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I Introduction

This chapter includes the background, problem description, purpose, research questions, delimitations and definition of basic concepts used in the thesis.

I.1 Background

Over the past years, with the new transaction channel of Internet, the e-commerce market in China has entered into a rapid developmental stage. In 2013, according to the data released by iResearch, the gross Merchandise Volume (GMV) of the Chinese e-commerce market amounted to 9.9 trillion Yuan and by 2017 it is expected to be creeping towards 21.6 trillion Yuan¹. (iResearch, 2014a). At 2013, the GMV of China online shopping reached 1,850 billion Yuan and grew by 42% during that year. The ratio of online shopping GMV of sales of social retail goods increased to 7.7% from 6.2% by 2012 (iResearch, 2013c). Obviously, the China online shopping market gained bigger share, compared with the previous year and kept a significant growth because the mature online shopping market was favoured by users (iResearch, 2014a).

On the other hand, China's Internet population continues to grow at a fast pace. By the end of June 2013, the number of Internet users in China had reached 591 million (CNNIC, 2013). Along with the online shopping's rise and an increasing number of Internet users, the online payment market grows rapidly. Online payment serves as a main payment solution used in the online shopping process in China. Statistics from iResearch show that 78.1% of Chinese online payment users chose to pay online directly through e-banks in 2012. Among them, 41.3% of the users chose e-banks most frequently; followed by third-party payment service users, among whom, 61.3% paid through third-party platforms, and 29.7% of users chose third-party payment most frequently (iResearch, 2013b). It is observed that the third-party payment system has become an important part of online payment, occupying a large market. According to iResearch statistics the transaction amount reached 5.4 trillion Yuan in China third-party online payment market, increasing by 46.8% in 2013 (iResearch, 2014b). For now, third-party payment platforms are mainly used for consumer-to-consumer (C2C) retailing, and it has been gradually promoted in the business-to-consumer (B2C) and business to business (B2B) fields. A total of 250 institutions have received third party payment licenses since the People's Bank of China issued the first one in May 2011 (Liu, 2013).

In 2003, when China's e-commerce market was just emerging, due to lack of Certificate Authority or identity authentication it was impossible to identify the parties involved in the e-commerce transactions in China (Wang, 2002). To overcome this, the enterprise Alibaba launched the payment platform Alipay, suitable to the conditions of China. Before the emergence of Alipay, the seller felt reluctant to ship his goods to the buyer in most cases until the buyer had effected payment. With the participation of the third party in Alipay, this practice greatly reduced the risk of the e-transactions and relieved the buyer of his concern over the failure of the delivery or the delivery of fake and faulty products (Wang & Lim, 2011). Launched in 2004, Alipay is a subsidiary of Alibaba Group, it is a commonly used third-party online payment solution in China. Alipay provides an escrow payment service that reduces transaction risks for online consumers. Shoppers have the ability to verify whether they are content with the goods bought before releasing funds to the seller. In May 2011, Alipay acquired the license for third-party payment services issued by the People's Bank of China, which allows it to run businesses including online payment, mobile phone payment,

¹ The exchange rate of Yuan is equal to SEK.

prepaid card issuance and processing (top-up of real-name payment accounts only), and acquiring services (Alipay, 2013).

1.2 Problem

The implementation of the third party payment platform would be an effective solutions to Chinese e-business monetary transactions (Nie, 2007). The third-party payment in C2C e-commerce transactions play a constructive role in promoting online shopping (Zhu, 2008). Third-Party online payment system can be used in campus commerce (Wu, 2010; Zhen & Cheng, 2010) and in South Pacific Islands as well (Liang & Dai, 2009). Previous researcher has found that third-party online payment has many risks in use, like political, economic, social and technological risk (Guoling & Shanshan, 2009). The legal risks and financial risks are especially serious (Feng et al., 2008; Huo et al., 2011). Hence, it will be necessary to prevent and control risks in third-party online payment (Zhao & Sun, 2012). The improved Three Domain (3D) secure protocol and payment authentication model was proposed to guarantee Business-to-Customer (B2C) transactions (Liu et al., 2005). A new online payment model of the third-party payment based on the collaborative management method can reduce the online payment risk (Meng & Huang, 2012).

There is limited research to figure out the factors that affect the user adoption of third party online payment. Song et al. (2009) evaluated the impact of college students using a third party payments The results show that the major impact factors influencing college students use of a third party online payment model were technical facilities, subjective norm, security, awareness, trust and synergy. Thus, the result of this study will be contributing to fill the knowledge gap about user acceptance study of third-party online payment service, and future development of other third-party online payment providers could also benefit from this study.

After an impressive growth of the third party online payment market in China's C2C market (iResearch, 2013a), C2C market gets saturated for these third party payment providers. As a result, many third party online payment providers are starting to focus on B2C and B2B market in order to promote third party online payment services. However, this has brought about more challenges for them. About 70% of all online purchases made on China's B2C sites are settled by COD (Cash on delivery) (Erickson, 2012), rather than third-party online payment. Many B2C consumers still maintain a wait-and-see attitude toward third-party online payment. Therefore, it is necessary for third-party payment providers, like Alipay, to know what factors will support or hinder users from accepting third-party online payment in order to accomplish further spread of third party online payment.

1.3 Purpose

In this master thesis, the purpose mainly is to explain users' acceptance of Alipay in a Chinese B2C context. The authors will leverage the Unified Theory of Acceptance and Use of Technology (UTAUT) as a theoretical basis to analyse what factors that could affect intention to use of Alipay among China's B2C customer. The authors will develop a research model based on UTAUT, including a number of hypotheses. The hypotheses will be tested by means of a questionnaire, which will be analysed statistically.

According to the research results, recommendations will be made to Alipay and other third-party online payment providers in order to increase user acceptance.

1.4 Research questions

The purpose of this Master Thesis can be summarized with the next research questions:

- What are the factors that affect the customers' acceptance of Alipay in China's B2C context?
- How can the customers' acceptance of Alipay in China's B2C context be improved?

1.5 Delimitations

Our work will have several delimitations. Firstly, there are a lot of online payment system in the world, but in this thesis, our main object of study is Alipay, and the main users of this service are only in China, so the survey of this research will be conducted in China only.

Secondly, the users of the Alipay online payment system are mainly young people. The sample of the survey will mainly focus on young people.

1.6 Definition

Payment service provider (online payment system): Payment service provider is a kind of facility which can manage the transfer of money from a customer's account to the merchant of an e-commerce Web site. The funds may come from a digital wallet inside the user's machine, from a credit card stored on a server of the digital wallet service or from a prepaid account stored in the payment service's server (Rumsewicz, 1999).

Internet escrow (Third-part payment system): Internet escrow it was one kind of method and system where a trusted third party handles an escrow transaction between two or more parties according to specific instructions. The Internet escrow works by placing money in the control of an independent and licensed third party in order to protect both buyer and seller in a transaction (Kanaga, 2002).

Customer to customer (C2C): customer-to-customer (C2C) markets are one kind of innovative ways which can allow customers to mutual transaction with each other, C2C play the role of interaction in shaping service experience (Libai et al., 2010).

Business-to-business (B2B): B2B is the commercial transactions between an organization and other organizations, B2B commerce transactions between businesses, such as between a manufacturer and a wholesaler, or between a wholesaler and a retailer (Chesher et al., 2003).

Business-to-consumer (B2C): B2C is a marketing strategy that involves a transaction of goods and services between the enterprise and consumer markets. There has been a phenomenal growth in business-to-consumer (B2C) electronic commerce since the commercialization of the Internet in early 1990s (Ranganathan & Ganapathy, 2002).

Alipay: "Alipay is an online payment service provider. Founded by the Alibaba group, it allows individuals and businesses to execute payments online in a secure manner. Alipay's users are primarily buyers and sellers engaging in e-commerce transactions. With a registered user base of approximately 43.5 million as of June 2007, Alipay is an accepted online payment method for many online retail websites and service providers in China. Clearly, it is also the main payment online payment on sister site Taobao". (Alipay, 2014)

E-commerce: E-commerce in the broad sense refers to commercial activities conducted via electronic devices and in the narrow sense to various commercial activities conducted on the basis of computer network, including the behaviours of all related parties such as goods- and services-providers, advertisers, consumers, intermediate traders, etc. E-commerce in this thesis refers to the latter (Reynolds, 2004).

B2B E-commerce: B2B e-commerce in this thesis mainly refers to transactions conducted among companies via third-party B2B e-commerce platforms (Cunningham, 2002).

Online Shopping: It refers to the process in which products or services are transferred from merchants/sellers to individual users (consumers) through the Internet. During the whole process, as long as the Internet is involved in cash flow, logistics or information flow, the activity can be called online shopping (Flick, 2009).

Gross merchandise volume (GMV): *"GMV is a term used in online retailing to indicate a total sales dollar value for merchandise sold through a particular marketplace over a certain time frame. Popular online retail sites like MercadoLibre, eBay, Overstock.com, and Google Checkout commonly use this term in place of sales or revenue. Site revenue comes from fees and is different from the dollar value of items sold."* (Plunkett, 2009)

2 Frame of references

The frame of reference is divided into three sections. The first section provides an overview of previous research on third-party online payment, and also Alipay. The second section introduces a framework for the analysis of the empirical findings, by applying the Unified Theory of Acceptance and Use of Technology model (UTAUT), then introducing the theory of service quality and perceived risk in order to create the theoretical foundation for the study. In the third section, the research model is described and the hypotheses are presented.

2.1 Third-party online payment related theoretical review

With the development of e-commerce, the third-party payment platform also develops fast. Currently, there are many well-known third-party payment platforms in the world. Paypal is one of the most third-party payment platforms and has supported more than 193 regions. The number of registered users are more than two hundred and fifty million (Paypal, 2014). Currently, PayPal is the world's largest online payment provider. Learning from the successful experience of Paypal, China has a large number of businesses that have been involved in the field of third-party payment, such as: tenpay, Alipay, Baifubao, Chinapnr, yeepay etc. The emergence of third-party online payment platforms accelerate the development of online payment and e-commerce.

2.1.1 Research status of online payment

In this section, research on online payment outside and inside of China will be presented.

(1) Online payment systems internationally

Compared with China, developed countries have a relatively high degree of information systems, the third-party online payment credit systems. Also, the market system, and the political and legal are more developed. Currently, in third-party online payment research, scholars, mainly focus on safety certification, market supervision, integrity and perceived risk, etc.

In terms of safety certification, Visa (Visa International Service Association) and Master Card, these two major international credit card organizations introduced an e-commerce agreement; SET (Secure Electronic Transaction), its safety performance is better than that of the previous Secure Socket Layer (SSL) system. Noteberg and Wallag studied the impact of third-party certification of building trust. They found that the existence of a third-party certification affects the purchase intention of online consumers (Noteberg et al., 1999).

Regarding integrity, Vulkan (2009) studied transaction intermediary and integrity of the transaction in the online payment system, The results showed that strategy transaction intermediary affects the choice of buyers. In terms of perceived risk, Solomon Antony and Bo (2001) used an experimental economics method to research the factors which impact intermediary service (Antony et al., 2001).

Recently, scholars mainly focus on user intentions in online banking rather than third-party online payment. Chan and Lu (2004) examined the factors that affect user adoption of online banking in Hongkong through leveraging the structural equation model. The findings showed that both subjective norm and computer self-efficacy indirectly impacted on the intention to use Internet Banking. Perceived ease of use played a significant role in influencing intention to adopt through perceived usefulness, while its direct effect on intention to use is not significant. Tan and Teo (2000) verified the factors that influence user adoption of online banking in Singapore, the results showed that attitudinal and perceived behavioural control factors, rather than social influence, significantly affected the intention to use Internet banking. In particular, perceptions of relative advantage, compatibility, trialability, and

risk toward using the Internet were found to play a significant role in influencing intentions to adopt Internet banking services. Moreover, confidence in adopting such services as well as perception of government support for e-commerce were also found to impact intentions.

Polatoglu and Ekin (2001) studied user adoption of online banking in Turkey. The results showed that complexity, perceived risk, comparative advantage and market efforts had important effects on the adoption of online banking. Wang, Lin and Tang (2003) claimed that the perceived usefulness and perceived credibility have a positive impact on use intention of online banking. Computer self-efficacy will also have a positive impact on intentions to adopt online banking through perceived usefulness, whereas perceived credibility has a negative effect. Kim and Prabhakar (2000) suggested that trust in the electronic channel and perceived risks of e-commerce are the key determinants of the adoption behaviour. Simultaneously, if the level of trust exceeds the threshold of perceived risk, the users will use online banking service. If the level of perceived risk is greater than the level of trust, the users will not take the initiative.

(2) Online payment systems in China

Compared with developed countries, China started late in e-commerce and third-party payment. In China, researchers have mainly focused on safety, integrity, legality and profitability of third-party online payment.

In study on payment security issues, Peng (2009) claimed that there are a lot of problems in the transaction process of third-party payment. Safety factors are one of the most important key factors that affect user adoption of third-party trading tools. Hu (2008) considered that third-party online payment providers have to put more resources into research and development of new security technology in order to increase safety of the network layer, system layer and application layer in order to promote a sustainable development of Chinese e-commerce (Hu, 2008).

2.1.2 The definition of third-party online payment

Third-party online payment belongs to the emerging industry. As a result, currently there is not authoritative definition of third-party online payment. The original concept of third-party payment was proposed by Yun Ma during the World Economic forum in Davos in 2005.

Currently, in the e-commerce context, definition of third-party online payment includes the following three points:

- **A third-party payment platform:** Refers to the online platform that is operated by third party organizations rather than banks. Baidu Baike defines the third-party online payment as: *“the transaction support platform provided by independent institutions that sign contracts with sellers and banks.”*
- **The way of electronic payment:** Yu (2010) believes that third-party payment platform is a method of electronic payment. It is based on Internet, helping buyers and consumers to implement financial transactions by using financial instruments supported by banks (Qian, 2010).
- **A third party payment provider:** Li (2010) suggested that the third-party payment platform is the independent agency who has certain economic strength and credit guarantee to sign contracts with banks. Usually, it is under the supervision of banking, to provide users with the payment platform. third-party payment platform can be seen as the intermediary between buyers and sellers, it provides a new way for customers to shopping online (Sun, 2009).

2.2 Online Shopping and Online Stores

Compared with physical stores, online stores have many advantages. Firstly, they are convenient and time saving, which means customers do not need to wait in lines. Furthermore, they are open for 24 hours a day and they are accessible anytime and anywhere. These stores provide consumers with a lot of information about services and products. They also provide online tools to help consumers distinguish and make purchase decisions among various goods and services (Moshref Javadi et al., 2012). Hoffman et al. (1999) showed that interactivity is the key distinguishing feature between marketing communication on the Internet and traditional mass media. Currently, customers in online shopping have more bargaining power than consumers of physical stores since the Internet offers more interactivities between consumers and product/service providers as well as more information about products and services. Geissler and Zinkhan (1998) indicated that Internet changed the balance of power in favour of consumers as it became very easy for them to make shopping decision and evaluate alternatives without facing pressure from salespeople. Online stores decrease transaction costs and create advantages for both consumers and providers. However, online stores also have disadvantages compared to physical stores. In online stores, consumers lack perception about the product for instance seeing, touching, tasting, smelling, and hearing during they search for and purchase products (Häubl & Murray, 2003). In online stores, consumers may perceive low trust and high risk as a consequence of lack of face-to-face communication (Xiao & Benbasat, 2007). Although this issue can be decreased by using certain software applications like the online recommendation agent (Huang & Sycara, 2002) and the online negotiation agent (Huang & Lin, 2007).

2.3 The current condition of Alipay

Currently, Alipay has 900 million registered users in China. According to the authors' telephone interview with the Alipay online service (see appendix 1), it has nearly 60~100 million active users every day. Furthermore, the online service staff was asked about the age distribution and geographical distribution of Alipay users. This data are presented in figures 2.1 and 2.2.

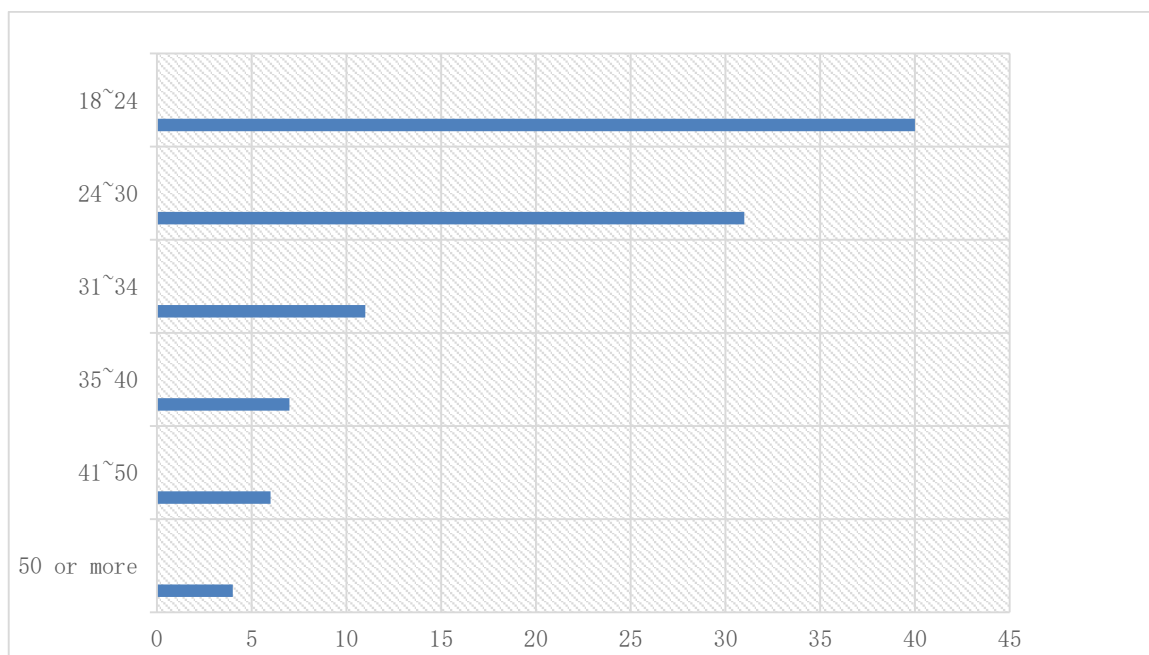


Figure 2.1. Alipay user's age distribution

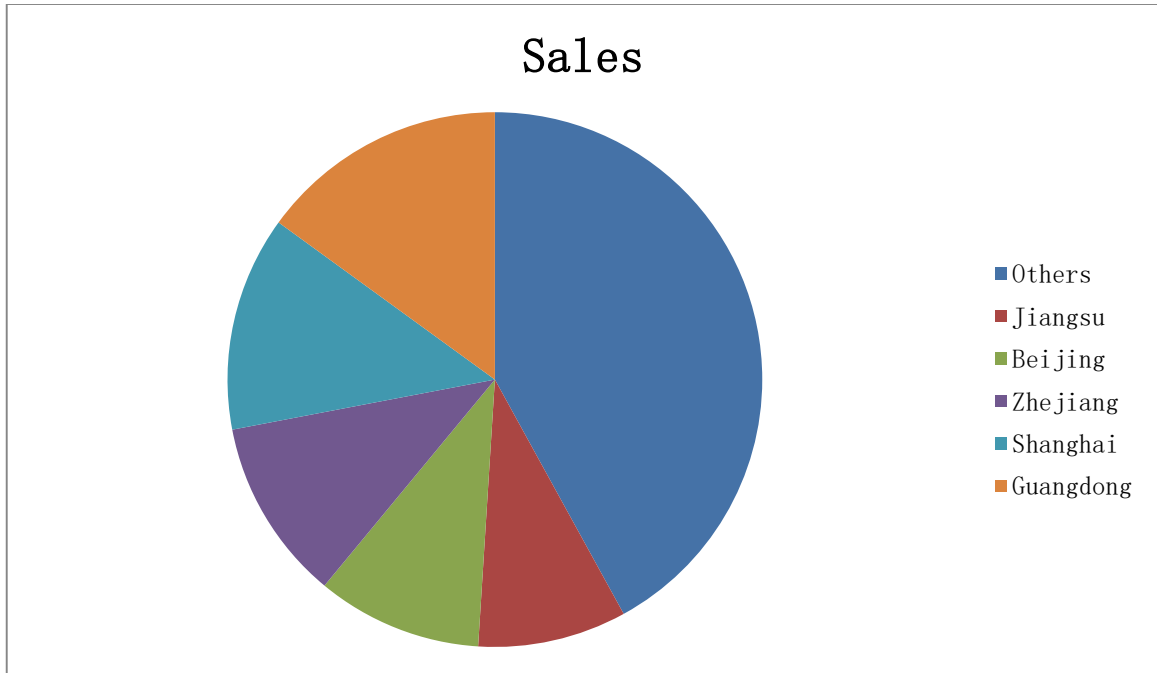


Figure 2.2. Alipay user's geographical distribution

2.4 Similar third-party payment systems in China

China has a large number of businesses that have been involved in the field of third-party payment. In the following text, a number of them are presented.

2.4.1 Tenpay

Tenpay is an integrated payment platform launched by Tencent to meet the needs of its 1.1 billion QQ users. Tenpay has grown into one of China's leading online payment platforms. Tenpay commits to provide airlines, logistics, insurance, games, B2C business and other industries with professional and secure online payment solutions. At the end of 2011, the registered Tenpay user accounts amounted to 190 million (Tenpay, 2014).

2.4.2 Baifubao

Baifubao was founded by the world's largest Chinese search engine company Baidu, which is one Chinese leading online payment platform applications and services. Baifubao's purpose is to establish a "simple and reliable" online payment credit system. They have the innovative product technology, rich application functionality, for Internet users and businesses to provide safe, dependable online payment service (Baifubao, 2014).

2.4.3 ChinapnR

ChinaPnR, which was established in 2006, targeted at the financial level of e-economic online payment specialist, with domestic, commercial banks and international credit card organizations have established cooperative relations, focusing financial payment industrial chain, core competence is fast and accurate customized payment solutions for industrial customers, innovative research and development of e-economic payment services and products, promote the industry development of e-commerce (Chinapnr, 2014).

2.4.4 Yeepay

YeePay's innovative payment services enable consumers and merchants to make and receive payments securely, conveniently and cost effectively. YeePay focuses on providing vertical payment solutions based on integrated platforms with industry specific applications and value-added services (Yeepay, 2014a). YeePay's customers are leading Internet and e-commerce sites as well as merchants in traditional sectors, covering verticals such as online shopping, digital contents, gaming, air & travel, telecom, insurance, education, etc. YeePay's customers include Baidu, Sohu, RenRen, Qihoo 360, Youku, Motorola, Nokia, HTC, Lenovo, Huawei, China Telecom, Air China etc (Yeepay, 2014b).

2.5 Service Quality

Service quality is a comparison of expectations with performance, researchers believe that the service quality theory builds on the literature on product quality and user satisfaction (Anderson & Sullivan, 1993). A business with high service quality will meet customer needs at the same time as remaining economically competitive and if the company improves the service quality (Brady & Cronin Jr, 2001) it may increase economic competitiveness (Seth et al., 2005). The service quality aim may be achieved by understanding and improving operational processes; identifying problems quickly and systematically; establishing valid and reliable service performance measures and measuring customer satisfaction and other performance outcomes. Currently, there are many service quality models and researchers do not provide a common view point about these models and measurements. Service quality has different dimensions indifferent service sectors (Pollack, 2009).

In 1985, Parasuraman et al. (1985) developed the model SERVQUAL. They carried out exploratory research to understand the construct of service quality and its determinants, and defined service quality as the degree of discrepancy between customers' normative expectations for the service and their perceptions of the service performance. At first, they came up with ten dimensions of service quality, but then they reduced to five dimensions. The SERVQUAL model builds on the difference between perception and expectation of quality of service through five dimensions including: (1) Reliability: The ability to perform the promised service dependably and accurately (2) Assurance: The knowledge and courtesy of employees and their ability to convey trust and confidence (3) Tangibles: The appearance of physical facilities, equipment, personnel and communication materials (4) Empathy: The provision of caring, individualized attention to customers (5) Responsiveness: The willingness to help customers and to provide prompt service (Babakus & Boller, 1992).

The model of SERVQUAL has also been criticized by scholars. Cronin and Taylor, being the most prominent, questioned the basis and concepts of this model, as they think that this model SERVQUAL blurs the concept of quality of service, and propose other performance factors, that form SERVPERF model (Park et al., 2004). The new model has created a significant improvement over the original model. It is not only more streamlined in terms of content, but also it has more advantages, it can provide the opportunity for a firm to assess its service quality performance on the basis of each dimension individually as well as the overall dimensions and SERVQUAL model can be used in various services setting/sectors and provides a basic skeleton that can be adapted to fit the specific attributes of a particular organization. It is applicable across different empirical context and various countries and cultural background. Therefore, the model has been widely applied (Talylor & Todd, 1995).

2.6 Perceived Risk

The original concept of perceived risk was proposed by the psychology Harvard scholar Bauer (1960). Bauer claimed that all behavior of consumers could lead to uncertain consequences, which cannot be foreseen by themselves, and some of the consequences is likely to be unpleasant. As a result, consumer behavior involves risk. Perceived risk is commonly defined as a combination of uncertainty with seriousness of outcome involved (Bauer, 1960), and the expectation of losses are concerned with purchase and acts as a block to purchase behavior (Peter & Ryan, 1976). After Bauer, Cox and Rich (1964) professed that perceived risk is the perceived nature and quantity of the risk when consumers consider specific purchase decisions (Cox & Rich, 1964). Cunningham (1967) divided perceived risk into two factors: uncertainty and consequence. Uncertainty refers to consumers' subjective probability of something occurs or not. Consequence is the hazard of the results after decision-making (Cunningham, 1967). Perceived risk has been measured by Likert scales to measure the perception of dangerous events happening or the presence of the attribute inherent in the service (Featherman & Pavlou, 2003).

When Bauer developed the concept of perceived risk, he did not indicate the specific types of perceived risk (Li & Bai, 2010). Therefore, a large number of scholars have devoted time on the dimensions of perceived risk. In 1972, Jacoby and Kaplan divided perceived risk into five dimensions; economic risk, functional risk, physical risk, psychological risk and social risk. Their study found that these five dimensions can explain 61.5% of the variances of the overall risk (Jacoby & Kaplan, 1972). In 1975, Peter and Tarpey Sr (1975) suggested a sixth perceived risk: time risk. In the year of 1993, Stone and Gronhaug (1993) verified six dimensions including economic risk, functional risk, physical risk, psychological risk, social risk and time risk. Research studies have shown that these dimensions can explain 88.8% of the variances of the overall risk. Later, in 2003, Featherman and Pavlou (2003) studied the consumer acceptance level of electronic services from the perspective of perceived risk. Their research results verified that economic risk, functional risk, psychological risk, social risk, privacy risk and time risk are the six dimensions influencing internet consumer adoption.

2.7 Review on Technology Acceptance

Information systems (IS) implementation is expensive and has a relatively low success rate. Since 1970s, IS research has contributed to a better understanding of this process and its outcomes. The early efforts focused on the identification of factors that promoted IS use. This research produced a long list of items that sometimes lacked in practical value. Therefore, it was necessary that scholars focused on grouping these factors into a model for practical use in order to facilitate analysis of IS use (Legris et al., 2003). In order to better understand and manage the process of new technology adoption, several theoretical models have been developed (Agarwal & Prasad, 1999). Technology acceptance research always encourages researchers to examine existing theories and models in different contexts of technology, time and organizations. Since scholars have different viewpoints about variable selection and the causal relationship between different variables, so far there are many theories formulated, of which the technology acceptance model (TAM) has been most widely used.

As a successor to TAM, Unified theory of acceptance and use of technology (UTAUT) was proposed by Venkatesh et al. in 2003. They found that user adoption and usage of an information technology are influenced mainly by four factors: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh, Morris, Davis, et al., 2003). UTAUT was built by combining factors from the following eight theories: theory of reasoned action (TRA), TAM, the motivational model (MM), theory of planned behaviour

(TPB), the PC utilization model (MPCU), innovation diffusion theory (IDT), social cognitive theory (SCT), and the combined model of technology acceptance and planned behavior (C-TAM-TPB). In the following sections, these theories will be briefly introduced.

2.7.1 Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) is based on social psychology, and was proposed by Fishbein and Ajzen (1975) in 1975. TRA examines the relationship between attitudes and behavior. Behavior is determined by the behavioral intention to emit the behavior (see Figure 2.3). There are two major factors that determine behavioral intentions: the person's attitude toward behavior, and a person's perception of social pressures termed subjective norm (Fishbein & Ajzen, 1975). According to an expectancy-value formulation, the person's attitude toward a specific behavior is defined as *"an individual's positive or negative feelings about performing the target behavior"* (Fishbein & Ajzen, 1975, p. 216). For the second component, subjective norms, defined as *"the person's perception that most people who are important to him that he should or should not perform the behavior in question"* (Fishbein & Ajzen, 1975, p. 302).

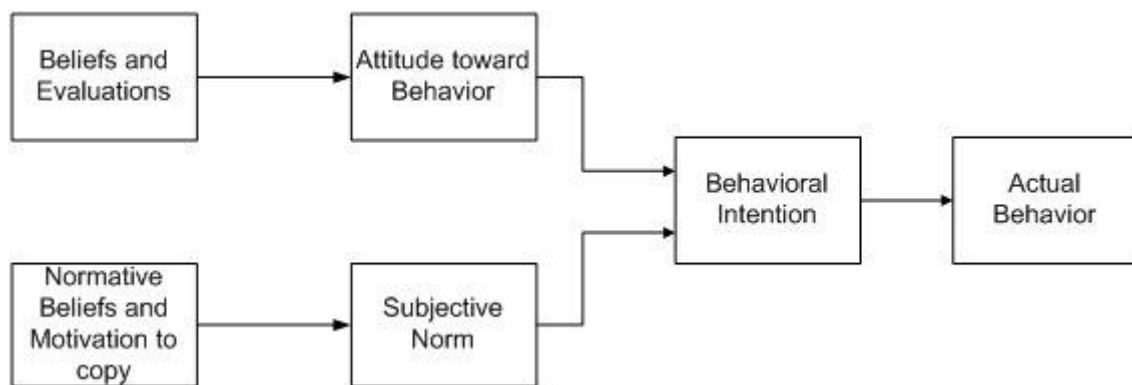


Figure 2.3. Theory of Reasoned Action (Fishbein & Ajzen, 1975).

In accordance with TRA, the behavior of individuals can be predicted to a certain extent through behavioral intention (BI), which is defined as the measurement of person's intention of doing something. Behavioral intention is determined by an individual's attitude and subjective norm regarding to the behavior in question. Attitude, in turn, is determined by an individual's beliefs. Beliefs are defined as an individual's subjective probability that a given behavior will result in a given consequence (Min et al., 2008). Subjective norm is defined as *"the person's perception that most people who are important to her/ him think he should or should not perform the behavior in question"* (Fishbein & Ajzen, 1975, p. 302).

However, the TRA has some limitations in predicting behaviour. TRA is a general model. Thus it does not specify the beliefs that are operative for a particular behavior. Researchers using TRA must first identify the beliefs that are salient for subjects regarding the behavior under investigation. Otherwise, TRA deals with only those behaviors that are under a person's volitional control. Therefore, behavior that are partly determined by factors beyond individuals' voluntary control will fall outside the boundary conditions established for the model. Whenever the performance of some action need knowledge, skills, resources, or others' cooperation, or necessitates rising over environmental obstacles, the conditions of the model cannot be reached (Sheppard et al., 1988).

2.7.2 Theory of Planned Behavior (TPB)

The theory of planned behavior is an extension of the theory of reasoned action (Ajzen, 1991), made necessary by TRA's limitations in addressing behaviors over which people have

incomplete volitional control. As in TRA, a central factor in the theory is the individual's intention to perform a given action. Intentions are assumed to capture the motivational factors that influence a behavior. These intentions are viewed as the indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior. As a general rule, the stronger the intention to engage in a behavior, the more likely should be its performance (Ajzen, 1991).

To overcome TRA's limitations, Ajzen (1991) proposed an additional factor in determining individual behaviour in TPB; Perceived Behavioural Control. It is an individual perception on how easily a specific behaviour will be performed and it is assumed to reflect past experience as well as anticipated impediments and obstacles (Ajzen, 1991). Perceived behavioral control indirectly influence behavior (see Figure 2.4).

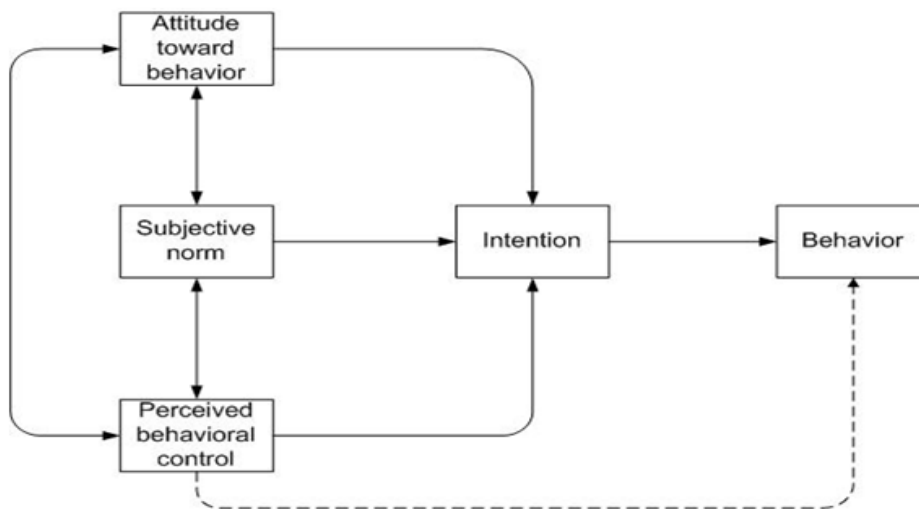


Figure 2.4. The Theory of Planned Behavior (Ajzen, 1991)

2.7.3 Technology Acceptance Model (TAM)

TAM was founded by Davis (1989) to explain computer-usage behavior. Compared with the previous two models, TAM is more appropriate for IS contexts, and was designed to predict information technology acceptance in practice (Venkatesh, 2003). Fishbein's Theory of Reasoned Action (TRA) is the theoretical foundation for the model. According to TRA, beliefs directly influence attitudes, which in turn lead to intentions, which then guide or result in behaviors (Hu et al., 1999). Depicted in Figure 2.5, TAM adapts the framework of the TRA and hypothesizes that users' acceptance of a technology is determined by their voluntary intention to use this technology. Intention, in turn, is determined by the person's attitude toward the usability of that technology and their perception about its usefulness (Yousafzai et al., 2010).

The goal of TAM is to *“provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behavior across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified.”* (Davis, 1989, p. 985).

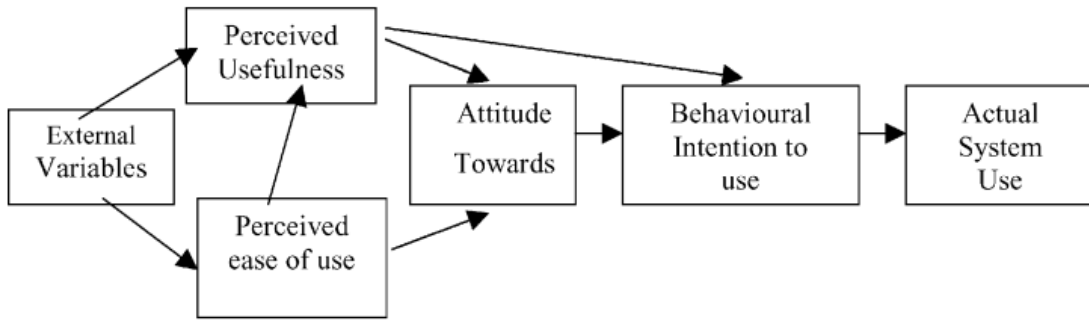


Figure 2.5. Technology Acceptance Model (Davis, 1989)

2.7.4 Combined-TAM-TPB (C-TAM-TPB)

Taylor and Todd (1995) proposed a Combined-TAM-TPB model by combining the perceived behavioral control and subjective norm of TPB with the constructs of perceived usefulness and ease of use from TAM (see Figure 2.6).

This model is also labeled the Decomposed Theory of Planned behavior in consideration of the belief structure is decomposed in the model. The attitude includes perceived usefulness, perceived ease of use and compatibility. The normative belief structure includes peer influence and superior influence. The control belief structure includes self-efficacy, resource facilitating conditions and technology facilitating conditions (Li, 2010).

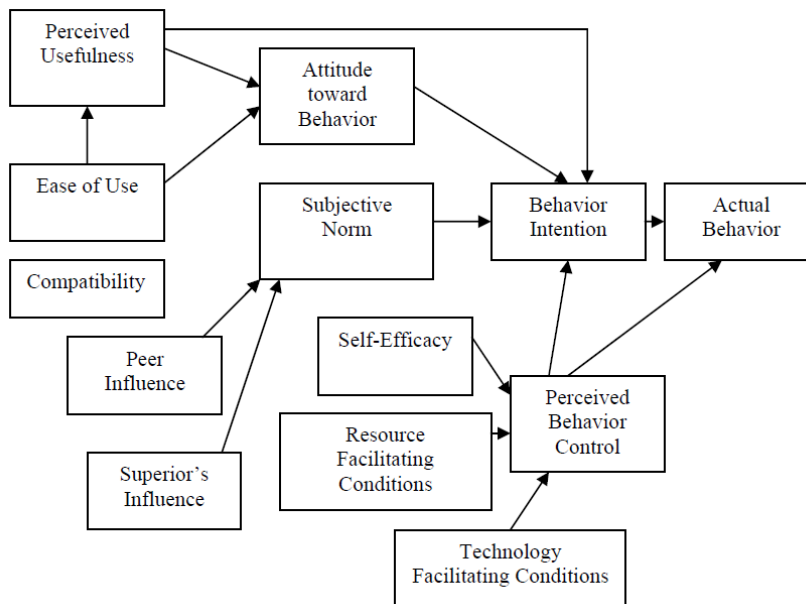


Figure 2.6. Combined TAM and TPB (Taylor and Todd, 1995).

2.7.5 Social Cognitive Theory (SCT)

Social cognitive theory (SCT) describes a psychological model of behavior that expanded upon and theorized by Bandura (1986). SCT explains human functioning in terms of triadic reciprocal causation (Bandura, 1989). In SCT, the environmental factors, personal factors

(e.g. cognitive factors, affective factors etc.), and behaviors are determined reciprocally (Bandura, 1986) (see Figure 2.7). SCT favors a model of causation involving triadic reciprocal determinism. In this model of reciprocal causation, behavior, cognition and other personal factors, and environmental influences all operate as interacting determinants that influence each other bidirectionally (Bandura, 1986). SCT has continued to grow and expand in connection with self-efficacy, and self-regulation (Albert Bandura, 2001). An individual's cognitive competence influence the behavior of using a technology, and the successful interactions with the technology also influence the cognitive perceptions (Compeau et al., 1999).

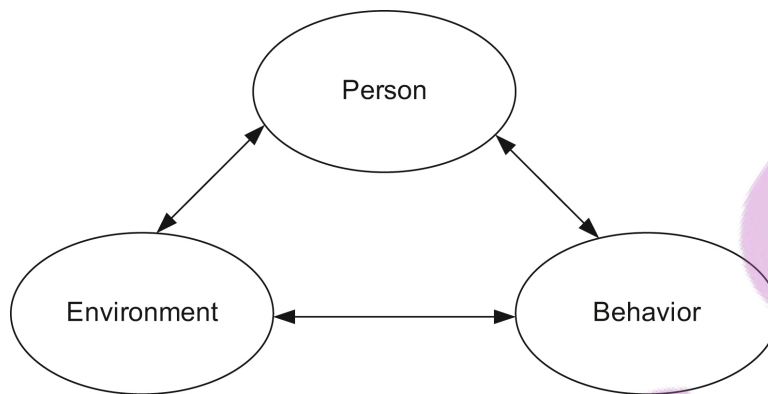


Figure 2.7. Social Cognitive Theory (Bandura, 1989).

2.7.6 The Motivational Model (MM)

Davis et al. (1992) examined motivation theory and adapted it to an information technology context. According to Motivation Model, individuals' behavior is based on extrinsic and intrinsic motivations (Li, 2010). Extrinsic motivation refers to the perception that users want to perform an activity *"because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay, or promotions"* (Davis et al., 1992, p. 1112). Perceived usefulness, perceived ease of use, and subjective norm are examples of extrinsic motivation (Li, 2010). Intrinsic motivation is relevant for perceptions of pleasure and satisfaction from performing the behavior (Vallerand et al., 1997). Users want to perform an activity *"for no apparent reinforcement other than the process of performing the activity per se"* (Davis et al., 1992, p. 1112). Computer playfulness and enjoyment are seen as intrinsic motivation (Davis et al., 1989; Venkatesh, 2000).

2.7.7 The Model of PC Utilization

The Model of PC Utilization largely derives from Triandis (1977) theory of Interpersonal behavior. This model is a competing perspective to TRA and TPB. Triandis (1979) points out that differences between cognitive and affective components of attitudes. He defined that beliefs belong to the cognitive component of attitudes. *"Behavior is determined by what people would like to do (attitudes), what they think they should do (social norms), what they have usually done (habits), and by the expected consequences of their behavior"* (Thompson and Higgins., 1991, p.126). Thompson and Higgins (1991) refined Triandis' model to predict PC utilization behavior in an IS context (see Figure 2.8).

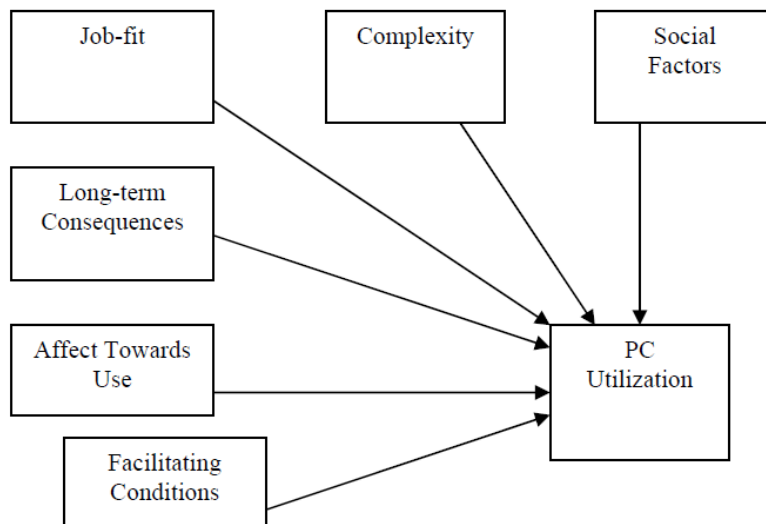


Figure 2.8. The Model of PC Utilization (Thompson & Higgins, 1991).

2.7.8 Innovation Diffusion Theory (IDT)

The Innovation Diffusion Theory (Rogers, 1995) has been used to study a variety of innovations (see Figure 2.9), such as education, sociology, communication, agriculture, marketing, and information technology, etc. (Lee et al. , 2011). According to IDT, an innovation is “*an idea, practice, or object that is perceived as new by an individual or another unit of adoption*” (Rogers, 1995, p. 11). Diffusion is “*the process by which an innovation is communicated through certain channels over time among the members of a social system*” (Rogers, 1995, p. 5). Therefore, the IDT theory shows that “*potential users make decisions to adopt or reject an innovation based on beliefs that they form about the innovation*” (Agarwal, 2000, p. 90).

IDT includes five significant innovation characteristics: relative advantage, compatibility, complexity, trainability and observability. These attributes are used to explain end-user adoption of innovations and the decision-making process (Lee et al. ,2011).

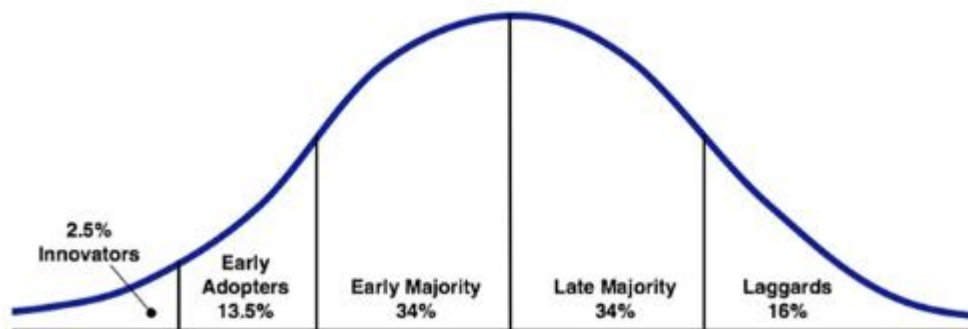


Figure 2.9. Diffusion of innovation model (Roger, 1995).

2.7.9 The Unified Theory of Acceptance and Use of Technology (UTAUT)

In 2003, Venkatesh et al. formulated a new model called the Unified Theory of Acceptance and Use of Technology (UTAUT), after reviewing eight technology acceptance theories and models. UTAUT is the most comprehensive IT adoption theory so far (See Figure 2.10). The UTAUT model has been empirically tested with 70% of dependent variable variance

accounted for (adjusted R2), which is much higher than that of TAM and TPB (Min et al., 2008).

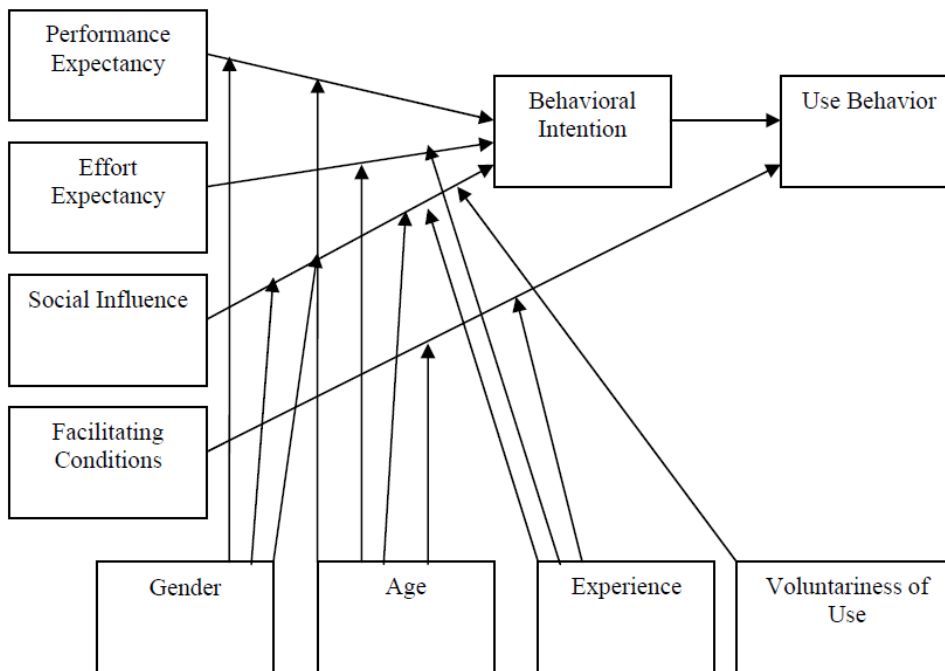


Figure 2.10. Unified Theory of Acceptance and Use of Technology (Venkatesh et al. 2003).

In UTAUT, there are four key constructs that affect behavioral intention to use an information technology (i.e., performance expectancy, effort expectancy, social influence, and facilitating conditions, respectively). The four constructs are defined as follows:

Performance expectancy refers to *“the degree to which an individual believes that using the system will help him or her to attain gains in job performance”* (Venkatesh et al. 2003, p. 447). It has five root constructs: perceived usefulness from TAM/TAM2, Combined TAM and TPB, extrinsic motivation from the Motivational Model, relative advantage from the Innovation Diffusion Theory, and outcome expectations from the Social Cognitive Theory (Venkatesh et al., 2003).

Effort expectancy is defined as *“the degree of ease associated with the use of the system”* (Venkatesh et al. 2003, p. 450). It is similar to TAM’s perceived ease of use.

Social influence refers to *“the degree to which an individual perceives that important others believe he or she should use the new system”* (Venkatesh et al. 2003, p. 451).

Facilitating conditions refers to *“the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system”* (Venkatesh et al. 2003, p. 453). Venkatesh et al. (2003) mentioned that Facilitating conditions’ impact is moderated by age and experience of the individual.

Simultaneously, UTAUT introduced moderating factors such as gender, age, experience, and voluntariness of use from the perspective of social psychology. These moderating factors will deal with the problems of inconsistency and the weak power of explanation of previous models and explain the behavioral differences of different groups of people (Min, 2008).

2.8 Research model and hypotheses

According to the literature review, this study adopted UTAUT proposed by Venkatesh et al. (2003) as a basic framework, investigating and discussing the factors of perceived risk, service quality, performance expectancy, effort expectancy, social influence, and facilitating conditions. These variables are hypothesized to influence the user adoption of Alipay in B2C context. A proposed research model for this study is presented in Figure 2.11.

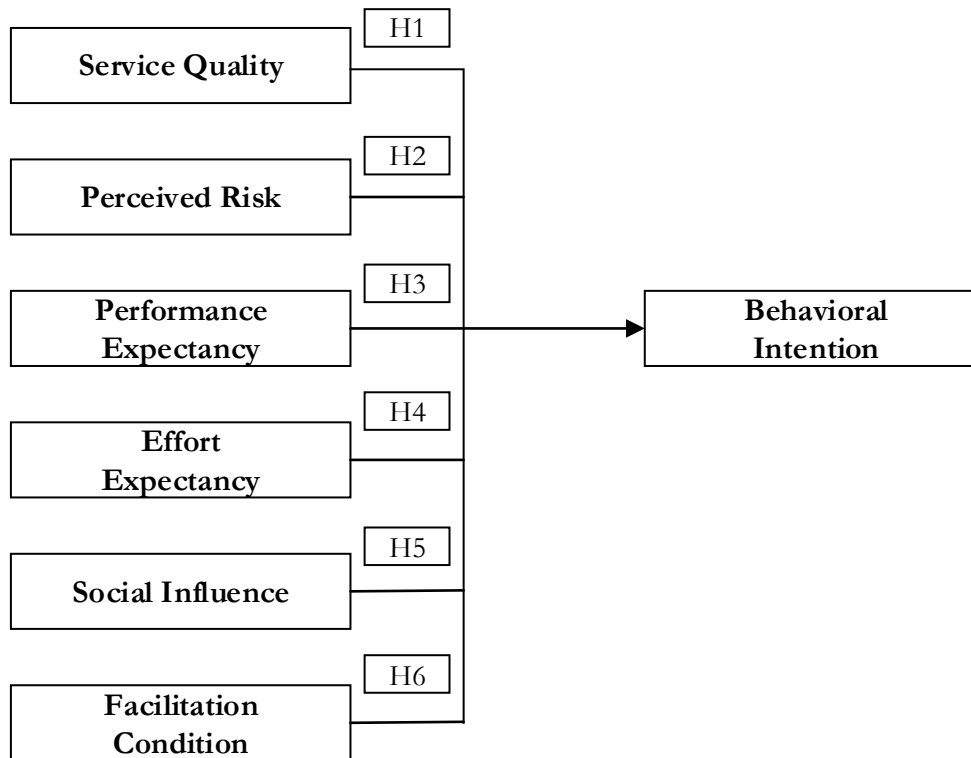


Figure 2.11. Proposed UTAUT model

In this study, the quality of service means the difference between consumer expectations and the actual quality of service received. Parasuraman et al. (1985) stated that this definition includes two aspects; one is the quality of service perceived by customers when they use third-party online payment, the other is the perception after customers use of third-party payment.

Zeithaml et al. (2002) found that in the third-party online payment, service quality perceived by customer includes two aspects: (1) When the user use third-party online payment, the payment platform providers can meet the customer's expectation. It is also possible to solve the payment problem for the users. (2) After customers use the third-party online payment, the payment platform enterprise can take responsibility for problems that may arise and solve them from the user point of view. In this thesis, the authors believe that the quality of service is one of the factors that affect user acceptance of third-party online payment. In using third-party online payment, the more the service make customers satisfied, the more people are likely to use third-party online payment.

Therefore, this study proposes the following hypothesis:

H1 Consumers' perceived service quality has a positive effect on the intention to use Alipay.

In this study, perceived risk is defined as the subjective expectation of possible risk when using third-party online payment service. Compared with traditional payment solutions, third-party online payment has features of virtuality, which leads to that user perceive higher risk during using third-party online payment.

Perceived risk affects people's confidence in their decisions. Risky situations are those where the probabilities of outcomes are not known and the outcome is known or unknown. E-services adoption is adversely affected primarily by performance-based risk perceptions, and perceived ease of use of the e-service would subside these risk concerns (Featherman & Pavlou, 2003; Im et al., 2008). Based on an empirical study on eBay users, Zhang and Li (2006) found that perceived risk can influence the choice of user's payment methods. Perceived risk is the important determinant of consumers' adoption willingness of mobile banking service (Li & Bai, 2010). Therefore, we propose the following hypothesis:

Hypothesis 2. Consumers' perceived risk negatively affects the intention to use Alipay.

There is an established relationship between performance expectancy (PE) and behavioral intention and use behavior. PE integrated other related constructs, such as usefulness from TAM, TAM2 and C-TAM-TPB, job fit from MPCU, and relative advantage from IDT (AbuShanab & Pearson, 2007).

Venkatesh et al. (2003) indicate that performance expectancy can positively impact on the user's intention to use technology. In the mobile banking business, perceived usefulness is considered to be the determinant of use intention (Amin, 2009). The perceived usefulness plays a key positive role in impacting user's intention to use multimedia information service(MMS) (Lee et al. , 2007). In research performed by AbuShanab and Pearson (2007), it was suggested that high performance expectancy lead users to have high intention to use internet banking. (Mao & Palvia, 2006) argued that the performance expectancy is the second key factors which can impact the users to use mobile payment.

Therefore, this study proposes the following hypothesis:

H3: Customers with high performance expectancy will have a high intention to use Alipay.

Effort expectancy integrated three concepts which from other theories: perceived ease of use from TAM, complexity in the model of PC Utilization and usability from innovation diffusion theory (Venkatesh et al. , 2003). Davis (1989) argued that in a free learning environment, perceived ease of use is a key condition, which can determine user's intention. The less time to learn and master the target system, the more likely it is that the system will be accepted by the users (Davis, 1989).

Effort expectancy is similar to the perceived ease-of-use of TAM and the complexity of IDT (Venkatesh et al., 2003). It reflects the user perception of how difficult it is to use third-party payment. According to UTAUT, effort expectancy positively affects performance expectancy (Venkatesh et al., 2003). Liu and Li (2011) tested the relationships of the constructs in the UTAUT model to determine how they are influenced by culture, the results show that effort expectancy of a technology has a positive effect on users' intention of using it. AbuShanab and Pearson (2007) investigated the key determinants of the adoption of internet banking

in Jordan. The results indicate that customers with high effort expectancy will have high intention to use internet banking.

Therefore, this study proposes the following hypothesis:

H4: Customers with high effort expectancy will have a high intention to use Alipay

Social influence is the one of determinants that affect user's behavior intention in UTAUT model. Before UTAUT, it was explored in Theory of Reasoned Action, Theory of Planned Behavior, and Technology Acceptance model and the importance of this variable in predicting behavioral intention has been discussed. The three constructs related to social influence include subjective norms (SN), social factors, and image (AbuShanab & Pearson, 2007). Anderson & Pearson, J. E. Anderson and Schwager (2004) applied UTAUT to study wireless network technologies. The results show that social influence has a significant effect on the use behavior of wireless LAN. Zhou et al. (2010) examined the factor's influence on user adoption of mobile banking in China context. The results revealed a positive effects of social influence on users' behavioral intention. Based on the review of the literature, it is expected that social influence will positively influence behavioral intention in the context of third party online payment in China. Therefore, we propose the following hypothesis:

H5: Customers perceiving high social influence from significant others will have high intention to use Alipay.

Facilitating conditions are similar to perceived behavioral control of TPB and reflect the effect of a user's knowledge, ability, and resources (Venkatesh et al., 2003). Facilitating conditions captures concepts embodied in three different constructs: Perceived Behavioral Control from TPB and C-TAM-TPB, and the Facilitating conditions from MPCU and the compatibility from IDT. Cheung et al. (2000) studied the adoption of World Wide Web. The results of their empirical research showed that Facilitating conditions significantly affected use behavior. Schierz et al. (2010) carried out a study on mobile payment services in Germany. With a total of 1447 copies of individual questionnaires collected in their empirical research, the results showed that perceived compatibility was the most critical factor affecting intention to use mobile payments to consumers. According to Widjaja and Tedjawidjaja (2012), facilitating condition influence merchant's behavioral intention toward online payment gateway in Indonesia.

Therefore, we propose the following hypothesis:

H6: Alipay's facilitating conditions positively affect on B2C customer's intention to use Alipay

In many studies, researchers have proved that the behavioral intentions will have a positive and direct impact on usage behavior (Venkatesh et al., 2003). At the same time, Irani et al. (2008), mentioned that the majority of technology adoption research has utilized behavioural intention to predict technology adoption. Furthermore, Ajzen (1991) state that behavioral intention has a direct influence on adoption of technology. Moreover, the connection between behavioral intention to use a technology and actual usage is well formed (Taylor & Todd, 1995; Venkatesh & Davis, 2000) and both behavioral intention and use behavior could be used to measure technology acceptance. Therefore, in this study the authors use the behavioral intention to use Alipay to measure the actual usage of Alipay in China's B2C context while it is highly correlated with use behavior.

3 Methods

In this chapter the methodological framework upon which the thesis is based, is discussed and presented. It evaluates and describes the research purpose, approach, design, data collection methods, analysis methods and credibility that are applied to the work in this research.

3.1 Research purpose

There are many ways of classifying research, depending on the purpose of the research, how the data that is collected, and how such data are analyzed (Gratton & Jones, 2010). According to Saunders et al. (2011), the classification of research purpose most often used in the research methods literature is the threefold one of exploratory, descriptive and explanatory research (Cooper & Schindler, 2003).

Explanatory research can be defined as a causality type of research. It attempts to uncover the relationships between the reasons for something and its chain effects (Hedrick et al., 1993). Explanatory research is done when there is already a hypothesis as to why something is happening. Questions and tests are designed to support that hypothesis, and prove whether it is correct or not. Explanatory research is usually performed in relation to marketing or when studying social phenomena, the third-party online payment is one part of social phenomena, so we decided to use explanatory for our research purpose (Robson, 1997).

This research is an explanatory research. Not only is third-party online payment one part of social phenomena, but it is also a cause and effect type of research. Therefore, the research questions are aiming to measure how people perceive and accept third-party online payment in China's B2C context. The Unified theory of acceptance and use of technology (UTAUT) has been used by many researchers in many research contexts. This research examines the model within a differently specified context. The research model attempts to explain college students and young workers' attitudes and behavioral intentions towards third-party online payment. Hence, this study comprises an explanatory purpose.

3.2 Research approach

Research approaches are the particular strategies that researchers use to collect the evidence necessary for developing and testing theories (Frey et al., 2000). Specifically, there are two ways of constructing a research: induction and deduction (see figure 3.1). Induction is built on empirical evidence, while deduction is based on logic (Ghauri & Grønhaug, 2005). The deductive approach is used to test the hypothesis through developing a theory and hypothesis and designing a research strategy (Saunders et al., 2011). Through the inductive approach, researchers draw general conclusions via the process of empirical observations, findings, and theory building, as findings are incorporated back into existing knowledge to improve theories (Ghauri & Grønhaug, 2005).

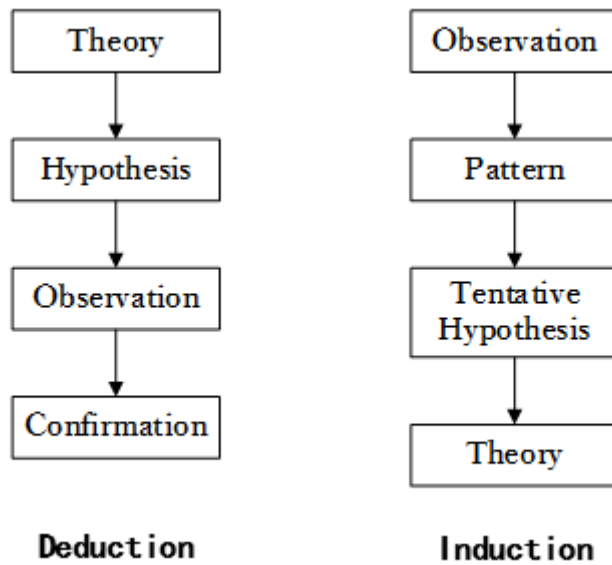


Figure 3.1. Deduction and induction (Trochim, 2006).

Researchers not only have to deduce hypotheses from existing literature but also have to show them in operationalization, to present how data can be collected to examine these hypotheses and the theories being used (Merton, 1967). Normally, the process of deductive research is divided into five steps: deducing a hypothesis, expressing the hypothesis in operational terms, testing this operational hypothesis, examining the specific outcome of the inquiry, if necessary, modifying the theory in the light of the findings (Robson, 1997) While, in inductive research, theory is the outcome of research (Bryman & Bell, 2011), it is related to the qualitative type of research (Ghauri and Gronhaug, 2005). Researchers in inductive research favours qualitative data and to adopt a variety of methods to collect these data in order to conduct different views of phenomena (Easterby-Smith et al., 2012).

In this research, the thesis has been conducted in a deductive manner. There are extensive documentations of third-party online payment and technology acceptance. The authors proposed six hypotheses are concerned with research questions and UTAUT on causal relationships between variables in the conceptual model. Quantitative data was collected through survey, then analyzed statistically in order to test the hypotheses. Consequently, users' perceptions and behavioral intentions measured and to test UTAUT model, the research aims at providing an answer for the future of user adoption of third-party online payment in a China's B2C market and is being conducted from users' perspective.

3.3 Research Design

According to Yin (2009), research design is defined as *“a logical plan for getting from here to there, where here may be defined as the initial set of questions to be answered, and there is some set of conclusions (answers) about these questions ”* (p. 64). On the other hand, (Ghauri & Grønhaug, 2005) states that the research design builds a plan or a framework for data collection and its analysis. The reason why it is important to identify a study's research design is important is it conveys information about key features of the study, which can differ for qualitative, quantitative, and mixed methods (Harwell, 2011).

Trochim and Land (1982) defined quantitative research design as the *“glue that holds the research project together. A design is used to structure the research, to show how all of the major parts of the research*

project—the samples or groups, measures, treatments or programs, and methods of assignment—work together to try to address the central research questions.” (p. 1). Harwell (2011) stated that quantitative methods are often described as deductive in nature, in the sense that inferences from tests of statistical hypotheses lead to general inferences about features of a population. Regarding the deductive approach adopted in this study, the research design is quantitative, collecting and analyzing quantitative data in order to test hypotheses. As a result, the relationship between the factors of the UTAUT model and users’ acceptance of Alipay will be clarified.

Below, the research design for this study is formulated according to the following perspectives:

- Data collection methods;
- Data collection instruments;
- Data source;
- Quantitative vs. Qualitative nature of data;
- Data analysis methods;

Table 3.1 depicts a summary of the research design for this research. Each of the perspectives represented in table is discussed in following sections.

Table 3.1 Research Design

Research Design	
Data collection methods	Survey
Data collection instruments	Questionnaires
When administered	After identification of target population
Data source	China’s B2C customer sample
Quantitative vs Qualitative data	Both quantitative and qualitative
Who administered	Researcher
Data analysis	Descriptive analysis, Reliability analysis, Factor analysis, Correlation analysis and Regression analysis

3.4 Data collection

When it comes to the data collection, there are three different kinds of data sources should be considered. Among them, primary and secondary data are widely used in research. Primary data are always unknown before the research being undertaken and obtained directly for a specific research project (Currie, 2005). In this study the authors decided to use only primary data collection and secondary collection. Primary data is designed for collecting data for research projects. Secondary data refers to data used for a research project that was originally collected for some other purpose. With a combination of these two data sources, the researchers were able to generate a complementary and investigation. Tertiary data refer to international data compiled from international sources which are not used in this study (Saunders et al., 2011).

3.4.1 Primary data collection

3.4.1.1 Interview

Interviews could be explained as a purposeful discussion between two or more people (Kahn & Cannell, 1957). It can help you to gather valid and reliable data which are relevant to your research objectives and questions, another aspect should be considered is the level of formality of the interview. The interview could be conducted in three ways: structured, semi-structured and unstructured interviews. An unstructured interview is developed as an informal conversation between the interviewer and the respondent to explore a general area on the subject of interest in depth. Semi-structured interviews are based on a list of themes and questions but these can vary from interview to interview. The structured interview is used with an emphasis on identical set of questions is exiting (Saunders et al., 2011).

In this study, only one telephone interview was performed. The advantages of telephone interviews are that they are time and cost-effective. The authors could interview the Chinese company from Sweden to ask for background data about Alipay (see Appendix 1). The background data obtained from the telephone interview formed the basis for the sampling of the respondents of the questionnaire.

3.4.1.2 Sampling

In this study, the target population is customer who shop on the B2C sites in China. Currently, there are 300 million B2C customers in China. Because of time and resource constraints, the authors draw a sample from the target population to investigate user adoption of Alipay in China's B2C context.

Sampling is defined as observing a part in order to gain information about the total (Corbetta, 2003). In order to gain the information about the whole in this case, all sampling techniques were checked and the appropriate one was being chosen. Kumar (1999) demonstrated the different sampling techniques (see Figure 3.3). According to Figure 3.2, sampling is divided into three categories, random sampling, non-random sampling, and mixed sampling.

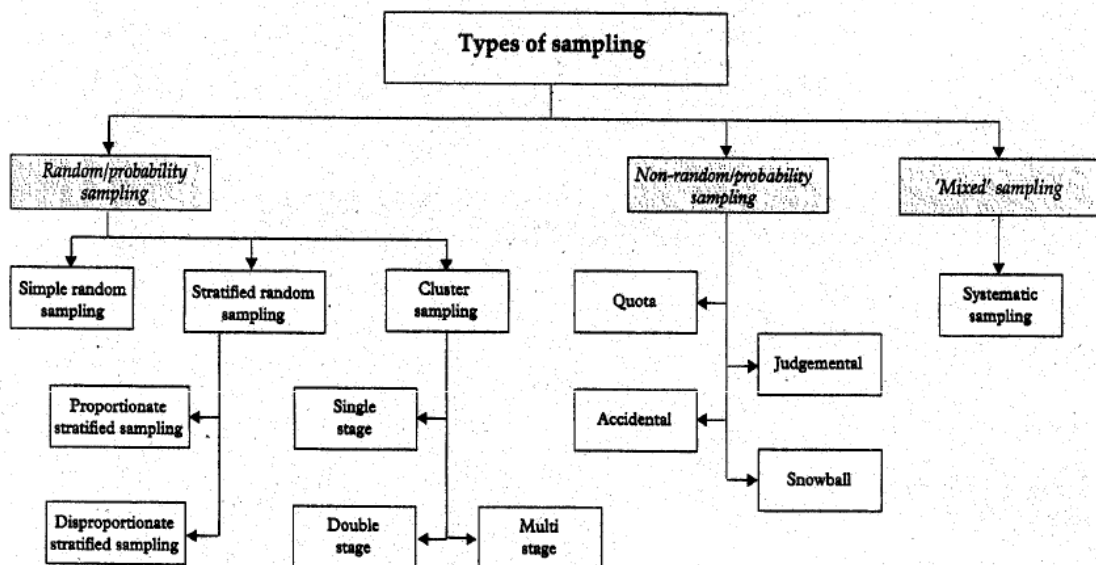


Figure 3.2. Alipay user's geographical distribution (Corbetta, 2003)

In this study, the authors decided to use quota sampling as the sampling techniques. According to Saunders et al. (2011), quota sampling is probably the most widely used sample design, especially in market research and in opinion polls. To implement the procedure, the population must first be subdivided into a certain number of strata defined by a few variables of which the distribution is known.

According to Comrey and Lee (1992) a sample size of 100 is poor, 200 is fair, 300 is good, 500 is very good, 1,000 or more is excellent. They urge researchers to obtain samples of 500 or more observations whenever possible. Hence, the number of 300 was selected as the sample size in this research.

The sample includes both B2C customer who uses Alipay on B2C sites (user sample) and B2C customer who did not use Alipay (non-user sample). Here, the non-user sample is viewed as potential user of Alipay on B2C sites. Although they currently do not use Alipay on B2C sites, they have a certain level of understanding and perception about it. These perceptions will affect the potential user use and accept Alipay on B2C sites in the future. As a result, the authors think that both the user sample and the non-user sample are applicable for the proposed research hypothesis model in this research.

According to China's B2C Online Shopping User Behavior Report, the population of Chinese B2C customers is mainly composed of company employees, college student, and employees from the party and government organs and institutions. Here authors set quotas, which were based on the user distribution presented in the pie chart (Figure 3.3). Company employees, students and employees from the party and government organs and institutions account for 81.9% of B2C customer. The remaining category of 18.1% is labeled "other". We think the three job categories can represent B2C customers in China, so the authors set quotas according to the ratio between these three job categories. More specifically, the sample is composed of 149 company employees, 95 students and 56 employees from the party and government organs and institutions. The authors contacted friends, colleagues and relatives who are company employees, college students, employees from the party and government organs and institutions; those helped the authors to spread the questionnaires in China.

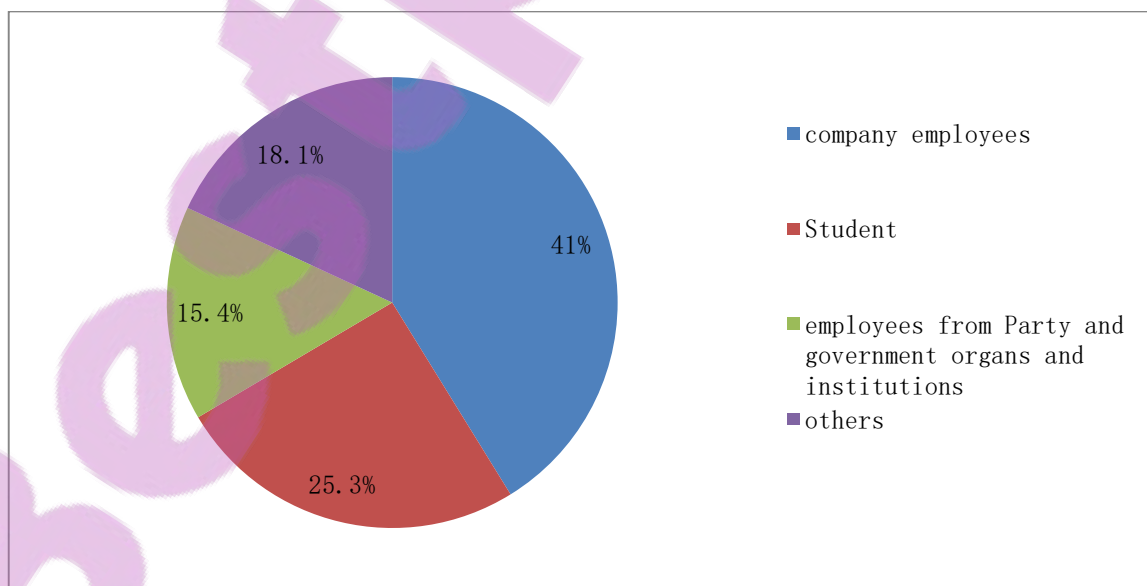


Figure 3.3. B2C customer occupational distribution (CNNIC, 2011)

3.4.1.3 Questionnaire

In this study, the questionnaire technique is used to collect primary data in order to explain how users perceive third-party online payment in China's B2C context. Considering that the respondents are all Chinese who prefer the mother tongue, Chinese, the questionnaire was translated into Chinese. Usually, questionnaires are divided into two categories; self-administered questionnaires and interviewer-administered questionnaires. Respondents complete self-administered questionnaires, as the name implies. Such questionnaires include Internet-mediated questionnaires, postal questionnaires, delivery and collection questionnaires (Saunders et al., 2011). Here, the user survey was conducted as an Internet-mediated questionnaire, inviting respondents to access the questionnaire through a hyperlink (web link) and fill it in online. Moreover, compared to other survey modes, online surveys are faster, simpler, and cheaper.

The Chinese online survey tool "Sojump" (问卷星)², a web based service for conducting online surveys, was used to deliver the questionnaires and the collect responses. A Prize Draw for Questionnaire, one "Amazon" gift card worth 500 CNY (about 527 SEK) was offered as a reward to give respondents incentives to complete the questionnaire, which in turns increased the response rates.

The survey included three parts described below (See Appendix 4):

1. The first part (from question 1 to question 5) collected background information, including respondent's basic information, such as gender, age, occupation, education level and monthly income.
2. The second part (from question 6 to question 9) collected information about use of Alipay on B2C sites. Question 6 is dichotomous and was used to screen out invalid responses. Then, the payment methods used on B2C sites were categorized, a questions was asked if the respondent used or did not use Alipay and the reason for that.
3. The third part of the questionnaire is referred to as "Perceptions and attitudes about Alipay" and was used to collect data on user acceptance from the respondents. A seven point Likert-style rating scale was used in which the respondent was asked how strongly she or he agreed or disagreed with a statement or series of statements (Saunders et al., 2007), ranging from 1 (completely disagree) to 7 (completely agree). The six constructs included in the hypotheses were all investigated:
 - Service quality (SQ) from question 10 to 12.
 - Perceived Risk (PR) from question 13 to 15.
 - Performance Expectancy (PE) from question 16 to 18.
 - Effort Expectancy (EE) from question 19 to 21;
 - Social Influence (SI) from question 22 to 24.
 - Facilitation Conditions (FC) from question 25 to 27;
 - Behavioral Intention (BI) from question 28 to 30.

² www.sojump.com

An open-ended question was designed to provide additional opinions about Alipay. This type of questions are usually answered through a continuous text varying in length and content. Open-ended questions can yield useful information, especially when researchers need to explore complex issues that do not have a finite or predetermined set of responses (Carey et al., 1996).

After formulating the first draft of questionnaire, the questionnaire was pilot tested to ensure that respondents had no problems understanding or answering the questions and were able to follow the instructions correctly (Fink, 2003).

In the pilot test, the questionnaires were answered by respondents among Chinese students at Jonköping University. The number of respondents was 20. There are 16 questionnaires were returned, making the effective return ratio into 80%. Most questionnaires took about three to five minutes to complete. However, there were some problems during the pilot test. Some respondents complained that several questions were unclear or ambiguous. Some sentences were not clearly or accurately translated from the original English version into the Chinese version. To solve these problems, the authors did a new translation for those questions.

3.4.2 Exploring Secondary Data

Secondary data can provide a useful source from which to answer, or partially to answer our research questions (Saunders et al, 2011). In this thesis, the authors have used Google Scholar and Jönköping University Library databases as the primary search engines to gather literature. DIVA is also an effective tool for secondary data searching. The main purpose of collecting secondary data was to find out which factors other authors have already pointed out and how other researchers have investigated user acceptance of third-party online payment. After this, the authors listed the keywords, (see Table 3.2).

In order to clarify the knowledge gap about third-party online payment research, the authors use “third party online payment” as key to do keywords retrieval on Google scholar, there is 163 results. Among them, 27 articles are about third-party online payment. much of the research of third party online payment focus has been on finance, security, supervision, risk, the relationship between commercial banks and third party payment provider, business strategy, trust problem, etc.

Table 3.2. Keywords used to search for literature

Keywords	
Third-party online payment	Alipay
Third-party online payment,China	Third-party online payment,Alipay
Third-party online payment, adoption	B2C
Third-party online payment, acceptance	B2C in China
UTATU	Technology Acceptance Model



3.5 Data analysis

In this research, SPSS version 22.0, statistical software was used to perform the statistical analysis, and to achieve the desired objectives of the study. In this section, the statistical analysis performed in the study will be described.

3.5.1 Descriptive analysis

In this study, the questionnaire collected information about the number of respondents in the sample, the number and percentage of males and females in the sample, the range and mean of ages, education level, and any other relevant background information (Pallant, 2010). Moreover, before testing hypothesis, every constructs' descriptive statistics was obtained, which included the mean, and standard deviation of each constructs in the questionnaire.

3.5.2 Reliability analysis

The reliability of a scale is defined as the degree to which the instrument is free from random error. Two frequently used indicators of a scale's reliability are test-retest reliability and internal consistency (Pallant, 2010). Internal consistency includes correlating the responses to each question in the questionnaire with those to other questions in the questionnaire (Saunders et al., 2011). Internal consistency tends to be a frequently used type of reliability in the IS domain (Sekaran, 2006). In this study, internal consistency was used as a measure to assess the construct reliability.

3.5.3 Factor analysis

The validity of a scale is defined as the degree to which it measures what it is supposed to measure (Pallant, 2011). As a rule of thumb, the higher the validity, the more accurate the instrument used. In order to test the construct validity, researchers usually utilize exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to examine factors of the empirical data. Exploratory factor analysis is employed in the early process of research to gather information about the interrelationships among variables. Confirmatory factor analysis is a more complex and sophisticated set of techniques used later in the research stage to examine specific hypotheses or theories concerning the structure underlying a set of variables (Pallant, 2010).

In this study, exploratory factor analysis was carried out in order to figure out the common factors that affect the dependent variable (behavioral intention).

3.5.4 Correlation analysis

In order to test the proposed UTAUT model, relations between variables should be measured. Pearson Correlation aims at exploring the strength of the relationships between continuous variables (Pallant, 2010). A correlation analysis was carried out based on each of these constructs in the proposed model.

3.5.5 Regression analysis

In this study, the standard multiple regression was performed. All independent variables were entered into the equation simultaneously. Each independent variable was evaluated in terms of its predictive effects, over and above that offered by all the other independent variables (Pallant, 2010).

3.6 Analysis of open-ended questions

Open-ended question responses are often elicited in organizational research to gather new information about an experience or topic, to explain or clarify quantitative findings, and to explore different dimensions of respondents' experiences, open question usually used in organizational research to explore, explain, and/or reconfirm existing ideas with the text data in the form of a brief (Jackson, 2002).

In this study, the answers to the open-ended questions were analysed by directed content analysis (Hsieh & Shannon, 2005). The responses to the open-ended questions were read through and grouped into categories. The coding categories for the responses were “advantages” and “disadvantages” with Alipay.

3.7 Credibility

There are several types of criteria for evaluating the quality of conducting research. (Collis et al., 2003) claim that historically, reliability, replication and validity have been very common measurements of the quality of the scientific work.

3.7.1 Reliability

Easterby-Smith (2008) defines reliability as the extent “*to which your data collection techniques or analysis procedures will yield consistent findings*” (Easterby-Smith et al., 2008, p. 109). The authors used internal consistency to test the reliability of the questionnaire. Each construct was examined by calculating the value of Cronbach's Alpha in order to ensure the internal consistency reliability.

3.7.2 Validity

According to Saunders et al. (2011), validity is concerned with whether the research findings are really about what they appear to be about. In this study, the authors will mainly discuss the content about the validity of the questionnaire in our survey as content validity concerns the degree to which the measurement questions in the questionnaire delivers sufficient coverage of the investigative question (Saunders et al., 2011). In order to provide “*sufficient coverage*” in our questionnaire, the authors have read about lot of the literature review and prior discussions before authors defined this research purpose. Furthermore, the questions in the survey are based on the standard scale of the UTAUT model which has been proposed and tested by other researchers before (See Appendix 2 and 3). The questionnaire items for the new factors “service quality” and “perceived risk” were created from the literature review and the expert interview to ensure the content validity.

4 Empirical findings and analysis

This chapter presents the empirical findings and the statistical analysis performed on empirical data. The descriptive findings are presented and the hypotheses are tested.

4.1 Descriptive analysis

In order to get a more convenient understanding of the B2C user's acceptance from employees, students and employees from party and government organs and institutions, a descriptive analysis was applied for the demographic information collected in the survey. Frequency statistics for the general questions in the survey were calculated. In Table 4.1, we can see that 130 of the respondents were male, the rest of the respondents were female.

Table 4.1. Statistic for gender.

	Variable	Frequency	Percent
Gender	Male	130	49%
	Female	131	50%
	Total	261	

68 respondents of the B2C customers responding to the questionnaire were between 18 and 24 years old (36 males and 32 females). 143 respondents were between 25 and 30 years old (71 males and 72 females). The age group between 31 and 35 years included 32 respondents (18 males and 14 females), and the age above 36 were 17 respondents (6 males and 11 females). As shown in Figure 4.1, young people constituted the main part of B2C users in the study.

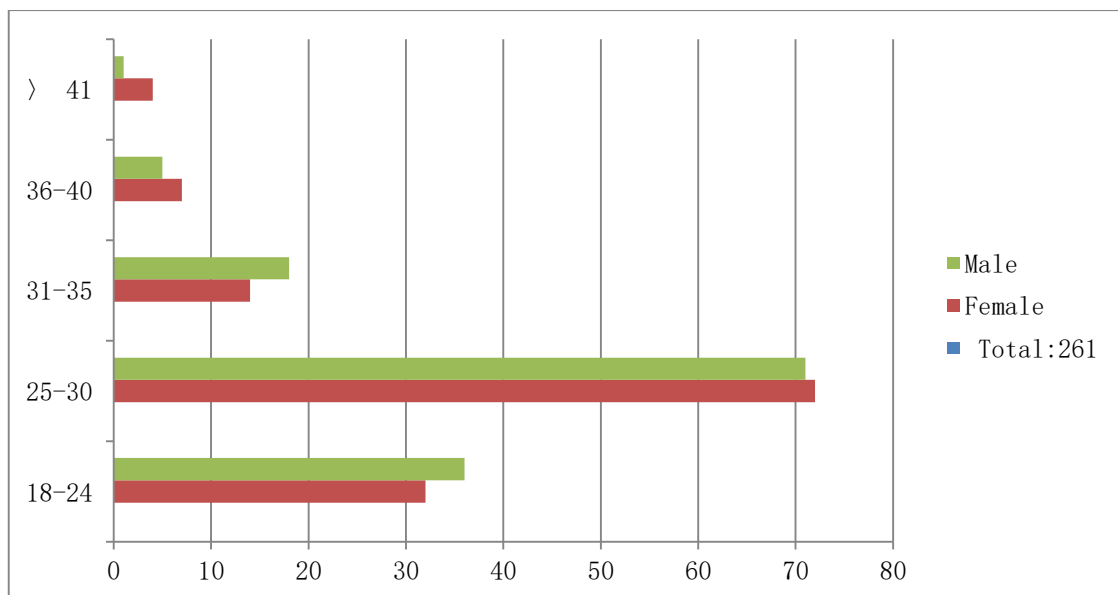


Figure 4.1. Bar chart statistic for age.

As shown in Figure 4.2, Alipay is the largest share in the figure (113 responses), next, cash on delivery had 82 responses. The rest of the respondents, 65 individuals, used internet bank. There are 43% of the B2C consumers choose Alipay to pay their purchases. Hence, to understand the behavior B2C consumers can help Alipay to acquire more market share.

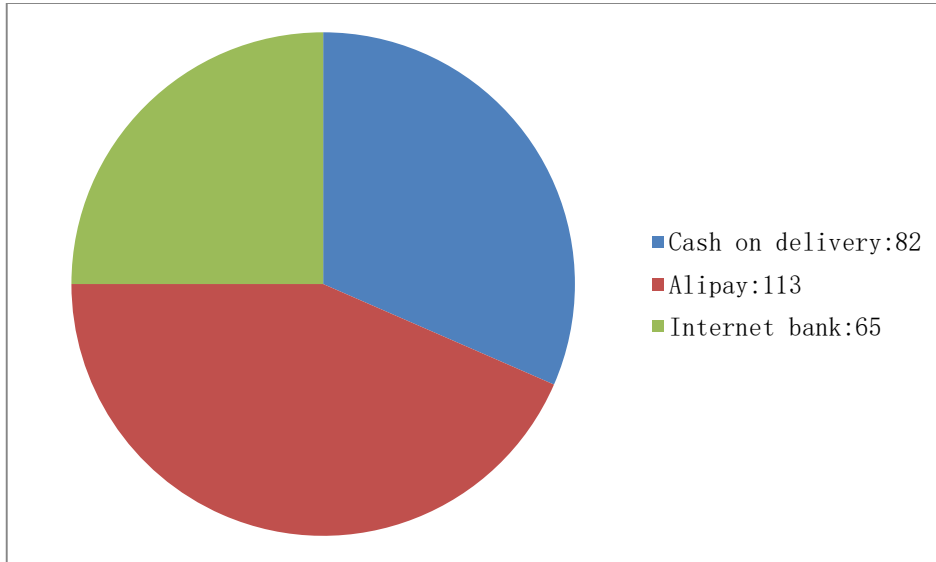


Figure 4.2 Pie chart on Terms of Payment.

As shown in Table 4.2, from the occupational perspective, we found that 74 of the respondents were students, 135 were company employees, and the rest of the respondents were employees from party and government organs and institutions.

Table 4.2 statistic for occupations

	Variable	Frequency	Percent
Occupation	Company employees	135	51%
	Student	74	29%
	Employees from Party and government organs and institutions	51	19%
	Total	261	

As shown in Table 4.3, regarding respondents' education levels, 168 of the respondents had a bachelor degree, and 82 respondents had the master degree or a higher education

Table 4.3 statistic for education background (level).

	Variable	Frequency	Percent
Education level	Bachelor degree	168	64%
	Under Bachelor degree	11	4%
	Master degree or higher	82	32%
	Total	261	

As shown in Figure 4.3, we found that 101 of the respondent's monthly incomes was less than 3000 CNY, because the most of the respondents are students. 90 respondents had a monthly income between 3000 and 5000 CNY, and 42 people was between 5000-8000 CNY. Only 28 respondents had a monthly income over 8000 CNY.

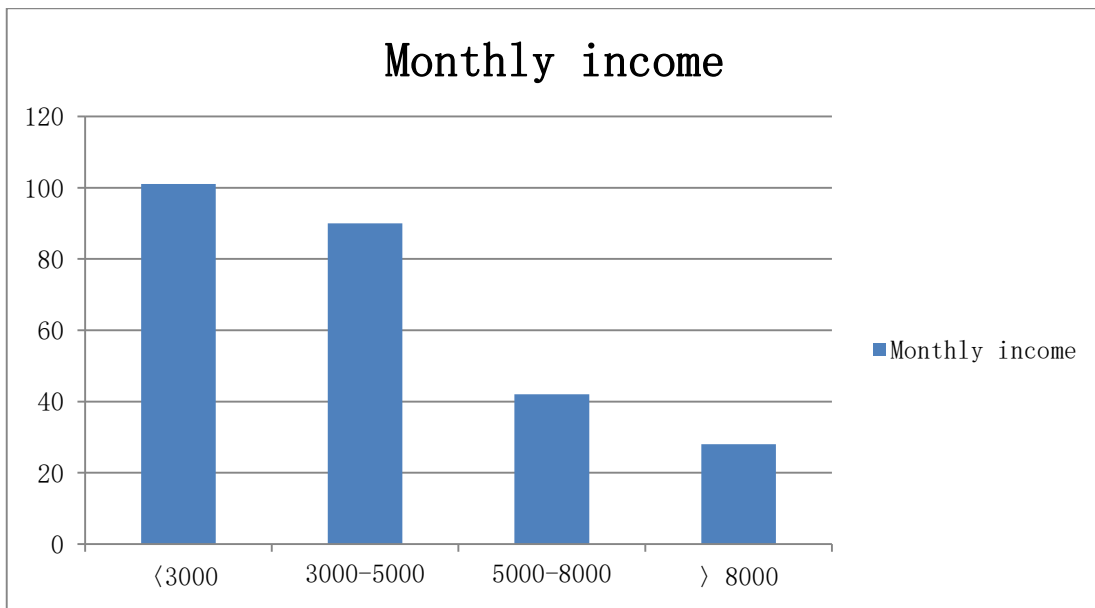


Figure 4.3 statistic for monthly income.

As shown in Table 4.4, the products that the respondents bought from online shops were clothes (101 respondents), books (79 respondents), electronic products (53 respondents), appliances (27 respondents), and daily necessities (92 respondents). The rest of the respondents chose the product category "another".

Table 4.4 statistic for shopping options.

	Variable	Frequency
Product	Clothes	101
	Book	79
	Electronic products (such as cameras, cell phones, computers and other products)	53
	Appliances	27
	Daily necessities	92
	Other	13
	Total Number to answer this question	136

The reasons for respondents not using Alipay on B2C sites are presented in Table 4.5. 42 respondents think that they do not need Alipay to buy products from B2C websites, 45 respondents think that Alipay has security concerns, 43 respondents think that registration and operation of Alipay are too complicated, and 25 respondents give other reasons for not using Alipay on B2C websites.

Table 4.5 statistic for reasons why users not use Alipay

	Variable	Frequency	Percent
Require	No need	42	27%
	Security concerns	45	29%
	Registration and operation are complicated	43	28%
	Other	25	16%
	Total	155	

An arithmetic mean is a term for what most people call an “average.” As shown in Table 4.6, the authors used mean values to estimate values of the constructs in the survey. The authors use SPSS for calculating the arithmetic mean for constructing items.

A standard deviation shows how much variation or dispersion of the average exists. As shown in Table 4.6. The authors use std. deviation to simply substitute it. The authors used SPSS to calculate standard deviation for construct items in the questionnaire. The mean values for all constructs of the research model were between 4 and 6. The largest mean occurred in Performance Expectancy, which was 5.59. The smallest mean occurred in Perceived Risk,

which was 3.81. This can be interpreted as the respondents finds Alipay useful and do not perceive a high degree of risk when using Alipay(See Appendix 5).

Table 4.6. Summary of Measurement Scales.

Constructs items	Code	Mean	Std. Deviation
Service quality	SQ	5.17	1.215
Perceived Risk	PR	4.55	1.305
Performance Expectancy	PE	5.50	1.270
Effort Expectancy	EE	5.43	1.267
Social Influence	SI	4.87	1.248
Facilitation Conditions	FC	5.23	1.036
Behavioral Intention	BI	5.24	1.335

4.2 Analysis of Open-ended question

The directed content analysis (Hsieh & Shannon, 2005) of the open-ended questions of the survey were coded from the initial categories of “advantages” and “disadvantages” with the system. Along with the analysis, the main category of advantages was identified as “convenience” and the main category of disadvantages as “limited amount of money transferable”. Outside of these categories, in the category of “Other responses”, respondents also stated that they trusted Alipay, mentioned incompatibility with other B2C websites, and expressed fear that the government would close down Alipay. The content analysis and illustrative quotes are presented in table 4.7.

Table 4.7. Analysis of responses to open-ended questions.

Type of advantage and disadvantage for Alipay	Number of Responses	Quotes
Advantage: Convenience	21	<p>“It was more convenient to use Alipay when I go shopping on the B2C sites”</p> <p>“It was easy to operate of the Alipay when I go shopping on the B2C websites”</p> <p>“I can use the Alipay to buy telephone cards on the internet, it was very convenient”</p> <p>“I can easy to understand how to use Alipay”</p> <p>“The interface of Alipay was easy to understand and easy to use”</p>

Disadvantage: Limited amount of money transferable	22	<p>“There is a limit on the amount of money that I can transfer money via Alipay”</p> <p>“I very like to use Alipay, but it was limited on the amount of money for some products.”</p>
Other	10	<p>“Alipay is a trusted third-party payment platform”</p> <p>“Some B2C websites can’t use Alipay”</p> <p>“China's credit system is not perfect, but Alipay make up for this shortcoming”</p> <p>“Fear that the government will restrict the use of Alipay”</p>

4.3 Analysis of the proposed UTAUT model

4.3.1 Reliability Verification

In this study, Cronbach’s coefficient alphas were calculated based on the average inter-item correlations in order to measure internal consistency. The Cronbach’s coefficient alpha’s value range is from 0 to 1, with higher values indicating greater reliability (Pallant, 2011). Nunnally and Bernstein (1978) recommend the minimum level of Cronbach alpha value is 0.7. In this study, the overall Cronbach Alpha for all items was 0.925. It varies for the corresponding construct variables between 0.701 and 0.903. All constructs exceeded 0.70 in Cronbach’s alpha value (See Table 4.8).

Table 4.8. Reliability Analysis (N =261).

Construct	No. Of Items	Cronbach Alpha (α)
Service Quality(SQ)	3	0.867
Perceived Risk(PR)	3	0.708
Performance Expectancy(PE)	2	0.880
Effort Expectancy(EE)	3	0.885
Social Influence(SI)	4	0.775
Facilitating Condition(FC)	3	0.701
Behavioral Intention(BI)	3	0.903

4.3.2 Validity test

The exploratory factor analysis of SPSS 22.0 were used to analyze data, using Principal Component Analysis (PCA) as the extraction method and Oblimin rotation with Kaiser Normalisation as the rotation method.

Firstly, the sampling adequacy and sphericity of the inter-item correlation matrix was determined. There are two measures used to estimate factorability of the sample data. Bartlett’s test of sphericity (Bartlett, 1950) should be significant ($p < 0.05$) for the factor analysis to be considered appropriate, and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy

(Kaiser, 1974) ranges from 0 to 1, with the value of 0.6 suggested as the minimum value for a good factor analysis (Tabachnick & Fidell, 2001).

Table 4.9. KMO and Bartlett's Test (N =261).

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.874
Bartlett's Test of Sphericity	Approx. Chi-Square	2892.672
	df	153
	Sig.	.000

KMO and Bartlett's test were calculated to evaluate all scales. The results show that the KMO is 0.874, This value is higher than the threshold value of 0.6, Bartlett's test of Sphericity statistic was significant [2892.67 ($p < 0.01$)](See Table 4.9).

A principal component analysis was conducted of 18 items of the questionnaire to determine the number of factors in the total sample. The 18 items were inter-correlated and the eigenvalues of the unreduced inter-correlation matrix were calculated. The results showed that a total of four factors had eigenvalues larger than 1 and were extracted to take into account for further analysis (See Table 4.10).

Table 4.10. Total Variance Explained (N =261).

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.368	40.935	40.935	7.368	40.935	40.935	6.285
2	2.325	12.915	53.850	2.325	12.915	53.850	2.110
3	1.467	8.149	62.000	1.467	8.149	62.000	3.823
4	1.175	6.529	68.529	1.175	6.529	68.529	4.692

Extraction Method: Principal Component Analysis.

The factor loading was calculated. The factor loadings, also called component loadings, are the correlation coefficients between the variables (rows) and factors (columns). The coefficients of correlation express the degree of a linear relationship between the row and column variables of the matrix. Loadings above a value of 0.6 are usually considered 'high' and those below 0.4 are 'low' (Manly, 1994). As shown, each construct variable corresponds to a factor expect for construct item FC3 (Facilitating conditions). Factor loadings above 0.60 are marked with a gray background in the following table.

The structural matrix illustrates the factor loadings of each item onto each of the four factors (See Table 4.11). Item FC3 had four factor loadings are below 0.60, so that this item moved out form further analysis. Items EE3, EE1, EE2, PE2, FC2, FC, PE1 and SI3 loaded on the Factor 1 with strong factor loadings ranging from 0.710 to 0.849. Items PR1 to PR 3 loaded on the Factor 2, with strong factor loadings ranging from 0.672 to 0.842. Items SI1, SI2 and SI4 loaded on the Factor 3 Dimension, with factor loadings ranging from 0.729 to 0.911.

Items SQ1 to SQ3 loaded on the Factor 4 Dimension, with factor loadings ranging from 0.745 to 0.935.

Table 4.11. Structure Matrix (N =261).

	Component			
	1(EE)	2(PR)	3(SI)	4(SQ)
EE3	.849	-.058	.373	.409
EE1	.848	-.004	.375	.542
EE2	.816	-.067	.356	.454
PE2	.785	.005	.365	.637
FC2	.746	.269	.175	.298
FC1	.739	.081	.445	.488
PE1	.716	.001	.382	.583
SI3	.710	.071	.327	.370
PR1	.135	.842	.094	-.065
PR3	.155	.832	.250	-.006
PR2	-.328	.672	.113	-.084
SI1	.256	.201	.911	.192
SI2	.299	.168	.911	.285
SI4	.453	.065	.729	.412
FC3	.413	.265	.510	.506
SQ2	.415	-.062	.237	.935
SQ3	.473	-.078	.321	.904
SQ1	.604	-.112	.328	.754

Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.

According to the structural matrix, the factor 1 named as Effort Expectancy. Factor 2 is defined as Perceived Risk and Factor 3 is Social Influence and Factor 4 is Service Quality.

The factor correlation matrix indicates the strength of the association between the factors, or the extent to which the factors are distinct and unrelated, also known as discriminant validity. The correlations between factors should not exceed 0.7 in order to avoid shared variance between the factors (Hair et al., 2009).

Table 4.12. Component Correlation Matrix (N =261).

Component	1	2	3	4
1	1.000	.025	-.349	.485
2	.025	1.000	-.171	-.041
3	-.349	-.171	1.000	-.340
4	.485	-.041	-.340	1.000

According to the results in Table 4.12, it is clear that none of the factor correlations is greater than the 0.7 value. It is therefore evident that the three factors can be clearly distinguished from each other.

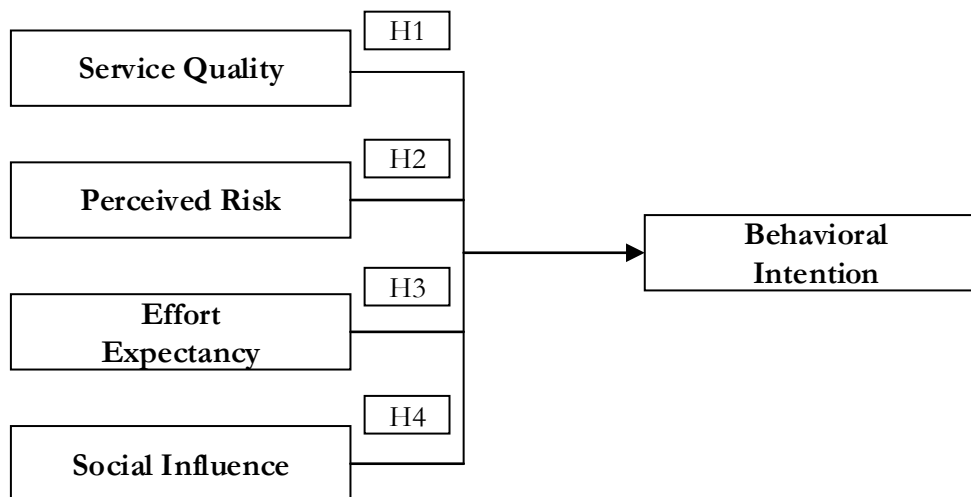


Figure 4.4 Re-defined Research Model

According to the exploratory factors analysis, a re-defined research model (see figure 4.4) was proposed. Based on the new research model, the following four hypotheses were stated:

Hypothesis 1: Consumers’ perceived service quality has a positive effect on the intention to use Alipay.

Hypothesis 2: Consumers’ perceived risk negatively affects the intention to use Alipay

Hypothesis 3: Customers with high effort expectancy will have a high intention to use Alipay

Hypothesis 4: Customers perceiving high social influence from significant others will have high intention to use Alipay.

4.3.3 Correlation

The result of the Pearson Correlation analysis is presented in Table 4.13. Correlations between independent variables (EE, PR, SI, SQ) and dependent variable (BI) are colored in grey. Among them, the relationship between PR and BI (0.027) demonstrates the lowest correspondence, is not at significance level 0.05 ($p > 0.05$), thus, PR will be not taken account into further regression analysis. The highest correlation coefficient (0.745) occurs in the relationship between EE and BI.

Table 4.13 Correlations (N =261)

		BI	EE	PR	SI	SQ
BI	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	261				
EE	Pearson Correlation	.745**	1			
	Sig. (2-tailed)	.000				
	N	261	261			
PR	Pearson Correlation	.027	-.005	1		

	Sig. (2-tailed)	.667	.934			
	N	261	261	261		
SI	Pearson Correlation	.467**	.469**	.181**	1	
	Sig. (2-tailed)	.000	.000	.003		
	N	261	261	261	261	
SQ	Pearson Correlation	.538**	.650**	-.121	.352**	1
	Sig. (2-tailed)	.000	.000	.052	.000	
	N	261	261	261	261	261

** . Correlation is significant at the 0.01 level (2-tailed).

4.3.4 Regression analysis

In this study, the authors aimed to test the relationship between the factors of proposed research model. Multiple linear regression analysis will be applied to explain the relationship between factors, and to test the proposed hypotheses.

Table 4.14. Model Summary (N =261)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760 ^a	.577	.572	.87363

a. Predictors: (Constant), SQ, SI, EE

Table 4.15. ANOVA^a (N =261)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	267.606	3	89.202	116.875	.000 ^b
	Residual	196.150	257	.763		
	Total	463.756	260			

a. Dependent Variable: BI

b. Predictors: (Constant), SQ, SI, EE

Table 4.16. Coefficients^a (N =261)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.059	.292		-.201	.841
	EE	.773	.070	.625	11.016	.000
	SI	.134	.042	.145	3.156	.002
	SQ	.089	.059	.081	1.516	.131

a. Dependent Variable: BI

R square value for the model in the Table 4.14 shows to what extent the independent variable can predict the dependent variable in multiple regressions. In this test, it means that independent variables (such as Service Quality, Effort Expectancy, Social Influence) can explain 57.7% of the variability in dependent variable (behavior intention to use Alipay in China's B2C context). To assess the statistical significance of the result, it is necessary to look in the Table 4.14 labelled ANOVA. This tests the null hypothesis that multiple R in the population equals 0. The model in this research reaches statistical significance (Sig. = .000; this really means $p < .001$).

In Table 4.15, the largest beta coefficient is 0.625 for Effort Expectancy. This means that this variable makes the strongest unique contribution to explaining the dependent variable "Behavior Intention", when the variance explained by all other variables in the model is controlled for. The beta value for Service Quality was slightly lower (0.081), indicating that it made less of a unique contribution.

The Sig. in coefficient table (See Table 4.16) demonstrates which independent variable has a significant influence on behavior intention. The independent variable "Service Quality" has a Sig. value greater than .05. It is concluded that this variable is not making a significant unique contribution to the prediction of the dependent variable "Behavioral Intention" in the model. The rest of independent variables "Effort Expectancy" and "Social Influence" have Sig. value less than .05, which means they make a significant contribution to the prediction of the dependent variable "Behavioral Intention".

4.3.5 Hypothesis Testing Results

Table 4.17. Summary of hypotheses testing results

Hypotheses	Finding	Conclusion
H1: Consumers' perceived service quality has a positive effect on the intention to use Alipay.	Not significant	Not supported
H2: Consumers' perceived risk negatively affects on the intention to use Alipay	Low correlation	Not supported
H3: Customers with high effort expectancy will have high intention to use Alipay	Beta=0.625***	Supported
H4: Customers perceiving high social influence from significant others will have high intention to use Alipay.	Beta=0.145**	Supported

** $p < 0.01$, *** $p < 0.001$

H1: Consumers' perceived service quality has a positive effect on the intention to use Alipay.

The p-value (Sig.) of this factor is 0.131 (over 0.05) in regression test, so there is no linear relationship between service quality and behavior intention to use Alipay, which means that the service quality does not affect the behavioral intention to use Alipay on B2C sites. Therefore, this hypothesis is not supported.

H2: Consumers' perceived risk negatively affects on the intention to use Alipay

The correlation test shows that there is low correlation between perceived risk and behavior intention, which means that perceived risk does not affect the behavioral intention to use Alipay on B2C sites. Therefore, this hypothesis is not supported.

H3: Customers with high effort expectancy will have high intention to use Alipay

The p-value (Sig.) of this factor is below the value of 0.001 in regression test, so there is a very strong linear relationship between effort expectancy and behavioral intention to use Alipay, which means the effort expectancy affects the behavioral intention to use Alipay on B2C sites. Therefore, this hypothesis is supported.

H4: Customers perceiving high social influence from significant others will have high intention to use Alipay.

The p-value (Sig.) of this factor is less than 0.01 in regression test, so there is a strong linear relationship between social influence and behavior intention to use Alipay, which means the social influence affects the behavioral intention to use Alipay on B2C sites. Therefore, this hypothesis is supported.

5 Discussion

This chapter discusses the results, research model and methods of the study. Subsequently, research implications and suggestion for further research will be presented.

5.1 Discussion of results

The primary purpose of this study was to test and examine the proposed UTAUT model in explaining the acceptance of Alipay among China's B2C customers. Additionally, to explain the influence on B2C user's acceptance of third-party online payment, the perceptions of B2C customers were investigated and several factors related to the proposed UTAUT model were tested. According to the result of the study, two factors, Service Quality and Perceived Risk, were not supported to have any impact on user behaviour and the factors of Social Influence and Effort Expectancy were supported to have an impact.

It is important to note, according to the results of hypothesis testing, that Perceived Risk did not have any significant influence on China's B2C customers' intention to use Alipay, which is contradictory to our expectation and previous empirical research results for other online payment services. Lee (2009) stated that Perceived Risk is a negative factor in the intention to adopt online banking. Schaupp et al. (2010) found that perceived risk had a significant negative effect on Intention to Use an IRS (Internal Revenue Service) endorsed e-file system. In general, perceived risk plays a negative role in users' intention to use technology. The higher risk perceived by users during the process of evaluating one specific technology, the lower intention users have to use it. However, the result of this study was that perceived risk and behavioral intention did not have a significant negative correlation.

There are two explanations for this. Firstly, the authors believe that it is only when the B2C customers' perception of the risk of third-party payment is very strong, that it will have an impact on the users' intention to use Alipay. In other words, it is only when the B2C customers' perception of the risk of third-party payment is very strong he risk perceived by China's B2C customers is below a certain level, there are limited effects to the people's intention to use Alipay. Secondly, Alipay and other third-party payment service like Tenpay have operated for many years in China's C2C market. In the C2C market, these payment providers built their C2C e-commercial platforms and act as a trusted intermediary to secure transactions between buyers and sellers, reducing the risk of transactions. With the continuous improvement of technology, the security of third-party payment has increased a lot. Hence, we can infer that the risk of the third-party payment has been reduced to the acceptable level for China's B2C customer, which might be one of the reasons for that perceived risk did not affect behavioral intention in this study.

5.2 Discussion of the proposed UTAUT model

Based on the reliability verification, regression analysis, bivariate correlation analysis and validity test, the re-defined research model is reliable and variables in the model are correlated to each other. Regarding the linear relationship between different variables, as R square in the Table 4.14 indicates the independent variables' ability (such as Effort Expectancy, Social Influence, etc.) to predict the dependent variable (behavior intention to use the Alipay) is 57%. Although the variables of "Effort Expectancy" and "Social Influence" can well predict the dependent variable in the re-defined model. The variables of "Service Quality" and "Perceived Risk" were tested to have no linear relation with the dependent variable "behavioral intention to use the Alipay".

5.2.1 Direct variables impact

UTAUT have proposed four dimensions for direct variables: “performance expectancy”, “Effort expectancy”, “Facilitating conditions” and “social influence”. In this research, “effort expectancy” has the highest impact, the bate value is 0.623***, and then followed by “social influence”, the bate value is 0.172*. Hence, the impact of direct variables in this study does not fully correspond to the original UTAUT model.

5.2.2 Interference variables impact

The impact of interference variables is one part of the UTAUT model. This was not covered in this study as it would have increased the complexity of the data analysis significantly.

5.2.3 Additional variables impact

“Service Quality” and “Perceived Risk” are two additional variables that were explored in this study. They do not belong to the original UTAUT model. In this study, after data analysis, these two additional variables were not supported, which means they do not have a direct impact on behavioral intention to use the Alipay.

5.3 Discussion of method

In this study, a deductive method is used to fulfill the purpose to explain user acceptance of Alipay in a Chinese B2C context. Qualitative data were collected and analyzed for hypothesis development through a literature review. Quantitative data were collected to test hypotheses through a survey study. The target population in China is numerous, and we needed a broad investigation reaching as many respondents as possible. The survey helped us breaking through restrictions of resource and time, collecting data from a large sample in a short time. Moreover, survey studies allow for statistical analysis on an advanced level.

Quota sampling was used as the sample method in this study. Compared with probability sampling, the major pros of quota sampling are speed of data collection, low cost and convenience (Zikmund, 2012). As we collected 300 questionnaires in 12 days, the speed of collection was satisfying. However, in quota sampling, respondents are selected based on a convenience sampling instead of a probability sampling, it is impossible to assess the possible sampling error.

5.4 Research implications

5.4.1 Effort Exceptancy

In this study, effort expectancy was interpreted as that users can easy to learning use and understand how to use Alipay on B2C sites, and B2C users think it is easy to become skillful at using Alipay on B2C sites. Overall, a simple and understandable operation interface would help in improving user acceptance. Therefore, the developers of Alipay platform need to take “ease of use” into consideration.

5.4.2 Social Influence

Social influence has a positive impact on users’ behavioral intention to use Alipay, which can be interpreted as that customers think that high influence from significant others will have high intention to use Alipay. Thus, Alipay and other third-party payment providers have to pay attention to the power of Social Influence when they promote payment services in an emerging market.

5.5 Suggestions for further research

5.5.1 Use random sampling to collect data

For this research, the authors use Quota sampling as the sampling technique, this is one kind of non-random sampling, it can fast and effectively to collect the data, but this kind of sampling is more biased, because the individuals chosen are not at random. They also might not represent what another population thinks. Therefore, if authors have enough time, it will use random sampling to collect the data, because it can represent the majority of people think.

5.5.2 Use a mixed logic to classify population

In this study, the authors classify the population only based on occupation distribution of B2C customers. In order to ensure the accuracy of the quotas, a mixed logic could be performed. Classifying the target population can be based on both occupation distribution and geographical distribution in future research.

5.5.3 Explore additional variables in UTAUT model

In this study, the external variables were service quality and perceived risk which influence the Behavioral Intention. Further research can introduce other factors into the UTAUT model, in order to gain more comprehensive understanding about which factors will influence B2C users' acceptance of third-party payment, such as "*trust*".

5.5.4 Extend to other third-part online payment agency

In this study, the authors only used the Alipay as their case, because Alipay is the biggest third-part online payment in China. With the advancement of technology, more and more third-part online payment agencies have appeared on the market. Therefore, also other agencies of third-party online payment can be studied.

6 Conclusion

This chapter aims to conclude the analysis and findings, answer the research questions, and fulfill the goal of the study.

What are the factors that affect the customers' acceptance of Alipay on China's B2C sites?

The empirical data supports hypothesis 3 "Customers with high effort expectancy will have a high intention to use Alipay" and hypothesis 4 "Customers perceiving high social influence from significant others will have high intention to use Alipay". Based on the hypotheses results, the authors concluded that, the more easier and relax users feel when they using Alipay on B2C sites, the more they are willing to accept this payment method. In short, effort expectancy positively impact the B2C customers' acceptance of Alipay. Moreover, the factor "social influence" has a positive impact on the use behavior. B2C customers are influenced by the significant others around them when they considering to use Alipay on B2C sites or not.

How can the customers' acceptance of Alipay in China's B2C context be improved?

According to empirical research finding obtained in the previous section, the authors have the following recommendations for Alipay and other third-party online payment firms:

1) To improve B2C customer's effort expectancy for Alipay and step up publicity about Alipay.

The empirical results show that B2C consumers' effort expectancy is an important factor to influence their willingness to use Alipay. Therefore, Alipay can provide easy-to-use third-party online payment services with simple operations. Besides that, Alipay promotes the payment service to B2C consumers, not only do they emphasize its "usefulness", but also do focus on promoting its "ease of use", thereby increasing B2C consumer's effort expectancy for Alipay. More specifically, Alipay, should focus on simplifying the operation procedure of payment, reducing the complexity of operations. On the premise of security guarantee, customers can complete payment quickly in order to enhance users' effort expectancy.

2) To leverage Social Network Marketing

The empirical results of this study show that the social influence play a significant role in affecting consumers' willingness to use Alipay. Thus, Alipay can carry out social network marketing in order to make customers perceiving high social influence from significant others, so that increasing social influence to potential customers. More specifically, Alipay can use Chinese social networking sites (weibo, renren and xiaonei) as a promotional technique. Alipay can follow individuals' social networking site and advertise specials and deals. These can be exclusive and in the form of "get a Alipay gift card worth 1CNY with a copy of this tweet". This type of message encourages people to follow Alipay on the sites in order to obtain the promotional deal. In the process, Alipay is getting seen and promoting itself.

7 List of references

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Appendix

Appendix I: Background questions to Alipay's customer service

1. Do you know the the number of Alipay users in China? Registered users and online users.
2. Do you know the the number of Alipay's B2C users in China?
3. Can you tell me the Alipay's user's age distribution in China?
4. Can you tell me the Alipay's user's geographical distribution in China?
5. Can you tell me the Alipay's B2C user's situation in China?
6. Can you tell me the Alipay's user's amount of consumption from different provinces in China?
7. Do you have any idea about Alipay's B2C user's acceptance in China?

Appendix 2. Questionnaire related to proposed research model

Constructs	Type	Definition	Items	Reference
Service quality (SQ)	Likert scale; Independent	A comparison of expectations with performance, researchers believe that the service quality theory builds on the literature on product quality and user satisfaction	3	Bauer (1960)
perceived Risk(PR)	Likert scale; Independent	A combination of uncertainty with seriousness of outcome involved	3	Anderson & Sullivan (1993).
Performance Expectancy (PE)	Likert scale; Independent	The degree to which an individual perceives that an information system is helpful for the job	3	Venkatesh et al. (2003)
Effort Expectancy (EE)	Likert scale; Independent	How much one's effort is required to use an information system	3	
Social Influence (SI)	Likert scale; Independent	The degree to which one is affected by others to use the information system	4	
Facilitating Conditions (FC)	Likert scale; Independent	The degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the information system	3	
Behavioral Intention (BI)	Likert scale; Independent	Behavioral intention to use a new system is influenced by users' attitude and perceived usefulness of the system.	3	
Use Behavior (UB)	Likert scale; Independent	Use behavior was measured users' actual frequencies of technology use.	1	

Appendix 3. Measurement scales for questionnaire

Variables	Items	
Service quality(SQ)	SQ1	During using Alipay on B2C sites, customer service provided by Alipay is high efficient
	SQ2	During using Alipay on B2C sites, B2C sites and banks can protect safety of transaction
	SQ3	With the development of third-party online payment, I think it is safe to use Alipay on B2C sites
Perceived Risk (PR)	PR1	I am worried about that my Alipay account information will be leaked or resold during using Alipay on B2C sites
	PR2	I am worried about that it is time-consuming to use Alipay on B2C sites
	PR3	I am worried that my Alipay account is stolen by someone else on B2C sites, which could result in economic losses
Performance Expectancy(PE)	PE1	Using Alipay enables me to finish the payment quickly during using Alipay on B2C sites
	PE2	Using Alipay is useful for me on B2C sites.
Effort Expectancy(EE)	EE1	Learning to use Alipay on B2C sites is easy for me
	EE2	My interaction with the Alipay clear and understandable during using Alipay on B2C sites
	EE3	It would be easy for me to become skillful at using Alipay on B2C sites
Social Influence(SI)	SI1	People who influence my behavior think that I should use Alipay when I go shopping on B2C sites.
	SI2	People who are important to me that think that I should use Alipay when I shop on B2C sites.
	SI3	In general, the B2C sites have supported the use of Alipay.
	SI4	If many people around me who use Alipay on B2C sites, I will think that I also should use it on B2C sites
Facilitation Conditions(FC)	FC1	I have the knowledge necessary to use the Alipay when I shop on B2C sites.
	FC2	I have the resource (like internet) necessary to use Alipay when I go shopping on B2C sites.
	FC3	When I have payment problem on the B2C sites, Alipay provide assistances to help me to deal with difficulties.
Behavioural Intention(BI)	BI1	I intend to use Alipay on B2C sites in the next 12 months.

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	BI2	If the B2C sites provide the payment option of Alipay, I intend to use it.
	BI3	I intend to recommend Alipay to friends and family when they shop on B2C sites.
Use Behavior(UB)	UB1	I will continue to use the Alipay or start to use it on B2C sites in the next 12 months.

Appendix 4. Questionnaire

The purpose of this questionnaire is the study user acceptance of Alipay. Currently Alipay is a widely used third-party online payment platform with millions of users. Our study aims to investigate the users' attitudes towards using Alipay on B2C sites. Your answer will be valuable for our study Your answer will be anonymous.

Thank you for your support and participation.

Part 1 Background data

Question 1: What's your gender?

1. Male
2. Female

Question 2: How old are you?

6. Under 18
7. 18-24
8. 25-30
- 9.31-35
9. More than 35

Question 4: What's your level of education?

1. Completion of Specialized or General Sec. Ed. & Under
2. College or bachelor degree
3. Master degree
4. Doctor degree

Question 5: What's your occupation?

1. Student
2. Employees from Party and government organs and institutions
3. Company employees

Question 5: What is your monthly income? (yuan is the monetary unit of China)

1. 3000 yuan and below
2. 3000-5000 yuan
3. 5000-8000 yuan
4. 8000 yuan or more

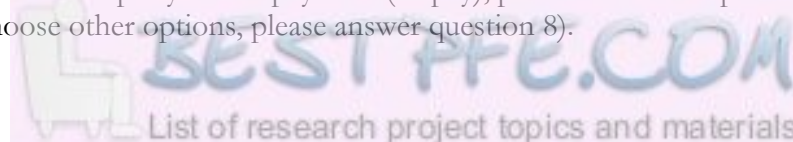
Part 2 The use of third-party online payment on B2C websites

Question 6: Do you shop on B2C sites?

1. Yes
2. No

(Note: Main B2C sites in China:Ctrip, Dangdang,Elong.com,Amazon,Jingdong Mall,Mecox Lane,Newegg,Suning.com,Tmall,Vancl)

Question 7: When you go shopping on the B2C sites, you will choose which kind of payment? (If you choose the third-party online payment (Alipay), please answer the part 3 of questionnaire. If you choose other options, please answer question 8).



1. Third-party payment (Alipay)
2. Online banking
3. Pay on delivery
4. Other kind of payment, state which____

Question 8: Why don't you use Alipay? (You may choose more than one options,)

1. Internet access is not convenient
2. I do not need Alipay
3. Security concerns
4. Operation of Alipay cumbersome
5. Other reasons, state which____

Please continue to answer following questions.

Part3: Perceptions and attitudes about Alipay

Please according to your experiences of using alipay on B2C sites, or current understanding of Alipay, judging the degree of agree toward the following description,

Question 9: During use Alipay on B2C sites, the customer service provided by Alipay is highly efficient.

- completely disagree* *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 10: During use Alipay on B2C sites, B2C sites and banks can protect the safety of transactions.

- completely disagree* *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 11: With the development of third-party online payment, I think it is safe to use Alipay on B2C sites.

- completely disagree* *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 12: I am worried about my Alipay account information will be leaked or resold during using Alipay on B2C sites.

- completely disagree* *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 13: I am worried about that it is time-consuming to use Alipay on B2C sites

- completely disagree* *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 14: I am worried that my Alipay account is stolen by someone else on B2C sites, which could result in economic losses.

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completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 15: Using Alipay enables me to finish the payment quickly during use Alipay on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 16: Using Alipay is useful for me on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

✧ Question 17 Learning to use Alipay on B2C sites is easy for me.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 18: My interaction with the Alipay online payment system is clear and understandable during using Alipay on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 19: It would be easy for me to become skillful at using Alipay on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

✧ Question 20: People who influence my behavior can impact my decision of using Alipay on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 21: People who are important to me that think I should use Alipay when I go shopping on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 22: In general, the B2C sites where I shop most frequently support me to use Alipay.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

✧ Question 23: If many People around me who use Alipay on B2C sites, I will think that I also should use it on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 24: I have the necessary knowledge to use the Alipay when I shop on B2C sites.

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completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 25: I have the necessary resource (like Internet) to use Alipay when I shop on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 26: When I have payment problem on the B2C sites, Alipay provide assistances to help me.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 27: I intend to use Alipay on B2C sites in the next 12 months.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 28: If the B2C sites provide the payment option of Alipay, I intend to use it.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Question 29: I intend to recommend Alipay to friends and family when they shop on B2C sites.

completely disagree *moderately disagree* *somewhat disagree* *neutral* *somewhat agree* *moderately agree* *completely agree*

Appendix 5. Summary of measurement scales

Constructs items	Code	Mean	Std. Deviation
Service quality (SQ)			
During using Alipay on B2C sites, customer service provided by Alipay is high efficient	SQ1	5.37	1.426
During using Alipay on B2C sites, B2C sites and banks can protect the safety of transactions	SQ2	5.09	1.354
With the development of third-party online payment, I think it is safe to use Alipay on B2C sites	SQ3	5.06	1.326
Perceived Risk (PR)			
I am worried about that my Alipay account information will be leaked or resold during use Alipay on B2C sites	PR1	4.75	1.572
I am worried about that it is time-consuming to use Alipay on B2C sites	PR2	3.81	1.828
I am worried that my Alipay account is stolen by someone else on B2C sites, which could result in economic losses	PR3	5.10	1.548
Performance Expectancy (PE)			
Using Alipay enables me to finish the payment quickly during use Alipay on B2C sites	PE1	5.43	1.436
Using Alipay is useful for me on B2C sites	PE2	5.59	1.252
Effort Expectancy (EE)			
Learning to use Alipay on B2C sites is easy for me	EE1	5.51	1.309
My interaction with the Alipay clear and understandable during use Alipay on B2C sites	EE2	5.40	1.469
It would be easy for me to become skillful at using Alipay on B2C sites	EE3	5.39	1.436
Social Influence(SI)			
People who influence my behavior think that I should use Alipay when I go shopping on B2C sites	SI1	4.64	1.719
People who are important to me that think that I should use Alipay when I shop on B2C sites.	SI2	4.69	1.699
In general, the B2C sites have supported the use of Alipay	SI3	5.33	1.361

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If many People around me who use Alipay of B2C sites, I will think that I also should use it on B2C sites	SI4	4.85	1.611
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Appendix

Constructs items	Code	Mean	Std. Deviation
Facilitation Conditions(FC)			
I have the knowledge necessary to use the Alipay when I shop on B2C sites	FC1	5.42	1.352
I have the resource (like internet) necessary to use Alipay when I go shopping on B2C sites	FC2	5.50	1.300
When I have payment problem on the B2C sites, Alipay provide assistances to help me to deal with difficulties	FC3	4.78	1.278
Behavioral Intention (BI)			
I intend to use Alipay on B2C sites in the next 12 months	BI1	5.43	1.425
If the B2C sites provide the payment option of Alipay, I intend to use it	BI2	5.34	1.439
I intend to recommend Alipay to friends and family when they shop on B2C sites	BI3	4.97	1.518