Loyalty Influencing Factors of Business E-Commerce on University Students

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LOYALTY INFLUENCING FACTORS OF BUSINESS E-COMMERCE ON UNIVERSITY STUDENTS.

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Abstract

This paper reports a study on loyalty influencing factors of business e-commerce on university students. As a new medium, the Internet has brought a revolution to communication among human beings, which facilitates the dramatic development of e-commerce that has attracted many customers and has a huge potential customer market. University students, are an indispensable part of this medium, their loyalty would exert profound influence on the sound development of this market, making it important to research college student e-loyalty.

To be more specific, this paper sets out to do the following:

To provide a review research on customer loyalty and e-loyalty conducted mainly by critical scholars in recent years. Questionnaires are served as an important approach to collecting data of loyalty influencing factors of business e-commerce on university students and construct validity technique that involves reliability, validity, correlation and regression analysis is used to analyzing the collected data.

The paper offer recommendations for on online stores about how to improve university student’ e-loyalty. It also provides findings to develop continued profits based on some tested statements and hypotheses mentioned in the paper. The findings support the relationship among customer loyalty, customer satisfaction, and customer trust, switching costs and service quality in e-loyalty environments.

Word Count: 205

Key words: university students, e-loyalty, e-marketing, e-commerce.
1 Introduction

1.1 Background

With the development of the Internet and the changing of people’s consumer attitudes, e-commerce has had a rapid development. ACNielsen (2007) indicated, ‘more than 627 million people in the world have shopped online’ and Admin (2009) stated that UK e-commerce market had achieved £68.4 billion in 2009, and ‘European e-commerce sales are expected to reach some 323 billion Euros in 2011.’ As the group who has high frequency of using the Internet, high level of education and strong willingness of trying new things, university students have become a main customer of online shopping.

Gardyn (2002) stated that university students, a population 90 percent of which access the internet daily, have a strong buying power for the e-commerce market. According to the survey of Experience (2006), 98% of university students have purchased a good or service online. As the potential group who leads the society’s consuming trend, in spite of this university students’ spending power is limited in the school, however most of them have the relatively high income after graduation, so university students are likely to dominate the future of network consumption.

Furthermore, Reichheld and Sasser (1990) indicated, if customer loyalty rate has increased by 5%, corporate profits can be increased by 25% to 85%. It can be seen that creating customer loyalty of university students can bring business significant competitive advantage and improve university students’ customer satisfaction and customer trust and customer loyalty is the critical factor to Internet marketing success. Therefore, it has practical value and significance to do the research on loyalty influencing factors of business e-commerce on university students, which can help companies to improve customer loyalty and then obtain continued long-term profits.

1.2 Research Objectives, Questions and Significance

1.2.1 Research Objectives

Specific objectives of this research are as follows:

- Through analyzing literature and the data of the questionnaire survey, identify the various factors, which influence university students’ e-loyalty.
- By analyzing the theory of customer satisfaction, service quality and customer switching costs, building the theoretical model, which affects university students’ e-loyalty in the environment of online shopping.
- Analyzing the relationship among the factors influencing university students’ e-loyalty, customer satisfaction, customer trust and customer switching costs, giving recommendations to organizations about how to improve university students’ e-loyalty.
1.2.2 Research Questions

Research questions are as follows:
- What are the specific factors, which influence university students’ e-loyalty?
- What is the theoretical model, which affects university students’ e-loyalty in the environment of online shopping?
- How do companies improve university students’ e-loyalty?

1.2.3 Research Significance

- Theoretical value
  With the rapid development of Internet technology and the change of people's consumption concept, e-commerce has entered a rapid development stage and many companies have taken the new retail model, which is online marketing. Providing quality products and services to increase customer satisfaction, trust and loyalty is the key to the survival of e-commerce businesses. Therefore, based on the existing theory of customer loyalty, this research will analyses the factors affecting customer loyalty in the traditional business environment and establish a theoretical model of e-loyalty through the factual information obtained by questionnaire, and then identify the factors impacting university students’ e-loyalty to provide a new reference for this research’s area.

- Practical value
  Benefits-driven brought by the rapid development of online shopping makes enterprises to explore how to improve the online shopping is satisfaction and loyalty to maximize profits. Through the research of the students’ online shopping loyalty, we will understand which factors influence university students’ online shopping loyalty and the related degree and how the quality of service affects customer satisfaction and trust. This research can help e-commerce sites and enterprise to understand status and trends of university students’ e-loyalty.

1.3 Innovation

The innovation of this research is mainly reflected in the research object and research methods. The research innovation is reflected in that this research is the first time a systematic study of university students’ e-loyalty through the assumption and model testing, as existing research mainly focuses on the customer loyalty in traditional business environment.

In order to identify the various factors which influence university students’ e-loyalty, this research will summarize the factors, which influence university students’ e-loyalty and find the inadequacies in this area through reviewing the prior academic research about customer loyalty and e-loyalty. Secondly, this research will choose positivism as the research philosophy and deduction as the research approach to build the impacting factors’ theoretical model and give hypotheses. Thirdly, through reliability analysis, validity analysis, correlation analysis and regression analysis, this research will identify the influencing factors of business e-commerce on university students and the relationship among the customer loyalty, customer satisfaction, customer trust, switching costs and service quality.
Finally, depend on the results of data analysis, this research will prove the impacting factors’ theoretical model and hypotheses and then give recommendations to online stores about how to improve university students’ e-loyalty.

2. Literature Review

With the development of E-business, how to build and keep customer e-loyalty has become a very important market strategy for business. As stated by May (2000), customer e-loyalty is the critical factor of e-business’s success. For managers, if they want to create the specific value of their website, they must obtain the customer's trust and loyalty. Reichheld and Sasser (1990) indicated, if customer loyalty rate has increased by 5%, corporate profits can be increased by 25% to 85%. This chapter aims to describe the prior academic research about customer loyalty and e-loyalty and, through comparing the major theories and arguments of these literatures, find the inadequacies in this area.

2.1 Customer Loyalty

Oliver (1999) defined customer loyalty as “a deeply held commitment to re-buy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts have the potential to cause switching behavior.” In addition, customer loyalty can also be understood in two ways, which are behavior and attitude. From behavioral perspective, customer loyalty can be typically defined as the number of customers’ repeated purchasing, the duration of loyalty and the proportion of purchase. Tucker (1993) defined customer loyalty as the behavior of buying one product or service for three times.

From the customer perspectives, Gremler and Brown (1996) defined customer loyalty as customers’ repeated purchasing intention and positive attitude of specific service providers and the trend of continued choosing the service provider as the sole sources of supply, when the demand of services is increasing. Jones and Sasser (1995) stated, customer loyalty is the customers will buy a product or service again in the future, and pointed out there are two kind of customer loyalty: one is the long-term loyalty, which is really and difficult to change the selection; the other one is short-term loyalty.

According to the above-mentioned literatures, customer loyalty can be defined as the customer’s trust of a company’s products and services, and the behavior that continued buying and using the company’s products and services for a long time, and the high degree of psychological and emotional trust and loyalty, which are expressed by customer for a company. It generally has two forms: one is ‘true loyalty’. In this case, the customer absolutely believes the enterprise, which means customer, has reached the emotional loyalty.

The other one is ‘pseudo-loyalty’. This is formed by several specific reasons, such as monopoly and geographic location which cause the customer not have enough products to choose or to choose other products and pay a higher switching costs.

2.2 Factors Influencing Customer Loyalty

Form the traditional sense, customer loyalty is considered to be reflected by repeated purchasing behavior or tendency of repurchasing. (Jacoby and Chestnut, 1978) In order to achieve customer loyalty, marketers have repeatedly stressed the need to improve customer satisfaction (Jacoby and Kyner, 1973; Jones and Sasser, 1995; Szymanski and Henard, 2001).
Dick and Basu (1994) indicated, customer loyalty will be created when customers’ repeated purchasing behavior accompanied by high-satisfied attitude. As observed as Reichheld and Sasser (1990), customer satisfaction is the important factor of customers’ repetitive purchase and it can prevent the betrayal of customers to increase corporate profits.

### 2.3 Importance of Customer Loyalty

As stated as Li (2005), customer loyalty has important significance on a company and the reasons are as follows:

- Improving enterprise’s productivity. The higher the company's customer retention is and the higher labor productivity it will obtain.
- Improve corporate profitability. This is because:
  - Cost saving. The cost of attracting a new customer is five times than the cost of retaining an old customer. Attracting new customers needs higher advertising cost, marketing cost and sales commission.
  - Increasing sales. The repurchasing of loyal customers will increase the number of products’ sale, which is that the old customers of the enterprise have greater lifetime value.
  - Getting a good reputation advantages from loyal customers. Satisfied and loyal customers often recommend company's products or services to their friends and family, which is a low-cost advertising.

### 2.4 Measure of Customer Loyalty

Gillespie et al. (1999) indicated, for Internet users, the number and time of visiting web sites can be considered as the indicator of measuring customer e-loyalty. As stated as Gronholdt et al. (2000), customer loyalty is formed by the four measuring indicators including the wish of repeated purchase, the price of tolerance, the intention of recommending the brand or company to others and the wish of the customer cross buying. According to Jones and Sasser (1995), measure of customer loyalty can be divided into three aspects. The first is the intention to repurchase: measuring customer for possible repurchasing the company's products or services in the future; the second is the primary behavior including the number of customers’ recent purchasing, purchase frequency, purchase amount, purchase quantity and purchase intention; the third is the secondary behavior which is that customers are willing to help the company to recommend the services or products to others.

From the above-mentioned literatures, researchers state Internet to repurchase, primary behavior, secondary behavior, attitudinal measurement and composite measurement can measure customer loyalty, however most of them just focus on traditional customer loyalty’s measurement and they just made a conceptual framework and did not do empirical studies. There is no specific research about the measurement of loyalty influence factors of the business to consumer e-commerce for university students.
2.5 Customer E-loyalty

Currently, customer e-loyalty can be divided into three types. The first is loyalty of intention. Kim et al. (2003) defined customer e-loyalty as the intention of Internet customer that they willing to once again choose the current e-commerce site based on past shopping experience and future expectations. This view mainly emphasis on the loyalty of attitude. The second is loyalty of action. As stated as Frederick (1996), e-loyalty is the same as the traditional loyalty, which expressing an increasing of purchasing frequency, purchasing amount and the decreasing of price sensitivity. Gillespie et al. (1999) indicated, for Internet users, the number and time of visiting web sites can be considered as the indicator of measuring customer e-loyalty. The third is absolute loyalty. In the research of Internet retailers’ customer loyalty, Srinivasan et al. (2002) defined customer e-loyalty as the repeated purchasing behavior, which is caused by the good impression of customers about Internet retailers.

2.6 Factors and Model Influencing Customer E-loyalty

There are several prior academic researches about factors influencing customer e-loyalty. In order to determine the controllable factors of e-loyalty and manage these factors, Srinivasan et al. (2002) investigated the nature of factors’ impact. Based on the method of interview, they pointed out eight antecedent factors of e-loyalty including customizing, interactive ability, customers’ training, caring, virtual communities, choice, convenience and characteristics of website. The study was a questionnaire amongst 1,211 online customers’ data and proved that except for convenience, the other factors can affect the e-loyalty.

Balabanis et al. (2006) indicated that there are two ways to enhance customer e-loyalty: the first is to increase consumer satisfaction; the second is to enhance the conversion barrier of consumers. However, most of them mainly focus on the whole customer group and there is no specific research about factors affecting university students’ e-loyalty of the business to consumer e-commerce. Moreover, they pointed out several aspects and there is no uniform opinion and with the developing of Internet, we should have a further validation to identify whether these factors still have the same function.

Lloyd and Mark (2004) gave the framework of relationship between customer trust, satisfaction and loyalty in network environment.

![Diagram of trust, satisfaction and loyalty relationship](image)

*Fig.2.6.1 Relationship of trust, satisfaction and loyalty (Lloyd&Mark, 2004)*
Unfortunately, the empirical researches of satisfaction and trust as the dimensions of customer relationship’s quality is very rich in the traditional context, however, in the network context, they only proposed a conceptual framework and empirical research have not been done. Therefore, it needs further verification.

In the study of service industry, MeDougall et al. (2000) pointed out the customer loyalty model of service industry as follows.

![Customer loyalty model of service industry (MeDougall et al., 2000)](image)

The model states that the customer’s core quality, relationship quality and perceived value have influences on the customer satisfaction, and the level of customer satisfaction has impact on customer loyalty and switching intention.

Moreover, there is a positive correlation between customer loyalty and customer satisfaction and there is a negative correlation between switching intention and customer satisfaction.

According to the survey of Amazon’s customers, Gefen (2002) pointed out the relationship model as follows:

![The relationship among service quality, customer satisfaction, customer trust, switching cost and customer loyalty (Gefen, 2002)](image)
The model shows that customer e-loyalty is impacted by the quality of service, customer trust, perceived risk and switching costs and quality of service indirectly affect the customer e-loyalty. Zhan et al. (2003) studied the driving factors of e-loyalty. The research of 375 questionnaires amongst college students, pointed out customers’ perceived value has significant positive effect on customer e-loyalty.

Luarn and Lin (2003) mainly investigated the impacts, which the network trust, network satisfaction and service quality take to e-loyalty. Through the research of 90 online travel agencies and 90 online CD retailers, they found that online trust, customer satisfaction and perceived value have a direct significant effect on customer e-loyalty. Lee et al. (2000) had a further research about the critical factors which can win customer e-loyalty of online store and they pointed out the online store’s value comes from the number of loyal customers and stated that consumer trust has a positive significant effect on customer e-loyalty.

Reichheld and Sasser (1990) stated that customer satisfaction is generally considered as the important factor of customers’ repetitive purchasing and customer e-loyalty, and it can improve the profitability of enterprises by preventing the betrayal of customers. Oliver (1999) observed that, through the other variables, customer satisfaction can indirectly effect other staffs to establish personal relationships with customers, once they have the contact with customers, customer satisfaction's impact on customer loyalty will be weakened, and e-loyalty will rapidly increase only after a certain level of satisfaction. Srinivasan et al. (2003) indicated that customer satisfaction has direct impact on customer e-loyalty. Brady (2001) stated that customer satisfaction is the important determinant factor of brand loyalty, however it is not the only factor determining customer's repurchasing behavior and there are several other factors will affect the customer's repurchasing behavior and brand loyalty.

In the above-mentioned literature, most researchers have an attention about the complexity of the relationship between customer satisfaction and customer loyalty. With the difference of products, service quality, industries, customer satisfaction and customer loyalty express different relationships. Customer satisfaction and customer loyalty are also both affected by other factors, and customer satisfaction is not the only factor affecting customer loyalty, however customer satisfaction is an important factor affected customer loyalty. Wolfinbarger and Gilly (2003) used four dimensions to measure the quality of online service and pointed out the factors influencing quality of website design are reliability, privacy and customer service which significantly affect customer satisfaction, customer e-loyalty and behavioral loyalty.

As stated as Rice (1997), when visitors find the website has strong entertainment, then the likelihood of repeated visiting is increasing. In the marketing environment, hedonic value reflects the potential entertainment and emotional value of online shopping. Consumer's satisfaction not only come from the external interests within the process of purchasing products and services, but also come from the relationship and emotional value, which are influenced by purchasing process.
Therefore, website’s designers must improve customer excitement and attention by stimulating customer participation and attract customers to enjoy the process of online shopping to enhance the website's entertainment, which can increase the number of customers’ visiting.

Seybold (1998) picked out 16 successful e-business cases from several eximious companies and found that there are eight success factors affecting the relationship between enterprises and customers: (1) locking the correct target customers; (2) allowing customers to have pleasant experience and feeling of online shopping; (3) improving process of online shopping; (4) having a holistic view of the relationship between the customer and the company; (5) let customer own self-service; (6) assisting customers to complete their work; (7) providing personalized service; (8) establishment of online community.

Srinivasan et al. (2002) pointed out eight factors, which can affect customer e-loyalty.

- Customization: the ability of online retailers that they can provide appropriate goods, services and the environment of trading in accordance with the needs of individual customers.
- Contact interactivity: online retailers can provide customers the necessary assistance and the extent of their two-way communication through the Internet.
- Cultivation: online retailers provide product information and purchasing incentives to customers to expand the breadth and depth of their customers purchasing.
- Care: trying to avoid service failure in all contacts with customers.
- Community: the opportunity that online retailers can provide opinions to existing customers and potential customers.
- Choice: the ability that online retailers can provide diverse types of goods.
- Convenience: the extent that customers feel website is easy to operate.
- Character: website’s whole image and style, such as text, pictures, titles, colors, etc.

From the above-mentioned literatures, it can be seen that customer trust is a central role in the process of promoting bilateral trade’s relationship and building loyalty, which is the important prerequisite for success of online shopping. The initial awareness of the customer trust comes from customer’s perception of online retailers, and the customer who gets the satisfaction will have more stable trust intentions of online retailers.

Carlson et al. (2002) created a model of the factors influencing e-loyalty in the background of e-commerce (B2C). They indicated that the quality of website service can improve customer satisfaction and customer satisfaction can enhance the e-loyalty. In this process, the network user's knowledge and technology is the disturbed variables of the quality of online service and customer satisfaction, which plays a very important role. Lee et al. (2000) considered that customer trust is one factor influencing e-loyalty.
As observed as Szymanski and Hise (2000), convenience, product information, website design and financial security of online shopping has a positive impact on customer satisfaction, and the convenience of online shopping is the biggest influencing factor of customer satisfaction. Heiner et al. (2004) also stated that the convenience of online shopping is the biggest influencing factor of customer satisfaction through 306 questionnaires’ research about online shopping.

Through the above-mentioned literatures, it can be seen that most of the literatures just simply studied the relationship between customer satisfaction and customer e-loyalty or the relationship between customer trust and customer e-loyalty and there are few specific researches to identify what the factors impact university students’ e-loyalty of business to consumer e-commerce.

### 2.7 University Students’ Loyalty

Gefen (2002) had done a survey on students’ loyalty for Amazon.com in the context of online book purchase. He indicated that student’s loyalty is related to service quality, customer trust and switching cost and ‘customer trust, independently of and in addition to customer service, has a significant influence on customer loyalty.’ According to the research of Douglas et al. (2006) about student satisfaction at a UK university, they indicated that ‘keeping customers satisfied is what leads to customer loyalty.’ Moreover, Jacoby and Chestnut (1978) stated that student loyalty consisted of an attitudinal component and a behavioral component, and they have close relationship.

With the above-mentioned literatures, the researchers pointed out customer satisfaction, switching cost, customer trust and service quality can affect student’s loyalty, however, there is no uniform opinion, and they did not indicate what extent the factors’ effects are. Based on these researches’ results, this research will focus on which factors can affect university students’ e-loyalty of B2C e-commerce, and how strong the impact of each factor is and building the appropriate model.

### 2.8 Customer Satisfaction

#### 2.8.1 Definition of Customer Satisfaction

Oliver (1997) stated that customer satisfaction is a psychological reaction that the customer’s needs are met and it is a judgment of the degree that how products and services’ characteristics meet customers’ needs. If customers determine the extent of satisfying own needs, organisations must compare the practical effect of products and services with a standard, due to the different comparative standards, and awareness of customer’s psychology is different.

Lee (1999) considered customer satisfaction as a holistic concept, and proposed a framework for integrated network of customer satisfaction and they pointed out the factors affecting consumer satisfaction includes the company's logistical support, customer service, the products’ price.
2.8.2 Measuring of Customer Satisfaction

Oliver (1980) had pointed out a model to measure customer satisfaction. The model states customer satisfaction is to be achieved with two-stage process. Before buying, customer obtains an expecting about the performance of product or service, which will be provided. After customer is purchasing, they will compare the real performance level with the expected performance before buying, which will form the inconsistency between the two performances. When the actual performance and expectations are the same that the inconsistency is zero, and customers have a moderate satisfaction; when the actual performance are better than expected performance that the inconsistency is positive, and customers have satisfaction; when the actual performance is worse than expectations, that the inconsistency is negative, and customers are unsatisfactory.

Julander (2003) used three items to measure customer satisfaction: I am satisfied with suppliers, the supplier can satisfy my any reasonable demands and suppliers can meet my needs. Kim et al. (2004) utilized two aspects to measure customer satisfaction: the degree of overall satisfaction with the service and the overall satisfaction with service provider.

2.9 Customer Trust

2.9.1 Definition of Customer Trust

Garbarino and Johnson (2000) stated customer trust is the confidence of customer about the quality and reliability of services provided by enterprises. Liu (2006) indicated that customer trust is the recognition of customers about the reliability of enterprise. As online shopping is in the virtual environment between customer and business, customer has not intuitive judgments about product quality, and consumer only can judge product quality through the network assessment and experience. Therefore, how to improve customers trust is continuously considered by researchers. Pavlou (2003) pointed out that, in the traditional trading environment, consumers can directly identify the quality of goods, however, in virtual environment, consumers cannot get the information of some goods’ quality, which results the asymmetry problem of information. The more serious information’s asymmetry is, the worse the ability of consumers’ reviewing product quality is.

2.9.2 Measuring of Customer Trust

Ganesan and Ron (1994) pointed out two dimensions of trust, which are reputation and the kind heart. Reputation means that trusted people have the ability and willingness to fulfill their commitments; kind heart means that trusted people’s care is for their own not only interests, and come sincerely. As stated as Aiken (2001), customer trust has three dimensions, which are cognitive dimensions, behavioral dimension and emotional dimension. The cognitive dimension refers to the customer’s cognition of e-commerce sites’ ability and quality; the behavior dimension mainly refers to that customers willing to make a certain risk behaviors in e-commerce site, such as providing their personal information in website; the emotional dimension refers to that customer has a good impression about e-commerce site and showing emotional bias.
2.10 Switching Cost

2.10.1 Definition of Switching Cost

Porter (1980) indicated that switching costs is one-time costs and it occurs when consumers change suppliers. Switching costs is the costs, which form during the process of the consumer changing from the original supplier to other suppliers, and it is the barrier in a lower satisfaction relationship. Jackson (1985) defined the switching costs as the psychological, physical and economic costs, which are faced by customers when they switch providers.

If customers change from one company to another company, they may lose a lot of time and money and relationships, even if consumers are not completely satisfied with the services of one company, they will also consider that whether to change suppliers. According to the above-mentioned literatures, switching costs can be defined as the economic and psychological costs that customer need when they want to change from one shopping website to another one and it can be seen as an important barrier to maintain the customer relationship and is important factor in maintaining customer loyalty.

2.10.2 Measuring of Switching Cost

Jones et al. (2002) stated switching costs can be measured in six dimensions which are risk costs, opportunity costs, the searching and evaluating costs before switching, and cognitive and behavioral costs, organizational costs and sunk costs after switching. They represent a switching risk because of the uncertainty of new product or service; the loss of benefits and privileges taken by switching behavior; time and energy of collection and evaluation of new products before switching; time and energy of becoming familiar with the new product after switching; cost, energy and perception of replacing demand and the information after switching.

2.11 Service Quality

2.11.1 Definition of Service Quality

Garvin (1984) stated that customer is perceived service quality is the evaluation formed by comparing customer’s expected service quality and actual service quality. Parasuraman et al. (1985) indicated that service quality is the overall evaluation of customers and it is the gap between customer’s expected service quality and actual service quality. As observed as Zeithaml et al. (2000), the e-service quality is the extent of convenient provided by website for customers’ efficient browsing, shopping and delivering products or services.

2.11.2 Measuring of Service Quality

Parasuraman et al. (1988) stated service quality can be measured in five dimensions, which are tangibles, responsiveness, reliability, empathy and assurance. Kolesar and Galbraith (2000) developed an evaluation system of online store’s service quality, which depends on tangibles, responsiveness, reliability, empathy and assurance. Tangibles are the image and easy using shown by website.
Responsiveness is the willingness and time of responding to consumer demand shown by website; empathy refers to that, the website really responds to individual needs of consumers; assurance is the degree of reducing the level of consumer perceived which is shown by website’s safety; reliability is the degree of achieving all kinds of promises given by website.

2.12 Business to Consumer E-commerce

Kalakota and Whinston (1996) pointed that the basic content of e-commerce are as follows:

- E-commerce is a two-way communication based on the Internet. Enterprises can store the information of goods, services, advertising in a corporate website and, through the Internet, consumers can obtain the necessary information from the website, and they can directly order products or upload information.
- Through the Internet, organisations can make several business activities such as purchasing and selling together, which can meet consumer needs, improve the quality of product and service and achieve the requirement of cost reduction.
- With searching and achieving information from the Internet, e-commerce can help individuals and companies to make decision-making. Through public or private network, e-commerce provides digital catalog for customers for reference, which can enhance quality and efficiency of products’ trading and services.

Base on the literature, e-commerce is a modern business practice, whose goal is to meet business and customer needs, reduce costs, improve product and service quality and enhance service efficiency. E-commerce refers to the behavior the using the information highway formed by computer networks to sell and purchase information, products and services. According to Kalakota and Whinston (1996), the main e-commerce business model can be divided into four parts:

- Business to Business E-commerce
- Business to Consumer E-commerce
- Consumer to Consumer E-commerce
- Consumer to Business E-commerce

Through the reviewing of the prior academic researches about customer loyalty and e-loyalty, it can be seen that there are several inadequacies. The first is that most of the literatures just simply studied the relationship between customer satisfaction and customer e-loyalty or the relationship between customer trust and customer e-loyalty and there are few specific researches about the relationship between customer satisfaction, customer trust and factors influencing customer e-loyalty. The second is that there are few studies of the switching costs’ function in the process of building and keeping customer e-loyalty. The third is that there are few systematic empirical researches on the factor model influencing university students’ e-loyalty. The fourth is that there are few studies about what factors influencing university students’ e-loyalty and to what extent their effects are.
3. **Research Methodology**

3.1 **Research Philosophy**

The study employed positivism, as the research philosophy. By positivism, the researcher implies that the study will focus only on the phenomena that are observable and measurable (Kumar, 2005). The philosophy of positivism holds that the researcher should examine only observable elements, as these provide valid data for the study. Positivist research has three postulates, namely, “natural kinds, constancy, determinism” (Istance, 2001). The first postulate means that all groups or classes of phenomena display the same characteristics. The second postulate implies that all phenomena do not change or vary only slightly over time. The third postulate proposes that phenomena display orderly and regular patterns that enable cause and effect predictions to occur. The intent of positivist research is to explain phenomena by allowing the researcher to predict outcomes and control the research objects and procedures (Patton, 2001). As such, the main goal of positivist research is not only to describe phenomena, but also to explain and predict possible outcomes.

In the study, the researcher used tentative propositions or hypotheses to predict possible factors that may influence loyalty of university students to business e-commerce. Moreover, positivism requires that the researcher maintain objectivity and distance from the research objects by avoiding the introduction of systematic bias into the investigations. Research strategies that follow a positivist philosophy include surveys, correlational research, trend studies, case studies and comparative studies (Merriam, 1998). Using the positivist philosophy, the researcher collected data through the instrument, categorizes the data, carries out analyses and provides recommendations from the results (Istance, 2001). In addition, in positivistic studies, the researcher conducted the literature review during the early stage when defining the research questions and choosing methodological and research designs.

Positivistic studies use research tools such as experiments and questionnaires. This study, for instance, used questionnaires to identify the factors that influence loyalty of university students to business e-commerce transactions. In addition, positivism searches for the association between two variables, which may or may not be causal, but enable the researcher to make predictions. In the present study, the researcher will examine the link between loyalty and business e-commerce by studying a population of consumers, which consists of university students.

3.2 **Research Approach**

This research used a deductive approach, which means that the researcher will begin with hypotheses or tentative propositions to test, verify or nullify through data collection and analysis (Marshall and Rossman, 2006). As stated as Gill and Johnson (2010), one can utilize the deductive approach to develop a theory and hypotheses and use a research strategy to test the hypotheses. The researcher obtains the hypotheses from a body of theory that relates to the topic of study and then, evaluates them through data. The study will draw hypotheses from a theoretical framework that explains the factors that influence loyalty of university students to business e-commerce. The researcher then used the findings to modify the initial theoretical framework.
Using this approach, the study also follows a highly structured methodology to facilitate replication of the study. By beginning with a body of theory and hypotheses to test, it is easy for the researcher to ignore deviant cases in data and instead, to focus on those findings that confirm the initial propositions.

### 3.2.1 Hypotheses

For this research, the researcher framed some hypotheses to clarify the relationship among the university students’ e-loyalty, customer satisfaction, customer trust, switching costs and service quality. Following are the hypothesis:

1. **Hypotheses of the impact on the relationship between customer satisfaction and customer loyalty**

2. **Hypotheses of the impact on the relationship between customer trust and customer loyalty**

3. **Hypotheses of the impact on the relationship between customer switching cost and customer loyalty**

4. **Hypotheses of the service quality’s impact on the relationship between customer switching cost, customer trust and customer satisfaction**

### 3.2.2 Theoretical model building

The research aims to identify the main factors affecting the university students’ e-loyalty. Through the reviewing the literatures about the factors impacting traditional customer loyalty and customer e-loyalty, it can be seen that most of them are mainly about traditional customer loyalty and there are few studies about what factors influencing university students’ e-loyalty and to what extent their effects are. Smith (2001) indicated that the customer e-loyalty and the traditional customer loyalty are quite same in essence.

Through the model, which is pointed out by MeDougall et al. (2000), we can see that customer satisfaction, customer trust and switching costs have a direct impact on customer loyalty. Lloyd and Mark (2004) gave the framework of relationship between customer trust, satisfaction and loyalty in network environment. Moreover, according to the model, which is given by Gefen (2002), it can be seen that service quality has a direct impact on customer satisfaction, customer trust and switching cost.
According to above models, this research builds a theoretical model of university students’ e-loyalty, which is as follows:

Table 1: Service Quality

<table>
<thead>
<tr>
<th>Service Quality</th>
<th>Students’ E-loyalty</th>
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<tbody>
<tr>
<td>Tangibles</td>
<td>Customer Satisfaction</td>
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<tr>
<td>Responsiveness</td>
<td>Behavioral loyalty</td>
</tr>
<tr>
<td>Reliability</td>
<td>Customer Trust</td>
</tr>
<tr>
<td>Empathy</td>
<td>Attitudinal loyalty</td>
</tr>
<tr>
<td>Assurance</td>
<td>Switching Cost</td>
</tr>
</tbody>
</table>

Source: Gefen, (2002)

3.3 Research Strategy

The research used a survey strategy, which is associated with the deductive approach. It involves asking a large sample of subjects, questions usually about attitudes and/or behaviors. Surveys are useful in obtaining descriptions about a group of the population and they reveal an accurate picture of the subjects of study. According to Gravetter and Forzano (2011, pp. 373), “A research study that uses a survey to obtain a description of a particular group of individuals is called a survey research design”. Surveys reveal the behaviors or attitudes of the group under study at a particular time (Strauss and Corbin, 1998). The two most frequently used tools of survey research are questionnaires, which subjects fill out by themselves and interviews in which researchers ask questions using a standard format.

In the current study, the investigator administered the survey in person by distributing the instruments to the participant students. The survey strategy is useful because it allows the researcher to collect data from a large sample of subjects (Trochim and Donnelly, 2006). The major problem with the survey method is that the researcher relies on respondents to report on their attitudes/behaviors truthfully and accurately, whereas they may provide false information (Sweeney et. al., 2009).
3.4 Research Methods Choices

This study will adopt mixed methods as the research method choice, with the aid of questionnaires for data collection. According to South Alabama University (2011), “Mixed research is research in which quantitative and qualitative techniques are mixed in a single study. It is the third major research paradigm, adding an attractive alternative (when it is appropriate) to quantitative and qualitative research” (http://www.southalabama.edu).

The use of mixed methods improves data analysis and interpretation by providing both descriptive and statistical means of presenting the research findings (Piekkari and Welch, 2004). Thus, mixed methods enrich data collection, analysis and reporting. In the present study, using questionnaires will make it possible for the researcher to obtain data of qualitative and quantitative natures. Qualitative data will take the form of the attitudes/behaviors of the sample of university students with regard to business e-commerce, which will inform the researcher of the factors that influence their loyalty to such transactions (Huffmire, 2001).

The researcher was able to convert the qualitative findings into quantitative by means of techniques such as correlation coefficient and analyses. From a quantitative perspective, the researcher will seek to establish the level of correlation between loyalty to business e-commerce and the factors that influence it. In the present study, the factors will include customer satisfaction and trust due to constructs related to the quality of website information, user interface usability and privacy (Mustafa, 2011). The research will evaluate the association among service quality, customer satisfaction, and customer trust, switching cost and loyalty to business e-commerce.

3.5 Research Sampling Method

Probability sampling is as the sampling method of choice and simple random sampling will be the technique of selecting the probability sample. Probability sampling is most commonly associated with survey-based research, as in the present study. This is because of the need to make inferences from a sample about a population to answer the research questions or to meet the objectives (Dawson, 2002). As such, in the present research, probability sampling will enable the researcher to make inferences about the factors that inspire loyalty among university students to business e-commerce. Simple random sampling involves choosing the participants at random from the sampling frame. The sampling frame of any probability sample is the population from which the researcher will draw the sample (Hult, 1996).

In the current research, the list included university students from the institution that the researcher will be studying. The researcher numbered each of the cases in the sampling frame with a unique number starting from zero. Then, the researcher picked cases using random numbers in order to attain the actual sample size. Random sampling technique implies that the researcher will select the sample in a relatively arbitrary way that does not introduce any systematic bias.
Moreover, the sampling frame is students of University of Southampton, because this research objective is to identify the factors influencing University of Southampton’s students’ e-loyalty. As stated as Turner (2003), the sampling frame should depend on our research questions and objectives. When we have exact and simple accessible sampling frame, simple random sampling is best utilized. According to data blog, the total number of student of University of Southampton is 10,020 in 2011. Gill and Johnson (2010) stated, if the population is 10,000 and margin of error is 5%, the sample size of population at a 95%-confidence level is 370. Therefore, the number of questionnaires distributed was 370 and the researcher planned to make the random survey with university students around Southampton University’s campus and accommodation.

3.6 Data Collecting Method

The researcher used self-administered questionnaires to collect data, by delivering and collecting them from the respondents. Questionnaires allow the researcher to gather information from respondents by means of written questions. The advantage of using questionnaires is that they enable the researcher to collect data from a large sample simultaneously. As such, they allow the researcher to obtain a variety of data from a large group economically (Denzin, 2001). At the same time, the researcher can distribute the questionnaires and then, return later to collect them. Moreover, with questionnaires, data are standardized, meaning that all respondents can interpret them in a similar manner, and therefore, perceived as authoritative and allow easy comparison of responses. The disadvantage with self-administered questionnaires is that respondents are likely to discuss with others and, therefore, influence their responses or answer in a similar manner (DeMarrais and Lapan, 2004). Some of the respondents may fail intentionally or unintentionally to respond to some of the items. They may also fail to return the questionnaires. In addition, questionnaires are limited in the number of questions they can contain.

3.7 Storing Data Method

Firstly, this research will code the data collected of questionnaires and input these code into EXCEL to make table and then transcribed these table data into SPSS to analyze data. Secondly, I will store these data in a computer for data analysis.

3.8 Data Analysis Method

For the valid questionnaires, this research will mainly use SPSS software to do the following statistical analysis:

- Reliability analysis
- Validity analysis
- Correlation analysis
- Regression analysis
Reliability Analysis

The present study will use the coefficient alpha as the reliability measure. The coefficient alpha assesses the internal consistency of items in a group, that is, the extent to which they relate closely with each other (UCLA, 2007).

The coefficient alpha takes on a value below zero if the items in a group lack internal consistency and a value of one, if reliability is strong (Cortina, 1993). A precise measure is reproducible in that it consistently gives an accurate result when applied correctly. According to Salkind (2010), “When a measure is precise, then the reader has a level of confidence that differences between groups are not explained by differences in the way the trait was measured” (p.161). The researcher completed the reliability analysis of the questionnaires in order to ensure that the items tested the variables that the researcher intended to assess and which, related to the topic of investigation. The researcher also grouped together the items that related to each of the independent variables, namely, service quality, customer satisfaction, customer trust and switching costs. This made it easier for the respondents to answer the items and for the researcher to analyze the findings of each construct and the results for each participant. In addition, by enhancing reliability of the questionnaires, the researcher would ensure that the research findings would remain the same, even if collection and analysis of data occurred severally. Thus, the coefficient alpha will reveal the deficiencies or inaccuracies in the measuring instrument, in this case, the questionnaires (Creswell, 1998).

Validity Analysis

This study will use the construct validity technique as the accuracy measure. Validity in research often refers to the ways in which research findings reflect reality and, therefore, it is a measure of accuracy of the results. As such, construct validity implies that the observations that a researcher makes with regard to phenomena under investigation must match or correspond with the theoretical explanations proposed. As such, the researcher has to rule out the possibility of other theoretical explanations of the findings (McBurney and White 2009). For the establishment of construct validity, results must back up the theoretical framework. In other words, construct validity alludes to the extent to which researchers can derive inferences from operationalizing the concepts they use to form their theoretical/conceptual frameworks (Creswell, 2003).

The researcher can assess construct validity through various ways. One is to ensure a proper and clear definition of each of the constructs in terms of how the researcher uses (operationalizes) them in the study (Berg, 2003). In the present research, the researcher completed validity assessments of the constructs/concepts (service quality, customer satisfaction, customer trust, switching costs and customer loyalty). The researcher had to establish the validity of the constructs in order to define the elements that would reflect the presence/absence of each of the variables, namely, service quality, customer satisfaction, customer trust and switching costs and loyalty to business e-commerce, in the participants’ responses. Another way that the researcher enhanced construct validity was through relating the construct to each other, which is, determining the associations between the variables (Bogdan. and Bicklen, 1998).
This was possible through establishing the correlations/linear associations between the constructs using the Pearson coefficient. The reason is that constructs are in a state of rationalism, that is, changes in one often influence the other.

In the present study, the researcher intended to establish how the dependent variable (loyalty to business e-commerce) responds to variations in the independent constructs of service quality, customer satisfaction, customer trust and switching costs. In so doing, the findings would be a reflection of the variables under investigation.

**Correlation Analysis**

This research will use the “Pearson correlation coefficient” (Saunders et. al., 2009). Using a correlation coefficient, the researcher will be able to express quantitatively the strength of the link between two or multiple quantifiable variables. In the present study, the researcher will be able to express the association between loyalty of university students to business e-commerce (dependent variable) and their levels of service quality, customer satisfaction, customer trust and switching costs (independent variables). The researcher will express the correlation coefficient as ‘r’, and it will adopt any value between -1 and +1. According to Saunders et. al., (2009, pp. 363), “A value of -1 represents a perfect positive correlation. This means that the two variables are precisely related and, values of both variables increase simultaneously. By contrast, a value of one represents a perfect negative correlation. This means that the two variables are precisely related; however, as the values of one variable increase those of the other decrease.

If the correlation coefficient indicates a zero value, this implies that the variables are entirely independent and have no cause-effect link. In the present study, therefore, if the researcher obtains a correlation coefficient value of -1, it will mean that the loyalty of university students to business e-commerce decreases with an increase in service quality, customer satisfaction, customer trust and switching costs or vice versa. If the researcher obtains a correlation coefficient value of +1, it will mean that the loyalty of university students to business e-commerce increases with an increase in service quality, customer satisfaction, customer trust and switching costs levels or all decrease simultaneously. If the researcher obtains a correlation coefficient value of zero, it will imply that there does not exist a link between the loyalty of university students to business e-commerce and service quality, customer satisfaction, customer trust and switching costs. A scatter graph will be useful in plotting and depicting the association between the variables under examination.

The researcher can plot the independent variables on the horizontal axis and the dependent variable on the vertical axis to assess the changes in their relationship (Trochim and Donnelly, 2006).

**Regression Analysis**

This study will use multiple linear regression to determine the regression coefficient of the independent (service quality, customer satisfaction, customer trust and switching costs) and dependent variables (loyalty to business e-commerce).
This research will use more than one independent variable and, therefore, the analysis will be multiple regression rather than merely regression.

According to Saunders et. al., (2009, pp 365) "the process of calculating a regression coefficient and regression equation using one independent variable is normally termed regression analysis. Calculating the regression coefficient and regression equation using two or more independent variables is termed multiple regression analysis". For instance, in the present study, the researcher seeks to predict the loyalty of university students to business e-commerce using service quality, customer satisfaction, customer trust and switching costs variables. According to Dawson (2002), “If your equation is a perfect predictor then the regression coefficient will be 1. If the equation can predict only 50% of the variation then the regression coefficient will be 0.5 and if the equation predicts none of the variation the coefficient will be 0)” (p.138).

3.9 Questionnaire Design

3.9.1 Types of Questionnaire Choosing

This research adopts questionnaire as the method of data collection. The type of questionnaire that the research chooses is structured interview and Internet and intranet-mediated questionnaires. This research survey is targeted at the university students who have or have not done online shopping before and the questionnaire design is based on assumed evaluation e-loyalty model of university students. Questionnaire is consists of two parts, and the first part of this study is about investigating the dependent variable (college students’ e-loyalty) and latent variables (the customer service quality, satisfaction, customer trust and switching costs); the second part expresses the presentation of basic demographic information of targeted students, which is related to gender, education, monthly living expenses, online shopping categories, describing based statistics of the sample.

The research uses the form of closed self-administered questionnaire, and all of the question items in the questionnaire use Likerts point measurement methods. Students can select from number1 to number 5 to reflect their evaluation on each item from the "completely do not agree "to" completely agree ". This closed-type objective question can greatly reduce the research’s time to greatly improve the sample size and sample rate. The most important aspect is that using Likerts point measurement methods has high relevance and purpose, and the collected data can be used SPSS statistical software for statistical analysis to achieve the result of this study.

3.9.2 Variable Design

The questionnaire is consists of two parts, the first part includes the five dimensions of service quality, customer satisfaction, customer trust and switching costs. The second part contains two dimensions of customer loyalty, which are customer’s attitudinal loyalty and customer’s behavioral loyalty.
There are 32 metrics in this questionnaire and the design of each variable’s question mainly references the questions, which are adopted by relative researchers’ study in this area, and combines the summary of the literatures.

5. Finding and analysis

4.1 Basic Information Analysis
The total number of distributed questionnaires is 370 and the number of valid questionnaires is 330. According to the results in the following tables, it can be seen that the percent of male and female are 47% and 53% and the education mainly are bachelor and masters, whose percent are 55% and 38.4%. Moreover, tables show that most students’ monthly living expenses are from £200 to £400. According to graph 4.1.4, it can be seen that the online shopping is categories of students currently are books, clothes, supplier, cosmetics and entertainment services.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>155</td>
<td>47%</td>
</tr>
<tr>
<td>Female</td>
<td>175</td>
<td>53%</td>
</tr>
<tr>
<td>Total</td>
<td>330</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>183</td>
<td>55%</td>
</tr>
<tr>
<td>Master</td>
<td>127</td>
<td>38.4%</td>
</tr>
<tr>
<td>Doctor</td>
<td>20</td>
<td>6%</td>
</tr>
<tr>
<td>Total</td>
<td>330</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monthly living expenses</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than £200</td>
<td>25</td>
<td>7.5%</td>
</tr>
<tr>
<td>£200 to £300</td>
<td>98</td>
<td>29.5%</td>
</tr>
<tr>
<td>£300 to £400</td>
<td>113</td>
<td>34.2%</td>
</tr>
<tr>
<td>£400 to £500</td>
<td>68</td>
<td>20.6%</td>
</tr>
<tr>
<td>More than £500</td>
<td>26</td>
<td>7.8%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.2 Reliability Analysis

The results of questionnaires’ reliability analysis are as follows:

<table>
<thead>
<tr>
<th>Research variables</th>
<th>Metrics</th>
<th>Measuring number</th>
<th>Coefficient alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality’s tangibles</td>
<td>AT1</td>
<td>3</td>
<td>0.865</td>
</tr>
<tr>
<td></td>
<td>AT2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AT3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Quality’s reliability</td>
<td>ARY1</td>
<td>4</td>
<td>0.875</td>
</tr>
<tr>
<td></td>
<td>ARY2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ARY3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ARY4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Quality’s responsiveness</td>
<td>ARS1</td>
<td>3</td>
<td>0.927</td>
</tr>
<tr>
<td></td>
<td>ARS2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ARS3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Quality’s assurance</td>
<td>AAS1</td>
<td>3</td>
<td>0.828</td>
</tr>
<tr>
<td></td>
<td>AAS2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AAS3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Quality’s empathy</td>
<td>AES1</td>
<td>3</td>
<td>0.855</td>
</tr>
<tr>
<td></td>
<td>AES2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AES3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>BS1</td>
<td>3</td>
<td>0.853</td>
</tr>
<tr>
<td></td>
<td>BS2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BS3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Trust</td>
<td>CT1</td>
<td>3</td>
<td>0.806</td>
</tr>
<tr>
<td></td>
<td>CT2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CT3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switching Cost</td>
<td>DS1</td>
<td>4</td>
<td>0.832</td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral Loyalty</td>
<td>BL1</td>
<td>3</td>
<td>0.871</td>
</tr>
<tr>
<td></td>
<td>BL2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BL3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudinal Loyalty</td>
<td>AL1</td>
<td>3</td>
<td>0.805</td>
</tr>
<tr>
<td></td>
<td>AL2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AL3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lu (2002) stated that reliability coefficient should be between zero and one, and the scale reliability coefficient is above 0.9, indicating good reliability, if the scale reliability coefficient is from 0.7 to 0.9, which states the reliability is acceptable, if the scale reliability coefficient is below 0.7, which indicates some items need to be abandoned.

According to the table 4.2.1, it can be seen that all of the reliability coefficients are greater than 0.8, which indicates that there is a higher degree of reliability, internal consistency and stability between each measuring question and research variables’ corresponding metrics have strong correlation. This proves that this questionnaire has good reliability.

4.3 Validity Analysis

This research chooses construct validity technique. Construct validity is widely used to discuss the validity of a questionnaire. Saunders et al. (2009) pointed out that use this technique will help us to evaluate the attitude scales, aptitude and personality test. Factor analysis is an effective method of testing construct validity. Factor analysis aims to consider that there is possible a certain correlation among the multiple factors, in order to avoid that there is a collinearity problem during the process of analysis, to do factor analysis of the influencing factors. The common degree achieved from factor analysis can test the degree of impact of each question on the factor and the bigger the common degree is, it means the question has a greater dependence on common factors, and it is more effective to use these common factors to explain the measurement problem. This research uses SPSS to do factor analysis of five dimensions of service quality about customer satisfaction, customer trust, switching costs, loyalty of customer behavior and attitudes and calculate the load factor, and test whether the study reflects the internal structure of concepts and propositions. The results are as follows.
As indicated as Lu (2002), KMO test used to study the partial correlation between variables and the statistics of KMO is greater than 0.9, which is the best, it is more than 0.7 that is acceptable, and it is below 0.5, which are not suitable for factor analysis. According to the table 4.3.1, minimum number of KMO 0.690, so it is acceptable. Moreover, all of the significance probability of Bartlett’s test of sphericity is 0.000, which is less than 0.001, so it proved that there is a significant correlation between the various metrics. Normally, if the metric’s factor loading is greater than 0.400, it is effective, and when the explanation of variables is more than 30%, research variables are considered to be effective.

According to the table 4.3.1, it can be seen that all of the variables’ factor loading are greater than 0.400, and the minimum explanation of variables is 66.677 percent which is also greater than 30%, so this study can better explain the information contained in the original variables. Therefore, it shows that the questionnaire has good validity.
4.4 Correlation Analysis

Zhu et al. (2003) indicated ‘the purpose of correlation analysis is to measure and interpret the strength of a linear or nonlinear relationship between two continuous variables.’ This research adopts linear correlation analysis and uses Pearson correlation coefficient to test whether there is linear relationship between two random variables. Moreover, this research uses SPSS to calculate Pearson correlation coefficient of five dimensions of service quality about customer satisfaction, customer trust, switching costs, loyalty of customer behavior and attitudes to find their linear correlation. The results are as follows:

Table 4.4.1 The correlation coefficient of service quality, customer satisfaction, customer trust, and switching costs.

<table>
<thead>
<tr>
<th>Research variables</th>
<th>Pearson Correlation Coefficient</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Customer Satisfaction</td>
<td>Customer Trust</td>
</tr>
<tr>
<td>Service Quality's tangibles</td>
<td>0.743**</td>
<td>0.752**</td>
</tr>
<tr>
<td>Service Quality's reliability</td>
<td>0.783**</td>
<td>0.777**</td>
</tr>
<tr>
<td>Service Quality's responsiveness</td>
<td>0.614**</td>
<td>0.584**</td>
</tr>
<tr>
<td>Service Quality's assurance</td>
<td>0.746**</td>
<td>0.701**</td>
</tr>
<tr>
<td>Service Quality's empathy</td>
<td>0.842**</td>
<td>0.783**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**
*Correlation is significant at the 0.05 level (2-tailed).
According to the results, it can be seen that five dimensions of service quality have correlation with customer satisfaction, customer trust at the 0.01 level. Service quality’s reliability and service quality’s empathy have correlation with switching cost at the 0.01 level, service quality’s responsiveness has correlation with switching cost at the 0.05 level, and service quality’s assurance has no correlation with switching cost. Moreover, customer satisfaction, customer trust and switching costs have positive correlation with customer’s behavioral loyalty and attitudinal loyalty at the 0.01 level. However, the correlation coefficients of switching costs about behavioral loyalty and attitudinal loyalty are 0.286 and 0.192, which are relatively low, and the other research variable’s correlation coefficients are higher than 0.7, so this proved that all of the hypotheses about customer satisfaction, customer trust and service quality are right except H9 about switching costs.

4.5 Regression Analysis

Correlation analysis has proved that all of the hypotheses are whether right and regression analysis can point out that whether there is a relationship between each factor and the closing degree of relationship. Sykes (1992) stated ‘regression analysis is a statistical tool for the investigation of relationships between variables.’ This study chooses multiple linear regression analysis to calculate regression coefficient of each independent variable and dependent variable. This method can judge which independent variable has an impact on the dependent variable and which independent variable has no affect or does not have a noticeable impact, and, through the regression coefficients to determine the influencing degree of independent variables, which have impact on the dependent variables.

4.5.1 The Regression of Service Quality to Customer Satisfaction, Customer Trust and Switching Costs

(1) The regression of service quality’s dimensions to customer satisfaction

<table>
<thead>
<tr>
<th>Research variables</th>
<th>Pearson Correlation Coefficient</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Satisfaction</td>
<td>0.854**</td>
<td>0.000</td>
</tr>
<tr>
<td>Customer Trust</td>
<td>0.801**</td>
<td>0.000</td>
</tr>
<tr>
<td>Switching Cost</td>
<td>0.286**</td>
<td>0.000</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Mode</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.842(a)</td>
<td>.709</td>
<td>.708</td>
<td>.5406002</td>
</tr>
<tr>
<td>2</td>
<td>.879(b)</td>
<td>.773</td>
<td>.771</td>
<td>.47901895</td>
</tr>
<tr>
<td>3</td>
<td>.888(c)</td>
<td>.789</td>
<td>.785</td>
<td>.46327823</td>
</tr>
<tr>
<td>4</td>
<td>.892(d)</td>
<td>.796</td>
<td>.792</td>
<td>.45645029</td>
</tr>
</tbody>
</table>

- a Predictors: (Constant), Service Quality's empathy
- b Predictors: (Constant), Service Quality's empathy, Service Quality's reliability
- c Predictors: (Constant), Service Quality's empathy, Service Quality's reliability, Service Quality's tangibles
- d Predictors: (Constant), Service Quality's empathy, Service Quality's reliability, Service Quality's tangibles, Service Quality's assurance
- e Dependent Variable: Customer Satisfaction

### ANOVA

<table>
<thead>
<tr>
<th>Mode</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression 126.980</td>
<td>1</td>
<td>126.980</td>
<td>434.493</td>
<td>.000(a)</td>
</tr>
<tr>
<td></td>
<td>Residual 52.020</td>
<td>178</td>
<td>.292</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total 179.000</td>
<td>179</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression 138.386</td>
<td>2</td>
<td>69.193</td>
<td>301.548</td>
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<tr>
<td></td>
<td>Residual 40.614</td>
<td>177</td>
<td>.229</td>
<td></td>
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<td>Regression 141.226</td>
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<td>47.075</td>
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<td>.000(c)</td>
</tr>
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<td></td>
<td>Residual 37.774</td>
<td>176</td>
<td>.215</td>
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<td></td>
<td>Total 179.000</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Regression 142.539</td>
<td>4</td>
<td>35.635</td>
<td>171.036</td>
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<tr>
<td></td>
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<td>Total 179.000</td>
<td>179</td>
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</tr>
</tbody>
</table>

- a Predictors: (Constant), Service Quality's empathy
- b Predictors: (Constant), Service Quality's empathy, Service Quality's reliability
- c Predictors: (Constant), Service Quality's empathy, Service Quality's reliability, Service Quality's tangibles
- d Predictors: (Constant), Service Quality's empathy, Service Quality's reliability, Service Quality's tangibles, Service Quality's assurance
- e Dependent Variable: Customer Satisfaction
According to model summary, it can be seen that, with the increasing number of models, goodness of fit $R^2$ gradually increases, which indicates that the proportion of variability, which can be explained by the model in the total variation, is bigger and bigger, and service quality’s empathy, service quality’s reliability, service quality’s tangibles and service quality’s assurance are significant. In model 4, the goodness of fit $R^2$ achieves 0.796, which indicates the equation has a high goodness of fit and it is accepted. From the ANOVA table, when equation contains different variables, its significance probability (sig.) are much smaller than 0.01, which can significantly reject the original hypothesis that overall regression coefficient is zero.

From the coefficient table, after t-test, the significant P of each variable in the equation is less than 0.05, which are significant, and inflation factor (VIF) are less than five, and there is no collinearity between independent variables. According to the model 4 in coefficients table, the multiple linear regression equation can be established as: Customer Satisfaction $= 0.491 \times$ Service Quality’s empathy $+ 0.204 \times$ Service Quality’s reliability $+ 0.156 \times$ Service Quality’s tangibles $+ 0.142 \times$ Service Quality’s assurance and it can be seen that customer satisfaction is influenced by service quality’s empathy, service quality’s reliability, service quality’s tangibles and service quality’s assurance.

(2) The regression of service quality’s dimensions to customer trust

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
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<td>.842</td>
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<tr>
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<td>Service Quality’s reliability</td>
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<td>.052</td>
<td>.365</td>
<td>7.070</td>
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<td>2</td>
<td>Service Quality’s empathy</td>
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<td>.052</td>
<td>.578</td>
<td>11.185</td>
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<tr>
<td></td>
<td>Service Quality’s reliability</td>
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<td>.052</td>
<td>.365</td>
<td>7.070</td>
</tr>
<tr>
<td>3</td>
<td>Service Quality’s empathy</td>
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<td>.051</td>
<td>.535</td>
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<tr>
<td></td>
<td>Service Quality’s reliability</td>
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<td>.061</td>
<td>.238</td>
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<tr>
<td></td>
<td>Service Quality’s tangibles</td>
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<td>.056</td>
<td>.205</td>
<td>3.648</td>
</tr>
<tr>
<td>4</td>
<td>Service Quality’s empathy</td>
<td>.491</td>
<td>.053</td>
<td>.491</td>
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</tr>
<tr>
<td></td>
<td>Service Quality’s reliability</td>
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<td>.062</td>
<td>.204</td>
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<td>Service Quality’s tangibles</td>
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<td>.059</td>
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<tr>
<td></td>
<td>Service Quality’s assurance</td>
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<td>.056</td>
<td>.142</td>
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a. Dependent Variable: Customer Satisfaction
b. Linear Regression through the Origin
According to model summary, it can be seen that, with the increasing number of models, goodness of fit $R^2$ gradually increases, which indicates that the proportion of variability, which can be explained by the model in the total variation, is bigger and bigger, and service quality’s empathy, service quality’s reliability, and service quality’s tangibles are significant. In model 3, the goodness of fit $R^2$ achieves 0.703, which indicates the equation has a high goodness of fit and it is accepted. From the ANOVA table, when equation contains different variables, its significance probability (sig.) are much smaller than 0.01, which can significantly reject the original hypothesis that overall regression coefficient is zero.
From the coefficient table, after t-test, the significant P of each variable in the equation is less than 0.05, which are significant, and inflation factor (VIF) are less than five, and there is no collinearity between independent variables. According to the model 3 in coefficients table, the multiple linear regression equation can be established as: Customer Trust = 0.324 × Service Quality’s reliability + 0.307× Service Quality’s empathy + 0.298 × Service Quality’s tangibles and it can be seen that the impact of service quality’s reliability on customer trust is the biggest factor.

(3) The regression of service quality’s dimensions to switching costs

\[
\text{Model Summary(b)}
\]

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.248(a)</td>
<td>.062</td>
<td>.056</td>
<td>.97137948</td>
</tr>
</tbody>
</table>

\( a. \) Predictors: (Constant), Service Quality’s empathy
\( b. \) Dependent Variable: Switching Costs

\[
\text{ANOVA(b)}
\]

<table>
<thead>
<tr>
<th>Mode</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11.043</td>
<td>1</td>
<td>11.043</td>
<td>11.703</td>
<td>.001(a)</td>
</tr>
<tr>
<td>Residual</td>
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<td>178</td>
<td>.944</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>179.000</td>
<td>179</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( a. \) Predictors: (Constant), Service Quality’s empathy
\( b. \) Dependent Variable: Switching Costs
According to the model summary and ANOVA table, there is only the service quality's empathy in the equation, and it has the linear relationship with switching costs. Through the coefficient table, after t-test, the significant P of service quality's empathy is less than 0.05. The multiple linear regression equation can be established as

\[ \text{Switching Costs} = 0.248 \times \text{Service Quality's empathy} \]

### 4.5.2 The Regression of Customer Satisfaction, Customer Trust and Switching Costs to Customer Loyalty

(1) The regression of customer satisfaction, customer trust and switching cost to behavioral loyalty

#### Model Summary(c)

<table>
<thead>
<tr>
<th>Mode</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.854(a)</td>
<td>.729</td>
<td>.728</td>
<td>52161765</td>
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<tr>
<td>2</td>
<td>.879(b)</td>
<td>.772</td>
<td>.770</td>
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#### ANOVA(c)

<table>
<thead>
<tr>
<th>Mode</th>
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<th>df</th>
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<th>F</th>
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<tr>
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<td>130.569</td>
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<td>.272</td>
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<td>179.000</td>
<td>179</td>
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<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Customer Satisfaction

b. Predictors: (Constant), Customer Satisfaction, Customer Trust

c. Dependent Variable: Customer's behavioral loyalty
According to model summary, it can be seen that, with the increasing number of models, goodness of fit $R^2$ gradually increases, which indicates that the proportion of variability, which can be explained by the model in the total variation, is bigger and bigger, and customer satisfaction and customer trust are significant. In model 2, the goodness of fit $R^2$ achieves 0.772, which indicates the equation has a high goodness of fit and it is accepted. From the ANOVA table, when equation contains different variables, its significance probability (sig.) are much smaller than 0.01, which can significantly reject the original hypothesis that overall regression coefficient is zero.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Customer Satisfaction</td>
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<td>0.039</td>
<td>0.854</td>
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<td>2</td>
<td>Customer Satisfaction</td>
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<td>0.588</td>
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<tr>
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<td>Customer Trust</td>
<td>0.336</td>
<td>0.068</td>
<td>0.336</td>
<td>5.771</td>
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</table>

a. Dependent Variable: Customer’s behavioral loyalty
b. Linear Regression through the Origin

From the coefficient table, after t-test, the significant P of each variable in the equation is less than 0.05, which are significant, and inflation factor (VIF) are less than five, and there is no collinearity between independent variables. According to the model 2 in coefficients table, the multiple linear regression equation can be established as: Customer’s behavioral loyalty = 0.588 × Customer Satisfaction + 0.336 × Customer Trust and it indicates that customer satisfaction and customer trust have positive impact on customer’s behavioral loyalty.

(2) The regression of customer satisfaction, customer trust and switching cost to attitudinal loyalty

<table>
<thead>
<tr>
<th>Model Summary(c)</th>
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<tbody>
<tr>
<td>Model</td>
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<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Customer Satisfaction
b. Predictors: (Constant), Customer Satisfaction, Customer Trust
c. Dependent Variable: Customer's attitudinal loyalty
According to model summary, it can be seen that, with the increasing number of models, goodness of fit $R^2$ gradually increases, which indicates that the proportion of variability, which can be explained by the model in the total variation, is bigger and bigger, and customer satisfaction and customer trust are significant. In model 2, the goodness of fit $R^2$ achieves 0.734, which indicates the equation has a high goodness of fit and it is accepted. From the ANOVA table, when equation contains different variables, its significance probability (sig.) are much smaller than 0.01, which can significantly reject the original hypothesis that overall regression coefficient is zero.

### ANOVA (c)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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<td>1</td>
<td>125.314</td>
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<td>179</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression</td>
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<td>2</td>
<td>65.687</td>
<td>244.127</td>
</tr>
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<td>.269</td>
<td></td>
</tr>
<tr>
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<td>Total</td>
<td>179.000</td>
<td>179</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- a. Predictors: (Constant), Customer Satisfaction
- b. Predictors: (Constant), Customer Satisfaction, Customer Trust
- c. Dependent Variable: Customer’s attitudinal loyalty

According to model summary, it can be seen that, with the increasing number of models, goodness of fit $R^2$ gradually increases, which indicates that the proportion of variability, which can be explained by the model in the total variation, is bigger and bigger, and customer satisfaction and customer trust are significant. In model 2, the goodness of fit $R^2$ achieves 0.734, which indicates the equation has a high goodness of fit and it is accepted. From the ANOVA table, when equation contains different variables, its significance probability (sig.) are much smaller than 0.01, which can significantly reject the original hypothesis that overall regression coefficient is zero.

### Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
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</thead>
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<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
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<td>.041</td>
<td>.837</td>
<td>20.441</td>
</tr>
<tr>
<td>2 Customer Satisfaction</td>
<td>.600</td>
<td>.063</td>
<td>.600</td>
<td>9.526</td>
</tr>
<tr>
<td>Customer Trust</td>
<td>.300</td>
<td>.030</td>
<td>.300</td>
<td>4.759</td>
</tr>
</tbody>
</table>

- a. Dependent Variable: Customer’s attitudinal loyalty
- b. Linear Regression through the Origin

From the coefficient table, after t-test, the significant P of each variable in the equation is less than 0.05, which are significant, and inflation factor (VIF) are less than five, and there is no collinearity between independent variables. According to the model 2 in coefficients table, the multiple linear regression equation can be established as: Customer’s attitudinal loyalty = $0.600 \times$ Customer Satisfaction + $0.300 \times$ Customer Trust and it indicates that customer satisfaction and customer trust have positive impact on customer’s attitudinal loyalty.
5. Discussion

Through the data analysis, it can be seen that university students’ e-loyalty is impacted by customer satisfaction, customer trust and service quality. The discussion of results is as follows:

(1) The result of factors influencing university students’ e-loyalty

Customer Satisfaction

Jacoby and Kyner (1973), Jones and Sasser (1995), Szymanski and Henard (2001), Dick and Basu (1994), Reichheld and Sasser (1990), Anderson and Srinivasan (2003), Park and Kim (2003), Shergill et al. (2004), Oliver (1999), Srinivasan et al. (2003) and Cho and Park (2001) stated that customer satisfaction has an important influence on customer loyalty. In models pointed out by MeDougall et al. (2000) and Gefen (2002), they indicated customer satisfaction is an essential factor impacting customer loyalty. Moreover, through the research of 90 online travel agencies and 90 online CD retailers, Luarn and Lin (2003) found that customer satisfaction has an important impact on customer loyalty. In the research about student satisfaction at a UK university, Douglas et al. (2006) indicated that ‘keeping customers satisfied is what leads to customer loyalty.’

Through the correlation analysis, it can be seen that customer satisfaction has positive correlation with university students’ behavioral loyalty and attitudinal loyalty at the 0.01 level and its correlation coefficients about behavioral loyalty and attitudinal loyalty are 0.854 and 0.837, which are significant. According to the regression analysis, it can be seen that the influenced weights of customer satisfaction on customer’s behavioral loyalty and attitudinal loyalty are 0.588 and 0.600, and through the multiple linear regression equations that ‘Customer’s behavioral loyalty = 0.588 × Customer Satisfaction + 0.336 × Customer Trust’ and ‘Customer’s attitudinal loyalty = 0.600 × Customer Satisfaction + 0.300 × Customer Trust’, it indicates that customer satisfaction has positive impact on university students’ e-loyalty. The result is consistent with previous studies. With the measure of customer satisfaction, it can be seen that students more consider about price and quality of online shopping and whether the process of shopping process is satisfied, which is consistent with the perception of Henning-Thurau et al. (2001), that ‘the level of service quality perceived by the students has the strongest direct impact on loyalty’.

Customer Trust

Through the research of 90 online travel agencies and 90 online CD retailers, Luarn and Lin (2003) found that customer trust has an impact on customer loyalty. In a survey on students’ loyalty to Amazon.com in the context of online book purchase, Gefen (2002) stated ‘customer trust, independently of and in addition to customer service, has a significant influence on customer loyalty.’ Through the correlation analysis, it can be seen that customer trust has positive correlation with university students’ behavioral loyalty and attitudinal loyalty at the 0.01 level and its correlation coefficients about behavioral loyalty and attitudinal loyalty are 0.801 and 0.774, which are significant.
According to the regression analysis, it can be seen that the influenced weights of customer trust on customer’s behavioral loyalty and attitudinal loyalty are 0.336 and 0.300, and through the multiple linear regression equations that ‘Customer’s behavioral loyalty = 0.588 × Customer Satisfaction + 0.336× Customer Trust’ and ‘Customer’s attitudinal loyalty = 0.600 × Customer Satisfaction + 0.300× Customer Trust’, it indicates that customer trust has impact on customer loyalty, which is consistent with previous studies of Luarn and Lin (2003) and Gefen (2002), and the impact of customer satisfaction are nearly two times than customer trust’s on customer e-loyalty.

Switching Costs

Anderson (1994), Maute et al. (1993), Shergill et al. (2004) and Gefen (2002) indicated that switching costs has impact on customer loyalty. As stated as Balabanis et al. (2006), enhancing the switching barrier of consumers can increase customer loyalty. However, through the correlation analysis, it can be seen that the correlation coefficients of switching costs about behavioral loyalty and attitudinal loyalty are 0.286 and 0.192, which are relatively low. According to regression analysis and multiple linear regression equations that ‘Customer’s behavioral loyalty = 0.588 × Customer Satisfaction + 0.336× Customer Trust’ and ‘Customer’s attitudinal loyalty = 0.600 × Customer Satisfaction + 0.300× Customer Trust’, it indicates that switching costs has no important impact on university students’ e-loyalty, which is different form prior studies about traditional customer loyalty. This is because the Internet has become more popular in college, it is very easy for college students to gather product information of different online stores through the Internet, which indicates online switching costs is much lower than traditional environment’s. Moreover, it is very simple for university student to start to do shopping in a new website, because most website’s models are same. Furthermore, the result also shows the credit and points of switching costs have no effect on college students’ e-loyalty.

(2) The impact of service quality on customer satisfaction

In models pointed out by Lloyd and Mark (2004) and Carlson et al. (2002), they indicated that the quality of website service can improve customer satisfaction. Srinivasan et al. (2002) stated that personalized services meeting customers’ demand is one of the important factors to increase customer satisfaction. Kim et al. (2004) utilized two aspects to measure customer satisfaction: the degree of overall satisfaction with the service and the overall satisfaction with service provider.

According to the correlation analysis, it can be seen that the five dimensions of service quality have correlation with customer satisfaction at the 0.01 level. Moreover, through the multiple linear regression equation that Customer Satisfaction = 0.491× Service Quality’s empathy + 0.204 × Service Quality’s reliability + 0.156 × Service Quality’s tangibles + 0.142 × Service Quality’s assurance, it can be seen that customer satisfaction is influenced by service quality’s empathy, service quality’s reliability, service quality’s tangibles and service quality’s assurance, which is consistent with previous studies.
However, service quality’s responsiveness is not in this equation, which states that university students’ satisfaction has no big relationship with that whether online shopping websites allow comments on the website and the website can response comments for whole day. Customer satisfaction is mainly impacted by service quality’s empathy, which shows university students more concerned about whether the website can provide personalized service, whether it concerns the needs of university students and whether it can help university students to solve the problems in the process of shopping. Although the regression coefficients of service quality’s reliability, tangibles, and assurance is smaller than the regression coefficients of service quality’s empathy, however, they still have important influence on customer satisfaction, which indicates university students concern about the appearance of web pages, reliability of online transactions and whether websites have professional knowledge to solve the problem. Moreover, whether the delivery of goods in on time after shopping and the refunding service both have influence on customer satisfaction.

(3) The impact of service quality on customer trust

According to the studies of Mayer (1995), Hoffman and Novak (1996), Aiken (2001), Gefen (2002) and Luarn and Lin (2003), they indicated that service quality has impact on trust, which is consistent with the result of this research. Through the correlation analysis, it can be seen that the five dimensions of service quality have correlation with customer trust at the 0.01 level. Moreover, according to the multiple linear regression equation that Customer Trust = 0.324 × Service Quality’s reliability + 0.307 × Service Quality’s empathy + 0.298 × Service Quality’s tangibles, it can be seen that the impact of service quality’s reliability on customer trust is the biggest, which indicates university students’ e-loyalty is built on a stable and reliable trading of the websites. Furthermore, service quality’s empathy also has important impact on customer trust, which is that whether the managers of websites really concern about the needs of students and whether website warmly help them with shopping process’s problem. Furthermore, service quality’s tangible also has the essential influence in the process of establishing university students’ e-loyalty.

(4) The impact of service quality on switching costs

Through the correlation analysis, it can be seen that service quality’s reliability and service quality’s empathy have correlation with switching cost at the 0.01 level and service quality’s responsiveness has correlation with switching cost at the 0.05 level and service quality’s assurance has no correlation with switching cost, however correlation coefficients are relatively low. Moreover, according to the multiple linear regression equation that ‘Switching Costs = 0.248 × Service Quality’s empathy’, it can be seen that in dimensions of service quality, just service quality’s empathy can impact switching costs. This indicates that if website really concern is about the need of university students, there will be a positive influence on switching costs. The result of data analysis states that service quality has no important influence on switching costs.
(5) Results of Hypotheses

Through the data analysis, the results of hypotheses are as follows:

<table>
<thead>
<tr>
<th>Number</th>
<th>Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1′</td>
<td>Customer satisfaction has a positive influence on customer’s attitudinal loyalty</td>
<td>✓</td>
</tr>
<tr>
<td>H2′</td>
<td>Customer satisfaction has a positive impact on customer’s behavioral loyalty</td>
<td>✓</td>
</tr>
<tr>
<td>H3′</td>
<td>Customer trust has a positive influence on customer’s attitudinal loyalty</td>
<td>✓</td>
</tr>
<tr>
<td>H4′</td>
<td>Customer trust has a positive impact on customer’s behavioral loyalty</td>
<td>✓</td>
</tr>
<tr>
<td>H5′</td>
<td>Customer switching cost has a positive influence on customer’s attitudinal loyalty</td>
<td>x ✓</td>
</tr>
<tr>
<td>H6′</td>
<td>Customer switching cost has a positive impact on customer’s behavioral loyalty</td>
<td>x ✓</td>
</tr>
<tr>
<td>H7a</td>
<td>Service Quality’s tangibles has a positive influence on customer satisfaction</td>
<td>✓</td>
</tr>
<tr>
<td>H7b</td>
<td>Service Quality’s responsiveness has a positive impact on customer satisfaction</td>
<td>✓</td>
</tr>
<tr>
<td>H7c</td>
<td>Service Quality’s reliability has a positive influence on customer satisfaction</td>
<td>x ✓</td>
</tr>
<tr>
<td>H7d</td>
<td>Service Quality’s empathy has a positive impact on customer satisfaction</td>
<td>✓</td>
</tr>
<tr>
<td>H7e</td>
<td>Service Quality’s assurance has a positive impact on customer satisfaction</td>
<td>✓</td>
</tr>
<tr>
<td>H8a</td>
<td>Service Quality’s tangibles has a positive influence on customer trust</td>
<td>✓</td>
</tr>
<tr>
<td>H8b</td>
<td>Service Quality’s responsiveness has a positive impact on customer trust</td>
<td>✓</td>
</tr>
<tr>
<td>H8c</td>
<td>Service Quality’s reliability has a positive influence on customer trust</td>
<td>x ✓</td>
</tr>
<tr>
<td>H8d</td>
<td>Service Quality’s empathy has a positive impact on customer trust</td>
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<td>H8e</td>
<td>Service Quality’s assurance has a positive impact on customer trust</td>
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</tr>
<tr>
<td>H9a</td>
<td>Service Quality’s tangibles has a positive influence on switching cost</td>
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</tr>
<tr>
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</tr>
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</tr>
<tr>
<td>H9e</td>
<td>Service Quality’s assurance has a positive impact on switching cost</td>
<td>✓</td>
</tr>
</tbody>
</table>

(6) The theoretical model of factors impacting university students’ e-loyalty

Through the result of this research, we can get the theoretical model of factors impacting university students’ e-loyalty as follows:

![Theoretical model of factors impacting university students’ e-loyalty](image-url)

Theoretical model of factors impacting university students’ e-loyalty
6. Conclusion

6.1 Conclusion and Recommendation

In conclusion, this study has proved that service quality, customer satisfaction and customer trust have positive impact on university students’ e-loyalty. Firstly, this research summarized the factors, which influence university students’ e-loyalty and found the inadequacies in this area through reviewing the prior academic research about customer loyalty and e-loyalty. Secondly, this research chose positivism as the research philosophy and deduction as the research approach to build the impacting factors’ theoretical model and give hypotheses. Moreover, it chose survey as the research strategy and mixed-methods as research choices and used questionnaires to study the loyalty influence factors of the business to consumer e-commerce for university students and collect data. Finally, through reliability analysis, validity analysis, correlation analysis and regression analysis, this research identified the influencing factors of business e-commerce on university students and the relationship among the customer loyalty, customer satisfaction, customer trust, switching costs and service quality.

According to the results of analysis, this study stated that customer satisfaction is influenced by service quality’s empathy, service quality’s reliability, service quality’s tangibles and service quality’s assurance, which is consistent with the studies of Lloyd and Mark (2004) and Carlson et al. (2002), and the impact of service quality’s reliability on customer trust is the biggest, which indicates university student’s e-loyalty is built on a stable and reliable trading of the websites. It can be seen that service quality’s tangible also has the essential influence in the process of establishing university students’ e-loyalty. Furthermore, this study indicated that customer satisfaction has positive impact on university students’ e-loyalty. The result is consistent with previous study of Cho and Park (2001). With the measure of customer satisfaction, it can be seen that students more consider about price and quality of online shopping and whether the process of shopping process is satisfied, which is consistent with the perception of Henning-Thurau et al. (2001), that ‘the level of service quality perceived by the students has the strongest direct impact on loyalty’.

Moreover, it also proved that customer trust has impact on customer loyalty, which is consistent with previous studies of Luarn and Lin (2003) and Gefen (2002), and the impact of customer satisfaction are nearly two times than customer trust’s on customer e-loyalty. However, this research indicated that switching costs has no important impact on university students’ e-loyalty, which is different form prior studies about traditional customer loyalty. This is because the Internet has become more popular in college, it is very easy for college students to gather product information of different online stores through the Internet, which indicates online switching costs is much lower than traditional environment’s. According to result of research, this study suggests that online businesses should clear divide online customer and define the consumer behavior’s feature of its target customer groups. Specifically, there are more or less differences between college students and their peers in the aspect of consumer demand.
For understanding consumer psychology and behavior of university students, online businesses should carefully consider with their characteristic elements of campus life, and consider the students’ needs such as products and service’s price and quality. In addition to emphasizing on product quality, online businesses should also emphasize the speed of processing order, time of goods' delivery and the safety of customer is shopping process. In the field of electronic commerce, online businesses should strengthen communication with university students, care about the needs of students, enthusiastically solves the problems asked by college students and provide personalized services to students depend on their independent personality, which can increase university students’ satisfaction and trust to improve their e-loyalty.

6.2 Limitations and Research Expectation

The limitations of this study and expectations of future research in this area are as follows:

- In research area, this study has not distinguished different categories of products and services, so there may be some biased aspects about practical advices types of specific products and services. As a result, I expect that future researches can focus on a particular product or service of online store, which is in order to obtain the result of the factors impacting customer e-loyalty in a specific product category.

- In research sample, this research only selected Southampton University’s students as a sample and the number of sample is small, so this study’s conclusion may be not suitable for other regions. Thus, I expect that future researches can extend the research sample and study diverse university students in different area.

- In research variable, the research only studied the relationship among service quality, customer satisfaction, customer trust, switching costs and customer loyalty, while ignoring some other important variables. As a result, I expect that future researches can further study the relationship among customer satisfaction, customer trust, and service quality and customer loyalty and identify other important variables impacting customer e-loyalty.

Word Count: 12,262
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