The Influence of Online Shopping Platform on Customer Satisfaction and Trust toward Customer Loyalty: A Case Study of JD E-commerce Platform in China

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Abstract

Purpose – this study aims to investigate the relationship between service quality and customer satisfaction, customer satisfaction and customer trust, and customer satisfaction, customer trust, and customer loyalty. **Design/Methodology/Approach** – this study uses secondary data analysis and previous archive research methods to explore the factors affecting customer loyalty. This study uses three frameworks from previous studies to create a new conceptual framework. **Findings** – this study identifies the factors that influence customer loyalty on the JD e-commerce platform. This study investigates the connections between service quality and customer satisfaction, customer satisfaction and customer trust, and customer satisfaction and customer loyalty. Additionally, customer trust influences customer loyalty. **Research Limitations/Implications** – there are certain limitations in investigating the influencing factors of JD e-commerce platform customer loyalty. Previous research has been used for other specific purposes, rather than specifically for the JD e-commerce platform. In addition, due to the pandemic of COVID-19 in China, China's national policies and local regulations have affected the operation of e-commerce platforms and consumer habits to a certain extent, making consumer behavior different. Therefore, there are few studies on this aspect. **Originality/value** - this study is about the important influencing variables that affect customer loyalty on the JD E-commerce platform.

Keywords - COVID-19, service quality, customer satisfaction, customer trust, customer loyalty and JD e-commerce platform

1. Introduction[1][2]
### 1.1 Background of the study

Taking JD e-commerce platform as an example, this paper studies the factors that affect customer loyalty of Chinese online shopping platforms. In recent years, with the outbreak of covid-19, more and more Chinese consumers choose online shopping rather than offline shopping. More and more people of different ages begin to use and are used to using online e-commerce platforms. For example, using e-commerce platforms to buy daily necessities because it is more convenient and safer: consumers can consume online anytime and anywhere. No matter when and where, they only need to have electronic devices, networks and e-commerce platforms. It can

be said that the e-commerce platform is a supermarket that operates day and night. In addition, there are more consumer goods on the e-commerce platform that offline stores cannot accommodate, which can meet the different needs of many customers. At the same time, online shopping does not need to contact service personnel and other customers, so it can ensure that under the condition of effectively purchasing the required products, it can also prevent cross infection during the covid-19 epidemic. The outbreak of covid-19 has promoted the online shopping demand of Chinese consumers and realized the rapid growth of online retail sales. In 2020, the scale of China's online e-commerce market reached 11.76 trillion yuan, an increase of 10.6%

year-on-year, and the penetration rate increased to 30%. The outbreak of COVID-19 has directly affected the development of e-commerce platforms in China to a certain extent.

E-commerce refers to the execution of non-face-to-face business transactions through the use of computer technology and information technology (Wen, 2021). E-commerce is an Internet-based purchase and sales activity. E-commerce platform is a software application that the seller and the buyer play a role together. Consumers communicate with sellers or buy products through e-commerce platform, while sellers use e-commerce platform to provide consumers with purchasable goods and

purchase opportunities (Wagner et al., 2020). With the expansion of Internet, IT, telecommunications, and other technologies, e-commerce and e-commerce platforms have experienced a qualitative leap (Kabango & Asa, 2018). Nowadays, the transaction mode of e-commerce presents the characteristics of convenience, quickness, safety, low cost and personalization, so it is accepted and loved by most consumers (Ferreira, 2019). By the end of the year 2021, the total number of Internet users in China had reached 842 million, with online shoppers accounting for 81.6 percent of the entire population. Figure 1 shows the scale and usage of online shopping users in China from 2017 to 2021.
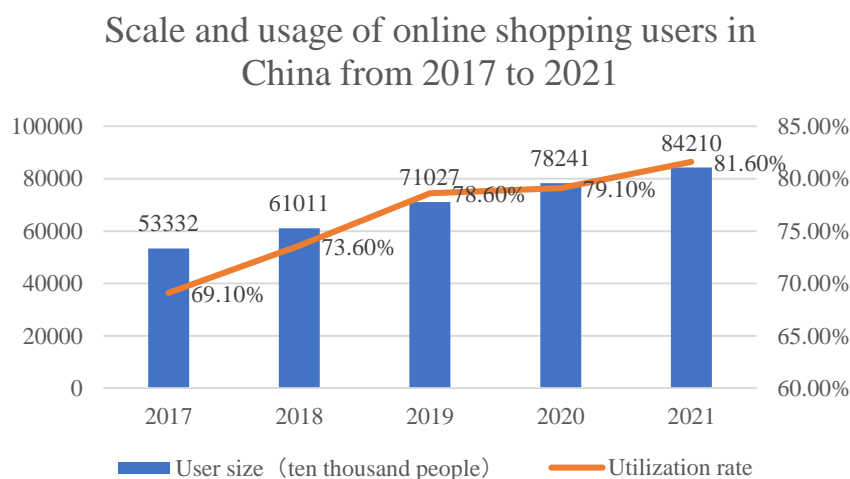
Figure 1. Scale and usage of online shopping users in China from 2017 to 2021

Customer loyalty is an indicator to measure the possibility of repeated business between customers and the company or brand. Customer loyalty is the behavior of choosing the products and services of the same company from beginning to end rather than its competitors (Chambers, 2020). Therefore, enterprises should strive to improve their customer loyalty to make customers repeat purchases and even promote the product or service to new customers ("Internet Marketing 101", 2022). According to the research of Probstein (2009), the acquisition cost of new customers is five times that of old customers. Obtaining new customers is significantly more time-consuming and expensive than retaining existing ones. At the same time, when the customer retention rate increases by 5%, the enterprise profit will increase by 25% - 95% (Reichheld & Schefter, 2000). On average, new customers are only 13% likely to accept a pitch, while loyal customers are

60% to 70% likely to accept a pitch. As a result, loyal customers will spend more money on the same brand or company than new customers. In addition, research shows that 80% of a company's or brand's profits come from 20% of existing customers, not new customers (Nethercott, 2022). Thus, maintaining or even improving customer loyalty is conducive to the development of enterprises.

After the outbreak of the COVID-19 pandemic in 2019, due to China's epidemic prevention and control policies, many consumers are unable to make offline purchases, so they have transferred to online e-commerce platforms for consumption. The change of consumer behavior has brought more development opportunities and impetus to online consumption platforms, which has also contributed to the rapid development of a number of e-commerce platforms. At the same time, there is also fierce competition between e-commerce platforms: a large number of

consumers will flow between e-commerce platforms. In China, several major e-commerce platforms led by Taobao, JD and Vipshop have become major competitors. JD is a self-supporting B2C e-commerce enterprise in China. It was established in Beijing, China in 2004. By 2021, the annual number of active users of JD will reach 570 million. JD is the leader of China's e-commerce platform. Fierce competition requires all e-commerce platforms to retain old customers and obtain customer loyalty as much as possible while developing new users. Customer loyalty has become an important factor affecting the development of JD e-commerce platform. Therefore, the purpose of this study is to examine the factors that influence customer loyalty on the JD e-commerce platform following the COVID-19 outbreak. Customer loyalty is influenced by factors such as customer satisfaction and customer trust. Concurrently, customer satisfaction influences customer trust, and service quality influences customer satisfaction. After the outbreak of the COVID-19, the Chinese government's relatively strict prevention and control policies have changed the consumption habits of Chinese consumers, and online consumption has reduced the cross-infection of the virus. Therefore, using e-commerce platform for online shopping has become the new normal after the epidemic. The use of online e-commerce platform brings consumers and sellers an experience that offline shopping cannot get: the all-weather operation of online platform prolongs the transaction time, enables consumers to consume without time limit, and enables sellers to obtain more orders; with the application of network technology, consumers can get the opportunity to buy all kinds of products without geographical restrictions; the application of big data provides consumers with personalized services. As the first echelon of China's e-commerce platform, JD has hundreds of millions of active customers, which is a huge volume. However, in previous studies, there are few studies on the factors affecting JD's customer loyalty. Customer loyalty is an important factor affecting the development of e-commerce platforms, because the profits brought by consumers repurchase behavior are often higher than the profits of new customers when they first buy. Therefore, it is necessary to find out the positive or negative factors that affect customer loyalty. The results of this study will provide information for the influencing factors of customer loyalty of JD online e-commerce platform. Customer loyalty plays a very important role in the

competition of mature e-commerce platforms. Therefore, it is essential and beneficial to examine customer loyalty and its influencing factors. JD e-commerce platform can use these factors to improve customer loyalty and create greater profits.

1.2 Research Objectives

As was just discussed, the elements that have the greatest influence on a customer's propensity to remain loyal are those related to the customer's level of satisfaction and trust. In addition, the quality of the service provided is a factor that determines a customer's level of satisfaction, and satisfaction levels are directly related to trust levels held by customers. In terms of customer satisfaction, the quality of the service being provided is considered an independent variable, whilst customer trust and customer loyalty are considered dependent variables. The degree to which a consumer trusts a company is a dependent variable, whereas the extent to which they remain loyal to that company is an independent variable. Customer satisfaction and consumer trust are independent variables relative to customer loyalty. Therefore, the purpose of this study is to examine the relationship between variables influencing customer loyalty with precision.

1. To determine the impact of service quality on customer satisfaction.

2. To determine the impact of customer satisfaction on customer trust.

3. To determine the impact of customer satisfaction on customer loyalty.

4. To determine the impact of customer trust on customer loyalty.

These objectives have aligned with research questions as detailed below

1. Does service quality have a significant impact on customer satisfaction?

2. Does customer satisfaction have a significant impact on customer trust?

3. Does customer satisfaction have a significant impact on customer loyalty?

4. Does customer trust have a significant impact on customer loyalty?

A large number of consumers change their consumption behavior, or actively or passively transfer their consumption places to online e-commerce platforms, which is the result of the prevalence of the novel coronavirus. The phenomenon of selling products or services on online e-commerce platforms is also a choice that many

companies selling products or services have to make after the prevalence of novel coronavirus. During the epidemic period, the online e-commerce platform provided a convenient, safe and low-cost trading place, making many consumers more and more dependent on this way of shopping. At the same time, the huge competition among e-commerce platforms also makes the major e-commerce platforms need to be more competitive to obtain more profits. When most e-commerce platforms provide similar services and products, customer loyalty largely affects the profitability of each e-commerce platform. Therefore, this research is needed to understand what factors will affect customer loyalty.

Firstly, the results of this study will help JD e-commerce platform to have a deeper understanding of the factors affecting customer loyalty. Higher customer loyalty will enable e-commerce platforms to obtain more repeat customers, and repeat customers will bring more profits and lower costs than new customers. In addition, JD e-commerce platform can use this research to formulate more appropriate development and competition strategies, obtain higher customer loyalty and improve competitiveness.

Next, this research will help the product and service R & D and operation team of JD e-commerce platform develop and maintain new products and services to obtain higher customer loyalty. The R & D team and operation team must understand the factors affecting customer loyalty and apply them in the process of R & D and maintenance of products and services. In depth analysis of customer loyalty and practical application of various influencing factors to obtain higher customer loyalty than other e-commerce platforms are an important condition to seize the advantage in competition with other e-commerce platforms. Due to the huge competitive pressure in China's e-commerce market after the COVID-19, various e-commerce platforms are emerging in an endless stream of tricks to attract customers' consumption, which makes consumers flow and become unstable among various e-commerce platforms. Because of this, maintaining customer loyalty, also known as customer stickiness, is of the greatest priority. Therefore, the R & D and operation team of JD e-commerce platform should be vigilant, recognize the key of customer loyalty and work hard for it.
Third, this study helps online consumers understand their purchase behavior and their purchase decisions. Customer loyalty in this study is the possibility that

customers make a second purchase on the online purchase platform. When consumers fundamentally understand what factors affect customer loyalty, they can better understand their behavior and make purchase decisions that are more conducive to consumers themselves. More effective consumer behavior can promote e-commerce platforms to better adjust their policies and directions, resulting in a virtuous circle: consumer behavior promotes the improvement of e-commerce platforms - the progress of e-commerce platforms attracts customers to buy.

2. Literature Review
2.1 Theories of Each Variable
2.1.1 Service quality
Service quality is hard to imitate and depends on people's perceptions (Yuen & Thai, 2015). Ali et al. (2021) define service quality as the gap between customer expectations and actual service received. Consumers evaluate service quality based on expectations and actual performance (Adbullah & Othman, 2021). Al-Damen (2017) defines service quality as the customer's expectations and opinion of the service's implementation. Othman and Abdullah (2016) define service quality as the gap between consumers' expectations of the service's effect before using it and their observation of the actual service. Goel and Yang (2015) define service quality as the difference between the customer's expected and actual service. Parasuraman et al. (1985) proposed SERVQUAL, the most classic service quality theory. SERVQUAL measures service quality in 10 dimensions: reliability, responsiveness, competence, access, course, communication, creativity, security, understanding/knowledge, and tangibles. Parasuraman et al. (1988) reduced the 10 dimensions to 5 universal dimensions.

Tangibles: physical facilities, equipment, and technology's exterior performance or look. All of these inform clients about the company's service quality. This improves the company's image (Singaraj et al., 2019). It's tangible. Service providers' quality will be judged by customers, especially new ones. Although service companies utilize actual assets to improve their reputation and image, emphasize service consistency and sign service quality agreements with clients. Most corporations combine their tangible assets with others to develop service quality standards (Anwar & Balcioglu, 2016).

Reliability: reliability reflects a service provider's commitment and trustworthiness (Hameed & Anwar, 2018). Singaraj et al. (2019) defines reliability as the ability to deliver on promises. Reliability is the trustworthiness of a service company's delivery, service, problem-solving, and price. Customers like firms that keep commitments (Singaraj et al., 2019). Therefore, it affects customer service perception. Service firms must understand reliability requirements. Customers appreciate companies that guarantee outcomes (Anwar & Climis, 2017).

*Responsiveness*s: Willingness to help clients and provide timely services (Singaraj et al., 2019). This dimension focuses on customer requirements, difficulties, complaints, attitude, and timeliness. It also values employees' timeliness, presence, and professionalism. It can be determined based on client wait time, inquiry answer, etc. (Anwar & Qadir, 2017). Reviewing the service delivery process and employee attitudes regarding customer demands helps enhance response conditions. Responsiveness also refers to service providers who can quickly handle difficulties. Responding to client demands is crucial for service providers. When a customer's request isn't met promptly, it becomes a complaint. Timeliness is a significant aspect of service excellence for essential consumers. This dimension focuses on how complaints, problems, and other issues are handled. Customer responsiveness is communicated through response time. Responsiveness represents adaptability, and services can be changed for customers (Anwar & Qadir, 2017).

Anwar and Qadir (2017) define *assurance* as the firm's expertise, etiquette, and ability to inspire client confidence and trust. This dimension focuses on employees' knowledge, abilities, correctness, civility, and other work-related traits, as well as company safety (Singaraj et al., 2019).

Empathy relates to expressing interest and personal attention, according to Anwar and Qadir (2017). Empathy involves user accessibility, sensitivity, and understanding. Personalized services show how important each customer is to the organization. This dimension also focuses on addressing consumer needs, such as tailored services. Each customer's needs, objectives, and preferences must be understood (Singarajet al., 2019).

2.1.2 Customer satisfaction
Satisfaction is abstract. Researchers define customer satisfaction differently. If a customer is unhappy with a service provider's work, he won't use them again or buy the same service. Customer satisfaction is a negative or positive response to various events and emotions (Markéta & Kateřina, 2012). Oliver (1999) defined customer satisfaction as "the judgment of whether the service or product features provide an agreeable understanding and level of consumption success, including supernatural or sub-realistic levels." Integrating value or quality improves customer happiness. Customer rating of service depends on customers' expectations for service quality and the provider's service abilities (Li et al., 2021). Customer satisfaction is the gap between the customer's expected performance and the service or product's actual performance after a defined time (Azman et al., 2016; Mosahab & Ramayah, 2010). Customer satisfaction is attained when a consumer believes the service provider can meet his/her needs, expectations, and goals (Ismail & Yunan, 2016). Consumer happiness results from meeting or exceeding customer needs, according to Peng and Moghavvemi (2015). Consumer satisfaction means meeting customer needs (Bagram & Khan, 2012). Cengiz (2010) defines customer satisfaction as a post-consumption experience that compares customers' experienced quality with their expected quality to compare investment before and after consumption. Customer satisfaction is the difference between a customer's expected and actual performance after utilizing a service or product for a given duration (Azman et al., 2016; Mosahab & Ramayah, 2010). Customer satisfaction is a key determinant of consumer behavior (Hu et al., 2011) and corporate performance and profitability (Chinomona & Sandada, 2013). Customer pleasure drives business. Today, firms' main issue is matching customer needs (Anwar & Surarchith, 2015). Psychological, economic, and physical variables affect customer satisfaction (Aldaihani & Ali, 2018). Deng et al. (2010) noted that satisfied clients will return to the provider. Specific transactions and cumulative or overall satisfaction are two common criteria of consumer satisfaction. "Transaction-specific approach" defines customer satisfaction as a good or negative emotional and attitudinal reaction to a product or service provider (Oliver, 2010). Overall satisfaction is an assessment based on the total and long-term use of products or services (Anderson et al., 1994). When clients are unhappy with a service or product, they may tell more than five people, damaging the service provider's prospects.

2.1.3 Customer trust

Customer trust encourages service provider-customer relationships. Customer trust allows them to stay loyal to the company (Sparks et al., 2016). Customers who trust the company are more loyal. Social exchange theory says customers may trust service providers (Cheng et al., 2017). Patrick (2002) defined customer trust as customers' thoughts, attitudes, emotions, and actions when they feel service providers will act in their best interests when they lose direct control. Morgan and Hunt (1994) describe customer trust as one party trusting another because they are honest and reliable. Consumers' trust in corporations or organizations. It displays confidence in the company's willingness to do right by customers (Bishop, 2021). Eid (2011) defines trust as "consumers' opinions about suppliers' traits and future behavior." Chinomona and Dubihela (2014) define customer trust as high trust in a product or service. Product or service experiences will affect consumers' commitment to service providers (Olaru et al., 2008). Boshoff and Du Plessis (2009) agreed that consumer trust is vital for commercial relationships. Due to service provider influence, customer trust is risky (Hong & Cho, 2011).

2.1.4 Customer Loyalty

Gee et al. (2008) stated that if a company wants to retain its existing customers, customer loyalty is crucial. Oliver (2014) defined customer loyalty as "a deep-rooted commitment, that is, to continuously transform or re strengthen the preferred products or services in the future, although environmental impact and marketing efforts may lead to conversion behavior". According to Ganiyu et al. (2012), customer loyalty can be defined as customer loyalty to the company, even if the enterprise makes mistakes, loyal customers will not leave or give up the company. Kincaid (2003) defined customer loyalty as "a consumer behavior based on positive experience and value, which will lead to the purchase of products, even if it may not be the most rational decision". Also, customer loyalty is defined as the loyal attitude and behavior of consumers towards specific service companies, although competitors providing the same service or product provide alternative services in the market (Chen, 2014). The consumer demonstrates a high level of repeat business with the same service provider, maintains a positive emotional attitude in the direction of the provider, and gives serious consideration to utilizing

the service provider only when there is a demand for the service (Kheng et al., 2010). The research showed that when organizations or companies pay more attention to the expectations of their customers, customer loyalty will be generated (Flint et al., 2011). According to Deng et al. (2010), customer loyalty refers to the commitment made by customers: under certain conditions, they will repeatedly purchase the brand or service in order to influence conversion behavior. According to Cheng et al. (2011), one of the most important aspects of providing satisfactory service to customers is developing and sustaining long-term consumer loyalty. According to Hong and Cho (2011), customer loyalty reflects the psychological attachment that customers have to the items or services that they purchase as well as their attitude toward the companies that they patronize. Businesses are able to maintain their consumer base and see increases in earnings by working to promote customer loyalty (Lee, 2017). This is in accordance with the recommendations that were made by Deng et al. (2010), who stated that the loyalty of customers is an indicator of the long-term health of businesses. As loyal customers of the company, they will not be affected by negative publicity. They will provide the company with free word-of-mouth advertisements and recommendations.

2.2 Related Literature Review
2.2.1 Service quality and customer satisfaction

In both business and academic fields, service quality and customer satisfaction have received increased attention in recent years. Sureshchandar et al. (2003) underlined that, from the customer's perspective, service quality and customer satisfaction are conceptually distinct concepts, despite the fact that there is a correlation between service quality and customer satisfaction. The model developed by Oliver (2014) also shows that improving service quality can improve customer satisfaction. According to a study conducted by Ribbink et al. (2004), this relationship exists in the e-commerce industry as well. The experience of service quality is closely related to customer satisfaction (Bezerra and Gomes, 2015). According to Hansen and Bush (1999), service quality is the most significant variable of customer satisfaction. Consumer satisfaction is a critical performance indicator for firms. One of the most important measures of a company's success is customer satisfaction (Adolphson & Parmler, 2012). Empirical results

provided by researchers from multiple industries show that service quality has a significant impact on satisfaction (Wilson et al., 2019). Service providers may improve customer satisfaction by properly improving service quality when performing daily work (Azman et al., 2016). Service providers can increase customer satisfaction by improving service quality in their daily operations (Hussain et al., 2015). Low-quality services fail to meet customers' expectations, which will lead to consumer dissatisfaction (Bagram & Khan, 2012).

2.2.2 Customer satisfaction and customer trust

Customer satisfaction is one of the most significant indicators of customer trust (Rasheed & Abadi, 2014; Sirdeshmukh et al., 2002), which is a crucial element in the long-term relationship between successful customers and the organization. Researchers discovered a strong correlation between customer satisfaction and customer trust (Rasheed & Abadi, 2014). Wu (2013) found that there is a direct relationship between satisfied customers and trust in online shopping. Dabholkar and Sheng (2012) supported this argument they believe that there is a connection between the satisfaction of customers' needs and customers' trust in service providers. They investigated the relationship between levels of satisfaction and levels of trust in the context of conducting business online. This indicates that as a result of the positive interactions with businesses, consumers start to develop faith in the companies that provide services to them (Dabholkar & Sheng, 2012). Another study that established the connection between customer satisfaction and consumer trust was conducted by Ou and Sia (2003). At the same time, they proposed that in order to enhance the trust of Internet customers, an e-commerce platform should first fulfill the privacy and security concerns of Internet shoppers. This was done in order to strengthen the trust of Internet customers. This demonstrates how important the feeling of satisfaction is to trust. Similarly, Olaru et al. (2008) said openly that a great customer experience will result in customer pleasure, while a satisfactory customer experience will develop consumer trust. Boshoff and Du Plessis (2009) believe that trust is very important in the interpersonal relationship between customers and the company or organization, which means that customers need to get a pleasant experience first, so as to obtain satisfaction, and finally the company or organization can get trust. If these experiences meet their expectations, they will

say that we are satisfied and will trust the company in the future (Chinomona & Sandada, 2013).

2.2.3 Customer satisfaction and customer loyalty

According to the research, customers should first deal with services or products, and evaluate the services or products they have purchased based on these experiences. This shows that to establish and maintain customer loyalty, service providers should meet customer expectations (Chinomona & Sandada, 2013). Jeong and Lee (2010) added support for this viewpoint. His research on the determinants of consumer loyalty in Korean mobile phones revealed a correlation between customer pleasure and customer loyalty. According to Sankaran (2010), customer satisfaction is the key premise of consumer loyalty. Previous academic literature shows that if customers are satisfied with the performance of the organization or the company, they will improve their loyalty to the organization. The satisfaction of customers has a beneficial effect on the retention of such customers (Verhoef, 2003). If a consumer is dissatisfied with a service provider, that customer will not be loyal to the service provider and will instead turn to the provider's competition. However, a customer who has been dissatisfied multiple times will not continue to criticize, but instead will change her or his purchasing action in silence. Some unhappy customers will complain to the service provider, but most customers who have been dissatisfied multiple times will not continue to criticize (Lewis & Soureli, 2006). Therefore, if the buyer is willing to continuously use the organization's products or services, he will be more satisfied, thus improving his loyalty to the organization. Satisfaction with the product or service may not always be the only reason for a consumer to remain loyal; yet, customer satisfaction is one of the significant elements that contribute to customer loyalty. The consumption of one's goods or services is what ultimately leads to satisfied customers (Shahid et al., 2011). In his study on the relationship between passenger happiness and customer loyalty in the Indonesian aviation industry, Rizan (2010) discovered that customer satisfaction has a good business impact on customer loyalty and has a substantial effect on customer loyalty. According to Doyle (2002), highly satisfied customers will show the following five characteristics: (1) maintain longer loyalty time, (2) buy more or more times, (3) have higher evaluation on the company, (4) pay less attention to competitive brands and advertisements

that provide the same service, and (5) the cost of the company to serve this customer is lower than that to serve new customers.

2.2.4 Customer trust and customer loyalty

The relationship between the trust placed in a company by its customers and the loyalty shown by those customers has been the subject of substantial research in the fields of business and enterprise (Iglesias et al., 2020). According to Diallo and Checchin (2017), a higher level of consumer loyalty to a vendor is associated with a higher level of customer trust in that seller. In a study on consumer perception, Singh et al. (2012) demonstrated the same thing, showing that trust between a company and its customers positively increases customer loyalty. In contrast, a study on the unethical behavior of businesses by Leonidou et al. (2019) indicated that the greater a customer's mistrust of a firm, the less loyal they are to that organization. Kang and Hustvedt (2014) in the United States produced empirical evidence to demonstrate that the greater a customer's trust in a company, the more likely they are to purchase its items again. Castaldo et al. (2009) state that trust between businesses and their customers will favorably increase customer loyalty. According to Veloutsou (2015), trust between businesses and their customers' leads to increased customer loyalty. According to Huang (2017), brands tend to cultivate stronger brand loyalty among consumers. Customer loyalty is intimately tied to customer trust (Palacios-Florencio et al., 2018). Trust has been discovered as a predictor of consumer loyalty in prior research (Gul, 2014). Establishing a relationship of trust between customers and service providers will increase customer loyalty to the firm (Kishada and Wahab, 2013). According to Gul (2014), when a customer is loyal to a product or service, the customer basically trusts it. In addition, Ranawera and Prabhu (2003) noted that trust is a more powerful emotion than satisfaction, which makes it a more accurate predictor of loyalty. Customers are more likely to remain loyal to a firm if they believe in the quality of the goods and services it provides (Ribbink et al., 2004). Although a number of factors influence customer loyalty, trust is vital (Harris & Goode, 2004). It emphasizes that trust is the foundation of customer loyalty. This implies that customer trust in a company's products and services will result in their loyalty (Ribbink et al., 2004).

2.3 Conceptual Framework

There are three theoretical frameworks which use to construct the conceptual frameworks in this study. The first theoretical framework is from the relationship between service quality and customer satisfaction: the example of CJCU library by Wang and Shieh (2006). This study offers information between service quality and customer satisfaction. Research shows that there is a direct relationship between service quality and customer satisfaction. According to this research, service quality can be divided into 5 aspects: (1) tangibles, (2) responsiveness, (3) reliability, (4) empathy, (5) assurance. These five factors are key to service quality, and they affect customer satisfaction. The second theoretical framework is from Mahamad and Ramayah (2010) under the title "Service quality, customer satisfaction and loyalty: a test of mediation". This study reveals the relationship between perceived service quality, customer satisfaction and customer loyalty. On the basis of this research, service quality is one of f factors affecting customer satisfaction, and service quality has direct relationship with customer loyalty. This article also divides service quality into five parts (tangibles, responsibility, reliability, efficiency, assurance). These five factors constitute the dimension of service quality and affect customer satisfaction, which is related to customer loyalty. Leninkumar (2017) in "The relationship between customer satisfaction and customer trust on customer loyalty" is third theoretical framework. The study is to explore the relationship among customer satisfaction, customer trust and customer loyalty. The article draws the following conclusions: (1) customer satisfaction is an important prerequisite for building customer trust, (2) customer satisfaction is an important factor affecting customer loyalty, (3) customer trust affects customer loyalty.

Based on previous research, theoretical concepts and relevant literature, the researchers modified the conceptual framework. These studies show the impact of service quality as an independent variable on customer satisfaction as a dependent variable. As an independent variable, customer satisfaction has a direct impact on dependent variables: customer trust and customer loyalty. As an independent variable, customer trust has an impact on customer loyalty as a dependent variable. The conceptual framework is shown in Figure 2.
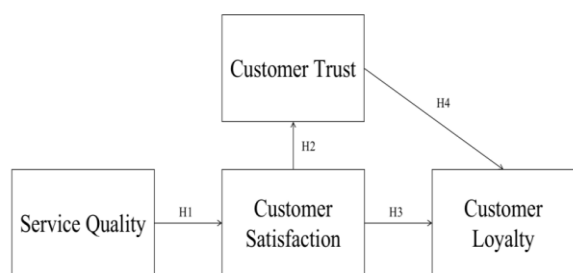
Figure 2. The conceptual framewor

Based on the conceptual framework proposed above, the researchers put forward four hypotheses to study the relationship between JD.com's service quality, customer satisfaction, and customer trust and customer loyalty. The assumptions are as follows:

Hypothesis 1 (H1): service quality has a positive impact on customer satisfaction.

Hypothesis 2 (H2): customer satisfaction has a positive impact on customer trust.

Hypothesis 3 (H3): customer satisfaction has a positive impact on customer loyalty.

Hypothesis 4 (H4): customer trust has a positive impact on customer loyalty.

3. Research Methodology

This study aims to discover JD e-commerce consumer loyalty determinants. They affect service quality, client satisfaction, and trust. This study will also examine the impact of each element on JD e-commerce consumer loyalty. This study employs Cronbach's Alpha, Multiple Linear Regression, Simple Linear Regression, and Descriptive Data Research methodologies because it uses quantitative research methods. According to the study's aims and objectives, the questionnaire survey has 22 items that relate to four variables of the research model, two screening questions, sixteen measurement variables, and four demographic questions. First, the researcher uses the IOC index to check each questionnaire question's quality. The IOC questionnaire survey was scored and suggested by three specialists. According to specialists, researchers deleted unsuitable questionnaire items and kept significant ones. The researcher utilized Cronbach's alpha to examine the questionnaire's reliability and whether its measuring items were ambiguous or inappropriate. In the pilot test, 100 samples were used to assess the questionnaire's reliability and identify any confusing measuring items. In this study, the researcher utilized a five-point Likert scale to assess respondents'

attitudes and levels of agreement. 1 is "strongly disagree" while 5 is "strongly agree" The researcher employed multiple linear regression (MLR) to examine consumer happiness and trust as they relate to JD's e-commerce platform. The researcher employed two simple linear regressions (SLR) to investigate whether service quality affects customer satisfaction and customer trust.

The target audience is Chinese JD users. JD has 570million registered users, according to its 2021 financial report (as of March 15, 2022). Researchers can't establish who now utilizes JD for trading. The target population is therefore uncertain. In this work, the authors employed Cochran's (1977) formula to compute the sample size without knowing the number of populations. Determine the survey size for an unknown population with 95% confidence, 50% standard deviation, and 5% margin of error. The authors adjust the sample size from 385 to 400.

The researcher utilizes convenience sampling and snowball sampling to obtain information and data. Because the researcher screens investigators based on study aims and purposes, a quick and effective sampling survey is possible. The researcher adopted non-probability sampling due to time restrictions and the number of target groups. This strategy is suitable since the researcher can obtain the needed data.

Table 1 shows that the researcher uses Cronbach's Alpha to measure the scale of reliability using the statistic program to determine how closely related a set of items are as a group. The result showed the overall variables of the factors that impact customer loyalty in JD e-commerce platform consist of 4 items (α = .962). The result demonstrated that the Cronbach's alpha for service quality of 5 items is .948, the 4 items of customer satisfaction is .951, the 3 items of customer trust is .953, and the 4 items of customer loyalty is .948. All factors that impact customer loyalty in JD e-commerce platform are above 0.6, this means they are reliable.

Table 1. Result from Pilot Test – Cronbach's Alpha

(*n=100*)

Variables	Cronbach's Alpha	Number of Items	Strength of Association
Service Quality	0.948	5	Excellent
Customer Satisfaction	0.951	4	Excellent
Customer Trust	0.953	3	Excellent
Customer Loyalty	0.948	4	Excellent

4. Results

The researcher reexamined each of the 402 questionnaires for flaws or discrepancies. This increased the study's precision and reliability. Cronbach's Alpha was used to evaluate the questionnaire's reliability. Table 2 shows that the researcher utilized Cronbach's alpha to measure reliability and the statistic program to determine project correlation. Two variables affect client loyalty, and one affects customer satisfaction. All variables are over 0.9, indicating strong dependability and effectiveness. The 3 customer trust items have .959 reliability. The second is service quality and client loyalty, each with 5 items and .952 reliability. Four customer satisfaction items total .950.

Table 2. Cronbach's Alpha

(*n=402*)

Variables	Cronbach's Alpha	Number of Items	Result
Service Quality	0.952	5	Reliable
Customer Satisfaction	0.950	4	Reliable
Customer Trust	0.959	3	Reliable
Customer Loyalty	0.952	4	Reliable

4.1 Descriptive Analysis of Demographic Data

In order to conduct an analysis of the demographic data on the JD e-commerce platform that is presently being utilized, the researcher implemented descriptive analysis within the statistic software. They are not only registered users of JD e-commerce platform, but also have conducted transactions on the platform recently. Demographic information includes gender, age, monthly income and education. With this information, the researcher can explain the characteristics of respondents through descriptive analysis. The following is a summary of the frequency distribution and percentages based on the total sample size of 402 respondents, as shown in Table 3.

Gender: Among the 402 respondents in this questionnaire, the survey results of female and male were 212 and 190 respectively. It can be concluded that the proportion of female is higher, accounting for 52.7%, which is higher than 47.3% of male. **Age:** In this questionnaire, the respondents aged 18-26 are the most, with a total of 99, accounting for 24.6%. This was followed by 97 respondents aged 36-55, accounting for 24.1%. In the third place were 83 respondents under the age of 18, accounting for 20.6%. In the fourth place were 64 respondents aged 27-35, accounting for 15.9%. The last one is the respondents over 55 years old, accounting for 14.7%, with 59 respondents. **Education level:** Among the 402 people who answered this questionnaire, 142 respondents have obtained bachelor's degrees, accounting for 35.3% of all respondents, which is the largest number. 128 people have completed high school education, accounting for 31.8% of all respondents, ranking second. There are 97 respondents with education background below high school, accounting for 24.1% of the total. Only 7.5% of the respondents, a total of 30 respondents, obtained a master's degree. Finally, there are 5 respondents with doctor degree or above, accounting for 1.2%. **Income per month:** More than half of the respondents in this survey have a monthly income of less than 3000 yuan, there are 233 respondents, accounting for 58%. Secondly, 101 respondents'

monthly income ranged from 3001-5000 yuan, accounting for 25.1%. A total of 35 respondents' monthly salary ranged from 5001-10000 yuan, accounting for 8. 7%. Only 33 respondents' monthly salary exceeded 10000 yuan, accounting for 8.2%.

Table 3. The analysis of demographic factors using the frequency distribution and percentage *(n = 402)*

Demographic Factors	Frequency	Percent
Gender		
Male	190	47.3
Female	212	52.7
Total	**402**	**100**
Age (Years)		
Under 18 years old	83	20.6
18 – 26 years old	99	24.6
27 – 35 years old	64	15.9
36 – 55 years old	97	24.1
Over 55 years old	59	14.7
Total	**402**	**100**
Education Level		
Lower than high school	97	24.1
High school	128	31.8
Bachelor's Degree	142	35.3
Master's Degree	30	7.5
Ph.D. or higher	5	1.2
Total	**402**	**100**
Income per month		
Less than 3000 RMB	233	58.0
3001 – 5,000 RMB	101	25.1
5,001 – 10,000 RMB	35	8.7
Over 10,000 RMB	33	8.2
Total	**402**	**100**

4.2 Descriptive Analysis with Mean and Standard Deviation

In this section, the researcher will conduct an analysis of the following, which is a summary of the Mean and Standard Deviation of each group variable, which consists of service quality, customer satisfaction, customer trust, and customer loyalty.

Table 4 shows that the highest average value of service quality is "I think the staff of the e-commerce platform taking JD as an example have received professional service training and learned professional knowledge." equal to 3.58. Nevertheless, the lowest average is "I think to take JD as an example of e-commerce platform service personality to provide personalized attention to customers and understand the specific needs of customers." which is equivalent to 3.32. In terms of standard deviation, the highest is "I think the e-commerce platform taking JD as an example always provides active and timely service response and can meet customer requirements." and "I think take JD as an example of e-commerce platform service personality to provide personalized attention to customers and understand the specific needs of customers.", they equal 1.317. On the contrary, the lowest is "I think the e-commerce platform like JD provides modern technology and equipment, which is convenient for customers." equal to 1.251.

Table 4 indicated that the highest mean of Customer Satisfaction was "When I decided to use this e-commerce platform like JD to meet my shopping

needs, I thought I did the right thing." which is equal to 3.52 while the lowest mean was "I have a good evaluation of the overall service of this e-commerce platform, taking JD as an example." which is equals to 3.31. For the standard deviation, the highest was "I have a good evaluation of the overall service of this e-commerce platform, taking JD as an example." which is equal to 1.332. On the other hand, the lowest was "I'm happy with my decision to use this e-commerce platform like JD." which is equal to 1.251. Table 4 indicated that the highest mean of Customer Trust was "Take JD as an example when the e-commerce platform suggests me to buy a new product or service, it is because the platform knows me and is most suitable for me." which is equals to 3.53 while the lowest mean was "In general, I totally trust the e-commerce platform I use, take JD for example." which equals to 3.36. For the standard deviation, the highest was "In general, I totally trust

the e-commerce platform I use, take JD for example." which is equal to 1.324. But the lowest was "Take JD as an example, when the e-commerce platform suggests me to buy a new product or service, it is because the platform knows me and is most suitable for Me." which is equal to 1.283.

Table 4 indicated that the highest mean of Customer Loyalty was "I encourage people around me to use the e-commerce platform like JD, which I use to purchase goods or services." which is equal to 3.48 while the lowest mean was "I appreciate the e-commerce platform I use, such as JD platform." which equals to 3.32. For the standard deviation, the highest was "I think e-commerce platforms like JD are my first choice for online shopping." which is equal to 1.345. On the contrary, the lowest was "I encourage people around me to use the e-commerce platform like JD, which I use to purchase goods or services." which is equal to 1.279.

Table 4. The result of Mean and Standard Deviation of scale items for each variable

	N	Minimum	Maximum	Mean	Std. Deviation
Service Quality					
SQ1: I think the e-commerce platform like JD provides modern technology and equipment, which is convenient for customers.	402	1	5	3.45	1.251
SQ2: I think the e-commerce platform taking JD as an example will perform the promised services reliably and accurately.	402	1	5	3.48	1.272
SQ3: I think the e-commerce platform taking JD as an example always provides active and timely service response and can meet customer requirements.	402	1	5	3.42	1.317
SQ4: I think the staff of the e-commerce platform taking JD as an example have received professional service training and learned professional knowledge.	402	1	5	3.58	1.253
SQ5: I think taking JD as an example, the e-commerce platform provides personalized services and provides personalized attention to customers, and understands the specific needs of each customer.	402	1	5	3.32	1.317

Customer Satisfaction					
CS1: Based on all my experience of purchasing on e-commerce platforms like JD, I am very satisfied with the services provided by e-commerce platforms.	402	1	5	3.37	1.279
CS2: I'm happy with my decision to use this e-commerce platform like JD.	402	1	5	3.42	1.251
CS3: When I decided to use this e-commerce platform like JD to meet my shopping needs, I thought I did the right thing.	402	1	5	3.52	1.275
CS4: I have a good evaluation of the overall service of this e-commerce platform, taking JD as an example.	402	1	5	3.31	1.332
Customer Trust					
CT1: In general, I totally trust the e-commerce platform I use, take JD for example.	402	1	5	3.36	1.324
CT2: Take JD as an example, when the e-commerce platform suggests me to buy a new product or service, it is because the platform knows me and is most suitable for me.	402	1	5	3.53	1.283
CT3: The e-commerce platform like JD, treats me in an honest way in every transaction.	402	1	5	3.49	1.316
Customer Loyalty					
CL1: I appreciate the e-commerce platform I use, such as JD platform.	402	1	5	3.32	1.308
CL2: I encourage people around me to use the e-commerce platform like JD, which I use to purchase goods or services.	402	1	5	3.48	1.279
CL3: I think e-commerce platforms like JD are my first choice for online shopping.	402	1	5	3.45	1.345
CL4: I will do more business with this e-commerce platform like JD, in the future.	402	1	5	3.46	1.285

4.3 Hypothesis Testing Results
4.3.1 Summary of Simple Linear Regression of H1
A simple linear regression was carried out, as shown in Table 5, to ascertain whether or not service quality significantly predicted levels of customer satisfaction. The result from hypothesis 1 showed that the null hypothesis is rejected. The result of

regression indicated that the model explained 80.4% of the variance and that the model was significant, $F(1,400) = 1638.510$, $p<.05$. With an R^2 of .804 at 95% of confidence level. The result shows that service quality ($\beta = .897$, $p<.05$) has positively significant to customer satisfaction.

Statistical Hypothesis

H1o: Service quality has no significant impact on customer satisfaction.

H1a: Service quality has a significant impact on customer satisfaction.

Table 5 shows the significant level was less than 0.05. The null hypothesis was rejected. As a result, it can be concluded that customer satisfaction is affected by service quality. Moreover, service quality has a standardized coefficient of .897. It can be implied that if service quality increases by 1%, customer satisfaction can be raised by 89.7%.

Table 5. Summary of Simple Linear Regression Analysis for Hypotheses 1

Variables	B	SE B	B	t	Sig.	VIF
(Constant)	0.295	0.295		3.660	<0.001	
Service Quality	0.902	0.902	0.897	40.479	<0.001*	1.000

Note. $R^2 = .804$, Adjusted $R^2 = .803$, *p < .05. Dependent Variable = Customer Satisfaction.

4.3.2 Summary of Simple Linear Regression of H2

In the second part, the researcher uses simple linear regression to predict the impact of customer satisfaction on customer trust. The results are shown in the following table 6. Table 6 shows a simple linear regression was carried out to determine if customer satisfaction significantly predicted customer trust. The result from hypothesis 2 showed that the null hypothesis is rejected. The result of regression indicated that the model explained 72.4% of the variance and that the model was significant, $F(1,400) = 1047.656$, $p<.05$. With an R^2 of .724 at 95% of confidence level. The result shows that customer satisfaction ($\beta = .851$, $p<.05$) has positively significant to customer trust.

Statistical Hypothesis

H2o: Customer satisfaction has no significant impact on customer trust.

H2a: Customer satisfaction has a significant impact on customer trust.

Table 6 shows the significant level was less than 0.05. The null hypothesis was rejected. As a result, it can be concluded that customer trust is affected by customer satisfaction. Moreover, customer satisfaction has a standardized coefficient of .851. It can be implied that if customer satisfaction increases by 1%, customer trust can be raised by 85.1%.

Table 6. Summary of Simple Linear Regression Analysis for Hypotheses 2

Variables	B	SE B	β	t	Sig.	VIF
(Constant)	0.430	0.430		4.381	<0.001	
Customer Satisfaction	0.889	0.889	0.851	32.368	<0.001*	1.000

Note. $R^2 = .724$, Adjusted $R^2 = .723$, *p < .05. Dependent Variable = Customer Trust.

4.4.3 Summary of Multiple Linear Regression

In this section, the researcher determined the number of numerous elements that can affect customer loyalty by employing multiple linear regression as a statistical analytic approach. When performing multiple linear regressions, multicollinearity analysis should also be carried out since it can indicate which of the extraneous variables should be removed from the model. In addition, Akinwande et al. (2015) suggested that while attempting to propose overlapping variables, the Variance Inflation Factor (VIF) will work better if there are fewer than or equal to 5. Moreover, the variable can be explained by making use of the R-square (R^2) value. This value will give the proportion of variation in the dependent variable that can be attributed to the independent variable.

Table 7 shows a multiple linear regression was carried out to determine if customer satisfaction and customer trust significantly predicted job performance. The result from hypotheses 3 and 4 showed that all independent variables used to determine affects to customer loyalty are not overlapping and it had no problem of multicollinearity due to the VIF being less than 5. The result of the VIF value of both customer satisfaction and customer trust are 3.619. Moreover, R-square was .820 at 95% of confidence level. It

means that the independent variables (customer satisfaction and customer trust) can justify dependent variables (customer loyalty) by approximately 82.0%. Results show that 82.0% of the variance in customer loyalty can be accounted for by two predictors, collectively $F_{(2,399)} = 910.110$, $p<.05$. By looking at the individual contributions of each predictor, the result shows that customer satisfaction ($\beta = .548$, $p<.05$) and customer trust ($\beta = .393$, $p<.05$) positively significant to customer loyalty.

Statistical Hypothesis

Ho: Customer satisfaction (H3o) and customer trust (H4o) have no significant impact on customer loyalty.

Ha: Customer satisfaction (H3o) and customer trust (H4o) have a significant impact on customer

loyalty.

Table 7 shows the significant level was less than 0.05 in H3o and H4o. The null hypotheses waere rejected, and it can be concluded that customer satisfaction (H3) and customer trust (H4) have a significant influence on customer loyalty. Besides, customer satisfaction is the strong variable that has an influence on customer loyalty as its standardized coefficient was the highest with the value of .548. It can be implied that if customer satisfaction increases by 1%, customer loyalty can be raised by 54.8%. Meanwhile, customer trust has a standardized coefficient of .393. It can be implied that if customer trust increases by 1%, the customer loyalty can be raised by 39.3%

Table 7. Summary of Multiple Linear Regression Analysis for Hypotheses 3 and 4

Variables	B	SE B	B	t	Sig.	VIF
(Constant)	0.214	0.214		2.713	0.007	
Customer Satisfaction	0.556	0.556	0.548	13.562	<0.001*	3.619
Customer Trust	0.381	0.381	0.393	9.726	<0.001*	3.619

Note. $R^2 = .820$, Adjusted $R^2 = .819$, *$p < .05$. Dependent Variable = Customer Loyalty.
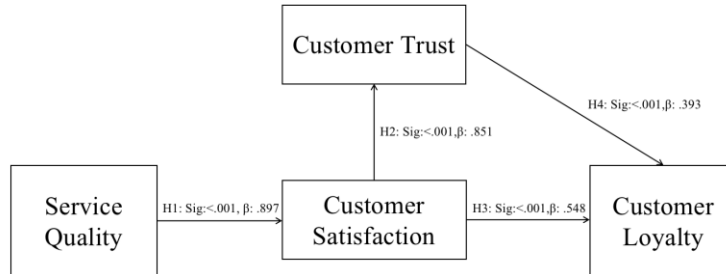
Figure 3. The result of structural model

5. Conclusion and Recommendation

5.1 Summary of the study

The summary of this study is based on this research goal: to accurately test the relationship between variables that affect customer loyalty. The relevant factors in the study include service quality, customer satisfaction, customer trust and customer loyalty. The research questions guiding this research are: Does service quality have a significant impact on customer satisfaction? Does customer satisfaction have a significant impact on customer trust? Does customer satisfaction have a significant impact on customer loyalty? Does customer trust have a significant impact on customer loyalty? This study mainly adopts a descriptive research design. This

research is mainly aimed at registered users of JD e-commerce platform, who have recently conducted transactions on JD e-commerce platform. However, due to the huge number of registered users of JD, it is difficult to accurately count the number of users using JD e-commerce platform recently, so the research population is unknown. Therefore, this study used Cochran (1997) formula to calculate the sample size, and the calculation result was 385. Then, the researcher conducted a sampling survey by means of convenient sampling and snowball sampling among non-probabilistic sampling methods. Among the 385 target questionnaires, 402 usable questionnaires were finally recovered.

In order to ensure the consistency and reliability of

the structured questionnaire, this study used closed-ended questions in the questionnaire. After converting the collected data into original data, the researcher used the statistical program to analyze the data, and presented the final results through figures and tables. Descriptive statistical analysis data such as frequency, mean and standard deviation were used in this study. For the sake of testing the variables, correlation and regression analysis are used for more in-depth analysis and reasoning.

In order to test hypotheses, the author makes use of both multiple and simple linear regression. The method of Simple Linear Regression is utilized in

order to ascertain the degree of influence that exists between service quality and customer contentment, as well as the degree of influence that exists between customer satisfaction and customer trust. The level of influence that customer loyalty has on a business can be determined through the use of Multiple Linear Regression (two variables which are customer satisfaction and customer trust). The results of hypotheses testing show that all four independent variables were rejected with statistically significant values. The hypotheses testing results are shown Table 8 below.

Table 8. Summary results from the hypotheses testing

Hypotheses	Significant Value	Standardized Coefficient	Result
H1o: Service quality has no significant impact on customer satisfaction.	<0.001*	0.897	Rejected
H2o: Customer satisfaction has no significant impact on customer trust.	<0.001*	0.851	Rejected
H3o: Customer satisfaction has no significant impact on customer loyalty.	<0.001*	0.548	Rejected
H4o: Customer trust has no significant impact on customer loyalty.	<0.001*	0.393	Rejected

Note. *P-value <0.05

The results of testing the hypotheses using Multiple and Simple Linear Regression reveal the strengths of the factors that affect variables to customer satisfaction, customer trust, and customer loyalty. It demonstrates that the quality of the service provided is the most important factor in determining a customer's level of satisfaction, that customer

satisfaction is the most significant factor in determining a customer's level of trust, and that customer satisfaction is the most significant factor in determining a customer's level of loyalty. The following Table 9 provides a summary of the outcomes of rating the hypotheses that were tested.

Table 9. Strengths of factor influence of variable to Customer Loyalty

Rank	Independent Variable	Beta
1st	Customer Satisfaction	0.548
2nd	Customer Loyalty	0.393

Table 9 shows the order of independent variables that affect customer loyalty, ranking from the most significant to the least significant. The beta coefficient is used to measure the relationship between independent variable and dependent variable. The results show that the strongest independent variable related to customer loyalty is customer satisfaction, and its beta coefficient is 0.548, which means that customer loyalty will increase by 0.548 for every unit of customer

satisfaction. In addition, the study demonstrates that there is a correlation between customer trust and customer loyalty, and the beta coefficient for this relationship is 0.393.

5.2 Discussion and Conclusion
The hypotheses testing shows that there is one variable which is service quality that influence customer satisfaction and one factor which is customer satisfaction is significantly influence

customer trust. And there are two variables which are customer satisfaction and customer trust are significantly influence customer loyalty.

5.2.1 Service Quality and Customer Satisfaction

This shows that if JD e-commerce platform continues to improve service quality, its customer satisfaction will be improved. As Azman et al. (2016) said, service providers can improve customer satisfaction by appropriately improving service quality. On the contrary, if the service quality is low, customers' expectations cannot be met, which will also lead to dissatisfaction among consumers (Bagram & Khan, 2012).

Through the description and analysis of the five questions in the questionnaire, the statistical data show that the average value of service quality is 3.45. The lowest average of all questions is "I think taking JD as an example, the e-commerce platform provides personalized services and provides personalized attention to customers, and understands the specific needs of each customer." This equals 3.32, below average. In addition, the standard deviation of this problem is 1.317, which is the highest of the five problems. As the result of standard deviation shows that the scores of respondents are scattered rather than centralized. JD e-commerce platform should pay more attention to how to enhance the platform's provision of effective personalized customized services to customers, so as to keep the scores consistent.

5.2.2 Customer Satisfaction and Customer Trust

This study shows that there is a significant and positive correlation between customer satisfaction and customer trust. The significant value of customer satisfaction and customer trust is less than 0.001. This study is consistent with Wu (2013), this study shows that there is a direct relationship between customer satisfaction and trust. Dabholkar and Sheng (2012) also showed that the satisfactory service experience made customers start to have confidence and trust in service providers. In addition, Olaru et al. (2008) also said that a positive and good customer experience will bring customer satisfaction, and a satisfactory experience will also bring a sense of trust to customers.

Based on the data collected from the closed-end questionnaire, the researcher made a descriptive analysis of customer satisfaction. The data analysis results showed that the average customer satisfaction of the four questions is 3.405. Among the four questions, "I have a good evaluation of the overall

service of this e-commerce platform, taking JD as an example." which is equal to 3.31, its standard deviation is also the highest, equal to 1.332. It can be seen that the scores given by the respondents are scattered. It is concluded that JD e-commerce platform should pay attention to its overall service quality and strive to improve its overall service level, so as to gain more customer trust.

5.2.3 Customer Satisfaction and Customer Loyalty

This study shows that there is a significant and positive correlation between customer satisfaction and customer loyalty. The significant value between customer satisfaction and customer loyalty is less than 0.001. This shows that high customer satisfaction is the driving factor for JD e-commerce platform to obtain higher customer loyalty. Chinomona and Sandada (2013) also supported this view: to establish and maintain customer loyalty, service providers should meet customer expectations. In addition, Lee (2017) further supports this view. On the contrary, if the customer is dissatisfied with the service provider, the customer will turn to another service provider. Although, some of dissatisfied customers will complain to the current service provider or put forward improvement suggestions, however, countless disappointed customers will not continue to criticize, but directly change their purchasing behavior (Lewis & Soureli, 2006).

Through a detailed descriptive analysis of the four questions in the questionnaire the researcher collected, the statistical data showed that the average value of customer satisfaction is 3.405. However, the standard deviation of these four questions are more than 1.250, which means that the scores of the respondents are scattered. The highest standard deviation comes from "I have a good evaluation of the overall service of this e-commerce platform, taking JD as an example", its standard deviation of the problem is 1.332, and the lowest is "I'm happy with my decision to use this e-commerce platform like JD", equal to 1.251. From the results, JD e-commerce platform should find ways to improve the customer satisfaction of the e-commerce platform, such as improving the customer service quality of JD e-commerce platform mentioned earlier.

5.2.4 Customer Trust and Customer Loyalty

This study shows that there is a significant and positive correlation between customer trust and

customer loyalty. The significant value between customer trust and customer loyalty is less than 0.001. This shows that strong customer trust is the influencing factor for JD e-commerce platform to obtain higher customer loyalty. This is consistent with the findings of Diallo and Lambey-Checchin(2017), the improvement of customers' trust in service providers will increase customers' loyalty to service providers. Similarly, according to the research of Singh et al. (2012), customer loyalty is positively affected by customer trust. When the customer believes that the service or product provided by the service provider is reliable and trustworthy, the customer will be loyal to the service provider (Ribbink et al., 2004).

The researcher collected data from the closed-end questionnaire and made a descriptive analysis of customer trust. The statistical data showed that the average work input of the three questions was 3.46. "In general, I totally trust the e-commerce platform I use, take JD for example." has lowest average, which is 3.36, which is lower than the average. In addition, the standard deviation of this question is 1.324, which is the highest among the three topics, which shows that the respondents are scattered when scoring this question. Therefore, JD e-commerce platform should learn to build a solid relationship with customers and communicate actively and effectively, so as to improve customer loyalty.

5.3 Recommendations

These findings of this study, which were reviewed after the conclusion of the research project, reveal that there is a correlation between the aspects that ultimately influence consumer loyalty. According to the result of the research, two related criteria have a substantial bearing on customer loyalty: customer satisfaction and customer trust. There is a substantial correlation between the level of service quality and customer satisfaction, and there is also a large correlation between customer satisfaction and customer trust. In the same vein, the findings of the study indicate that a customer's level of satisfaction has the greatest bearing on their loyalty.

The findings of this research will be useful to the JD e-commerce platform, as well as to other e-commerce platforms with business models that are comparable. JD needs to know what relevant factors can help it improve customer loyalty. Priority number one for the JD e-commerce platform is the enhancement of service quality. Because improving service quality is essential for achieving a high level

of customer satisfaction. To increase the service quality, the JD e-commerce platform can begin with the following five aspects: First, the primary objective is to enhance the quality of manual services. In terms of manual services, for instance, ongoing training, feedback, and improvement should be implemented. Second, in terms of non-manual services, JD e-commerce platform should perform application upgrades and technological updates, supply and maintain first-rate service status at all times, and encourage the enhancement of customer satisfaction. With an increase in customer happiness, it is possible to increase consumer trust. Thirdly, the JD e-commerce platform should focus more on how to enhance the platform in order to give excellent personalized customized services to clients. Customers will be more satisfied and trusting of an e-commerce platform to the extent that it provides individualized services that fit their needs. The fourth objective is to increase the timeliness of services, respond to consumer requests, and meet customers' needs as quickly as possible. Fifth, the JD e-commerce platform must supply the promised services in a dependable and accurate manner so as to meet the demands and expectations of clients. To achieve customer satisfaction and build the groundwork for gaining consumer trust and loyalty. After improving customer satisfaction, the JD e-commerce platform should try its best to gain customers' trust. Higher customer satisfaction will make customers trust the JD e-commerce platform more. JD e-commerce platform can take the following measures to improve customer trust. First, take new actions based on customer feedback or improve previous deficiencies. This measure will make customers feel that this e-commerce platform has carefully listened to the voice of customers, so as to trust the e-commerce platform more. Second, it should effectively deepen the relationship with customers and establish a solid connection. In this way, the JD e-commerce platform can strengthen the communication channels between customers and e-commerce platforms, get closer to customers, and gain deeper trust from customers. Third, create a good brand image. Actively show customers the service content of this e-commerce platform, and create a good image of the e-commerce platform for customers. The last is to gain customer loyalty. After having a high level of customer satisfaction and customer trust, JD e-commerce platform needs to improve and maintain a high level of customer loyalty.

It can be seen that in this study, the key to improve customer loyalty is to improve customer satisfaction. Therefore, the leadership of JD e-commerce should consider formulating more effective strategies to improve customer satisfaction. According to the above research conclusion, service quality is one of the main factors affecting customer satisfaction, which is positively correlated with customer satisfaction. Therefore, in order for JD e-commerce platform to improve customer satisfaction, the first step should be to improve service quality. Only by improving the service quality of JD e-commerce platform can JD e-commerce platform improve platform customer satisfaction. At the same time, improving customer satisfaction is also conducive to bringing higher customer trust. In addition, high customer satisfaction and customer trust will lead to better customer loyalty.

For the business operation department of JD e-commerce platform, the primary consideration is how to improve the service quality to obtain customer satisfaction, customer trust and customer loyalty. When operating business, JD e-commerce platform should provide timely, reliable and thoughtful services, and provide customizable service items as much as possible. In the manual service module, provide a service mode of continuous improvement; in the non-manual service module, constantly upgrade the customer service experience.

5.4 Further Study

Due to the time limit of the study, this study only focuses on the two variables that affect the customer loyalty of JD e-commerce platform, namely, customer satisfaction and customer trust; and only pay attention to a variable that affects the customer trust of JD e-commerce platform, i.e. customer satisfaction, and a variable that affects the customer satisfaction of JD e-commerce platform, i.e. service quality. For further research, a similar study is needed to identify other relevant factors that affect customer loyalty, customer trust and customer satisfaction in order to obtain more comprehensive information and understand the factors that affect customer loyalty.

In addition, considering that the JD e-commerce platform has more than 570 million registered users, additional research should be carried out in a population with a larger sample size in order to improve the research's universal applicability and credibility.

Furthermore, China and other countries and regions have other e-commerce platforms with large user bases; therefore, if the researchers want to study customer loyalty and its influencing factors more accurately and comprehensively, the researchers must study the related customer psychology and behavior in various regions and platforms

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