process was made faster than would have been possible with only formal, full team discussions. These apparently did not have negative effects due to the other team members being informed of the nature and outcome of these discussions. In this team, even though the team members had intellectual respect for each other they did not hold back with their opinions and the debates were thus intense. The extensive debate that took place in the Product Development Team did not take place in isolation, but consisted of various team members or their subordinates analysing aspects of the solution, and coming up with different options. These options were then debated.
Marketing Product Development Team	Intense and open debate took place in this team. Very short timelines drove the need for the discussions to take place frequently, intensely and openly. At the early stages the team sometime relied on formal brainstorming sessions. However some of the team members felt that brainstorming was inefficient and preferred to work individually through ideas before meeting to discuss their ideas. All ideas were interrogated in depth. The team members discussed the requirements both inside and outside of the team. This was apparent in the idea generation stage, before the idea was first generated.

Analysis

Extensive discussion and debate took place in the teams that generated innovative products. Numerous properties of discussion and debate were noted in the teams studied. These included the amount of discussion and debate that took place, the openness and honesty during these interactions, the robustness and challenging that took place, the people from the team actually involved in the discussions and the purpose of the discussion and debate.

Openness and Honesty: Another characteristic of the discussion in the teams that was apparent was the openness and honesty of the discussion that took place. It was also the ability and willingness to challenge other team members, including the more senior team members. The Product Development Team and Marketing Product Development Team had the most intensive and open discussion of all the teams. The EXCO and Private Company Management Teams also had discussion and debate, although in the former this often took place in the informal groupings with a subset of the team members and in the latter the employees were not completely open. Honest criticism and feedback is important in order to improve the quality of a team's output.

Two contextual factors are important for openness and honesty; the knowledge that other team members possess and the willingness of the team leader and team supervisor to change their minds based on the contribution of the team members. It could also be dependent on whether a collectivist or individualistic culture exists in the organisation. In the EXCO Team, only some of the team member's contributions were listened to and taken into consideration. The leader also did not readily change his mind, once it was made up. This was in contrast to the Product Development Team, where the leaders did change their minds and listened to the advice of the rest of the team. A team level factor that is potentially the most important contributor to the openness in a team is the level of trust that exists amongst the team members. Social support can encourage openness and honesty from all the team members by making them more comfortable and confident. This had benefits in the EXCO Team, and also occurred in the Private Company Management Team.

Robustness and Challenging: Openness and honestly is closely related to robustness. Robustness is, however, more than honesty and being open and refers to the amount of challenging of ideas and of each other that occurs in a team. Many factors appear to affect the robustness of the debate that takes place in teams. The nature of the problem can affect the robustness of the debate, including; whether there is room for change, whether there is more than one possible solution, the severity of the problem, the possible consequences of the problem for the organisation, and the time limits within which a solution needs to be found. In the Marketing Product Development Team it was seen as important to thoroughly interrogate ideas or face the risk that the customer might exposes faults with the idea. Robust debate could also assist to reduce the risk of failure of radical new ideas.

Characteristics of the individuals in the teams can affect the robustness of the debate. Teams with more experienced and knowledgeable team members with higher intellectual capacities, who have different perspectives, but somewhat overlapping knowledge could lead to more robust discussion and debate. The flexibility of leadership to embrace change and listen to the other teams members also results in more robust debate. In the Core Project team the challenging behaviour intensified after the project had been running for many months and the team members had begun trusting each other. As indicated by one of the team members: "*… I think the relationships are so sound that you can actually say what you really think and challenge to the extent you really want to, without having to worry about how it's going to be taken.*" (50:28:94).

Frequency: In order for the development of an innovative product to progress, frequent discussions between the team members are required. This less frequently consists of discussions involving the entire group, and more often consists of conversations between subsets of the team members. This is generally not planned but occurs spontaneously whenever a thought or need arises. The actual discussions could range from dyad discussions, subgroup discussions or full team discussions. Extensive discussions between subsets of the team or dyads occurred in the Product Development Team and the Marketing Product Development Team.

The frequency of discussion and debate that took place varied from team to team in this study. Some teams had extensive discussion and debate, whereas others had very little. Various characteristics of the problem affected the frequency of discussions and debate in the teams researched. Important problems, with potentially severe effects, led to more frequent discussions. Time constraints also increased the frequency of discussions. Problems to which the solutions were predefined or where the room for change was limited resulted in less discussion. Projects or organisations which had been structured in a way that limited goal and task interdependence, tended to reduce interaction between the team members. The project teams are a good example of this, where the roles and responsibilities in terms of the components of the project were well defined, and the amount of discussion required was thus low. However, in the Project Stream Team this was not the case. A potential interactional effect which made this team different was the overlapping knowledge between the team members and the fact that the project would fail unless all team members were successful. In teams with more overlap in the knowledge of the team members, the frequency of discussion and debate could be high, even if factors such as

interdependence are relatively low. Physical proximity was another factor in the Project Stream Team that could have resulted in increased discussions and debate.

People Involved: Discussions can also include people who are not a part of the team. In the Marketing Product Development Team, insights occurred when team members were outside the company premises, after working hours, and with staff members who were not a part of the team. In the Product Development Team the reason for the smaller group discussions was that these could take place more frequently and thus advance the discussion quicker than the formal full group discussions could. This is important when there are time constraints. The Technical Project Team also communicated outside of the team, not in order to obtain assistance with the generation of ideas, but rather to obtain help in completing their section of the project.

Dyad conversations with the team leader took place in both the Product Development Team and the EXCO Team. The Product Development Team leadership had identified that these were potentially damaging to the team. The possible negative effects of not including all the team members in the conversations was overcome by ensuring that the outcomes of the discussions were communicated to all team members. These conversations were seen as crucial in ensuring that the product development continued at a rapid rate. These conversations took place at any time, at any place, without being pre-planned. Conversations of this sort also took place in the Marketing Product Development Team. These conversations are potentially more important that the formal full group discussions that take place. In organisations such as the Product Development Team, where the team members have major businesses responsibilities, without dyad and small group conversations, the required frequency of interaction to refine the idea as rapidly as required would not be possible. Informal conversations also means that ideas can be discussed immediately as they occur, rather than waiting till an appropriate time for the team to meet.

One of the team members of the Marketing Project Development Team felt that the smallest unit that needed to consider and analyse ideas was the individual. It was felt that individuals should first go through their ideas alone prior to discussing them as a group. It was also felt that brainstorming ideas in a group was not effective. Even though this cannot be considered to be discussion and debate, in some ways this is similar to considering and analysing ideas as a dyad or a team.

Within the EXCO Team the nature of the dyad interaction was different and more damaging. The team members appeared to initiate dyad conversations with the team leader to discuss issues that they disagreed with in the full team meetings. Decisions taken in the full team meetings were then sometimes changed. This created negative perceptions and some team members felt that the leader showed a bias in favour of specific team members.

Whether these discussions have a positive or negative effect appears to be related to the purpose of the discussion and whether the outcome of the discussion is fed back into the entire team. If the purpose is to attempt to get one's own point of view accepted this could result in the creation of negative perceptions in the team, which would then result in poorer discussion and debate. In other cases the purpose could be less individualistic in nature and could be an attempt to obtain the best possible solution for the company. This could result in benefits to the team.

Decision making style: The manner in which teams made decisions affects the nature of the discussion and debate in the teams. In teams such as the Project Stream Team, decisions were made in a consultative manner, where a team member consulted with the rest of the team members and then made the decision alone. In teams such as the Product Development Team decisions were made in a collaborative manner, where the team as a whole made the decision. This appeared to be based largely on whether there was a common goal and responsibility for the completion of the task or project. Where there was no goal and task interdependence, information was obtained and then used to make a decision individually. Where task and goal independence exist, the decision can be made by the group as whole. This does not always require consensus. The consultative-type decisions would take place more in the teams where the individuals have defined and separate areas of responsibility.

The properties of discussion and debate can thus be listed as:

- Frequency or amount of discussion and debate
- Openness and Honesty
- Robustness and Challenging
- People involved in the discussion and debate
- Team decision making style

The antecedents of the different properties of discussion and debate are many and varied, including:

- Physical Proximity
- Room for Change / Seniority of team
- Risk Reduction
- Severity of Problem
- Intellectual Capacity
- Analytical Nature of Team
- Multiple Solutions
- Different Perspectives
- Trust and openness
- Time Constraints
- Leadership Flexibility
- Overlapping Knowledge and Experience
- Knowledge and Experience
- Interdependence / Type of problem requiring different perspectives
- Collectivist vs. Individual Nature
- Time constraints

Conflict

Conflict of various types was found to exist in teams. The findings related to conflict were apparent only in a few teams. Conflict was caused in some cases by a resistance to change, *"… his age and track record and experience can also become an inhibitor. He's so set in his ways that he won't change. That's where you get some of the conflict some of the time" (13:64:118)* and in other cases by personality differences; *"but there was conflict and I think it's just the dynamics of a team. You know you have all these headstrong people and they all the experts of their little module, and yes, you're going to have some head bashing but we handled the conflict and the disagreements" (43:9:102).* These are indicated in Table 25.

Table 25: Findings relating to Conflict

Team	Conflict
Project Stream Team	Some conflict occurred in this team. This was apparently caused by concerns regarding one's rank in the organisation and the strong personalities of the team members. The team leader handled the conflict in a light handed manner and only

	became involved if appeared as if the conflict would create problems with the project delivery. The primary reason for the conflict appeared to be uncertainty about people's position and status in the team and the organisation. Once this was clarified the conflict apparently stopped.
EXCO Team	A low level of conflict occurred in this team, apparently caused by the resistance to change of one of the employees. The company relied on reference to its chosen strategy to handle these conflicts.
Marketing Product Development Team	Conflict between a long standing employee and another who was employed at the same level and job function occurred. This was as a result of a personality clash between these team members. This made it difficult for the involved team members to work together. The solution selected was for them to avoid working together as far as possible. The fluid nature of the team and the fact that both were Creative Directors meant that this was possible.

Analysis

Only three teams exhibited evidence of conflict. Where conflict was evidenced, it did not appear either to harm or help innovative behaviour in the two teams concerned. The types of conflicted noted were relationship conflict, or conflict that become personal, in the Project Stream Team and Marketing Product Development Team and task conflict in the EXCO team and Project Team.

The Project Stream Team did not need to work together in order to complete their tasks; however the team members appeared to have overcome the problem without intervention. The Marketing Product Development Team accommodated for the conflict by the two people involved in the conflict avoiding working together. One of the people eventually left the organisation, although the reason for this could not be ascertained.

Social Support

In two of the teams social support in the form of informal sessions with small groups enabled less experienced team members to improve their contribution: *"… largely from the informal, and we saw the result of the informal coming out in the formal sessions. Where they would stand up and would be accountable for what they were saying,*

whereas before they would sit back and keep quiet." (13:77:178). The findings related to social support are indicated below in Table 26.

Table 26: Findings related to social support

Team	Social Support
EXCO Team / Private Company Management	Social support, in the form of information conversations, occurred in the teams to assist the less experienced team members.
Rest of the Teams	No evidence of lobbying was evident in these teams

Analysis

Two of the teams, the EXCO Team and the Private Company Management, displayed evidence of social support provided by some of the members to others. Informal sessions were used to assist the less experienced members of the team to gain confidence and become better able to contribute in the team discussions. In the EXCO Team this appeared to have positive benefits.

The Private Company Management Team was too new for the impact of the social support to be evident. Discussion between individual team members appeared to take place frequently in this team. This may have been important because of the relative newness of the team.

People who are not comfortable may not contribute during group discussions, but may be prepared to speak more openly in smaller groups. These discussions are thus potentially important both in new and old teams.

Summary

Team processes are the mechanism via which teams interact, and this directly affects the innovative behaviour that occurred in the teams. The team process that had the most effect on innovative behaviour was discussion and debate. In some teams team development was well progressed and did not affect the operations of the teams. However, in some teams the development of the individuals who were new to the team or the seniority of the team needed to undergo individual development. Relationship conflict occurred in two teams but did not adversely affect the innovative behaviour. Lobbying is a destructive behaviour that did negatively affected the dynamics of one team.

6.1.6. Team States

A number of different team states were found in the teams studied. There was evidence of openness and honesty in a number of the teams: *"… an important positive angle here, and people give their views, express them vehemently. And also know when to back down and those things. I don't see a culture of people holding back. (33:131:133).* Part of the reason for this was the safety that the team members felt: *"So we're far more collaborative and we exchange ideas a lot freer in a smaller environment where people feel unthreatened to give their idea, to give creative work, so that's the second thing I mean it's collaborative." (59:38:92).* Over and above the safety in the team, the team members could have fun working together: *"People are more forthcoming with their ideas because I think they feel comfortable around each other so that comfort level I think is quite an important one and there's a lot of fun that's had and I think that's a very important one as well." (60:32:270).*

Respect between the team members was noted in some of the teams studied: *"So here we've got, like, we've managed to create a culture here that's probably our biggest asset; where people feel there's a healthy, there's a mutual respect for each other, not everyone will love each other, it's an office, but there's a mutual respect for each other." (59:16:120).* Trust was an important consideration in many of the teams, with team members who could not trust either not becoming part of the team or leaving the team: *"And the other thing I would say about the team is there were certain individuals that just didn't fit in within the team, some from [the Service Provider] and some from [the Company]. If you see the original project launch photograph you can actually look at the faces of all of the people who aren't still here and you know there are quite good reasons in each case why they're not, when they just didn't really, they weren't able to trust, they weren't able to really be a team player." (50:23:76).*

Another team state noted was the willingness of team members to both ask for help and for team members to assist each other: *"You will find that the other members will come and say "what can I do? How can I help in your area?" (23:21:94).* Having people with the right mind-set was described as important for the energy levels in the team. Team members could *"… suck the energy out of everybody because they will find every way and reason as to why you shouldn't change or why you can't do it and why it's going to fail and that drives everybody nuts. It just sucks you dry it just takes the energy out of everybody. (38:17:158).*

The findings related to team states are tabulated in Table 27.

Table 27: Findings Related to Team States

Team	Team States
Technical Project Team	Team states as a category did not emerge in this organisation. Even though friendship, liking and willingness to assist each other existed throughout the organisation it was not specifically related to the team.
Core Project Team	Initial distrust between the team members resulted in limited openness during the discussion and debate. Trust developed over a period of time, which led to an increase in openness. Part of the reason for the distrust was the fact that most of the team members had not worked together previously and the team members had been drawn from two different organisations.
Project Stream Team	Respect, respect, fun and energy were apparent in this team. Energy was seen as important as people can either add or extract energy from a team. Understanding of each other was apparently important for the interaction between the team members. Part of the reason why respect and understanding could have occurred in this team was due to many of the team members having worked together or having known each other previously.
EXCO Team	The team members were selected from a larger group at a strategy session that was held when the Managing Director joined the company. The participants at the session who did not trust the new Managing Director did not became a part of the Executive Committee. The staff that eventually became part of the team therefore trusted the Managing Director and each other, even before joining the team. Despite this the team members were not completely open and were sometimes defensive. This defensiveness occurred when other team members commented on their areas of responsibility. Some team members did have concerns, which they did not voice in the team meetings. The reason for this lack of openness was that they did not feel that what they had to say would be listened to or taken into consideration, or

	feared that their ideas may not have been accepted. The team was also critical of any ideas that did not appear to make sense. Other team members however indicated that the team listened to each other due to respect of their expertise in specific areas. Team members were willing to help each other and ask for assistance if needed.
Private Company Management	One team member indicated that although the team members trusted each other, there was room for this trust to increase. Because of the newness of the team, some of the team members were not sure as to how open they should be in the team discussions.
Product Development Team	Very open and robust debate took place in this team. Team members were prepared to challenge each other. The team members did not feel that there would be any sanction if they suggested ideas that appeared to be silly. There appeared to be psychological safety in the team. In this team a certain degree of “disrespect” existed, where team members did not hold back criticisms because of respect for more experienced or more senior colleagues.
Marketing Product Development Team	There appeared to be trust and respect in this organisation. Partially as a result of the small size of the company there was also openness in the company, with people not being fearful of mentioning ideas because these ideas may be judged to be worse than those of others. The team members felt comfortable to speak their minds indicating that there was safety in the team. The team members also apparently enjoyed themselves in the product development process. Team members had created familiarity and were prepared to ask for assistance and were willing assist others, not just those in the team, but even those outside of the team.

Analysis

The properties of team states that were apparent in the teams studies are tabulated in Table 28. The property that was most prevalent was trust and openness.

Table 28: Properties of Team States

Team States	Technical Project Team	Core Project Team	Project Stream Team	EXCO Team	Private Company Management	Product Development Team	Marketing Product Development Team
Familiarity / Friendship				Yes		Yes	Yes
Trust		Yes		Yes	Yes	Yes	Yes
Openness and Honesty		Yes			Yes	Yes	Yes
Listening				Yes		Yes	
Respect / Understanding				Yes		Yes	Yes
Helping / Asking for Help				Yes			Yes
Defensiveness				Yes			
Groupthink				Yes	Yes		
Energy			Yes				
Fun			Yes			Yes	Yes
Psychological Safety				Yes			Yes

Evidence of trust and openness and honesty was present in the majority of the teams. One of the findings was that trust in the team members and the team leadership does not automatically translate into openness. Other factors need to be in place for team members to be open. The difference between the EXCO Team and the Product Development Team illustrates this. The Product Development Team was prepared to listen to even the silliest suggestions and the leadership took all ideas into consideration and were prepared to change their mind based on the arguments put forward by the team members. The EXCO Team displayed almost the opposite behaviour with immediate rejection of ideas that appeared to be silly. The team leader did not change his mind once he had made his decision. It could be argued that trust leads to openness only if people's ideas are listened to and considered with equal measure.

Some of the team members in the Private Company Management were unsure of what they should and should not say at team meetings and they sometimes held back their

opinions. This team was new and the team members were newly in their position and were thus uncertain of the openness of contribution that was appropriate. Even though trust existed there was still room for the trust to improve.

Part of the requirement for the trust and openness, is that people feel safe in the team. In teams which are new and not fully developed, such as the Private Company Management Team, the norms of the discussions that take place in team settings may not already have been put into place and people could be unsure of how much openness is reasonable in meetings. As a team develops over time, it is anticipated that this will improve and that team members will become more open. Teams in smaller organisations which have a close-knit culture may be more prepared to be open at an earlier stage than in bigger companies. Openness could thus be affected by other factors aside from the trust that exists between the team members. Feeling of safety could also be important. Even with trust people could still be concerned about how their ideas will be viewed, and may thus not be prepared to share ideas that may appear to be silly.

Various different team states were important influences on the team processes such as discussion and debate that took place.

6.1.7. Innovative Behaviour

The core of this research is innovative behaviour in teams and how the composition of teams affects this process. The important findings related to innovative behaviour are highlighted in Table 29.

Table 29: Findings related to Innovative Behaviour

Team	Innovative Behaviour
Technical Project Team	The project this team was involved in was specifically designed to minimise the amount of change in order to limit the risk and meet the tight timelines. For this reason, innovative behaviour was minimal at the team level. Innovation or creativity was required in order for the team members to complete their individual sections of the project. These were, however, required of individual team members, rather than from the entire team.
Core Project Team	The primary innovation in this team was to change the main

Team	Innovative Behaviour
	Software System in a manner which introduced as little change as possible to the business users of the system, and thus ensured acceptance, whilst creating a platform with which to implement changes in the future. The major innovation in this project was, thus, to change as little as possible. This decision, which taken at a level above the team and before the team was created, limited the possibility of innovation from the team as a whole. Even though the requirement for innovative behaviour from the team as a whole was limited, innovative behaviour from the separate project streams was required. This, however, took place in the lower level teams or involved individuals. Another factor that directly affected innovative behaviour was the limited time available. This meant that team members did not have time to discuss issues with other team members before submitting tasks. There were differing opinions in the team as to how innovative the team had been. Some members of the team considered ideas that appeared to be either common sense or good project management principles as innovative. Although these may have been new to the organisation, they were not necessarily new to project management in general.
HR Stream Team	The requirement for innovation in this team as a whole was low, because the team members had little task interdependence. The overall project was also designed in order to limit change. There was a requirement for innovation from the individual areas of the project. The nature of the interaction that took place between the team members involved consulting with the other team members to get their advice before taking a decision.
EXCO Team	Product level innovation in this company was limited due to the relations that the company had with its suppliers. However, innovation with regard to service delivery and to

Team	Innovative Behaviour
	value added to the customer was possible. Although the team members had some dependence on each other, there was limited room for innovation in this team due to the financial health of the company and the requirements of the shareholders. The company needed to do what it did, better, rather than doing something different. However, a major problem encountered needed most of the team members to work together to formulate a viable solution. Extensive discussion and debate took place in this team. The different functional backgrounds were necessary to solve problems experienced. In the particularly severe problem that was experienced, the team could not have come up with an optimal solution without the different team member's background and experience as well as the discussion and debate that took place. The company made extensive use of consultants to assist with various functions including the creation of their strategic plans. Companies and teams can deliberately supplement the team in areas where they feel there is weakness or where they feel that external assistance is warranted.
Private Company Management	This team was at a very early stage of development and the requirement for the team members to work together towards innovative solutions was limited. The team leader took on the role of the "creator" or innovator in the team and the rest of the team were mainly involved in the refining of the innovative ideas of the team leader. Individual innovative solutions from the different teams members was however required in their individual areas of responsibility.
Product Development Team	A product innovation that received substantial market penetration was developed in this team. The creation of this innovative product required the participation of all the team members, as well as others that were not a part of the team.

Team	Innovative Behaviour
	The concept generated did not consist of a completely new idea, but rather consisted of a combination of a number of simple and well-known concepts in an unusual manner. The initial insight for this idea was generated very rapidly in an informal gathering with only three of the team members involved. Part of the reason for the rapid formation of the idea was that prior consideration of related ideas had occurred. The initial idea was analysed in depth then refined to be made into a viable product that would have substantial impact. There was then a long period where each facet and detail of the idea was planned. The team members did however indicate the rapid emergence of the idea did not always occur, that that extensive discussion was often required before a viable idea was thought of. Extensive discussion and debate regarding the idea took place in the team. This did not consist only of full team discussions, but relied on informal conversations between dyads, held at any time and place and when the opportunity arose. The innovation process was not a defined process. However the deadline for completion and the expected quality of the idea was defined and not changeable. Work occurred in bursts and not continually. The innovation process that was followed consisted of moving iteratively between analysis, discussion and debate and then further analysis and discussion. Extensive investigation of different facets of the ideas occurred to refine the product. Detailed investigation and consideration of each important facet of the idea led to easier promotion of the idea and enhanced the value proposition to the customer.

Team	Innovative Behaviour
	A history of innovation in the company fostered further innovation in the company. The company and senior management wanted to ensure that the company was seen as innovative. The operational areas of the business were excluded from the process until the idea was refined, to ensure that potential implementation and operational problems did not result in less ambitious plans. The potentially negative effects of this, such as impractical or impossible-to-implement ideas, were reduced by the experience and knowledge of the team members.
Marketing Product Development Team	The company strove to be seen as innovative and to be noticed. This created a culture of innovation where team members strove to maintain the reputation of the company. The teams in this company were involved in the creation of numerous innovative products which had created a reputation of the company being innovative. The team indicated that for ideas to be considered as innovative the idea needed to be implemented; otherwise it could not be judged as innovative or not. This team indicated that innovation involved the consideration of a situation from different viewpoints. Diverse viewpoints are thus important. The team used brainstorming to generate a multitude of ideas based on the client's requirements. A single idea is eventually selected as the core of the product. The innovation process in this team was both structured and unstructured. The review and evaluation process was very structured, but the actual generation of the innovative ideas was unstructured. The insight could occur at any time or place, with one or more of the other team members present, or with even the presence of people who are not part of the

Team	Innovative Behaviour
	team. The process was not linear, but was a disciplined process with time restrictions and regular feedback sessions ensuring that progress did occur. The deadlines assisted in focussing the team members on the task to be completed and ensuring that viable ideas were generated quickly. Once an idea was generated, detailed analysis of the idea was conducted to specify each facet of the idea and to ensure its viability. Ideas were analysed and evaluated from different perspectives, either by an individual, the team leader or the team as a whole. The idea was then accepted, rejected or modified in order to enhance its practicality. Creativity was needed throughout the innovation process, from when the problem is first defined, through to the idea generation, evaluation, promotion and its implementation. Innovation existed at multiple levels. At a strategic level, creativity and innovation was required to determine the nature of the problem. At lower levels, creativity was needed to transform this strategy into a viable product idea, and at an even lower level, choices had to be made regarding specific aspects of the product to be implemented.

Analysis

The definition of innovation requires that there be novelty in the solution created and that the solution should have utility. This was supported in the findings of this research. Innovation is not the implementation of well-known principles of good project management to projects, nor is innovation the use of common sense as had been implied in the Core Project Team. Innovation could involve the transfer of an idea from one domain to another where it had not previously been considered or implemented. Innovation can involve the combination of simple or well-known ideas that have not traditionally been combined previously as occurred in the Product Development Team. There has to be some novelty in the idea; either the idea as a whole, or novelty in

considering an idea in a completely different environment, or the novel combination of different ideas. The Marketing Product Development Team indicated that ideas that have not been implemented are not innovations, as these thoughts cannot be judged to be innovative or not innovative: *"I think that's the, it's a creative idea if it lives. If it doesn't get beyond the boardroom you know internally then it falls into something that sticks at the bottom of my ... I've got a whole drawer full of ideas at the bottom of my cupboard and it's not an innovative or creative idea until it's been made and that's because there's no other way of judging if it's innovative until it's done." (58:56:172).*

The properties of innovative behaviour identified in this study can be split into the properties of innovation, and the properties of the process by which innovation occurs.

- **Amount of Change:** Innovation need not only consist of major changes to existing products and services or ways of doing business. Numerous teams, including the Technical Project Team, the Project Stream Team and the Private Company Management Team required a series of smaller innovations. However, the involvement of entire teams in small innovations may be limited; these were created predominantly by individuals or small groups working on new and better ways of completing their area of a project or addressing some issue in their section of the business. Team involvement was greater for more radical innovation which requires more diverse views and could involve different disciplines. This involved the major problem experienced in the EXCO Team as well as the new products in the Private Company Management Team, the Product Development Team and the Marketing Product Development Team. The amount of change does not imply that the innovations which result in more change are more important. In the Private Company Management Team, the smaller changes in the individual areas that the team members were responsible for, were critical for the survival of the business in a harsh, trading environment.

- **Team versus Individual Innovation:** Innovation that occurs in a team can either be innovation from the individuals in the team or it could be innovation from the team as a whole. Numerous teams had a requirement for innovation from the individuals. This occurred more in the project teams, where the division of tasks had been planned by the project management prior to the allocation of tasks to the team members. The condition for team level innovation appears to be that the solution or new product needs the diverse

perspectives, knowledge and experience of the team members in order for the solution or product to be created.

- **Ill-defined vs. well defined problems:** Problems in teams that need solutions can range from well-defined to ill-defined. An innovation that addresses a major business problem is constrained by the nature of the problem and the potential solutions available. Projects teams are constrained by the requirements of the customer, whether internal or external. A new product development is much more flexible and open ended.

The important aspects of the innovation process that emerged consisted of the following:

- **Formal Process**: The innovation process generally appears to be a formal process with some informal sections. The Marketing Product Development Team specifically had a very strict process that was followed with very tight timelines. However, even in this team the initial insight for an innovation occurred in a very informal setting. The insight for the Product Development Team also occurred during an unplanned, informal meeting. Numerous informal conversations take place between subsets of the team members. For the Product Development Team this was very important to ensure the progress of the product development. However, the overall process seems to be fairly formal, with predetermined timelines for completion and distinct steps in the process once the initial insight has occurred. Discipline was noted as being required for the successful completion of the process. There are generally time restrictions which ensure that constant progress occurs and that decisions are taken when necessary. The EXCO Team, when faced with a serious problem had a meeting with all the relevant teams and developed the solution in a formal team setting. One difference between this team and the product development teams is that the problem is was predefined in the EXCO Team.

- **Iterative Process**: There was evidence from the Marketing Product Development Team and the Product Development Team that the innovation process was iterative with cycles of analysis, evaluation and changes. These cycles typically refine facets of the innovation in increasing levels of detail. Innovation processes are nested with each other and are not necessarily linear. The innovation process in these teams was also quite fragmented with work

occurring in bursts. The process does not continue smoothly, nor does it occur over a short period with all team members involved.

- **Seed of Innovation**: Prior consideration of the same or similar area and previous work that has been conducted means that the initial insight is often not a completely new idea to either the team members involved or to the company. This occurred in the Marketing Product Development and the Product Development Teams. The previous ideas may have been considered or rejected, or considered and not implemented. In some cases, the idea may be completely new, as in the EXCO Team and Private Company Management Team. This is possibly related to whether the innovation is driven by a problem or a new requirement. In the case of a problem, the solution has to match the problem that has occurred. This could require a multidisciplinary solution. In the case of a new requirement, the team may have more flexibility with what can be done and thus may be able to utilise old ideas or thoughts.

- **Multiple Ideas**: Teams can generate multiple ideas, either as individuals or as a team and then select the most viable ideas for further development before the selection of the final idea. The generation of multiple ideas is a divergent phase, followed by a convergent phases where ideas are removed to reduce down to the chosen idea. The Product Development Team and Marketing Product Development Team differed. The former team had a single idea that was then expanded to become the final idea. The latter team generally considered a multitude of ideas before settling on a final idea. The difference in these teams was that the Product Development Team had an obvious area within the business that needed to be improved, which they knew because of past experience in that area. The Marketing Product Development Team had great latitude to change the idea and could and did even go back to the customer to request changes to their business in order to match the idea.

- **Evaluation and Refining of Initial Idea**: Once the initial insight has occurred, a substantial amount of analysis and discussion takes place in order to evaluate and select or reject the idea and then refine it. This is to ensure that the idea is both possible to implement and has utility. Extensive discussion and debate usually takes place at this stage. This occurred in all the teams that created innovative outcomes. Team members in the Product Development Team and Marketing Product Development Team considered the ideas individually, in dyads, in small groups and with the team as a whole. These two

teams also displayed evidence of team members who were not continually involved in the process and therefore considered the ideas from different perspectives from the team members who had been continually working on the idea. The different perspectives of the team members and the different roles that they have, assisted in improving and evaluating the idea. In the Product Development and Marketing Product Development Teams, detailed analysis and investigation of the features or facets of the idea was conducted by one or more of the team members and then presented back to the team for evaluation and decision making. In some teams such as the Core Project team and the EXCO Team, persons external to the team were called in to assist.

- **Creativity throughout Process**: The Marketing Product Development Team showed that creativity of the individuals involved and creativity of the team was required throughout the innovation process. Teams and individuals needed to think of creative solutions for the various aspects of the overall product that is being developed. This also occurred in the Product Development Team and resulted in a midnight phone to discuss these thoughts with others, because they did not feel that they could wait. Creativity is thus not only required at the idea generation stage of the innovation process. The overall product needs to be thought of creatively; then each of the individual features or facets of the product needs to be thought of creatively; the promotion and implementation of the product also requires creativity. There are separate cycles or loops of innovation nested within the overall innovation process.

Innovation in a team can be constrained by numerous factors. One of these could be the purpose for which the team was set up. Teams which are set up to execute projects in a certain pre-planned manner many not need innovation from the team members as a whole. A senior management team such as the EXCO Team would be less directly constrained on innovation than any of the project teams. This is also due to the team being at a high level in the organisation with the autonomy to take decisions about the directions of the organisation. The team was, however, still hampered by the economic circumstances of the company; the company needed to focus first on achieving the budgeted financial results. Since the company had difficulty achieving the financial targets the team was unable to focus on innovation. The team was thus not as innovative as required, according to more than one of the team members. However, in a situation where the company was under pressure to resolve a major delivery problem experienced the team did come up with a multi-disciplinary

solution. Problem-driven innovation was thus not hindered by the focus on financial performance since this problem would have directly impacted the ability of the company to achieve these same financial targets.

Financial circumstances could, however, also drive innovation. In the Private Company Management Team, innovation was required in order to ensure the survival of the company. In this case the innovation was not required of the team as a whole, but by the individual team members in their individual areas of responsibility. This team also exhibited innovative behaviour from the team as a whole but this was not for survival but rather to increase financial performance.

With the Product Development Team the company relied on a core group of executive managers to create the major innovative products. There is a possibility that the company could be limiting itself by only relying on a very small group to come up with the major ideas, whilst the rest of the organisation only concerns itself with the manner in which the idea can be implemented. Innovation or creativity is possible in the implementation of projects which have been defined by the top management team, but there is a possibility that the company is limiting itself by relying on too small a group of people. It is arguable that “headline” innovation belongs to the top management team, and that innovation of a more operational nature is expected at lower levels in the organisation.

The Marketing Product Development Team was located in the only company where the innovation process was the core operational process of the organisation. This was unlike the company situation of the rest of the organisations, which had core business processes such as trading that the company revenue stream relied on. Innovation may have been required for parts of the process in other teams; however only in this team was each product expected to be innovative.

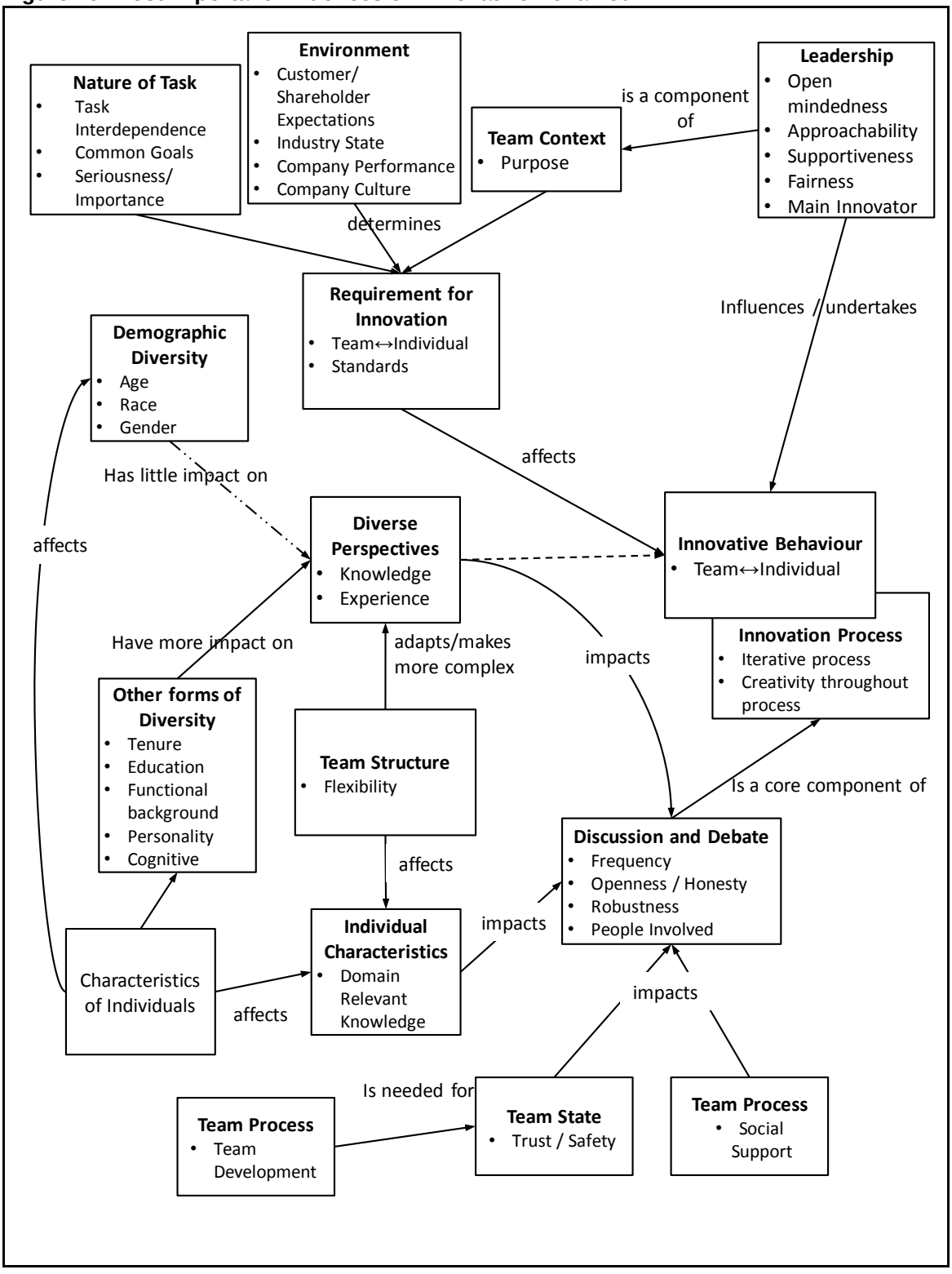
In the Marketing Product Development Team, more than one of the team members stated that the source of the innovative ideas was generally a single person. Others may have provided information that could have triggered the idea, and could have assisted to refine and improve the idea, but a single person ultimately thought of the idea. This was similar to the process followed in the Product Development Team where the idea was first thought up by one person and then modified and refined to be practical and valuable by the team members as a whole. Another similarity between these teams was that both teams had had similar products or thought about ideas in

the past. The ideas thus didn't "come out of the blue" but were already in the minds of the staff. The difference, however, was that the Product Development Team had no fixed starting point, whereas this the Marketing Product Development Team and others (such as the EXCO Team or the various project teams) had either a specific challenge or client requirement that needed to be addressed. The Product Development Team did not have a starting point that was as clearly defined. They merely needed to create an innovative new product for that year. Experiences from international operations helped the Product Development Team to come up with the idea. This illustrates the value of new information to innovative behaviour.

6.2. Integration of Theory

Numerous influences on the innovative behaviour were identified during this study. The innovative behaviour in a team is affected by numerous factors including the context within which the organisation and team exist, characteristics of the team, the purpose of the team, as well as internal team dynamics. Figure 20 presents the most important influences identified in the study.

Figure 20: Most Important Influences on Innovative Behaviour



The innovation that occurs in teams was found to include a combination of team level innovation, innovation within subsets of the team and individual innovation. The nature of the task or the problem that the team faces is an important determinant of the number of people involved in the innovative behaviour. If task interdependence exists

in a team then innovative behaviour from the team as a whole is more likely to be exhibited. If, however, only dependencies exist, as often occurs in project teams, then the team members do not need to work together and limited team innovative behaviour will occur. Innovative behaviour could still be required of individuals. Individual innovation could still be required even if no external requirement for innovation exists or if there was no dependence between the team members. One of the most important determinants of the innovative behaviour in teams was thus the tasks that the team has to complete. Teams without common goals are also less likely to exhibit team level innovation. Common goals would tend to align the team members such that they may assist each other even if no task interdependence exists. Real world teams in organisations have multiple tasks and goals and can thus have a combination of individual and team-level innovation at the same time.

There was also evidence of a relationship between the importance or seriousness of the task or problem and the inclusion of all the team members in finding an innovative solution. Tasks which were more important with more serious consequences tended to involve most or all of the team members.

The purpose of the team determines the type of team that is formed, and this can have a material impact on the team based innovation that is possible in the team. Teams that are created for specific tasks such as the execution of a project can have limits on the team level innovation possible. These types of teams would tend to have the goals and task to be executed predefined and well segregated, even though the manner in which these tasks are to be executed may not be predetermined. In this case the possibility of team level innovation would be reduced whereas the individual innovation may still be required.

Factors outside the control of teams could affect the innovative behaviour of teams. Customer and shareholder expectations, the current status of the industry and the company's performance all affect the innovative behaviour of teams. Companies in industries where customers demand innovation and change need to innovate in order to survive and remain competitive. This would directly affect the senior management teams in organisations. Company shareholders can constrain or encourage innovation in teams within companies. The industry environment can both hinder and require innovation from companies. Harsh trading conditions could require innovation from companies in order to survive and prosper, but could also lead to innovations that do not focus on customer needs being unsuccessful and damaging to the company. The

company culture can also affect the team. Resistance to change could impede innovative behaviour whereas a desire to be seen to be innovative could aid innovative behaviour in teams. The negative contextual factors are expected to be major impediments of innovative behaviour in teams. If positive contextual factors exist innovative behaviour will only occur if other factors within the team, such as open and honest discussion, are present in the team. The nature of the task, the organisational context and team context all affect innovative behaviour by affecting the room and requirement for innovation in teams. The requirement and room for innovation are direct determinants of the innovative behaviour in teams. This is especially true for team level innovation.

The innovation process has formal as well as informal components. The innovation process was often found be formal with defined timelines and completion dates. In some cases review sessions occurred at short time intervals. This was not unexpected as business problems have timelines for completion and management would need to ensure that the process was progressing steadily and that the deadlines were likely to be met. However the generation of the actual innovative ideas and insights does not necessarily occur at formal feedback sessions, neither does this need to occur during work hours or even on the company premises. It was found that, in the teams which exhibited greater innovative behaviour, the initial idea often occurred in informal settings.

The innovation process was found to be iterative with continual cycles of idea generation, discussion and debate and evaluation of ideas in increasing levels of specificity. Once the initial idea had been generated, individual aspects of the idea needed to be refined and new ideas and analysis were needed for this. Creativity in generating new ideas is required throughout the process, including the promotion and implementation of the idea. Different sets of people within the team and even people from outside the team may be needed and called on to assist with different facets of an idea. The initial idea was, in the more innovative teams, based on some idea that has been considered, but rejected in the past.

The primary means via which teams generate, analyse and refine ideas is through discussion and debate among team members. The importance of discussion and debate was noted in the majority of the teams researched. Team members share, interrogate, criticise and modify ideas when they discuss them. The quality of the innovative outcomes appears to be dependent on the nature of the discussion and

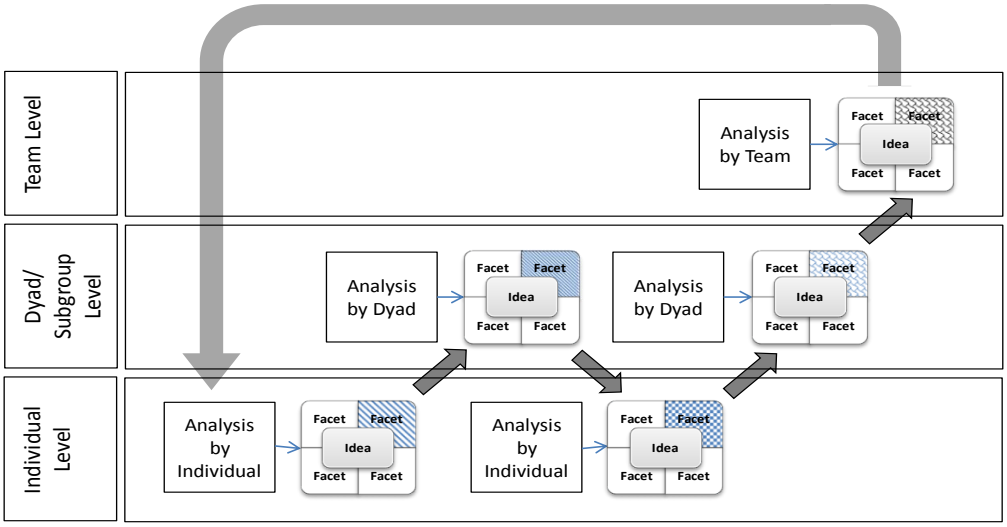
debate that takes place. Discussion and debate occurs in all phases of the innovation process.

The properties of discussion and debate are affected by a number of different factors in the environment of the team and the team itself. Team members need to feel psychologically safe and need to trust each other in order to contribute openly and honestly to the team discussion. This appears to be largely as a consequence of the length of time the team members have known each other and worked together. Team development is thus important to ensure a valuable contribution from all of the team members. A culture of collectivism rather than individualism could also foster more open and honest communications. For less experienced and newer team members social support by means of informal discussions can assist to improve their contribution.

The robustness of the discussion that takes place in the team is affected by characteristics of individuals such as domain relevant knowledge and differences in the perspectives, knowledge and skills of the different team members. In this regard diversity is important. Team members also need to have some overlapping knowledge in order to be able to discuss innovative ideas effectively. By listening and allowing themselves to be influenced by the team members, leaders can facilitate robust and challenging discussion.

The interaction in teams does not need to include the full team. In most cases it has been found that dyad and small group meetings are critical in order to make progress in refining and formulating the idea. In a business environment, meetings with the full team cannot occur as frequently as smaller group discussions. Dyad meetings also tend to be informal and take place whenever thoughts or ideas occur. It is likely that dyads also present a less threatening environment in which to present and test ideas that team members think of, before suggesting the idea to the entire team. It is also possible that the discussion can be more intense when just two people are involved and that the discussion does not become distracted by other concepts. It is thus likely that dyad discussions are critical in enhancing the feasibility of ideas. In this way ideas are more likely to be accepted by the rest of the team than if the idea was initially suggested in a full team setting. It was also noted that dyad discussions could take place more frequently and were thus important in order to progress the development of new and novel ideas. Figure 21 illustrates the hypothesised possible interaction involving team members.

Figure 21: Dyad and Subgroup interaction in teams



Team members after individual consideration of the problem and formulation of preliminary ideas or solutions discuss these ideas with other team members, typically in dyads. This allows facets of the idea to be defined in more detail or for the idea to be transformed. This could then be followed by further analysis at an individual level, or discussion of the idea at the team level. Different ideas or facets of the idea could then be iteratively processed until the idea reaches the final form and is implemented. By the operation of these cycles, ideas can be thought of, transformed, refined or rejected. With successive cycles different facets of the idea or different phases of the innovation process can be considered. Different ideas do not have to be discussed by the same dyads, and do not always have to involve people who are a part of the team. One of the implications of this interaction cycle is that the performance of dyads could be a predictor of innovative behaviour in teams. The conditions that are necessary for the effective operation of the dyads would also be important for the innovative behaviour of the team.

It was clear from the teams studied that the leadership of the team has a material effect on the innovative behaviour that occurred in the teams. Innovation in teams can be driven or undertaken by the team leader. Leaders often have a direct influence on the context within which a team operates. Leaders influence the dynamics of the team via their open-mindedness, approachability, supportiveness and fairness. The intellectual ability of the team leader and their ability to create a vision for the team or

organisation also affect the team. The roles in a team can be subdivided in such a way that the leader is the innovator. The role of the leader could be to come up with the original idea, after which the rest of the team members assist with refining the idea into its final form. However, by being the prime innovator, a leader could inhibit the generation of ideas by other team members, and thereby limit the innovativeness of the team. Conversely, individuals within the team could come up with new insights and the leadership could be involved in evaluating such ideas and setting standards for the innovativeness of the final outcome. Leaders can also encourage team members to think broadly and to consider different perspectives. Leaders also affect the innovative behaviour by selecting the team members and allocating tasks. The leader can also influence the culture of the organisation if the team is the top management team in the organisation.

The influence of leadership in teams is subtle and leaders can easily constrain innovation by the team. Leadership needs to be sensitive to this and ensure that an environment where innovation is possible is set-up for the team. Leaders can also constrain honest discussion and debate by not listening and taking into consideration what the team members have to say in an even handed manner. It is also possible that the sheer competence of the leader could negatively affect the team by creating a "halo effect" where the leader is revered and therefore ideas from the leader are not questioned to the extent that they should be, despite private reservations that the team members may harbour.

Team characteristics such as purpose, type, flexibility, roles, internal competitiveness, team longevity and the composition of teams can also affect innovative behaviour in teams.

The characteristics of individual team members are important for innovative behaviour. Teams need the right combination of skills, knowledge, experience, creativity, motivation and personalities in order to generate innovative outcomes successfully. Diverse knowledge, experience and perspectives are also required for innovative behaviour to occur. Such differences are not directly related to the demographics of teams. However, the more job-related forms of diversity, such as tenure, education and functional diversity, did have more impact than the less job-related, and more visible forms of diversity. Teams which appear to be homogenous can create innovative products because of more subtle or nuanced differences in the team that have little or nothing to do with demographics such as age, race and gender. In situations where

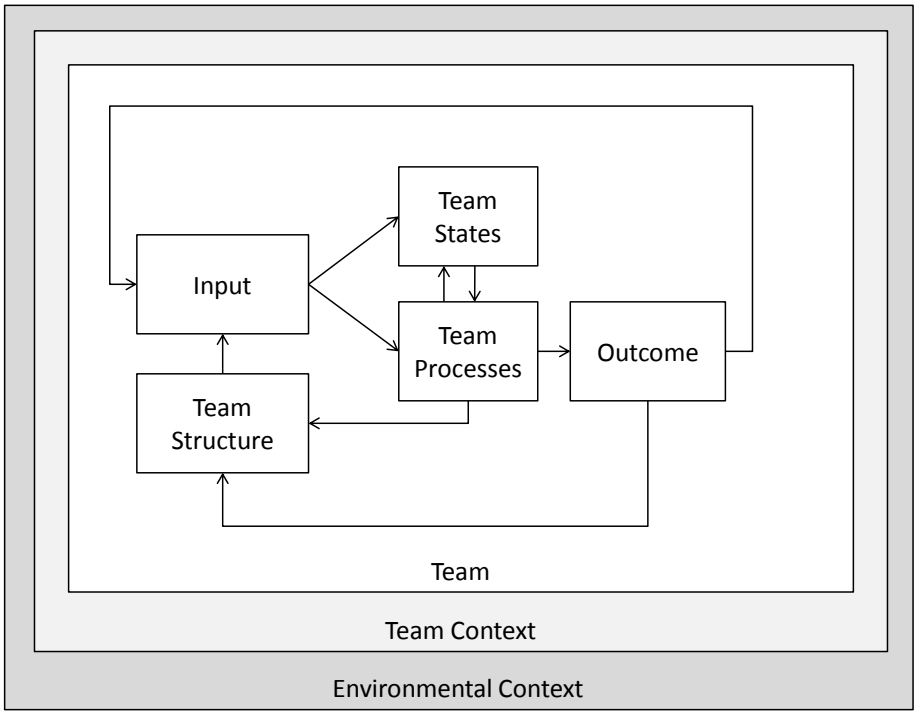
diverse knowledge and experience are required, organisational tenure, functional and educational differences among the team members may be needed. The different knowledge and experience that is required depends on the specifics of the situation in which the team finds itself.

The flexibility of team membership is a rarely mentioned feature. All but one of the teams investigated exhibited some form of flexibility in composition. A team can be organic, continually changing to best meet the needs of a task. The required perspectives, experience and knowledge could change even during the course of the generation of a single innovative idea or product. Flexible teams allow this structure to change dependent on the situation related to the task to be undertaken or problem to be solved. This could potentially change the homogeneity or heterogeneity of a team.

If teams are flexible, then diversity is a variable in a team. In the work environment, attempts to understand the diversity of a team treated as static may not be meaningful. This observation differs from the prevailing view in all of the research reviewed pertaining to diversity in management teams. In the literature, diversity is generally considered to be static. In the real-world business environment, teams can and do form and re-form, based on the nature of the specific work challenge or project being tackled. This ensures such teams always have the necessary degree of homogeneity or heterogeneity. During the innovation process the team can be changed to become better suited to the outcome required by a decision of the team itself. In models of team operation such as the Input-Mediator-Output-Input (Ilgen, et al., 2005) which argue that outputs of the team such as performance can affect future team processes and states, the effect of the team processes and outcomes on the team structure has not been considered.

Based on this observation, an extended model to understand the innovative behaviour of teams is proposed. This is illustrated in Figure 22. This model is based on the IMOI model of Ilgen et al. (2005).

Figure 22: Flexible Team Model of Team Operation



The model is extended by specifically noting that the structure of the team can vary based on active decisions taken as part of the team processes or by the team leadership. Team operation, especially related to innovative behaviour, is expected to consist of many iterations of the model, and during these iterations, the team members or team leader can decide to change the composition of the team by adding additional members to the team, by or removing or replacing members. The team could have a different structure for each different task or task facet faced, but could also change dynamically during the course of execution of a particular part or facet of the innovation process. Given flexible teams, other factors outside of the team, such as the culture of the organisation or the nature of leadership are expected to be more important for the effective functioning of teams, including the innovative behaviour of the teams. This model has far reaching implications, both for practice and for further research into the operation of teams.

6.3. Cross-Case Analysis and Theory Building: Conclusion

This chapter provided an analysis across all teams that were investigated in this study. The chapter initially outlines, describes and details the important themes that emerged in the study. An integrative framework is then presented that explains the theoretical

relationships between the major themes that emerged. These themes and the integrative framework are then examined with consideration of the literature.

(This page intentionally left blank)

Part III: Discussion and Conclusion

Chapter 7, the discussion, consists of a review of the major themes that emerged in relation to the extant literature. Chapter 8, the conclusion, draws conclusions based on the entire study, specifies shortcomings and highlights the key empirical, methodological and theoretical contributions identified and makes suggestions for future research.

(This page intentionally left blank)

7. DISCUSSION

This chapter considers the findings of the study and relates these to the existing body of knowledge, as reflected in the literature reviewed. Much of the findings support the prior research and models of innovative behaviour, team operation and effects of diversity, as produced in other contexts, mainly in developed nations. There are, however, some notable differences and areas that have received very limited or no coverage in past research and literature. This chapter starts with the definition and properties of innovative behaviour, before moving on to consider the various influences on innovative behaviour and the findings on the relation between diversity on innovative behaviour.

The findings related to the conceptualisation of innovative behaviour within the teams studied, for the most part, matched the definitions in the literature. One aspect that was consistent was that the innovative idea needs to be implemented in order for business people to acknowledge it as innovative. The reason cited for this in this study was that an idea is intangible and cannot be "judged" to be innovative unless it had been implemented. This matches various definitions of innovation that appear in the literature (Damanpour, 1991; Janssen, 2003; Van De Ven, 1986). There were, however, a few situations where the team members assumed that certain interventions were innovative even though these were not novel to the discipline, notwithstanding that the ideas may have been novel within the company. Some of the articles reviewed state that an idea needs only to be new to the adopting unit to be considered as innovative (Damanpour & Schneider, 2006; Scott & Bruce, 1994). This definition needs to be refined, because even though the idea may be new to the adopting unit, the idea may not be new to the discipline. For example, project management principles that are new to the organisation but are commonplace in the discipline of project management should not be considered to be innovative. A stricter definition of innovation needs to be agreed upon within the field of management.

Another area that needs clarification in the literature is the difference between innovation and creativity. In this study, creativity emerged as a characteristic that was required throughout the innovation process. This is in agreement with the view that innovation requires several creative leaps along its developmental path (Ford, 1996; O'Conner & McDermott, 2004) but differs from views that hold that creativity is mainly required in the idea generation phase of innovation (e.g. Binnewies et al., 2007). These differences in the understandings of creativity and innovation are probably as a result

of the different domains within which these concepts have been studied. Innovation and creativity are different concepts that operate at different levels. Creativity is not, as indicated by some researchers (e.g. Woodman et al., 1993), the part of the innovation process where the idea was generated. Other concepts such as Organisational Creativity as put forward by Woodman et al. (1993) have a definition equivalent to that of innovation, thereby adding further confusion. There is a need for the definitions of creativity and innovation to be clarified and used consistently in the business management literature. It is suggested here that creativity should be considered as an activity or trait of an individual or group which could then be utilised to enable behaviour which is innovative to occur.

Problems that fall between those noted as well-defined or ill-defined in the literature have been highlighted in this study. Reiter-Palmon and Illies (2004) define well-defined problems as those where the nature of the problem is clear and there is a single solution. They indicate that ill-defined problems have multiple goals, many ways to solve the problem and multiple acceptable solutions. In this study a different form of problem in between these two extremes was found, where the nature of the problem was clear, but there was no single acceptable solution or logical path to the solution. It is possible that some phases of innovative behaviour, such as problem finding or problem construction may not be needed for these problems.

The innovative behaviour that was noted in this study was found to consist of both team-level innovation as well as innovation by individual teams members. Team members were found to have goals related to the team as a whole, but also individual areas of responsibility and their own goals. This is congruent with the suggestion by Guzzo and Dickson (1996) that team goals can coexist with individual goals. They indicate that this only works to the detriment of the team if there are conflicts between these goals. Team members thus need to contribute to team level innovation and also introduce innovation into their own area of responsibility. For problems or requirements that have major impact on the business as a whole, all or most of the team members typically need to be involved. In this study the different perspectives and orientations of the team members was important for the innovative behaviour that occurred. Team members also needed to play different roles within the team, as has been argued by Galanakis (2006). Improvements required in team member's areas of individual responsibility necessitated individual innovative behaviour with some consultation of other team members for advice. This reinforces the observation (Binnewies et al., 2007) that individual team members find it useful to consult with others for advice even

when the decisions are ultimately taken at the individual level. The mixture of individual and team innovation that is required in management teams has limited coverage in the literature. Both appear to be necessary in management teams. Part of the reason for this could be the focus of the literature on teams, possibly due to the "romance of teams" as reviewed by Allen and Hecht (2004), who suggest that the psychological benefits of teams leads people to assume that teams are important and high performing, whereas this may not always be the reality.

In this study innovation behaviour was generally triggered by some event that occurred or a requirement that became apparent. The initial idea generated was often found to have some link to an idea or area of work that the company or team had considered previously, sometimes even years ago. This is in agreement with the creativity process described by Wallas (1926). In the teams where team-level innovative behaviour occurred elements of preparation, incubation, illumination and elaboration were apparent. However Wallas only considered individuals, whereas this study considers teams. The insights that occurred in the teams studied were often suggested by a single person, not the group as a whole. The thought process that led to the insight was often triggered by interaction among the team members. The group members then worked on elaborating or refining the idea till it was practical, had utility and was sufficiently novel, similar to the description provided by Schroeder et al. (1989).

As according to Wallas (1926) there was a preparation phase when an idea that matched the new requirement was considered, sometimes years in the past. There was also a time delay whilst the idea was not actively considered and the problem or requirement did not yet exist. Then there was an illumination phase when the link between the previous thought or idea and the new solution becomes apparent to create the "initial idea" or insight. The difference from Wallas' creativity process is that the actual requirement may not even be in existence when the potential idea was first considered. This is akin to there being a pool of potential ideas, from which an idea is drawn when a problem or requirement becomes apparent. Rejected ideas from prior innovative efforts could thus be a useful source of potential ideas for new projects. This pool of rejected or considered ideas could be the basis for serendipity in the team (Stenmark, 2003). The teams which benefited the most from serendipity had regular innovation cycles, where new products were developed and ideas considered.

Preparation and incubation was not always present in the teams studied, and this model did not appear to apply to problem-driven innovation. Part of the reason for this

could be that in practical business situations, problems that present themselves can be quite clear, and components of innovative behaviour such as problem construction as referred to by Mumford (2000) may not be necessary. Even in situations where there is no specific problem, spontaneous moments of insight, when the answer suddenly becomes clear may not occur. As indicated by Mumford (2000) teams may need to spend considerable time methodically working though information and selecting the best amongst the alternatives available.

There was evidence in several of the teams that a strong understanding that a company has of its customers and clarity of its value proposition makes the selection of a suitable idea easier. Based on the premise that an idea is only innovative if it is both novel and useful, this implies that the team that understands its customers well would not create ideas that did not have utility for the customers. The ideas generated under these circumstances are more likely to be innovative. This underscores the importance of domain relevant knowledge to innovative outcomes in teams as argued by Amabile (1983). Knowledge of customers or staff members affected by innovation created in a team can be considered to be domain relevant knowledge. It must be noted that knowledge of the customer has increased benefits when this knowledge exists in the team, rather than when consultants are used to obtain this information.

An important part of the innovation process is refining the initial idea in order to ensure that it has utility and is practical to implement. As was found in this study the initial idea is rarely optimal. This is supported by the literature (Schroeder et al., 1989) which indicates that setbacks can occur. Comprehensive consideration of an idea is the means via which teams refine ideas. This consists of analysing and interrogating the idea from multiple perspectives. The consideration of the idea can occur by individual reflection or discussion and debate among members of the team, or a combination of both. Each facet of the idea could be considered separately. Part of the reason for this could be that well thought out ideas are easier to promote and get implemented. Detailed analysis can also reduce the risk of failure. Once the initial idea has been agreed upon different facets of the idea also need to be designed or planned for. Within the innovation process for a single innovation there are multiple nested innovation loops addressing different facets of the idea, or the promotion or implementation of the idea. This is in line with the suggestion of Leonard and Sensiper (1998) that innovation consists of successively smaller cycles of innovation with cycles of divergence and convergence.

The final step in the innovation process is implementation. In this study it was apparent that the idea needs to be implemented, or else it cannot be judged to be innovative. Ideas what are not implemented are just considered to be thoughts. This is consistent with a multitude of definitions of innovation which require that an idea be implemented in order to be considered an innovative (Caldwell & O'Reilly, 2003; Cheng & Van De Ven, 1996; Damanpour & Schneider, 2006; Van Der Vegt & Janssen, 2003).

In thus study the innovation process was not found to be chaotic nor was the entire process informal. There were defined outcomes that are required, defined quality requirements and defined timelines for completion. The innovation process consisted of formal and informal sections. The initial insight often occurred during informal discussions. The process of evaluating and refining those ideas then took place as part of a formal process. Within the formal process, which could be iterative and non-linear, informal conversations were necessary to ensure rapid progress. Individual team members also spent time considering aspects of the idea before discussing these with other team members or with the team as a whole. This is consistent with research which indicates that individual brainstorming generates better ideas than group brainstorming (Paulus, 2000). Individual working allows team members to clarify their thoughts and arguments prior to placing these before the group as a whole. This is not only important for the initial idea generation but also for the refining of all facets of the idea and the evaluation of the idea. The team setting or interactions with subsets of the teams then allowed for the evaluation of the individual ideas by others who had different perspectives. Both individual work and team work were thus found to be important for innovative behaviour.

External demands or expectations had an impact on the innovative behaviour of the teams. The culture of innovation within the company, and the leeway and requirement for innovation in the case of a particular project or problem determines whether an innovative solution will be sought out or not. In an environment where there is resistance to change, or there is no scope or requirement for innovation, innovative behaviour is unlikely to occur. How innovative the eventual product or service will be depends partially on the people involved in the process, the different perspectives that these people bring to the task and the discussion and debate that takes place.

Partner expectations, shareholder or group company requirements, the trading environment in the industry and company performance all had an effect on innovative behaviour in teams. In the study it was found that a clear requirement for innovation

from customers or partners encouraged innovative behaviour in teams. The lack of any requirement for innovation or the desire for minimal change led to teams not attempting to be innovative. The nature of the trading environment can affect the type of innovation that takes place in a company. In the same way that authors such as West et al. (2004) argue that external demands or needs can be a factor in individual innovation, external demands can also affect innovative behaviour in teams.

Harsh trading conditions can result in senior management teams focussing on improvements in their individual areas to make the company operations more effective. Less team based and more individual innovation could then take place. This is tempered by the leadership. If there is a deliberate desire by the leadership to be innovative then both individual and team based innovation could take place. The relationship appears to be bipolar. If their environment expects innovation then innovative behaviour will be exhibited, whereas if the environment does not want innovation, then innovative behaviour will not take place. The translation of this behaviour into successful innovative products appears to be then determined by other factors external to the team and possibly even the organisation.

The company culture, notably resistance to change, the desire to be seen to be innovative and the collectivist/individualistic orientation, was found to have an impact on the innovative behaviour of teams. Having a culture that embraces the desirability of innovative behaviour is an important determinant of innovation in an organisation. In companies where change is not valued, innovation is constrained. As indicated by Johnson-Laird (1988) innovation will not occur if people are not free to make choices in an organisation. Having a culture of innovation encourages the team members to think of innovative solutions rather than routine solutions. According to West et al. (2004) a climate of innovation, where risk taking is encouraged and fair and supportive evaluation of ideas takes place is also important.

The context in the organisation within which the team operated was found to affect the innovative behaviour in the team. The nature of the task, leadership and resource constraints were found to affect the team behaviour.

The task allocated to the team can be considered to be part of the team context. The presence of goal and task interdependence was found to be an important determinant of the need for team members to work together. Team level innovation is only possible if the team members work together, either because they need to work together or want

to work together. In this study the teams with goal interdependence showed a higher level of innovative behaviour than the teams with less goal interdependence. This corresponds with the findings of Garcia-Morales et al. (2006), where they found a significant relationship between shared vision and organisational innovation.

Teams are created for specific purposes. In teams created for the execution of projects, individual team members may not have common goals but rather individual goals, which if achieved, would lead to the overall success of the project. When projects are created in a manner such that everyone has very clear and separate areas of responsibility the need to work together, or the task interdependence, is reduced. Team level innovation may not be required, as a large part of the innovation in the project could take place in the design stage of the project. Senior management teams are created to run entire companies or sections thereof and are thus likely to have goal interdependence. These teams have responsibility for the success of the company or section and would normally not be able to succeed unless all areas are successful. These teams would generally need to work together and would have some task interdependence. In agreement with the suggestion by Johnson-Laird (1988), the greater freedom to make choices in senior management as compared to project teams would lead to greater innovative behaviour in management teams.

The decision-making style in teams can be either consultative or collaborative. As found in some of the teams, if there is limited task and goal interdependence in teams, consultative decision making could still occur if the team members have overlapping knowledge. With task or goal interdependence collaborate decision making can occur.

Resource constraints appeared to enhance the innovative behaviour in the teams. Time constraints appeared to focus the team members on achieving the end result. It could also be argued that the presence of resource constraints such as time restrictions made the formal process necessary. This supports the creativity research which argues that individuals are more creative and more likely to consider unusual ideas when limited by constraints (Hoegl, Gibbert, & Mazursky, 2008).

Leadership has a strong influence on the innovative behaviour in teams. In this study leadership was found to be responsible for the creation of a culture of innovation in the organisation, setting of standards for innovativeness of solutions, making important decisions regarding the tasks the team undertake, taking on the role of innovator in the team and encouraging open and robust debate by listening and taking into

consideration the views of all team members. Leaders were also found to intervene if discussion and debate was not reaching a conclusion or if conflict started to harm the operation of the team. Leaders were involved in the selection of team members, and deciding on additional resources needed by teams. Inaction by team leaders can also cause harm to teams. Instances of this were found in this study, for example when leaders do not intervene when subgroups formed in teams disrupted the team's operation.

If the tasks of the team members have been rigidly defined by the team leader or supervisor, this can constrain innovation. In other cases, innovation could be constrained by limits on the requirement for innovation from outside the team. Much of this is under the control of the team leader or the team supervisor. However the customer, the current trading conditions of the company and shareholder requirements could also affect the requirement and room for innovation in a team.

Leaders have a role in encouraging cognitive processes in subordinates that are likely to lead to innovative behaviour, and can also set standards that require the team to be innovative. In a number of the teams studied the leadership was responsible for setting high standards for innovativeness, which led to more innovative solutions being developed. By setting high standards for innovativeness leaders encourage team members to innovate rather than tinker, something which was seen as important by Van De Ven (1986).

The fairness that a leader demonstrated was found to have an impact on the discussion and debate that takes place in a team. By being fair, and by listening and taking into consideration what the team members have to say team leaders and other team members can encourage openness and honesty by the team members. By only considering the view of the some of the team members, team leaders can discourage some of the team members from contributing to the team. This supports the suggestion by Reiter-Palmon and Illies (2004) that leaders are important for creating an environment where openness and trust exists. The flexibility of the leader, in terms of the arguments of the team members being able to change the mind of the leader was particularly important.

Team leaders are often the people who recruit the team members and can thus affect both the diversity of the team and the type of people who are employed. Team leaders are also generally at a more senior level in the team, and often have the ability to make

or approve the final decision for the team. Team leaders can also end discussions that continue for too long by making a decision for the team.

Depending on the relative experience and expertise of the team leader, and the orientation of the rest of the team members to think strategically, the team leader could be the person who comes up with the ideas for the team. The leader is thus the innovator in such instances. This depends both on the role orientation of the leader and that of the team members. This can also depend on the tenure of the team members in the team. In teams where the tenure is longer the team members are more likely to contribute equally to the team. In teams where the leader is seen as the visionary it is possible that the team members do not question and interrogate the team leader sufficiently. This could lead to the team accepting less than optimal solutions. There is little coverage of the possible negative effects of strong leaders on team operation in the literature, even though this appeared to be particularly important in a number of the teams.

The team processes that were found to be important for innovative behaviour were team development and discussion and debate. Conflict was noted to a limited extent in a few of the teams but did not appear to affect the innovative outcome in these teams. Social support was required in some of the teams to assist the less experienced team members to gain confidence in dealing with the team, and therefore to start to contribute to the team discussions.

The primary mechanism via which the teams in the study interacted was via conversations or discussions between team members, either in dyads, small groups or the team as a whole. The discussion and debate that occurs is a way of clarifying and interrogating the ideas and related assumptions such that the final product meets the need of the user in the best manner possible. Individuals can contemplate the ideas alone, before discussing with others who have different views. This supports the assertion by Leonard and Sensiper (1998) that the knowledge of a team is only possible to share during interaction between the group members. Past literature has found that the effect of diversity on team performance is moderated by debate (Simons et al., 1999). Idea-related communication has been shown to be related to various facets of the innovation process, namely, preparation, idea generation and idea validation (Binnewies et al., 2007).

The literature that is directly related to debate and discussion is scant. This is understandable as debate and discussion are perhaps only mediators for “more important” business topics such as innovation or knowledge creation. Much of the literature (e.g. Forbes, 2007; Malhotra & Majchrzak, 2004) treats discussion, debate, debate completeness or decision comprehensiveness as a mediator or moderator between the dependent and independent variables of interest. In this study discussion and debate appeared to be so important for the performance of the team that further detailed investigation into the interaction between team members is warranted.

The properties of discussion and debate that emerged in this research include; openness, robustness, frequency and persons involved. With the more innovative teams, which had more innovative outcomes, robust debate appeared to be particularly important. In terms of diversity, different perspectives appeared to be important in teams in order for valuable debate to occur. It was, however, also important for the team members to have overlapping knowledge. Past research has indicated that openness leads to the increase of knowledge in a team (Olson et al., 2007). This knowledge is important for the generation of innovative ideas.

The openness of the discussion and debate was found to be affected by trust between the team members as well as the belief that the team could change direction based on what was said. In order for the team members to be open, it was necessary that they believe that there would not be any negative consequences, despite the feasibility of their contributions. This is aligned with the findings of the psychological safety literature that argues that people need to feel safe in order to contribute to teams (Driver, 2003; Edmondson, 1999). Team members are also more likely to suggest new ideas if risk taking is encouraged and mistakes accepted (Caldwell & O'Reilly, 2003). When team members feel secure that there will be no negative consequences for mentioning issues that others have not mentioned, or that are different from the views of other team members, then they are more likely to contribute actively. The building of trust in the team could be important for the creation of psychological safety (Edmondson, 1999). However, other factors such as respect for the competence of other team members and caring for each other could also be important for the presence of psychological safety in teams (Edmondson, 1999). In one of the teams it was found that team members were unsure of the norms in terms of contribution to the team and were thus careful in what they said at team meetings.

The development of trust took time in the teams studied. In teams that had been in existence for a longer period of time, where the team members were familiar with each other, open and robust debate took place. In newer teams, with team members who were not familiar with each other, open debate and challenging only occurred after the team had been together for some time. This supports the assertion by DeTienne et al. (2004) that trust is enhanced by face to face interaction between team members. The development of the team and the development of the individuals within the team were both found to be necessary for trust to develop in teams.

The challenging or robust nature of the debate was found in the study to be dependent on numerous characteristics of the task. These included the severity of the problem and the time available to find a solution. However one of the most important factors found was that intensive interrogation of ideas was required to reduce risk and provide a better service to customers. By detailed interrogation of ideas it was found that issues with each part of a solution could be thoroughly tested prior to being released to the market or the customers. Even companies which are risk averse could then implement radical innovations whilst controlling the risk by means of intense discussion and debate. The innovative behaviour in teams in this study benefited from open, honest and robust debate. This is supported by Simons et al. (1999) who found that debate positively moderated the relationship between diversity and performance.

It was clear from the teams in this study that discussion and debate did not need to include all the members of the team, all of the time. The teams which exhibited the most innovative behaviour appeared to have considerable dyad interactions, which were felt to be crucial in order to progress the discussion. This occurred at any time, and any place and took place much more frequently than the formal meetings involving all the team members. Sometime these discussions even involved people who were not a part of the team. These conversations were important for clarification aspects of the idea and for individuals to test their own thoughts. Even though this appeared to one of the most important interactions between team members there has been very little work relating dyad interactions to innovative behaviour in the literature. This is unfortunate as this could be one of the most important predictors of the quality of group processes and could have a significant impact on innovative behaviour in teams.

Dyad interaction was not always found to have positive effects in teams. In some teams dyad interactions could be undertaken for the purposes of individuals canvassing for their own views and could contradict the opinions of the rest of the team

members. The value of the differing perspectives present in the team could thus be lost. This has been described by Eisenhardt (1997) as a political tactic that team members can use to gain favour.

The findings in terms of individual characteristics were in accordance with the componential model of Amabile (1983). Domain relevant skill and creativity of the team members was important. Task motivation was also important. One unexpected finding was that the knowledge of the people in the organisation who would be using the innovation being developed was also important. This knowledge, which could be termed organisational knowledge, was important for the innovative behaviour that took place, as it enabled the team members to predict the viability of different ideas.

Domain relevant knowledge was found to be important for discussion and debate to occur in teams. The most experienced team members were typically the team members who came up with viable new ideas. Team members without the requisite knowledge and skills were not able to contribute as much to the team discussions. Team members with extensive knowledge and experience, especially in combination with extrovert or forceful personalities, could dominate discussions and thereby create conflict, which could hamper team operation. Inexperienced or less experienced team members were also found to be reluctant to contribute. Social support in the form of informal meetings assisted to build confidence to allow these team members to start to contribute. As indicated by Carson et al. (2007), support received by team members can lead to team members feeling that their input is valuable and appreciated. This research suggests that this is even more important for new or less experienced team members.

The term “diversity” is a conglomerate of differences that can exist between team members. The different forms of diversity can have completely different effects, and some forms of diversity could have little or no effect on teams. However, too much of the past research considers and argues for the positive or negative effects of diversity in groups or teams, without considering that different components of diversity can have completely different effects. In these cases diversity means nothing because diversity is considered to be everything.

Diversity, notably demographic forms of diversity were not found to be important in the teams studied. The primary manner in which diversity was important in the teams studied was for the different perspectives and work styles of the team members. In

some cases, homogeneity rather than heterogeneity was found to be important for the effective operation of the team.

Diverse perspectives are important for generating, evaluating and refining ideas in a team. In the study it was found that these diverse perspectives were not related to the demographic diversity of the team. Teams that were demographically homogenous came up with notable innovations, and in the process expressed diverse and differing views. These views could be as a result of cognitive or personality differences between the team members, which could have been impacted by differences in experience and background and were affected by the team longevity. The value of diverse perspectives could depend on the type of tasks; with more complex tasks diverse perspectives are beneficial (Campion, Medsker, & Higgs, 1993; Jehn, Northcraft, & Neale, 1999). Diverse perspectives would generally be considered to assist teams that need innovative outcomes as these would typically involve complexity. The teams studied supported the assertion by Driver (2003) that teams need to have sufficient interdependence such that these different perspectives and skills are used.

It was found that with requirements or problems that needed multidisciplinary solutions, skills from different domains are useful in order to find innovative solutions. As indicated by Amabile (1983) domain relevant skill are important for creativity to occur. With complex problems these skills and knowledge would be best obtained from team members who have different backgrounds and education. Functional and educational background differences could thus increase innovative behaviour in teams due to the team considering a wider range of solutions than would have been possible if the team was homogenous. This is in agreement with Information/Decision Making Theory as discussed by Williams and O'Reilly (1998) which suggests that heterogeneous groups are more innovative due to the greater breadth of information to which these groups have access to.

Organisational tenure differences were also found to create different knowledge and perspective in different team members. Newer team members had knowledge of different and newer practices, whilst longer tenure team members had knowledge of the working of the organisation that enabled the team to evaluate the feasibility of ideas in relation to the likely response from members of the organisation. Shorter tenure team members could also be more secure and thus more willing to question the status quo than longer tenure team members who had more to lose if they questioned the status quo. Unlike Camelo-Ordaz et al. (2004) it was found that organisational

tenure differences has positive effects for the teams where it existed. However it was found that in one organisation where all the team members had similarly considerable tenure that this did not hamper innovative behaviour. This was more in line with Ancona and Caldwell's (1992) suggestion that similar tenure team members could have better and more frequent communication and better social integration because of their similar understanding of the organisation.

The effects of demographic differences were limited. One of the reasons for this could be that team members' perceptions of similarities and differences may have a greater impact than observable demographic differences in teams (Jehn & Bezrukova, 2004). Gender diversity affected the cognitive processes of team members and thereby created benefits in terms of the different approaches to problem solving. However this could have less to do with gender and more to do with the actual cognitive differences between individuals. The adverse of effect of gender differences is that these differences could result in the creation of subgroups which lead to uneven participation by the different subgroups in the team (Lau & Murnighan, 1998). Age differences had the effect of leading to a combination of experienced older team members, who could be resistant to change, and younger team members who could motivate team members due to their passion and enthusiasm. This could be important because high energy levels are crucial for creativity (Amabile, 1983). The value of the age diversity in the team was dependent on the type of team, the type of tasks the team was involved in and the level of the team in the organisation.

Cognitive and personality differences were found to be more important than other forms of diversity aside from functional area diversity. There did not appear to be any systematic relation between age, race or gender and cognitive differences. This is in accordance with Driver (2003) who argues that demographic measures should not be used as a proxy for cognitive differences.

One of the detriments of diversity in teams is the possibility of the formation of subgroups in teams if different demographic fault lines are aligned. As indicated by Ilgen et al. (2005) the alignment of fault lines appeared to create stronger subgroups. There was only one team with strong fault lines that resulted in the creation of subgroups.

A major effect seen was that team members, with different perspectives and knowledge, can be added to the team if there is a requirement for these. The structure

of many of the teams studied was flexible and team members were changed or added to the team during team tasks. The diverse knowledge and experience can thus change dynamically. Depending on the profiles of the members added to the team the demographic profile of the team can also change.

This has major implications for the study of diversity in teams. Diversity has traditionally been considered to be a fixed attribute within the team. In thus study it has been shown that diversity can be dynamic as the team is adapted to the requirements of the task and the environment. Such adaption could differ for each different project or problem that the team has to work on, thus optimising the perspectives, knowledge experience and skill sets in the team for different tasks and situations. Team leaders and team members need only know when there is a need to include others in the team, and which skills and knowledge will be beneficial to the operation of the team to be able to usefully add members to the team. The task that the team is working on and the existing makeup of the team would be the most important determinants of who should be added to the team.

A team structure that is flexible has the potential to affect the operation of the team dramatically and could have serious implications for research into teams. The implication is even greater for understanding diversity of teams. With changes to the team during the course of a single project the diversity of the team is not static. Not only can the actual knowledge and skills within the team can change during the course of a single project, but the different cognitive styles and personalities could also change. In this study it was found that the additional people included in the team did not necessarily become an official part of the team. The team can be as diverse or homogenous as is needed. It is probably not co-incidence that this flexibility of team composition was most prevalent in the high level teams. These are the teams most likely to have the authority and ability to increase (and decrease) their own team membership.

A further findings regarding the flexible team structure is that teams often make a conscious decision as to what changes are required in the team for the work to be successfully completed. Team members can identify deficiencies in the team and then obtain additional resources that can fill these gaps. In this case the original diversity of educational and functional backgrounds may not be important as long as the team members can identify the missing areas and compensate for these.

The flexibility of the size and composition of teams is not an area that has received adequate attention in the current research. Some researchers have investigated the impact of changes to the individuals in the team without any structural changes to the team (Hirst, 2009) or have considered the amount of time which the team members have collectively spent with the team (Katz, 1982). Other researchers (O'Conner & McDermott, 2004) have considered the effects of communications external to the team on the sharing of knowledge across team boundaries, but have not considered the people contacted as active members of the team.

As indicated by (Hirst, 2009) research teams are often treated as stable entities for the purposes of research. Hirst (2009) went on to indicate that these changes can have an impact on the overall functioning of the group. As has been seen in this research, teams are fairly amorphous and constantly changing. This is an important dynamic that needs to be taken into consideration in team based research and practice. Hirst (2009) specifically researched teams where members left the team voluntarily and were then replaced.

However teams can have a core group, usually very small and which does not change frequently. This group may be involved in the initial phase of the innovation process where the original insight occurs, however other team members can thereafter become involved to assist with other phases of the innovation process, including refining the original idea. Evidence of this was found in one of the teams.

7.1. Discussion Conclusion

This chapter has considered the findings of the study in relation to the literature reviewed. Many areas were found to be in agreement with the literature, however certain areas had not been considered in the prior literature and research. The chapter provides an integration of the findings, leading to the conclusion that follows in Chapter 8.

8. CONCLUSION

This chapter concludes the thesis. It sets out the major methodological, empirical and theoretical contributions of the study and considers their implications for policy and practice. The chapter ends with a number of suggestions relating to future research.

The purpose of this study was to develop an understanding of the manner in which diversity affects the innovative behaviour of business teams in South African corporations. It was decided to obtain a comprehensive understanding of how teams operate in a real business context. A theory building approach was taken into order to allow an understanding grounded in the data to be obtained. The team members from seven business management teams were interviewed individually using unstructured interviews. The teams were selected using purposive sampling, guided by the preliminary findings from the previously interviewed teams. A number of potential teams were rejected after the start of interviewing when it became clear they did not exhibit sufficient evidence that they operated as teams, with interdependence among members and a common purpose. In all cases permission was obtained from both the company and the individual team members prior to the interviews being conducted. Each interview was recorded, transcribed and then coded. Memos were created to capture the researcher's thoughts and ideas as the coding proceeded.

The analysis of the results started with creation of detailed narratives for each case. This enabled a consolidated view to be obtained of the functioning of each of the teams. This was followed by an analysis of each team in order to identify the core themes. The results from each team were compared to each of the previous teams. A cross-case analysis that spanned all of the teams was then conducted. This included extensive review of the codes, higher level categories that these codes were a part of, and memos in order to find the properties, antecedents and effects of each of the emergent themes. The findings from the cross-case analysis were then used to develop theory regarding the manner in which diversity affects the innovative behaviour of teams. The findings of the emergent theory were then compared to the existing literature.

A number of unexpected findings emerged from this study, substantiating the use of grounded theory building. Certain problems with this approach were also encountered. A major problem was that many teams, even though treated as teams in their business context, did not fully satisfy the requirements for the definition of a team. Interviews

with a few prospective teams had to be abandoned for this reason. One of the most unusual incidents experienced was when a team was formed only after an innovative product had already been developed by an individual, simply to qualify for an internal company team award. The majority of the teams selected were successfully interviewed, giving rise to a broad and deep data being captured. The findings are expected to be a useful contribution to the body of knowledge related to innovative behaviour in teams.

8.1. Methodological contributions

Due to the presence of ambiguous or incomplete findings as noted in certain of the literature reviewed, it was deemed necessary to use an in-depth theory building approach, making use of qualitative research techniques and data, to obtain a richly textured and nuanced understanding of innovative behaviour in management teams. This could then be applied in the development of theoretical knowledge of innovative behaviour in teams that is grounded in empirical research data gathered from real business teams. This approach allowed for the emergence of themes indicating relationships, antecedents, mediators and moderators that were not apparent or clearly defined in the available body of knowledge.

The use of grounded theory building to understand the operation of teams is not well covered in the texts on grounded theory building. Teams add an additional level of complexity beyond the individual level and researchers thus need to make choices, which have not been clearly defined, regarding the process to be followed. Should individuals or teams serve as data sources for cases in grounded theory building in this domain? How should the data be integrated from individual level to team level? With grounded theory building, which is not content analysis, and does not convert the data to quantitative form, how should the views or perceptions of a single individual be treated when the focus is on team behaviour? These are questions that need to be answered to optimise the use of grounded theory building in a team setting.

During the course of the study it was realised that the CAQDAS tools, though they make grounded theory building feasible in a complex environment such as a team, are still limited. Even though there is a need to be wary of a tool driving the process, there is much that can be done to improve the usefulness of the tools. The current study needed a combination of the CAQDAS tools, spreadsheets and even computer

programming to be utilised in order to be able to analyse and understand the large volume of data. This made the process very cumbersome.

8.2. Empirical contributions

The research sought to address a number of weaknesses that had been identified in the extant literature, with an appreciation of any differences that may be apparent in the South African context. The purpose of the research was to build theory rather than to test theory and create theoretical generalisations. A key requirement of the research was to understand the manner in which diversity impacted the innovative behaviour in teams. The grounded theory approach resulted in a rich and detailed understanding of each of the teams, leading to theoretically significant themes as identified in the cross case analysis. A number of findings that will potentially add to the body of knowledge were extracted from the data available. These include findings related to innovative behaviour, the nature of teams and the impact of different forms of diversity on innovative behaviour in teams.

From an innovation perspective it was found that a combination of team and individual innovation takes place in teams. The type of team and the current circumstances of the team affected the amount of individual and team innovative behaviour that occurred. Both were considered to be important. The team served as a facilitating mechanism, not only for the team based innovation, but also for the individual innovation. Individual team members discussed ideas with other team members in order to obtain their advice prior to making decisions regarding the direction to follow. Innovative behaviour could also involve subsets of the team, who had interdependence in terms of the innovative idea to be implemented. This was especially true in management teams. Future research in management teams thus needs to focus not only on team level innovation, but on individual innovation and innovation involving subsets within the team.

The innovation process followed in teams was shown to closely follow the model of individual creativity as expressed by Wallas (1926) and others. All phases were however not always needed. Depending on the nature of the problem that the team is addressing certain phases such as problem construction may not be necessary. Prior innovative processes and ideas rejected from those processes provided a rich reserve of potential ideas that could be utilised to create solutions for new problems. Teams

that regularly engage in innovative behaviour would thus have advantages over teams that did not.

The innovative behaviour was found to comprise both formal and informal components. Both were important. The bounded formal process with deadlines, specific deliverables and formal review and evaluation processes created a framework within which the team worked and caused the teams to focus on achieving results. The informal component allowed for divergent thinking to take place and for a multitude of ideas to be considered before focussing on refining specific ideas. Teams with a combination of members who are better at adhering to formal requirements and others who are less concerned with deadlines but engage broader more divergent thought should exhibit more effective innovative behaviour.

It was found that the team leader could take on the role of the innovator in the team, with the rest of the team involved in evaluation and of refining the idea to make it practical to implement. This was found to depend on the role orientation of the team leader relative to the team members. Teams in which the leader is the prime innovator may not be harnessing the full potential available within the team as a whole. The most innovative teams had leaders who were not the innovators in the team. The team members generated the innovative ideas. These teams had leaders who were capable of evaluating ideas and who challenged the team members to strive for more innovative outcomes. These leaders were capable of setting up a culture of innovation by creating a vision of innovativeness that was shared by the rest of the team members.

Team development was necessary in order for team members to trust the rest of the team enough in order to feel safe enough to contribute openly to the team discussions. The development of individuals, rather than team development, was however found to increase the contribution of those team members who were relatively inexperienced. Inexperienced team members were not capable of generating innovative ideas and needed support from others in the team in order to gain confidence to contribute fully to team discussions.

One problem identified in teams was that very dominant or extremely competent team members or a team leader could result in other team members not questioning the views of this individual sufficiently. This in turn could result in sub-optimal ideas being implemented.

Discussion and debate was found to be a key component of innovative behaviour in teams. Teams with more open, honest and robust debate had enhanced innovative behaviour. Team members need to feel safe and confident to challenge each other without anticipating negative reactions from the rest of the team members. Team members also need to feel and see evidence that their contributions are listened to and taken into consideration. Team members were found to be prepared to contribute only if they understood that their contribution was valued. Robust debate was found to be important to reduce the risk of failure of radical new ideas. The successful teams interrogated many facets of ideas in great depth. The robustness of the debate was influenced by the severity of the problem, the acceptance of differing views, overlap between the knowledge of the team members and the characteristics of the individuals in the team. Smart, experienced, knowledgeable team members with diverse perspectives led to more robust debate in teams.

One critical component of discussion and debate identified was dyad discussions. Teams benefitted significantly from frequent discussions between sub-groups of two team members. Such dyadic interaction was found to allow the innovation process to proceed more rapidly than would be possible with only formal meetings of the full team. However, these dyads could also jeopardise the functioning of the team if not formed authentically for the greater good of the project and team, but rather to serve ulterior motives. The conversations within the dyads were so important that it is suggested that this could be a good predictor of the performance of the team as a whole regarding innovative behaviour, as well as other team outcomes.

One area found to be particularly important for good quality discussion and debate was the diversity of knowledge, experience and perspectives of the team members. For robust debate the team members needed to have overlapping as well as unique knowledge. Functional background, organisational tenure and personality and cognitive differences were all found to make an important contribution in this regard. Team members with long tenure had an enhanced understanding of the organisation and what was possible and practical to change in the organisation, and how best to implement these changes. Team members with short tenure had knowledge about practices and different experiences from outside the organisation. The combination of long and short tenure team members could thus result in novel ideas that are practical to implement within the organisation.

Personality differences could create conflict in teams and thus hamper the operation of teams but could also benefit innovative behaviour. Combinations of introverted and extroverted team members could lead to divisions in the team especially if aligned with other forms of diversity such as race or gender, and could result in the formation of subgroups in teams. Combination of enthusiastic and sceptical team members were useful to ensure that some team members supported novel ideas, whilst others ensured that these ideas were viable.

An unexpected form of diversity identified in the research was the company that the team members worked for. Project or management teams can comprise members from different organisations. Such externally sourced team members could then have completely different knowledge and experience to internal members and come from a different company culture. Team development was particularly important for the building up of trust in such complex teams. The inclusion of external consultants in management teams may warrant further research.

Demographic forms of diversity, including age, race and gender were not found to be as important as other forms of diversity in their effect on the operation of teams. The only exception was when these were aligned with other forms of diversity, notably cognitive, functional or experiential diversity, in which case they could result in fault lines and the formation of subgroups in teams.

A critical finding that has not been adequately considered in the available literature is the flexible nature of business management teams. Teams in this study were found to change form as and when required in order to meet the requirements of the task. This is important because it has a major effect on the value of research into a variety of team functioning areas. Specifically, it may have the effect that the diversity of a team changes from task to task and even within a single task execution.

A wide range of empirical findings were apparent from the teams studied. These findings form the basis of the emerging theory as detailed in Chapter 6 but have not yet been empirically tested. Further empirical studies will be required to verify the generalisability of these findings.

8.3. Theoretical contributions

The contribution of this research comprises the properties, antecedents and dimensions of the core themes that have been identified as well as potential relationships between these properties, dimensions and antecedents. There were two major theoretical contributions arising from the findings in this study; the flexible nature of teams and the importance of dyad and subgroup interactions for innovative behaviour in teams. These have the potential to contribute significantly to the study of diversity and innovative behaviour at the team level of analysis.

One of the most important findings of this study was evidence of the ethereal, fluid nature of business management teams. The majority of the teams studied were found to be dynamic, rather than static, in composition. Teams have until now, been assumed to be static in research aimed at understanding the impact of diversity in teams. This research found that changes to the structure of teams are not random, but are often the consequence of active choices made by the team members or team leader. These choices tend to be made specifically to match the team composition to the specific problem or task requirements to be addressed by the team, taking into account any known deficiencies in the make-up of the team. Teams can change form to best respond to the current set of circumstances. Teams can thus be considered to be adaptive, self-correcting entities that transform as required. This appears to apply in particular to management teams. Teams may not only change when allocated different tasks, but can also change during the process of working on a single innovative idea. Both the diversity of the team and the size of the team can change as the team composition changes. How we study such dynamically changing teams becomes a key challenge for research methodology and theoretical advancement. These are important considerations that have not been highlighted in any of the literature reviewed or even of the literature scanned and then omitted from explicit consideration in the review. A new model, based on the IMOI model of Ilgen et al. (2005), which explicitly shows that the composition of the team is flexible, is proposed.

The importance of the interaction between subsets within teams has seldom been considered in research aiming to understand innovative behaviour in teams or the effects of diversity. Teams do not always work as a complete unit all of the time. In fact, as it became apparent in this study, most of the interaction that takes place amongst team members involves only a subset of the team. Informal and spontaneous discussion and debate amongst sub-groups within a team are crucial for innovation,

which requires regular conversations to clarify thoughts and bring about new ideas. The interaction within dyads is important for the discussion and debate that takes place in teams. This discussion and debate is important for the analysis and transformation of the initial idea or insight into the final innovative outcome. These discussions potentially allow team members to test their thoughts in a less threatening environment than in a full team. Dyad discussions would also allow for different components of ideas to be interrogated by different dyads, simultaneously. This is something that would not be possible in full team meetings. Such dyadic interaction could be the missing intermediate level of analysis needed between the individual level and full team level to gain a fuller understanding of team dynamics and group processes relevant to innovation in teams. It is a form of interaction that overcomes the limitations of individual brainstorming whilst drawing on the benefits of access to the differing views and opinions of different team members. This would also overcome one of the limitations of team-level brainstorming, which is that team members have to wait to put forward their own ideas whilst any other team member speaks or contributes. It would also allow in-depth analysis of facets of the idea, which may not be possible at full team meetings. This would form small nested cycles of innovation within larger cycles of innovation. Research into the relation between dyadic interaction and innovative behaviour is required, as well as research that determines the antecedents of useful dyadic interaction in teams. In-depth investigation is needed of the progression of ideas from problem construction, through original insight, to the refining and implementation of the idea, in relation to the interactions that occur on different levels of analysis. Cognisance also needs to be taken that, when studying innovative and other forms of behaviour in teams, interaction may occur at multiple levels during the course of even a single task of the team. Research that takes dyadic and subgroup interaction in teams could assist in better understanding teams and innovative behaviour in teams.

This study has contributed to theory on innovative behaviour, team diversity and team functioning by suggesting numerous properties of these concepts or their components that could affect the manner in which innovative behaviour occurs and is either facilitated or inhibited in teams. More importantly, it has come up with two insights that appear new to the research literature on teams and specifically management teams and their propensity for innovative behaviour. The first of these insights is that team diversity should be understood as a variable, in the context of dynamically self-regulating management teams. The second is that teams are composed of sub-units in

which much of the team interaction takes place and dyadic interaction therefore appears a particularly important and a fruitful focus for future research.

8.4. Limitations of the Study

Numerous limitations of the study have been identified.

The emphasis on grounded theory building meant that the focus was not on the testing of theoretical insights detected or proposed. The results are derived from teams drawn from a small number of companies across a variety of business sectors in South Africa. The results cannot be generalised statistically to the general population of organisations. This could affect the direct theoretical contribution and practical application of the research. A mixed mode study with a theory building as well as a theory testing component would have addressed this concern and gone further to ensuring that the theoretical insights uncovered were verified in a form more conducive to generalisation.

The manner in which the grounded theory building was executed remained very close to the original research question. This meant that the more interesting findings related to flexible teams and dyadic interaction were not prioritised to the exclusion of other, relatively well researched aspects of the relationship between the composition of the team and innovative behaviour. Practitioners more seasoned in the major domains in the study, or experienced grounded theory builders may have chosen to deviate from the original research question in order to focus on the more novel findings. This might have led to a deeper theoretical understanding of these findings.

There are limitations arising from the manner in which the evidence was collected. Data was obtained from individual-level interviews only. During the course of the research it was realised that grounded theory building using interviews as the primary data capturing mechanism may not be the best means from which to obtain a deep, nuanced understanding of the working of business teams. Business teams occur naturally in real organisations operating in real time. They are practical entities, with defined timelines and responsibilities. They have little time or capacity for reflection on their own functioning or the deeper meaning of theoretical concepts. Observation of the team in operation could have enriched the research. Observation of management teams in action was, however, deemed to be impractical at the outset. With a focus on only select variables, it may nonetheless have been possible to use participant diaries

and direct observation to obtain data closer to the actual operation of the team. Participant observation, over time, involving detailed analysis of specific instances and events that cannot easily be verbalised should be considered as an alternative, or at least as a supplement or complement to individual interviews. Consideration however needs to be given to the likelihood that high level business management teams may not have had the time or inclination to indulge observation. There may also have been significant concerns about confidentiality.

The data was collected from individual interviews, rather than team interviews. The use of team-level data collection and analysis, in addition to individual interviews, could have enriched the data and added to the weight of the theoretical contribution. Even though group sessions may have been useful, considering that the team itself would have been the focus of discussion, highly skilled facilitation would have been required to prevent sessions from giving rise to conflict, especially when controversial themes or categories were discussed. It was therefore decided not to undertake data collection via team interviews.

This was a cross-sectional, retrospective study of innovative behaviour. Some aspects of the study could have benefited from longitudinal analysis of teams in the process of creating innovations. This would have allowed the activities and interactions among the team members to be more accurately captured and would have assisted in understanding the importance of the different forms of interaction that occurred in in teams, thereby improving understanding of how innovative ideas were developed. This would also have assisted in better understanding the nature of dyadic interactions in teams.

The researcher was the main instrument for both data collection and analysis in this research. Readers of this research should accordingly take cognisance that the researcher, as the primary research instrument, may have introduced bias, regardless of the processes followed to limit this. Great care was taken to ensure that best-practice grounded theory processes were followed, including coding, categorisation of information, creation of memos, comparison of team to team and team to codes, and the use of techniques such as the creation of comparative tables comparing each team with all other teams. Research at a post-doctoral level, with a team of researchers could provide for in-depth challenging and discussion of the findings, improving the prospects for the findings to be tested from the multiple perspectives of the different team members.

Racial or cultural diversity was limited in the teams studied. Despite the focus of the study on any forms of diversity, more racial differences in the teams could have led to increased relevance to the South African circumstances. The reality of the teams selected and available for this study was that such diversity was limited.

8.5. Implications for policy and practice

The empirical contributions of this study have a number of practical implications for policy, businesses, team supervisors, team leaders and team members. These are not restricted to the South African context.

Businesses and team supervisors that require innovative behaviour from teams need to create suitable conditions in the context of the team and within the team to encourage innovative behaviour to occur. For the team members to interact with each other tasks need to be planned and assigned such that there is task and goal interdependence between the team members. This will encourage team members to work together.

The company culture and environmental factors are important considerations for whether teams exhibit innovative behaviour. Team supervisors need to understand that some factors, such as customer or partner demands, the nature of the industry and the type of project the team is involved in cannot be changed easily. The environment may not be under the control of the company or the team leadership; however the company culture needs to be developed in order to reduce resistance to change, increase the desire of the company for innovation and the create a collectivist rather than individualistic culture in the organisation. These are however long term initiatives that, in the teams studied have taken many years to develop and may actually have started when the organisation was created, as occurred in two of the cases considered. Part of the culture of innovation that needs to exist in an organisation is tolerance for making mistakes. Risk taking has to be allowed. In a risk-averse environment, where change is not encouraged or wanted, innovative behaviour will not occur.

The environment within the team also needs to be managed. Inexperienced team members may need support in order to start to contribute on a par with other team members. Team development has to be allowed to proceed in order for the team

members to be comfortable, to feel safe in the team and to trust that other team members will not harm them. Frequent dyad conversations need to be encouraged, but these need to be monitored to ensure that they are to the benefit of the team. Individuals need to be encouraged to consider ideas carefully before submitting to team subsets or the entire team. Different ideas need to be listened to with the understanding that even silly ideas could have good facets and that these ideas could also trigger other more viable ideas. Team members can become easily aware that the leadership listens, but does not take into consideration what is being said. Team members are also able to detect that only certain team members are being taken into consideration. In light of this leaders need to ensure that they both listen and take what has been said into consideration and should be even handed in their treatment of the different team members. Team members should be chosen due to their capability to contribute to the team at an equal level and thus should be taken into consideration in the same manner.

A major influence on innovative behaviour in teams is team leaders and supervisors. Leadership needs to set high standards for the work performed by the team and the innovativeness of the products. The leadership also needs to energise the team members. Team members need to be bounded by time, cost and outcome requirements in order to progress with the development of innovative outcomes, but need to have latitude and space for divergent thought to take place. Team supervisors need to understand that innovative behaviour requires formal and informal components. Teams which are constrained by inflexible project plans are also unlikely to engage in team innovation.

Businesses need to be cognisant that innovation can occur on multiple levels in teams, and that teams provide enabling environments for all of these levels. Team level innovation, individual innovation and innovation from subsets of the team are possible.

Team supervisors need to enable different perspectives, knowledge and experience in the team by selecting team members with different backgrounds and experience, but should also ensure that the cognitive differences that exist in the team are highlighted and used. Leaders need to understand that teams do not need to execute everything themselves and that highly innovative teams have the ability to correct for deficiencies in the team by adding appropriate and possibly temporary team members. Teams thus do not need to remain static, but can be changed as required in order to be able to

best meet the requirements of each task the team needs to execute or problem that they need to solve.

There is evidence that companies that create a regular stream of ideas are able to use these ideas, possibly years in the future to assist in finding solutions for new situations. Thus in order for companies to facilitate innovative behaviour, they need to have encouraged creative thought and innovative behaviour in the past. This is virtually a self-fulfilling prophesy; companies that are innovative now will be innovative in the future.

Finally, team supervisors need to understand that a multitude of factors affect the operation of teams. Supervisors need to simultaneously keep aware of and influence a variety of factors in order to enable innovative behaviour to take place in teams.

8.6. Recommendations for future research

It is recommended that further grounded theory building research be conducted to further understand facets of the innovative behaviour in teams. More focussed research with multiple teams would allow a greater depth of understanding to be obtained on specific concepts.

Care needs to be taken in team based research to ensure that the teams selected for study have the necessary characteristics to operate as teams. There must be both task and goal interdependence in the teams. Individual components such as the importance of dyad discussions should be investigated in depth. The use of participant observation could aid in detecting the underlying processes that may not be verbalised by the interview participants. The longitudinal study of even a single team could enable factors such as the importance of team development to be investigated.

It is also recommended that theory testing research be conducted especially to obtain an understanding of the way in which flexibility of team composition over time affects the operation of a team. Flexible teams typically consist of a core group that is then extended to include additional skills that are required to accomplish the work that the team is tasked with. It is possible that such teams may need to be substantially homogenous, from a demographic, cognitive or personality perspective, in order to improve the cohesiveness of the core, whilst the extended team may be more diverse. Research which determines whether and to what extent these suggestions are valid

could help promote understanding of the optimal composition of the core and extended team. The model of flexible team operation should also be clarified further and tested empirically for validity.

The importance and value of the different forms of conversation that occur in teams would benefit understanding of the internal processes of teams. There is limited research that considers these interactions in a team context, although these could be the most important interactions in teams. Understanding the value of interactions could assist leadership of teams to make decisions on when to intervene in conflict situations between team members and whether to encourage dyad conversations.

Finally, further understanding of specific dimensions of cognitive and personality diversity and the effect of these on innovative behaviour is required. The bulk of the research on the impact of diversity on teams focuses on demographic diversity, with a paucity of research considering the effects of personality and cognitions differences. The supplementing of this research with a focus on other forms of diversity is thus required. Team member differences that lead to different role preferences and the effects of such preferences on team outcomes are another potential area for research.

This chapter has summarised the important methodological, empirical and theoretical contributions of the study, has considered the implications for business practice and has offered recommendations for future research. Human diversity, in all its forms, is a challenging reality in business and has an effect on the operation of teams. Demographic diversity appears to be less important than other forms of diversity, as well as a number of other influences on teams. Innovative behaviour, critical to the success of many businesses, depends largely and increasingly on teams. Made up of diverse individuals, these remain one of the most valuable organisational forms that enable innovation to occur.

9. REFERENCES

Abbott, J. B., Boyd, N. G., & Miles, G. (2006). Does type of team matter? An investigation of the relationships between job characteristics and outcomes within a team-based environment. *The Journal of Social Psychology, 146*(4), 485-507.

Ahuja, G. (2000). Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative Science Quarterly, 45*(3), 425-455.

Allen, N. J., & Hecht, T. D. (2004). The 'romance of teams': Toward an understanding of the psychological underpinnings and implications. *Journal of Occupational and Organizational Psychology, 77*, 439-461.

Amabile, T. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review, 40*(1), 39-58.

Amabile, T. M. (1983). *The Social Psychology of Creativity.* New York: Springer-Verlag.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal, 39*(5), 1154-1184.

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *The Academy of Management Journal, 39*(1), 123-148.

Ancona, D. G., & Caldwell, D. F. (1992). Demography and design: Predictors of new product team performance. *Organizational Science, 3*(3), 321-341.

Andreu, R., & Ciborra, C. (1996). Core capabilities and information technology: An organizational learning approach. In B. Moingeon, & A. Edmondson (Eds.), *Organizational Learning and Competitive Advantage.* London: Sage.

Angle, H. L. (1989). Psychology and organizational innovation. In A. H. Van de Ven, H. L. Angle, & M. S. Poole (Eds.), *Research on the management of innovation : the Minnesota studies.* New York: Harper & Row.

Aragon-Correa, J. A., Garcia-Morales, V. J., & Cordon-Pozo, E. (2007). Leadership and organizational learning's role on innovation and performance: Lessons from Spain. *Industrial Marketing Management, 36*, 349-359.

Argote, L., McEvily, B., & Reagans, R. (2003). Managing knowledge in organizations: An integrative framework and review of emerging themes. *Management Science, 49*(4), 571-582.

Atwater, L., & Carmeli, A. (2009). Leader-member exchange, feelings of energy, and involvement in creative work. *The Leadership Quarterly, 20*, 264-275.

Austin, J. R. (1997). A cognitive framework for understanding demographic influences in groups. *The International Journal of Organizational Analysis, 5*(4), 342-359.

Austin, J. R. (2003). Transactive memory in organizational groups: The effects of content, consensus, specilization, and accuracy in group performance. *Journal of Applied Psychology, 88*(5), 866-878.

Bantel, K. A. (1994). Strategic planning openness: The role of top team demography. *Group & Organization Management, 19*(4), 406-424.

Bantel, K. A., & Jackson, S. E. (1989). Top management and innovation in banking: Does the composition of the top team make a difference? *Strategic Management Journal, 10*, 107-124.

Barker, J. R. (1993). Tightening the iron cage: Concertive control in self-managing teams. *Administrative Science Quarterly*(38), 408-437.

Baron, R. S., & Kerr, N. L. (2003). *Group process, group decision, group action* (2nd ed. ed.). Buckingham: Open University Press.

Bassett-Jones, N. (2005). The paradox of diversity management, creativity and innovation. *Creativity and Innovation Management, 14*(2), 169-175.

Beesley, L. (2004). Multi-level complexity in the management of knowledge networks. *Journal of Knowledge Management, 8*(3), 71-88.

Bijlsam-Frankema, K., de Jong, B., & van de Bunt, G. (2008). Heed, a missing link between trust, monitoing and performance in knowledge intensive teams. *The International Journal of Human Resource Management, 19*(1), 19-40.

Binnewies, C., Ohly, S., & Sonnentag, S. (2007). Taking personal initiative and communicating about ideas: What is important for the creative process and for idea creativity? *European Journal of Work and Organizational Psychology, 16*(4), 432-455.

Blismas, N. G., & Dainty, A. R. (2003). Computer aided qualitative data analysis: panacea or paradox. *Building Research and Information, 31*(6), 455-463.

Bloch, H., & Kantang, S. H. (2001). The role of technical change and productivity growth in East Asian economic growth. *Progress in Developmental Studies, 1*(4), 329-336.

Borgatti, S. P., & Foster, P. C. (2003). The network paradigm in organizational research: A review and typology. *Journal of Management, 29*(6), 991-1013.

Bowers, C. A., Pharmer, J. A., & Salas, E. (2000). When member homogeneity is needed in work teams: A meta-analysis. *Small Group Research, 31*(3), 305-327.

Caldwell, D. F., & O'Reilly, C. A. (2003). The Determinants of team based innovation in organizations: The role of social influence. *Small Group Research, 34*(4), 497-517.

Camelo-Ordaz, C., Hernandez-Lara, A. B., & Valle-Cabrera, R. (2004). The relationship between top management teams and innovative capacity in companies. *Journal of Management Development, 24*(8), 683-705.

Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993). Relations between work group charateristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology, 46*(4), 823-849.

Cannon-Bowers, J. A., & Salas, E. (2001). Reflections on shared cognitions. *Journal of Organizational Behavior, 22*, 195-202.

Carson, J. B., Tesluk, P. E., & Marrone, J. A. (2007). Shared leadership in teams: An investigation of antecedent conditions and performance. *Academy of Management Journal, 50*(5), 1217-1234.

Casey, V. (2010). Developing trust in virtual software development teams. *Journal of Theoretical and Applied Electronic Commerce Research, 5*(2), 41-58.

Chan, B. (2005). From west to east: The impact of culture on personality and group dynamics. *Cross Cultural Management, 12*(1), 31-45.

Chan, D. W., & Zhao, Y. (2010). The relationship between drawing skill and artistic creativity: Do age and artistic involvement make a difference? *Creativity Research Journal, 22*(1), 27-36.

Charmaz, K. (2006). *Constucting Grounded Theory: A Practical Guide though Qualitative Analysis.* London: Sage Publications.

Chen, G., & Tjosvold, D. (2002). Cooperative goals and constructive controversy for promoting innovation in student groups in China. *Journal of Education for Business*, 46-50.

Chen, M., Chang, Y., & Hung, S. (2008). Social capital and creativity in R&D project teams. *R&D Management, 38*(1), 21-34.

Cheng, M. M., Luckett, P. F., & Schulz, A. K. (2003). The effects of cognitive style diversity on decision making dyads: An empirical analysis in the context of a complex task. *Behavioral Research in Accounting*, 39-62.

Cheng, Y., & Van De Ven, A. (1996). Learning the innovation journey: Order out of chaos? *Organizational Science, 7*(6), 593-614.

Chuang, L. (2005). An empirical study of the construction of measuring model for organizational innovation in Taiwanese high-tech enterprises. *The Journal of American Academy of Business*, 299-304.

Cini, M. A. (2001). Group newcomers: From disruption to innovation. *Group Facilitation*(3), 3-13.

Clinebell, S., & Stecher, M. (2003). Teaching teams to be teams: An exercise using the Myers-Briggs type indicator and the five factor personality traits. *Journal of Management Education, 27*(3), 362-383.

Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management, 23*(3), 239-290.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on innovation and learning. *Administrative Science Quarterly, 35*, 128-152.

Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons and evaluative criteria. *Qualitative Sociology, 13*(1), 3-21.

Corbin, J., & Strauss, A. (2008). *Basic of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd ed.). Los Angeles: Sage Publications.

Curral, L., Forrester, R. H., Dawson, J. F., & West, M. (2001). It's what you do and the way that you do it: Team task, team size, and innovation-related group processes. *European Journal of Work and Organizational Psychology*, 187-204.

Dainty, A. R., Bagilhole, B. M., & Neale, R. (2000). Computer aided analysis of qualitative data in construction management research. *Building Research & Information, 28*(4), 226-233.

Damanpour, F. (1991). Organisational innovation: A Meta-analysis of the effects of determinants and moderators. *Academy of Management Journal, 34*(3), 555-590.

Damanpour, F., & Schneider, M. (2006). Phases of the adoption of innovation in organizations: effects of environment, organization and top managers. *British Journal of Management, 17*, 215-235.

De Dreu, C. K. (2002). Team innovation and team effectiveness: The importance of minority dissent and reflexivity. *European Journal of Work and Organizational Psychology, 11*(3), 285-298.

De Dreu, C. K. (2006). When too little oor too much hurts: Evidence of a curvilinear relationship between task conflict and innovation in teams. *Journal of Management, 32*(1), 83-107.

De Dreu, C. K., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta analysis. *Journal of Applied Psychology, 88*(4), 741-749.

DeTienne, K. B., Dyer, G. D., Hoopes, C., & Harris, S. (2004). Toward a model of effective knowledge management and directions for future research: Culture, leadership and CKOs. *Journal of Leadership and Organizational Studies, 10*(4), 26-43.

Dewar, R. D., & Dutton, J. E. (1986). The adoption of radical and incremental innovations: An empiral analysis. *Management Science, 32*(11), 1422-1433.

Dornblaser, B., Lin, T., & Van de Ven, A. H. (1989). Innovation outcomes, learning and action loops. In A. .. Van de Ven, H. L. Angle, & M. S. Poole (Eds.), *Research on the management of innovation : the Minnesota studies* (pp. 193-217). New York: Harper & Row.

Drazin, R., & Schoonhoven, C. B. (1996). Community, population, and organizational effects of innovation: A multilevel perspective. *Academy of Management Journal, 39*(5).

Drazin, R., Glynn, M. A., & Kazanjian, R. K. (1999). Multilevel theorizing about creativity in organisations: a sensemaking perspective. *Academy of Management Review, 24*(2), 286-307.

Driver, M. (2003). Diversity and learning in groups. *The Learning Organization*.

Easterly, W. (2001). *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics.* Cambridge: MIT Press.

Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*(?), 350-383.

Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review, 32*(4), 1155-1179.

Edmondson, A. C., Roberto, M. A., & Watkins, M. D. (2003). A dynamic model of top management team effectiveness: managing unstructured task streams. *The Leadership Quarterly, 14*, 297-325.

Eisenhardt, K. (1989). Building theories from case study research. *Academy of Management Review, 14*(4), 532-550.

Eisenhardt, K. M. (1997). Strategic decisions and all that jazz. *Business Strategy Review, 8*(3), 1-3.

Eisenhardt, K. M., & Zbaracki, M. J. (1992). Strategic decision making. *Strategic Management Journal, 13*, 17-37.

Elsbach, K. M., & Hargadon, A. B. (2006). Enhancing creativity though "mindless" work: A framework of workday design. *Organization Science, 17*(4), 470-483.

Ely, R. J., & Thomas, D. A. (2001). Cultural diversity at work: The effects of diversity perspective on work group processes and outcomes. *Administrative Science Quarterly, 46*(2), 229-273.

Eubanks, D. L., Murphy, S. T., & Mumford, M. D. (2010). Intuition as an influence on creative problem solving: The effects of intuition, positive affect and training. *Creativity Research Journal, 22*(2), 170-184.

Fay, D., Borrill, C., Amir, Z., Haward, R., & West, M. (2006). Getting the most out of multidisciplinary teams: A multi-sample study of team innovation in health care. *Journal of Occupational and Organizational Psychology, 76*, 553-567.

Fischer, M. M. (2001). Innovation, knowledge creation and systems of innovation. *The Annuls of Regional Science, 35*, 199-216.

Florida, R., Cushing, R., & Gates, G. (2002). When social capital stifles innovation. *Harvard Business Review, 80*(8), 20-20.

Foldy, E. G., Rivard, P., & Buckley, T. R. (2009). Power, safety, and learning in racially diverse groups. *Academy of Management Learning & Education, 8*(1), 25-41.

Forbes, D. P. (2007). Reconsidering the strategic implications of decision comprehensiveness. *Academy of Management Review, 32*(2), 361-376.

Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management Review, 21*(4), 1112-1142.

Galanakis, K. (2006). Innovation process: Make sense using systems thinking. *Technovation, 26*(2), 1222-1232.

Garcia-Morales, V. J., Llorens-Montes, F. J., & Verdu-Jover, A. J. (2006). Antecedents and consequences of organisation innovation and learning in entrepreneurship. *Industrial Management & Data Systems, 106*(1), 21-42.

Ghoshal, S. (2005). Bad management theories are destroying good management practices. *Academy of Management Learning and Education, 4*(1), 75-91.

Gibson, C. B., & Gibbs, J. L. (2006). Unpacking the concept of virtuality: The effects of geographic Dispersion, electronic dependence, dynamic structure, and national diversity on team innovation. *Administrative Science Quarterly, 51*, 451-495.

Gilson, L. L., & Shalley, C. E. (2004). A little creativity goes a long way: An examination of teams' engagement in creative process. *Journal of Management, 30*(4), 453-470.

Glaser, B. G. (1992). *Basics of Grounded Theory Analysis: Emergence Vs. Forcing.* Mill Valley: Sociology Press.

Glaser, B. G. (2002). Conceptualisation: On theory and theorizing using grounded theory. *International Journal of Qualitative Methods, 1*(2), 1-31.

Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Theory: strategies for qualitative research.* New Brunswick: AldineTransaction.

Goulding, C. (2002). *Grounded Theory: A practical guide for management, business and market researchers.* London: Sage Publications Ltd.

Guzzo, R. A., & Dickson, M. W. (1996). Teams in organizations: recent research on performance and effectiveness. *Annual Review of Psychology, 47*, 307-338.

Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of Management Review, 32*(2), 334-343.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*(2), 193-206.

Hambrick, D. C., Cho, T. S., & Chen, M. (1996). The influence of top management team heterogeneity on firms' competitive moves. *Administrative Science Quarterly, 41*(4), 659-684.

Hannah, S. T., & Lester, P. B. (2009). A multilevel approach to building and leading learning organizations. *The Leadership Quarterly*, 34-48.

Henderson, R. M., & Clark, K. B. (1990). Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms. *Administrative Science Quarterly, 35*, 9-30.

Hennessey, B. A., & Amabile, T. M. (1988). The conditions of creativity. In R. J. SternBerg (Ed.), *The Nature of Creativity.* Cambridge: Cambridge University Press.

Hennessey, B. A., & Amabile, T. M. (2010). Creativity. *Annual Review of Psychology, 61*, 569-598.

Henning, E., Van Rensburg, W., & Smit, B. (2004). *Finding your way in qualitative research.* Pretoria: Van Schaik.

Henrich, G. R. (2007). Exploration and exploitation in product innovation. *Industrial and Corporate Change, 16*(5), 945–975.

Hirst, G. (2009). Effects of membership change on open discussion and team performance: The moderating role of team tenure. *European Journal of Work and Organizational Psychology, 18*(2), 231-249.

Hirst, G., & Mann, L. (2004). A model of R&D leadership and team communication: The relation with project performance. *R&D Management, 34*(2), 147-160.

Hoegl, M., Gibbert, M., & Mazursky, D. (2008). Financial constraints in innovation projects: When less is more? *Research Policy, 37*, 1382-1391.

Horwitz, S. K. (2005). The compositional impact of team diversity on performance: Theoretical considerations. *Human Resource Development Review, 4*(2), 219-245.

House, R. J., Quigley, N. R., & De Luque, M. S. (2010). Insights from project GLOBE: Extending global advertising research through a contemporary framework. *International Journal of Advertising, 29*(1), 111-139.

Hussey, J., & Hussey, R. (1997). *Business Research: A practical guide for undergraduate and postgraduate students.* Houndmills: Palgrave.

Hussi, T. (2004). Reconfiguring knowledge management - combining intellectual capital, intangible assets and knowledge creation. *Journal of Knowledge Management, 8*(2), 36-52.

Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input-process-output models to IMOI models. *Annual Review of Psychology, 56*(1), 517-534.

Isen, A. M. (2001). An influence of positive affect on decision making in complex situations: Theoretical issues with practical implications. *Journal of Consumer Psychology, 11*(2), 75-85.

Janssen, O. (2003). Innovative behaviour and job involvement at the price of conflict and less satisfactory relations with co-workers. *Journal of Occupational and Organizational Psychology, 76*, 347–364.

Janssen, O., Van De Vliert, E., & West, M. (2004). The bright and dark sides of individual and group innovation: as Special Issue introduction. *Journal of Organisational Behavior, 25*, 129-145.

Jehn, K. A. (1996). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly, 40*(2), 256-282.

Jehn, K. A., & Bezrukova, K. (2004). A field study of group diversity, workgroup context, and performance. *Journal of Organizational Behaviour, 25*, 703-729.

Jehn, K. A., & Bezrukova, K. (2010). The faultline activation process and the effects of activated faultlines on coalition formation, conflict, and group outcomes. *Organizational Behavior and Human Decision Processes, 112*, 24-42.

Jehn, K. A., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal, 44*(2), 238-251.

Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Adminitrative Science Quarterly, 44*(4), 741-763.

Johnson-Laird, P. N. (1988). Freedom and constraint in creativity. In R. J. Sternberg (Ed.), *The Nature of Creativity.* Cambridge: Cambridge University Press.

Jones, J. E., & Bearley, W. L. (2001). Facilitating team development: A view from the field. *Group Facilitation, 3*, 56-65.

Katz, R. (1982). The effects of group longevity on project communication and performance. *Administrative Science Quarterly, 27*, 81-104.

Keinan, G., & Koren, M. (2002). Teaming up type As and Bs: The effects of group compositon on performance and satisfaction. *Applied Psychology: An International Review, 51*(3), 425-445.

Kijkuit, B., & Van den Ende, J. (2007). The organizational life of an idea: Integrating social network, creativity and decision-making perspectives. *Journal of Management Studies, 44*(6), 863-882.

Kilduff, M., Angelmar, R., & Mehra, A. (2000). Top management team diversity and firm performance: Examining the role of cognitions. *Organizational Science, 11*(1), 21-34.

Kisfalvi, V., & Pitcher, P. (2003). Doing what feels right: The influence of CEO character and emotions on top management team dynamics. *Journal of Management Inquiry, 12*(1), 42-66.

Kratzer, J., Leenders, T. A., & Van Engelen, J. M. (2006). Team polarity and creative performance in innovation teams. *Creativity and Innovation Management, 15*(1), 96-104.

Langfred, C. W. (2007). The downside of self-management: A longitudinal study of the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. *Academy of Management Journal, 50*(4), 885-900.

Lapadat, J. C. (2000). Problematizing transcription: purpose, paradigm and quality. *Int. J. Social Research Methodology, 3*(3), 203-219.

Lattimer, R. L. (1998). The case for diversity in global Business, and the impact of diversity on team performance. *Competitiveness Review, 8*(2), 3-17.

Lau, D. C., & Murnighan, J. K. (1998). Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Academy of Management Review, 23*(2), 325-340.

Laverty, S. (2003). Hermeneutic phenomenology and phenomenology: A comparison of historical and methodological considerations. *International Journal of Qualitative Methods, 2*(3), 1-29.

Leenders, R., Engelen, J. L., & Kratzer, J. (2003). Virtuaility, communications and new product team creativity: a social network perspective. *Journal of Engineering and Technology Management, 20*, 69-92.

Leonard, D., & Sensiper, S. (1998). The role of tacit knowledge in group innovation. *California Management Review, 40*(2), 112-131.

Leonard, N. H., Beauvais, L. L., & Scholl, R. W. (2005). A multi-level model of group cognitive style in strategic decision making. *Journal of Managerial Issues, 17*(1), 119-138.

Leonard-Barton, D. (1990). A dual methodology for case studies: synergistic use of longitudinal single site with replicated multiple sites. *Organizational Science, 1*(3), 248-266.

Lester, S. W., Meglino, B. M., & Korsgaard, M. A. (2002). The antecedents and consequences of group potency: A longitudinal investigation of newly formed work groups. *Academy of Management Journal, 45*(2), 352-368.

Lindgren, R., Stenmark, D., & Ljungberg, J. (2003). Rethinking competence systems for knowledge-based organizations. *European Journal of Information Systems, 12*, 18-29.

Locke, K. (2001). *Grounded theory in management research.* London: Sage Publications.

Malhotra, A., & Majchrzak, A. (2004). Enabling knowledge creation in far-flung teams: Best practices for IT support and knowledge sharing. *Journal of Knowledge Management, 8*(4), 75-88.

Mathieu, J. E., Maynard, M. T., & Rapp, T. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management, 34*(3), 410-476.

McAdam, R. (2004). Knowledge creation and idea generation: a critical quality perspective. *Technovation, 24*, 697-705.

Miles, M. B. (1979). Qualitative data as an attrative nuisance: The problem of analysis. *Administrative Science Quarterly, 24*, 590-601.

Miller, C. C., Burke, L. M., & Glick, W. H. (1998). Cognitive Diversity among upper-echelon executives: Implications for strategic decision processes. *Strategic Management Journal, 19*(1), 39-58.

Miller, C. C., Cardinal, L. B., & Glick, W. H. (1997). Retrospective reports in organizational research: A reexamination of recent evidence. *Academy of Management Journal, 40*(1), 189-204.

Milliken, F. J., & Martins, L. L. (1996). Searching for common threads: Understanding the multiple effects of diversity on organizational groups. *Academy of Management Review, 21*(2), 402-433.

Mintzberg, H. (1979). An emerging strategy of "direct" research. *Administrative Science Quarterly, 24*, 582-589.

Mitchell, R., Nicholas, S., & Boyle, B. (2009). The role of openness to cognitive diversity and group processes in knowledge creation. *Small Group Research, 40*(5), 535-554.

Mohamed, M. A. (2002). Assessing determinants of departmental innovation. *Personal Review, 31*(5).

Mohammed, S., & Dumville, B. C. (2001). Team mental models in a team knowledge framework: Expanding theory and measurement across disciplinary boundaries. *Journal of Organizational Behavior, 22*, 89-106.

Mohammed, S., Ferzandi, L., & Hamilton, K. (2010). Metaphor no more: A 15-year review of the team mental model construct. *Journal of Management, 36*(4), 876-910.

Moreland, R. L. (2010). Are dyads really groups? *Small Group Research, 41*(2), 251-267.

Mumford, M. D. (2000). Managing creative people: strategies and tactics for innovation. *Human Resource Management Review, 10*(3), 313-351.

Nelson, R. R., & Wright, G. (1992). The rise and fall of American technological leadership: The postwar era in historical perspective. *Journal of Economic Literature*, 1931-1964.

Nemeth, C., & Chiles, C. (1988). Modelling courage: The role of dissent in fostering independence. *European Journal of Social Psychology, 18*, 275-280.

Nonaka, I., & Konno, N. (1998). The concept of "Ba": building a foundation for knowledge creation. *California Management Review, 40*(3), 40-53.

O'Conner, G. C., & McDermott, C. M. (2004). The human side of radical innovation. *Journal of Engineering and Technology Management, 21*, 11-30.

Olson, B. J., Parayitam, S., & Bao, Y. (2007). Strategic decision making: The effect of cognitive diversity, conflict, and trust on decision outcomes. *Journal of Management, 33*(2), 196-222.

Page, J. R., & Wiersema, M. F. (1992). Entrepreneurial strategies and radical innovation: A punctuated disequilibrium approach. *Journal of High Technology Management Research, 3*(1), 65-81.

Paulus, P. B. (2000). Groups, teams and creativity: The creative potential of idea-generating groups. *Applied Psychology: An International Review, 49*(2), 237-262.

Paulus, P. B. (2002). Different ponds for different fish: A contrasting perspective on team innovation. *Applied Psychology: An International Review*, 394-399.

Pearce, C. L., & Ensley, M. D. (2004). A reciprocal and longitudinal investigation of the innovation process: The central role of shared vision in product and process innovation teams (PPITs). *Journal of Organizational Behavior, 25*, 259-278.

Pelled, L. H. (1996). Demographic diversity, conflict, and work group outcomes: An intevening process theory. *Organizational Science, 7*(6), 615-631.

Pelled, L. H., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict and performance. *Administrative Science Quarterly, 44*(1), 1-28.

Perez-Freije, J., & Enkel, E. (2007). Creative tension in the Innovation Process: How to Support the Right Capabilities. *European Management Journal, 25*(1), 11-24.

Perry-Smith, J. E., & Shalley, C. E. (2003). The social side of creativity: a static and dynamic social network perspective. *Academy of Management Review, 28*(1), 89-106.

Peterson, R. S., Owens, P. D., Tetlock, P. E., Fan, E. T., & Martorane, P. (1998). Group dynamics in top management teams: Groupthink, vigilance, and alternative models or organisational failure and success. *Organizational behavior and human decision processes, 73*(2/3), 272-305.

Peterson, R. S., Smith, D. B., Martorana, P. V., & Owens, P. D. (2003). The Impact of the Chief Executive Officer Personality in Top Management team Dynamics: One mechanism by which Leadership affects Organizational Performance. *Journal of Applied Psychology, 88*(2), 795-808.

Pirola-Merlo, A., & Mann, L. (2004). The relationship between individual creativity and team creativity: aggregating across people and time. *Journal of Organizational Behavior, 25*, 235-257.

Pitcher, P., & Smith, A. D. (2001). Top management team heterogeneity: Personality, power and proxies. *Organization Science, 12*(1), 1-18.

Poland, B. D. (1995). Transcription Quality as an Aspect of Rigor in Qualitative Research. *Qualitative Enquiry, 1*, 290-309.

Polzer, J. T., Crisp, C. B., Jarvenpaa, S. L., & Kim, J. W. (2006). Extending the faultline model to geographically dispersed teams: How colocated subgroups can impair group functioning. *Academy of Management Journal, 49*(4), 679-692.

Popadiuk, S., & Choo, C. W. (2006). Innovation and knowledge creation: How are these concepts related? *International Journal of Innovation Management, 26*, 302-312.

Reagans, R., & Zuckerman, E. W. (2001). Networks, diversity, and productivity: The social capital of corporate R&D teams. *Organization Science, 12*(4), 502-517.

Reagans, R., Zuckerman, E., & McEvily, B. (2004). How to make the team: Social networks vs. demography as criteria for designing effective teams. *Administrative Science Quarterly, 49*, 101-133.

Reinmoeller, P. (2004). The knoweldge based view of the firm and upper echelon theory: Exploring the agency of TMT. *International Journal of Learning and Intellectual Capital, 1*(1), 91-104.

Reiter-Palmon, R., & Illies, J. J. (2004). Leadership and creativity: Understanding leadership from a creative problem-solving perspective. *The Leadership Quarterly, 15*, 55-77.

Richard, O. C. (2000). Racial diversity, business strategy, and firm performance: A resource-based view. *Academy of Management Journal, 43*(2), 164-177.

Richard, O. C., & Shelor, R. M. (2002). Linking top management team age heterogeneity to firm performance:juxtaposing two mid-range theories. *International Journal of Human Resource Management, 13*(6), 95S--974.

Richard, O. C., Barnett, T., Sean, D., & Chadwick, K. (2004). Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Academy of Management Journal, 47*(2), 255-266.

Rogers, E. M. (1995). *Diffusion of Innovations* (3rd ed.). New York: The Free Press.

Romer, P. (1990). Why, indeed, in America? Theory, history and the origins of modern economic growth. *American Economic Review, 86*(2), 202–206.

Schank, R. C. (1988). Creativity as a mechnical process. In R. Sternberg (Ed.), *The Nature of Creativity.* Cambridge: Cambridge University Press.

Schippers, M. C., Den Hartog, D. N., & Koopman, P. L. (2007). Reflexivity in teams: A measure and correlates. *Applied Psychology: An International Review, 56*(2), 189-211.

Schroeder, R. G., Van de Ven, A. H., Scudder, G. D., & Polley, D. (1989). The development of innovation ideas. In A. H. Van de Ven, H. L. Angle, & M. S. Poole (Eds.), *Research on the management of innovation : the Minnesota studies.* New York: Harper& Row.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behaviour: A path model of individual innovation in the workplace. *Academy of Management Journal, 37*(3), 580-607.

Sethi, R., Smith, D. C., & Park, C. W. (2002). How to kill a team's creativity. *Harvard Business Review*, 16-17.

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly, 15*, 33-53.

Simmons, O. E. (1995). Using grounded theory in the managing diversity context. In B. G. Glaser (Ed.), *Grounded Theory: 1984-1994* (Vol. 2, pp. 687-698). Mills Valley: Sociology Press.

Simons, T., Pelled, L. H., & Smith, K. A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal, 42*(6), 662-673.

Skarzynski, P., & Gibson, R. (2008). *Innovation to the Core : A blueprint for transforming the way your company innovates.* Boston: Harvard Business Press.

Smith, G. (2001). Group development: A review of the literature and a commentary on future research directions. *Group Facilitation*(3), 14-44.

Smith, K. G., Smith, K. A., Olian, J. D., Sims., H. P., O'Bannon, D. P., & Scully, J. A. (1994). Top management team demography and process: The role of social integration and communication. *Administrative Science Quarterly*, 412-438.

Sorenson, O. (2003). Social networks and industrial geography. *Journal of Evolutionary Economics, 13*, 513-527.

Stander, M. (2003). Understanding work teams. In S. P. Robbins, A. Odendaal, & G. Roodt, *Organisational Behaviour: Global and South African Perspectives* (pp. 199-215). Cape Town: Pearson Education South Africa.

Stenmark, D. (2003). Knowledge creation and the web: Factors indicating why some intranets succeed where others fail. *Knowledge and Process Management, 10*(3), 207-216.

Tagger, S. (2002). Individual creativity and group ability to utilize individual creative resources: A multilevel model. *Academy of Management Journal, 45*(2), 315-330.

Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology, 33*, 1-39.

Tardif, T. Z., & Sternberg, R. J. (1988). What do we know about creativity? In R. J. Sternberg (Ed.), *The Nature of Creativity: Contemporary psychological perspectives* (pp. 429-440). Cambridge: Cambridge University Press.

Taylor, A., & Greve, H. R. (2006). Superman or the fantastic four? Knowledge combination and experience in innovative teams. *Academy of Management Review, 49*(4), 723-740.

Thomas, D. A., & Ely, R. J. (1996). Diversity as strategy. *Harvard Business Review, 75*(4), 79-90.

Thompson, L, & Walker, A. J. (1982). The dyad as the unit of analysis: Conceptual and methodological issues. *Journal of marriage and the family*, 889-899.

Tjosvold, D. (1998). Cooperative and competitive goal approach to conflict: Accomplishment and challenges. *Applied Psychology: An International Review, 47*(3), 285-313.

Townsend, A. M., & Scott, K. D. (2001). Team racial composition, member attitudes, and performance: A field study. *Industrial Relations, 40*(2), 317-337.

Trimmer, K. J., Domino, M. A., & Blanton, J. E. (2002). The impact of personality diversity on conflict in ISD teams. *Journal of Computer Information Systems, 42*(4), 7-14.

Tsoukas, H. (1989). The validity of ideagraphic research explanations. *Academy of Management Review, 14*(4), 551-561.

Tsui, A. S., Egan, T. D., & O'Reilly, C. A. (1992). Being different: Relational demography and organisational attachment. *Administrative Science Quarterly, 37*, 549-579.

Tsui, A. S., Porter, L. W., & Egan, T. D. (2002). When both similarities and dissimilarities matter: Extending the concept of relational demography. *Human Relations, 55*(8), 899-929.

Tuckman, B. W. (1965). Development sequence in small groups. *Psychological Bulletin, 63*(6), 384-399.

Van De Ven, A. H. (1986). Central problems in the management of innovation. *Management Science, 32*(5), 590-607.

Van De Ven, A. H. (2007). *Engaged Scholarship: A Guide for Organizational and Social Research.* Oxford: Oxford University Press.

Van Der Vegt, G. S., & Janssen, O. (2003). Joint impact of interdependence and group diversity on innovation. *Journal of Management, 29*(5), 729-751.

Van Ginkel, W. P., & Van Knippenberg, D. (2008). Group information elaboration and group decision making: The role of shared task representations. *Organizational behavior and human decision processes, 105*, 82-97.

Van Knippenberg, D., & Schippers, M. C. (2007). Work group diversity. *Annual Review of Psychology, 58*(1), 515-541.

Van Knippenberg, D., De Dreu, C. K., & Homan, A. C. (2004). Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology, 89*(6), 1008-1022.

Van Mierlo, H., Rutte, C. G., Seinen, B., & Kompier, M. (2001). Autonomous teamwork and psychological well-being. *European Journal of Work and Organizational Psychology, 10*(3), 291-301.

Van Mierlo, H., Rutte, C. G., Vermunt, J. K., Kompier, M. A., & Doorewaard, J. A. (2006). Individual automony in work teams: The role of team autonomy, self efficacy, and social support. *European Journal of Work and Organizational Psychology, 15*(3), 281-299.

Vandenbosch, B., Saatcioglu, A., & Fay, S. (2006). Idea management: A systemic view. *Journal of Management Studies, 43*(2), 259-288.

Vasquez, I. (2002). Globalisation and the Poor. *Independent Review, 7*(2), 197-2006.

Vera, D., & Crossan, M. (2005). Improvisation and innovative performance in teams. *Organization Science, 16*(3), 203-224.

Wallas, G. (1926). *The Art of Thought.* London: Jonathan Cape.

Watson, W. E., Kumar, K., & Michaelson, L. K. (1993). Cultural diversity's impact on interaction process and performance: Comparing homogeneous and diverse task groups. *Academy of Management Journal, 36*(3), 590-602.

Webber, S. S., & Donahue, L. M. (2001). Impact of highly and less job-related diversity on work group cohesion and performance: A meta analysis. *Journal of Management, 27*, 141-162.

Wells, W. P., & Pelz, D. C. (1966). Groups. In D. C. Pelz, & F. M. Andrews, *Scientists in Organizations: Productive Climates for Research and Development* (pp. 240-260). New York: John Wiley and Sons, Inc.

Wendt, H., Euwema, M. C., & Van Emmerik, I. J. (2009). Leadership and team cohesiveness across cultures. *The Leadership Quarterly, 20*, 358-370.

West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied psychology: An international review, 51*(3).

West, M., Hirst, G., Richter, A., & Shipton, H. (2004). Twelve steps to heaven: Successfully managing change through developing innovative teams. *European Journal of Work and Organizational Psychology, 13*(2), 269-299.

Williams, K. Y., & O'Reilly, I. C. (1998). Demography and diversity in organizations. In B. M. Staw, & L. L. Cummings, *Research in Organizational Behavior* (Vol. 20, pp. 77-140). London: Jai Press Inc.

Woodman, R. W., Sawyer, J. E., & Griffen, R. W. (1993). Towards a theory of organizational creativity. *Academy of Management Review, 18*(2), 293-321.

Yin, R. K. (1981). The case study crisis: Some answers. *Administrative Science Quarterly, 26*, 58-65.

Yin, R. K. (2003). *Case Study Research: Design and Methods* (3rd ed.). Thousand Oaks: Sage Publications.

Zaccaro, S. J., Rittman, A. L., & Marks, M. A. (2001). Team leadership. *The Leadership Quarterly, 12*, 451-483.

Zheng, W. (2006). Social capital and innovation - A synthesis and directions for research. *Academy of Management Proceedings*, V1-V6.

Ziv, M., & Keydar, E. (2009). The relationship between creative potential, aesthetic response to music, and musical preferences. *Creativity Research Journal, 21*(1), 125-133.