The Impact of Customer Satisfaction on Customer Loyalty in Chinese E-Commerce Platforms in China

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Abstract

This research aims to investigate the substantial influence of price fairness, logistics services, and performance in handling product returns, e-service quality, and customer satisfaction on customer loyalty within the context of Chinese e-commerce platforms. Employing both primary and secondary data collection methods, the study analyzes the factors shaping customer loyalty among 390 respondents who made purchases on Chinese e-commerce platforms. Drawing upon insights from four established theoretical frameworks in previous studies, a new conceptual framework is devised for this research. The findings indicate that logistics services play a crucial role in enhancing customer satisfaction, underscoring their significant impact. Moreover, price fairness and effectiveness in handling product returns are identified as contributors to positive customer satisfaction. Importantly, customer satisfaction emerges as a pivotal factor influencing customer loyalty. However, it is essential to acknowledge the study's limitations, as it exclusively targets Chinese domestic online consumers. Consequently, the generalizability of the findings may be constrained when applied to diverse cultural backgrounds or international consumers. This research contributes to the field by spotlighting the key factors that shape customer loyalty within the unique landscape of Chinese domestic e-commerce platforms. By examining these factors, the study provides valuable insights for businesses seeking to enhance customer loyalty in the dynamic and competitive Chinese e-commerce market.

Keywords: Price fairness; Logistics service; Performance in handling product return; E-service quality; Customer satisfaction; Customer loyalty

JEL Classification Code: L81, M10, M11, M31

1. Introduction

1.1 Background of the study

The rapid development of China's e-commerce industry has altered consumer shopping habits and interactions with enterprises. China has the world's largest e-commerce market, with hundreds of millions of users frequently shopping online. China's network infrastructure is improving, smartphone penetration is increasing, the number of Chinese Internet users is increasing, and the number of online buyers is increasing. At the same time, the fairness of the price determines consumers' purchasing intensity (Octaviani et al., 2021). The number of online shoppers in China reached 840 million in December 2021,

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up 7.67% from December 2020, and online retail sales surpassed 12 trillion yuan. From January to April 2022, online retail sales totaled 3.87 trillion yuan, a 3.3% rise year on year. Alibaba's Tmall, Taobao, JD.com, and Pinduoduo, among others, have created a fiercely competitive atmosphere. Simultaneously, as live streaming platforms enter the e-commerce sector, Douyin's market share has climbed from 4% in 2021 to 11% by the end of 2022, while Taobao's market share has declined from 54% in 2021 to 46% in 2022 (Report of Development Tendency and Investment Strategic Decisions Analysis on China Electronic Commerce Industry (2023-2028), 2023). The growth of online marketplaces has increased rivalry among e-commerce platforms to gain and keep customers. Understanding the relationship between customer pleasure and customer loyalty has become a major priority for researchers and industry practitioners in this e-commerce business environment (Vasić et al., 2020). At the same time, a clear return policy can ensure the quality of purchased goods and reassure consumers if they receive incorrect goods (Jalil, 2019). Customers require reliable, accurate, timely, punctual, and personalized services (Kalia et al., 2016). Higher customer satisfaction will result in repeat use of the platform for purchases (Homsud & Chaveesuk, 2014). Consumer behavior in this industry is greatly influenced by the distinctive features of China's e-commerce environment, the value of customer satisfaction, and the dynamics of customer loyalty. In further research and analysis, we will delve into these issues and explore methods and strategies for e-commerce platforms to cultivate long-term loyalty and satisfaction among Chinese consumers.

1.2 Problem Statement

By 2021, Taobao's market share has decreased to 53% from its 2015 share of 75% of China's domestic e-commerce market. Taobao's market share has decreased to 46% by the end of 2022. This information demonstrates how China's present e-commerce ecosystem is intensifying (Report of Development Tendency and Investment Strategic Decisions Analysis on China Electronic Commerce Industry (2023-2028), 2023). People now favor a quick pace due to the emergence of e-commerce platforms. 2018 saw Pinduoduo with its eye-catching gameplay and incredibly affordable goods, it has successfully filled a sizable free space outside of Alibaba and JD.com since it was officially launched in the Chinese e-commerce sector. For instance, events like

Friends Hacking on Pinduoduo drew a lot of attention at the time (Report of Development Tendency and Investment Strategic Decisions Analysis on China Electronic Commerce Industry (2023-2028), 2023). The growth of sites like Douyin and Kuaishou has also made live streaming one of the most significant monetization techniques for major e-commerce platforms. Gain quick market share by attracting a large volume of traffic so that old established e-commerce platforms are no longer the only ones facing competition. While watching movies, you can place an order for goods or services. Taobao is the most popular e-commerce platform overall, with 840 million active users per month (2022 China E-Commerce Development Report, 2022). This demonstrates that Taobao continues to be the most popular app and it has the greatest level of national exposure. It is impossible to undervalue the 510 million and 390 million monthly active user bases of Pinduoduo and JD.com, respectively (2022 China E-Commerce Development Report, 2022). Short videos and live broadcasts have increased traffic to Douyin and Kuaishou e-commerce, making them more popular. Business gives you more creative freedom. For scholars and business professionals, comprehending the impact of price fairness, logistics service, performance in handling product returns, and e-service quality intermedia on customer satisfaction and loyalty has become a top priority for investigation and analysis under the title "The impact of customer satisfaction on customer loyalty in Chinese e-commerce platforms in China." In this evolving landscape, businesses are increasingly exploring innovative methods to engage consumers and cultivate loyalty. For scholars and business professionals, understanding the intricate relationship between price fairness, logistics service, product return handling performance, e-service quality, and their impact on customer satisfaction and subsequent customer loyalty has become a paramount research priority. This study, titled "The Impact of Customer Satisfaction on Customer Loyalty in Chinese E-commerce Platforms in China," aims to shed light on this critical aspect. The findings of this study have the potential to facilitate the development of loyal consumer bases for Chinese e-commerce platforms.

1.3 Objectives of the study

The study's objectives are as follows:

1. To investigate the impact of price fairness on customer satisfaction in Chinese domestic e-commerce platforms.

2. To examine the impact of logistics service on customer satisfaction in Chinese domestic e-commerce platforms.

3. To investigate the impact of performance in handling product return on customer satisfaction in Chinese domestic e-commerce platforms.

4. To examine the impact of e-service quality on customer satisfaction in Chinese domestic e-commerce platforms.

5. To investigate the impact of customer satisfaction on customer loyalty in Chinese domestic e-commerce platforms.

1.4 Research questions

The research questions are as follows:

1. Does price fairness have a significant impact on customer satisfaction in Chinese domestic e-commerce platforms?

2. Does logistics service have a significant impact on customer satisfaction in Chinese domestic e-commerce platforms?

3. Does performance in handling product returns have a significant impact on customer satisfaction on Chinese domestic e-commerce platforms?

4. Does e-service quality have a significant impact on customer satisfaction in Chinese domestic e-commerce platforms?

5. Does customer satisfaction have a significant impact on customer loyalty in Chinese domestic e-commerce platforms?

1.5 Significance of the Study

The significance of this study lies in its crucial role within China's evolving e-commerce industry. Customer satisfaction is a pivotal factor for retaining customers in this contemporary landscape. Elements such as fairness in pricing, logistics services, efficiency in handling product returns, and the quality of electronic services consistently impact customer satisfaction and loyalty.

This research aims to provide valuable insights into customer satisfaction, offering substantial benefits to Chinese e-commerce platforms by illuminating critical aspects like price fairness, logistics services, product return processes, and e-service quality. The findings have the potential to drive enhancements in e-service quality, thereby elevating the overall customer experience. Additionally, they serve as a reflection of customer satisfaction with logistics and product return performance, prompting necessary improvements in Chinese e-commerce platforms.

Furthermore, this study explores the implications of its findings on customer loyalty within the Chinese e-commerce sector, potentially guiding e-commerce companies in fostering customer retention through tailored loyalty programs that encourage greater engagement and more frequent transactions.

Beyond the e-commerce industry, this research holds academic significance, offering insights that can benefit scholars, researchers, and practitioners in the fields of digital platform trading, marketing, and management. In the ever-evolving digital era, these findings contribute to a foundational understanding of emerging business operations, enriching the body of knowledge essential for navigating this dynamic landscape effectively.

2. Literature Review

2.1 Theories related to each variable

2.1.1 Price Fairness

In academic research, Herrmann et al. (2007) illustrated the profound impact of perceptions of price fairness on customer satisfaction assessments, both directly and indirectly. Their investigation, informed by surveys, unveiled that under the influence of supply and demand dynamics and the urgency of consumer needs, customer insecurity leads to a diminished sense of fairness in price concessions. In a related attitude, Hassan et al. (2013) identified a shared attribute among successful companies within Pakistan's telecommunications industry. These companies, akin to global telecommunications giants such as Vodafone and China Mobile, have mastered the art of dynamically comprehending their target markets. They motivate their entire organizational workforce to cultivate enduring customer relationships by upholding principles of service fairness, service quality, and price equity. Their

findings underscore the enduring significance and reliability of perceived service fairness, service quality, and price fairness in evaluating consumer satisfaction and loyalty. Furthermore, the research findings validate the existence of a positive correlation among these factors.

Furthermore, Octaviani et al. (2021) posited that price is a pivotal determinant of consumer satisfaction, grounded in their research. The perception of pricing fairness fundamentally shapes the customer's decision-making process, influencing both satisfaction and behavioral intentions. Customer evaluations of Lazada's online shopping experience are profoundly affected by their perceptions of the prices displayed on the website. It has been empirically established that price perceptions, particularly price fairness, significantly impact customer satisfaction. In sequence, these price perceptions play a pivotal role in influencing customer loyalty, with customer satisfaction serving as a mediating factor, as evidenced in prior studies.

To navigate pricing decisions effectively, marketers must possess a fine distinction understanding of the economic and psychological responses to diverse pricing strategies and adjustments. Price, in the context of a product or service, encompasses what customers are willing to give up or pay in exchange for its acquisition. Customers typically categorize price into two distinct dimensions: objective value, which relates to the monetary aspect, and perceived value, which pertains to the non-monetary attributes. The first dimension corresponds to the actual price of the product or service, while the second relates to the subjective price as perceived by customers through comparative analysis (Fiqqih, 2022). Additionally, Huong et al. (2023) unearthed that heightened perceived value amplifies consumer contentment throughout the e-shopping journey, while increased customer satisfaction bolsters intentions for repeat purchases. Notably, a substantial path coefficient between price fairness and satisfaction signifies a robust and positive association, reinforcing earlier empirical findings.

2.1.2 Logistics Service

In accord with research conducted by Huong et al. (2023), e-logistics services play a significant role in enhancing the perceived advantages of e-commerce, including aspects such as shopping convenience and the ease and comfort associated with the shopping experience. Furthermore, their study underscores the pivotal role of logistics service quality (LSQ) as a primary differentiating factor in the intensely competitive e-commerce market. Notably, heightened perceived LSQ contributes significantly to client satisfaction throughout the e-commerce process.

In a study conducted by Vasić et al. (2020), the authors point out a series of prerequisites necessary for the increase of e-commerce, with a pronounced emphasis on the development of logistics competencies and services as a central imperative. Customer satisfaction is notably dependent upon the accessibility, communication, reliability, and responsiveness of logistics services. The research emphasizes the paramount importance of LSQ in relation to customer contentment and fidelity, reaffirming the influence of LSQ on customer satisfaction.

Akıl and Üngan (2021) highlight the potential of superior service delivery in strengthening corporate branding and improving consumer well-being. Evaluating logistics service quality relies on a meticulous examination of the disparity between consumer expectations and perceptions. Therefore, it is essential to identify the factors influencing quality, as perceptions of quality may vary among customers. The nature of service quality exhibits distinct attributes depending on the specific type of service.

According to the research by Lin et al. (2014), client satisfaction with electronic services is intrinsically connected to customer loyalty in logistical services. This correlation suggests that the quality of electronic services indirectly affects client loyalty to specific logistics services. Positive client satisfaction with electronic services resonates indirectly in terms of consumer allegiance to both electronic services and logistical services.

Rajendran et al. (2018) highlight a crucial aspect of the e-commerce environment, emphasizing the importance of effective merchandise coordination in meeting consumer requirements. Ensuring the timely and secure delivery of essential goods to the consumer's destination is of utmost significance, preventing any delays that may arise from inefficient delivery services.

2.1.3 Performance in handling Product Return

Ramanathan (2011) revealed that it is discerned in empirical findings the commitment exhibited by organizations towards their returns logistics processes exerts a favorable influence on operational performance. Concomitantly, this commitment manifests a positive

impact on the intention of consumers to make purchases. Jalil's (2019) investigation underscores the increasing significance of reverse logistics in the context of e-commerce, primarily due to its potential to generate revenue while enhancing the satisfaction of online clientele. The process requires meticulous orchestration, retrieval, and processing of returned items by online merchants before dispatching the replacement product to the customer. Consequently, a transparent returns policy not only safeguards the quality of acquired products but also provides consumers with assurance that they will receive the correct item, instilling confidence.

The research conducted by Urbanke et al. (2015) emphasizes the pivotal role of product returns within the economic models of online retailers. A more lenient policy governing product returns increases customers' inclination to engage in transactions. Moreover, a flexible approach to product returns can significantly enhance consumer satisfaction and foster loyalty, as it is perceived as an indicator of heightened product quality. Brusch and Stüber's (2013) comprehensive investigation delves into the intricacies of same-day delivery and returns management. Their findings reveal that same-day delivery is not yet a critical determinant in the online retail landscape, similar to the situation with product returns. Nevertheless, an intricate relationship exists between the volume of purchases and the frequency of product returns. Furthermore, fostering collaborative relationships between retailers and manufacturers in the realm of customer experience management using this approach can identify underlying issues related to communication and product availability, ultimately leading to reductions in the overall expenses associated with returns (Colburn, 2013).

2.1.4 E-service Quality

Based on the findings, e-service quality can be defined as the capacity of a website to proficiently and effectively facilitate various aspects of online shopping, transactions, and delivery (Ginting et al., 2023; Wang & Nuangjamnong, 2023). This concept encompasses the entirety of electronic service quality, commencing with pre-purchase procedures, such as ease of use, provision of product information, ordering information, and safeguarding personal data, and extends to post-purchase processes, including shipping and return policies. Furthermore, it is noteworthy that the quality and reliability of e-services exert a substantial positive

impact on customer loyalty, with this influence being mediated through customer satisfaction (Muharam et al., 2021; Yu & Nuangjamnong, 2022).

Kalia et al. (2016) have contributed to the scholarly discourse by identifying a direct association between customer satisfaction and their intention to make future purchases, in addition to elucidating the role of online consumer satisfaction in mediating the relationship between network service quality and future purchase intentions. A salient finding of their research is that the most pivotal characteristic of online service quality affecting both online consumer satisfaction and future purchase intentions is the responsiveness of services, notably the elements of dependability, accuracy, timeliness, punctuality, and personalization, as evidenced by survey results. The discerning online customer, according to these findings, seeks e-retailers that maintain easily accessible, well-organized, logically structured, concise websites, and offer terms and conditions that are readily comprehensible.

Concurrently, e-service quality serves as a comprehensive framework for evaluating customer satisfaction with Internet-based service providers, encompassing the entire spectrum of activities related to the purchase and provision of goods or services through the measurement of an Internet service provider's capabilities, as posited by Avania and Widodo (2023).

2.1.5 Customer Satisfaction

Based on the studies conducted by researchers (Laosuraphon & Nuangjamnong, 2022; Mofokeng, 2021), contentment is intricately linked to the degree of loyalty achieved and emerges as the predominant determinant of consumer loyalty within both online and offline domains. Nevertheless, due to the impersonal nature of commercial transactions, pleasure assumes a pivotal role, exerting a substantial influence on consumer loyalty in the realm of e-commerce. Concurrently, consumer loyalty manifests as the extent of dedication exhibited by consumers toward products or services that they recurrently utilize, evolving into a habitual constraint. Various factors can impact consumer loyalty, with salient implications stemming from elements such as customer satisfaction and a unidirectional approach to its attainment through customer relationship management, as expounded by Goranda et al. (2021).

The research findings of Homsud and Chaveesuk (2014) counterintuitively propose that recurrent purchasing

behavior does not consistently serve as a reliable indicator of genuine commitment. In contrast, customer sentiments for the organization and an affinity for its products manifest through their purchasing behavior and the proliferation of positive word-of-mouth. Concurrently, investigations have unveiled a tangible correlation between customer satisfaction and loyalty (Mitchev & Nuangjamnong, 2021). Numerous studies within the service sector have experimentally validated the nexus between satisfaction and behavioral intentions, encompassing facets such as customer retention and word-of-mouth, as elucidated by Pasaribu et al. (2022).

2.2 Related literature review and Hypotheses development

2.2.1 Price Fairness and Customer Satisfaction

In the realm of academic discourse, the relationship between price fairness and consumer satisfaction has garnered scholarly attention. Herrmann et al. (2007) underscore the perception of price fairness as being influenced by the interplay of supply, demand, and consumer sentiments, particularly during periods of heightened demand, where consumers tend to view price concessions as less equitable.

Octaviani et al. (2021) shed light on the pivotal role of price fairness in shaping consumer contentment. Their findings suggest that the perception of price fairness significantly impacts customer satisfaction, ultimately influencing customer loyalty.

To effectively manage price fairness, marketers and managers must gain a deep understanding of the psychological and economic reactions that consumer's exhibit in response to various pricing strategies and fluctuations. The concept of price is bifurcated into monetary objective value and non-monetary perceived worth, where the former represents the tangible cost associated with a product or service, while the latter encapsulates the subjective price as perceived by consumers through comparative analysis (Fiqqih, 2022). Hence, the formulated hypothesis is as follows:

H₁: Price fairness has no significant impact on customer satisfaction in Chinese domestic e-commerce platforms.

2.2.2 Logistics Service and Customer Satisfaction

Within the academic discourse, the influence of logistics services on customer satisfaction has been an area of investigation. The study conducted by Huong et al. (2023) reveals that electronic logistics services play a significant role in enhancing the perceived benefits of e-commerce, particularly in terms of shopping convenience and the overall ease and comfort of the shopping experience. Logistics service quality (LSQ) emerges as a prominent contributor to an excellent customer experience in the fiercely competitive e-retail market. A critical component of LSQ, higher perceived value, has a positive impact on consumer satisfaction throughout the e-commerce journey.

Concurrently, the development of logistics capabilities and services stands as one of the paramount prerequisites for the e-commerce industry. Vasić et al. (2020) highlight the profound influence of logistics services on customer satisfaction, emphasizing the importance of aspects like availability, communication, reliability, and responsiveness in determining overall satisfaction.

Lin et al. (2014) present research findings that establish a correlation between consumer loyalty to logistical services and customer satisfaction with electronic services. Ensuring the safe and timely delivery of essential items to customers' locations is deemed crucial in preventing any disruptions stemming from inefficient delivery services. Based on the literature and the research context, the following hypothesis is posited:

H₂: Logistics service has no significant impact on customer satisfaction in Chinese domestic e-commerce platforms.

2.2.3 Performance in handling Product Return and Customer Satisfaction

In the academic context, the handling of product returns and its impact on customer satisfaction has emerged as a pertinent area of inquiry. Notably, reverse logistics has assumed significant importance within the realm of e-commerce, as it not only caters to customer needs but also contributes to revenue generation. A transparent return process not only upholds the quality of purchased goods but also instills confidence in customers, particularly when they receive incorrect products (Jalil, 2019).

Urbanke et al. (2015) have found, through their research that customers exhibit a greater propensity to make purchases when return policies are characterized by leniency. Additionally, more accommodating return policies

for products have the potential to enhance customer satisfaction and foster loyalty. Allowing returns for online purchases may signify a commitment to product quality.

Furthermore, the study conducted by Ramanathan (2011) underscores the significance of the service attitude exhibited by e-commerce platforms in the context of returns logistics. A positive attitude toward handling returns not only contributes to improved operational performance but also exerts a favorable influence on purchase intention. Building upon the existing literature and the research context, the following hypothesis

H₃: Performance in handling product return has no significant impact on customer satisfaction in Chinese domestic e-commerce platforms.

2.2.4 E-service Quality and Customer satisfaction

In the academic discourse, the relationship between e-service quality and customer satisfaction has been a subject of scholarly investigation. E-service quality, as delineated in the research by Ginting et al. (2023), pertains to a website's capacity to effectively and efficiently facilitate various aspects of the online shopping experience, including transactions and delivery. Furthermore, the reliability and trustworthiness of online services are established to exert a significantly positive influence on consumer satisfaction and are instrumental in fostering repeat business (Mitchev & Nuangjamnong, 2021; Muharam et al., 2021; Yu & Nuangjamnong, 2022).

Research suggests that consumers have a preference for online services that are trustworthy, accurate, timely, punctual, and personalized. An examination of electronic service quality, as conducted by Avania and Widodo (2023), involves assessing the competence of Internet service providers in delivering services over the Internet. This evaluation encompasses the entire process of ordering and delivering goods or services. In light of the existing literature and the context of this research, the following hypothesis is posited:

H₄: E-service quality has no significant impact on customer satisfaction in Chinese domestic e-commerce platforms.

2.2.5 Customer satisfaction and Customer Loyalty

In the realm of academic inquiry, the connection between customer satisfaction and customer loyalty is a topic of substantive interest. Research indicates that contentment plays a pivotal role in shaping customer

loyalty, and this association holds true in both online and offline settings. The degree of loyalty achieved is closely tied to the level of customer satisfaction attained (Mitchev & Nuangjamnong, 2021; Mofokeng, 2021; Yu & Nuangjamnong, 2022).

Goranda et al. (2021) also contribute to this discourse by highlighting that a customer's commitment to products or services they regularly use or purchase can transform into a habitual constraint on their choices.

However, it is important to recognize that customers' patterns of repeat purchases may not necessarily equate to genuine devotion. Customers' sentiments toward e-commerce platforms and their sense of connection with the products they purchase are often expressed through their purchasing behaviors and positive word-of-mouth recommendations (Homsud & Chaveesuk, 2014). In light of the scholarly findings and the specific context of this research, the following hypothesis is formulated:

H₅: customer satisfaction has no significant impact on customer loyalty in Chinese domestic e-commerce platforms.

2.3 Conceptual framework

The conceptual framework of this study draws from four distinct theoretical frameworks to construct a comprehensive model. These frameworks have been integrated to formulate the conceptual foundation for the research. The components of each theoretical framework, as articulated by the respective authors, have been synthesized to create a unified set of research concepts and hypotheses.

Drawing from Huong et al. (2023), the framework incorporates the concepts of price fairness, customer satisfaction, and customer loyalty as integral elements. Price fairness is posited as an independent variable, with customer satisfaction and customer loyalty representing dependent variables within this construct.

The second theoretical framework, inspired by Lin et al. (2014), introduces the notions of e-service quality and logistic service quality. These two components are included as independent variables, underpinning the dimensions of service quality within the conceptual framework.

Khan et al. (2015) framework forms the basis for understanding performance in handling product returns. This aspect is integrated as an independent variable within the model.

The fourth theoretical framework, informed by Goranda et al. (2021), emphasizes the interconnectedness of customer satisfaction and customer loyalty. These factors are integrated into the framework as dependent variables, encapsulating the overarching objectives of the study.

The incorporation of these theoretical perspectives forms the foundation for the research concepts and testing of hypotheses. The independent variables, including price fairness, logistics service, performance in handling product returns, and e-service quality, are examined for their impact on customer satisfaction and customer loyalty, collectively shaping the comprehensive conceptual framework of this study as shown in Figure 1.
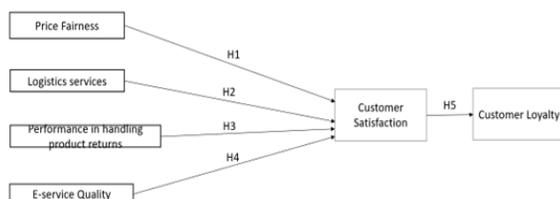
Figure 1: The impact of customer satisfaction on customer loyalty in Chinese e-commerce platforms in China
Source: Authors

3. Research Methods and Materials

3.1 Research design

The research design of this study aims to identify the factors that significantly impact the loyalty of Chinese e-commerce consumers within e-commerce platforms. The variables under scrutiny include price fairness, logistics services, performance in handling product returns, and e-service quality. The study seeks to assess the degree to which these factors influence platform loyalty among e-commerce consumers in China. Various quantitative methods, such as Cronbach Alpha, simple linear regression, multiple linear regression, and descriptive statistics, are employed. The questionnaire utilized in this study comprises three sections containing a total of 39 questions. These questions encompass six variables derived from the research conceptual framework, three screening questions, 29 questions related to quantitative variables, and seven questions concerning demographic aspects. Cronbach's Alpha is initially utilized to evaluate the questionnaire's reliability and identify any potentially confusing or ambiguous measurement items. A pre-test involving fifty samples is conducted to assess the reliability of the measured variables and to gauge the clarity of the questionnaire content. Following this, Simple Linear Regression (SLR) is employed to investigate the impact of customer satisfaction on customer loyalty. Multiple Linear Regression (MLR) is then used to scrutinize the influence of variable groups—specifically, price fairness, logistics services, performance in handling product returns, and electronic service quality—on customer satisfaction.

3.2 Sampling Plan

3.2.1 Target Population

The target population for this research comprises Chinese online shopping customers who engage with Chinese e-commerce platforms. As of December 2022, the number of online shopping users in China had reached a substantial 845 million, as reported in the "2022 China E-Commerce Development Report" published by the Ministry of Commerce of the People's Republic of China. This extensive and diverse population of online shoppers in China forms the basis for the research study, allowing for a broad exploration of factors influencing customer loyalty in the Chinese e-commerce landscape.

3.2.2 Sample Size

The sample size for this research study has been determined using Cochran's sampling techniques (Cochran, 1997). To calculate the necessary survey size for an unknown population with a 95% confidence level, a 50% standard deviation, and a 5% margin of error, the following formula is applied:

For 95% confidence the Z-score would be 1.96. This means that:

$Z = 1.96$
$e = 0.05$
$p = 0.5$

Therefore, the sample size for this study has been determined as 384 using Cochran's sampling techniques by Cochran (1997).

$$n = \frac{Z^2 \times p \times (1-p)}{e^2} \quad n = \frac{1.96^2 \times 0.5 \times (1-0.5)}{0.05^2} \approx 384$$

3.2.3 Sampling Procedures

The researchers have opted to employ a non-probability sampling method, specifically the convenience sampling method (or haphazard sampling), due to the ambiguity surrounding the target group, as well as resource and time constraints. This approach involves collecting data from individuals who are readily available or easily accessible for the study. It is important to note that convenience sampling

is a non-random method, and the sample may not be fully representative of the entire population. However, it is worth mentioning that all response data received through this method is carefully screened and evaluated to ensure its alignment with the research objectives. This screening process is designed to maintain the quality and relevance of the data collected, even within the constraints of the convenience sampling approach.

3.3 Validity and Reliability Test

3.3.1 Content validity (IOC)

The researchers utilized the Item Objective Congruence (IOC) Index to contribute to the validity evaluation of questions in the questionnaire. The IOC Index, a statistical measure in psychometrics, is specifically employed in the context of psychological assessments to gauge how individual test items align with the overall objectives of the test.

During the test development process, three experts employed the IOC Index to identify and refine items that best align with the intended goals of the assessment, ensuring overall validity and reliability. This process enhances the accuracy of reflecting the abilities or characteristics the test is designed to measure.

Three experts provided comments on questions within the research questionnaires to determine the content validity score. The IOC results indicated a score of 0.67 for all applicable questions, exceeding the minimum value of 0.33. Consequently, one question was deemed inapplicable for distribution to the respondents, as reflected in Table 1.

In the pilot test involving 50 respondents and the examination of six variables (price fairness, logistics service, performance in handling product returns, e-service quality, customer satisfaction, and customer loyalty), all variables demonstrated a Cronbach's Alpha greater than 0.7, as proposed by Cronbach (1951). This suggests that all items in the survey are deemed applicable, signifying that the survey is ready for launch to commence data collection.

Table 1: illustrates the Item Objective Congruence (IOC) with input from three experts and a Pilot Test employing Cronbach's Alpha (n=50).

Variables	Before Number of items	After Number of items	Range IOC weight scores (>0.5)	Cronbach's Alpha (>0.7)
Price fairness (PF)	5	5	0.67 – 1.00	0.890
Logistics service (LS)	5	5	0.67 – 1.00	0.865
Performance in handling product return (PHPR)	5	5	0.67 – 1.00	0.913
E-service quality (ESQ)	5	5	0.67 – 1.00	0.871
Customer satisfaction (CS)	5	4	0.67 – 1.00	0.826
Customer loyalty (CL)	5	5	0.67 – 1.00	0.888

4. Results

4.1 Demographic Information

The researcher distributed questionnaires to target respondents shopping on Chinese e-commerce platforms between October 2023 and November 2023. A total of 408 respondents participated, representing 104.62% of the sample size; 18 respondents were subsequently eliminated. Therefore, data analysis will be based on 390 eligible respondents, constituting 95.59% of the original sample size. The questionnaire includes inquiries about demographic information such as gender, age, and income, and online purchasing frequency, primary platform for purchasing, payment method on the platform, and reasons for loyalty to the platform. Demographic information is utilized in the descriptive analysis to categorize the characteristics of the target respondents.

Gender: According to the number of total respondents 390 respondents including Male 195 respondents or 50% of all respondents, Female 193 respondents or 49.5% all respondents and not prefer to say 2 respondents or 0.5% of all respondents.

Age: The larger age range of target respondents is 25-34 years old from 137 respondents or 35.1% of all respondents. The second age range is 35-44 years old from 109 respondents or 27.9% of all respondents. The third age range is 18-24 years old from 68 respondents or 17.4% of all respondents and the fourth age range is 45-55 years old from 54 respondents or 13.8% of all respondents. And the last age range is Over 55 years old from 22 respondents or 5.6% of all respondents.

Income: The majority of 390 target respondents separate to respondents who have income more than 50,000-100,000 CNY calculated to 32.6% or 127 respondents,

followed by 107 respondents who have income 100,001-200,000 CNY calculated to 27.4% of all target respondents, 80 respondents who have income less than 50,000 CNY calculated to 20.5% of all target respondents, 48 respondents who have income between 200,001-500,000 CNY calculated to 12.3% of all target respondents, 28 respondents who have income More than 500,000 CNY calculated to 7.2% of all target respondents as the sequence.

Online purchasing frequency: According to the survey, the majority of respondents with 163 respondents or 41.8% of all target respondents make online purchase around one times per month, the second of respondents with 107 respondents or 27.4% online purchases between 2-5 times per month, the third of respondents with 78 respondents or 20% online purchase around 6 - 10 times per month, the forth respondents with 42 respondents or 10.8% online purchase more than 10 times per month.

Main platform of more purchasing: According to the survey, the majority of respondents are using Taobao to online purchase which is 136 respondents or 34.9% of all respondents. The second larger group respondents are using TIKTOK (Dou Yin) to online purchases which is 109 respondents or 27.9% of all respondents. The third group of respondents are using JD.COM to online purchase, which is 87 respondents or 22.3% of all respondents. The fourth group of respondents are using Pinduoduo to online purchases which is 51 respondents or 13.1% of all respondents. The last group respondents are using other E-commerce platforms to online purchases which is 7 respondents or 1.8% of all respondents.

Payment method in platform: The majority of 390 target respondents separate to respondents who prefer to use Alipay in e-commerce platforms calculate 181 respondents or 46.4% of all respondents. Followed by 84 respondents who prefer to use WeChat Pay in platform calculate to 21.5% of all respondents. 53 respondents who prefer to use Bank Card in the platform calculate to 13.6% of all respondents. 40 respondents who prefer to use Cash on Delivery in the platform calculate 10.3% of respondents. 25 respondents who prefer to use platform wallet calculate to 6.4% of respondents. 7 respondents who prefer to use other to pay in e-commerce platforms calculate to 1.8% of respondents.

Reason of loyalty to platform: According to the survey, the majority of respondents' loyalty to the platform is price fairness which is 142 respondents of 36.4% of all respondents. Followed by 97 respondents' loyalty to the

platform is Logistics service calculate 24.9% of all respondents.81 respondents' loyalty to the platform is E-service quality calculate to 20.8% of all respondents. 65 respondents' loyalty to the platform is Performance in handling product return calculate to 16.7% of all respondents. 5 respondents' loyalty to the platform is other things calculate to 1.3% of all respondents.

Table 2 presents the frequency distribution and percentage of demographic information from the sample size of 390 respondents as follows:

Table 2: illustrates demographic information

Demographic Information	Frequency	Percent
Gender		
Male	195	50%
Female	193	49.50%
Not prefer to say	2	0.50%
Total	**390**	**100%**
Age		
18-24	68	17.40%
25-34	137	35.10%
35-44	109	28.00%
45-55	54	13.90%
55 and above	22	5.60%
Total	**390**	**100%**
Income (per year)		
Less than 50000 CNY	80	20.50%
50000-100000 CNY	127	32.60%
100001-200000 CNY	107	27.40%
200001-500000 CNY	48	12.30%
More than 500000 CNY	28	7.20%
Total	**390**	**100%**
Online purchasing frequency		
One time per month	163	41.80%
Purchase 2-5 times per month.	107	27.40%
Purchase 6-10 times per month.	78	20%
Purchase more than 10 times per month.	42	10.80%
Total	**390**	**100%**
Main platform for more purchasing		
Taobao	136	34.90%
JD.COM	87	22.30%
Pinduoduo	51	13.10%
TikTok	109	27.90%
Other	7	1.80%
Total	**390**	**100%**
Payment method in platform		
Alipay	181	46.40%
WeChat Pay	84	21.50%
Bank Card (Credit card/Debit card)	53	13.60%
Cash on Delivery	40	10.30%
Platform Wallet	25	6.40%
Other	7	1.80%
Total	**390**	**100%**
Reason of loyalty to platform		
Price Fairness	142	36.40%
Logistics Service	97	24.90%
Performance in handling product return	65	16.70%
E-service quality	81	20.70%
Other	5	1.30%
Total	**390**	**100%**

4.2 Descriptive analysis with mean and standard deviation

In Table 3: Price Fairness Results from 390 respondents, with zero missing responses. The highest mean for Price Fairness was recorded for the statement "I believe that the prices provided by e-commerce platforms will remain stable and will not suddenly reduce prices," equaling 3.78. Conversely, the lowest mean was associated with the statement "I believe that e-commerce platforms will review pricing and treat customers fairly," which scored 3.63. The highest standard deviation was observed for "The price of products on e-commerce platforms are reasonable compared to retail stores," at 1.21, while the lowest standard deviation was for the stability of prices, at 1.14.

In Table 3 Logistics Service Results, comprising responses from 390 participants with no missing data, the highest mean for Logistics Service was found in the statement "I believe the logistics fees charged by e-commerce platforms are reasonable," with a mean of 3.96. On the other hand, two items, "The delivery of my orders on the e-commerce platform is always delivered within the specified time" and "The products I receive from e-commerce platforms are always in good condition," shared the lowest mean of 3.73. The highest standard deviation pertained to timely delivery, scoring 1.05, while the lowest standard deviation was for the variety of logistics service options, at 0.989.

Results in Table 3 Performance in Handling Product Return Results, based on responses from 390 participants with no missing data, revealed that the highest mean for Performance in Handling Product Return was associated with the statement "I think the e-commerce platform refunds quickly after returning the goods," scoring 3.93. In contrast, the lowest mean was for the statement "I think e-commerce platforms handle returned products very quickly," with a mean of 3.70. Two items, "I believe the process of product returns is simple on e-commerce platforms" and, "I think e-commerce platforms handle returned products very quickly," shared the highest standard deviation at 1.09, while the lowest standard deviation was for quick refunds, measuring 1.03.

Table 3 E-service Quality Results outlines the E-service Quality results from 390 respondents with zero missing data. The highest mean for E-service Quality was associated with the statement "The e-commerce platform can receive my questions and respond promptly," scoring 4.04. Conversely, the lowest mean was tied to the statement "I think e-commerce platforms can ensure the security of personal information and payment information during online transactions," which scored 3.83. The highest standard deviation was observed for security assurance, at 1.052, while the lowest standard deviation was for prompt response,

measuring 0.990.

In Table 3 Customer Satisfaction Results, reflecting responses from 390 participants with no missing data, the highest mean for Customer Satisfaction was linked to the statement "The product quality on this e-commerce platform meets my expectations," scoring 4.09. The lowest mean pertained to the statement "The prices on the e-commerce platform are reasonable," with a mean of 3.93. The highest standard deviation was observed for satisfaction with logistics service, measuring 1.04, while the lowest standard deviation was for product quality satisfaction, scoring 1.00.

Table 3 Customer Loyalty Results provides results from 390 respondents with no missing data. The highest mean for Customer Loyalty was associated with the statement "I think I will recommend this e-commerce platform to friends and family," scoring 3.78. Conversely, the lowest mean was tied to the statement "I think this e-commerce platform will provide me with trust," which scored 3.56. The highest standard deviation was observed for trust, measuring 1.12, while the lowest standard deviation was for the influence of discounts on future purchases, at 1.06.

Table 3: illustrates descriptive analysis with mean and standard deviation

	Mean	S.D.
Price Fairness	**3.72**	**1.172**
PF1: The price of products on e-commerce platform are reasonable compared to retail stores.	3.66	1.210
PF2: I believe that e-commerce platforms provide transparent pricing information.	3.75	1.160
PF3: I believe that e-commerce platforms will review pricing and treat customers fairly	3.63	1.180
PF4: I believe that the prices provided by e-commerce platforms will remain stable and will not suddenly reduce prices.	3.78	1.140
PF5: I believe the price I paid on e-commerce platform was worth it.	3.77	1.170
Logistics Service	**3.84**	**1.021**
LS1: The delivery of my orders on the e-commerce platform are always delivered within the specified time	3.73	1.050
LS2: I believe the tracking information provided by this e-commerce platform is accurate	3.87	1.035
LS3: The products I receive from e-commerce platforms are always in good condition	3.73	1.026
LS4: I believe the logistics fees charged by e-commerce platforms are reasonable.	3.96	1.007
LS5: I believe e-commerce platforms offer a variety of logistics service options.	3.90	0.989
Performance in handling product return	**3.81**	**1.070**
PHPR1: I believe the process of product returns is simple on e-commerce platforms.	3.71	1.090
PHPR2: I think e-commerce platforms' return policies are transparent and fair.	3.83	1.080
PHPR3: I think e-commerce platforms handle returned products very quickly.	3.70	1.090
PHPR4: I think the e-commerce platform refunds quickly after returning the goods.	3.93	1.030

	Mean	S.D.
PHPR5: I feel satisfied with the level of customer support and assistance provided during the product return process.	3.89	1.060
E-service Quality	**3.94**	**1.017**
ESQ1: I think e-commerce platforms provide user-friendly and easy-to-operate online shopping apps.	3.85	1.040
ESQ2: I think e-commerce platforms provide comprehensive product information, including clear descriptions, pictures, and specifications.	3.97	1.005
ESQ3: I think e-commerce platforms can ensure the security of personal information and payment information during online transactions.	3.83	1.052
ESQ4: The e-commerce platform can receive my questions and respond promptly.	4.04	0.990
ESQ5: E-commerce platforms offer a variety of payment modes.	4.00	0.998
Customer Satisfaction	**4.00**	**1.023**
CS1: The prices on the e-commerce platform are reasonable	3.93	1.020
CS2: The logistics service on this e-commerce platform meets my expectations.	3.99	1.040
CS3: The customer service of the e-commerce platform can help me solve the problem quickly.	3.99	1.030
CS4: The product quality on this e-commerce platform meets my expectations.	4.09	1.000
Customer Loyalty	**3.68**	**1.094**
CL1: I think I will make repeat purchases on the same e-commerce platform.	3.58	1.110
CL2: I think I will join the membership program of the e-commerce platform.	3.71	1.100
CL3: I think this e-commerce platform will provide me with a trust.	3.56	1.120
CL4: I think I will recommend this e-commerce platform to friends and family.	3.78	1.080
CL5: The e-commerce platform provide discount on second order will make me choose to buy again.	3.76	1.060

4.3 Hypothesis testing results

In alignment with the conceptual framework and the stated statistical hypotheses, the researchers employed both multiple linear regression and single linear regression methodologies to investigate the relationships among variables. Multiple linear regression was utilized to evaluate the impact of various factors on customer satisfaction, incorporating independent variables such as Price Fairness (PF), Logistics Service (LS), Performance in handling product return (PHPR), and E-service quality (ESQ). Conversely, single linear regression was applied to explore how customer satisfaction (CS) influences customer loyalty (CL).

The analysis involved key metrics, including R-squared (R^2) and p-values, to discern the degree of variance in the dependent variable, customer loyalty, attributed to the independent variable, customer satisfaction. Following guidelines by Ringle et al. (2015), the suitability of independent variables in the regression analysis was contingent on variance inflation factor (VIF) values below 5. The R-squared metric indicated the proportion of variance

in the dependent variable explained by the independent variables. The p-value, indicating the level of statistical significance, determined how effectively an individual variable predicted the dependent variable. In this research, a p-value below the threshold of 0.05 was considered statistically significant, leading to the rejection of the relevant null hypothesis, consistent with the principles outlined by Ali and Bhaskar (2016).

4.3.1 Results of Multiple Linear Regression of H1, H2, H3 and H4

H_0: There is no significant influence of Price Fairness (H_1), Logistics Service (H_2), Performance in handling product return (H_3), and E-service quality (H_4) on customer satisfaction of Chinese domestic online shopping customer.

H_a: There is a significant influence of Price Fairness (H_1), Logistics Service(H_2), Performance in handling product return (H_3), and E-service quality (H_4) on customer satisfaction of Chinese domestic online shopping customer.

The outcomes of a multiple linear regression analysis are elucidated in Table 4, revealing the influence of various factors on subjective norms related to customer satisfaction. Notably, the variables of interest encompass price fairness, logistics service quality, performance in handling product returns, and e-service quality. The findings from the multiple linear regression analysis indicate that price fairness, logistics service quality, and performance in handling product returns significantly impact the levels of customer satisfaction among Chinese domestic online shoppers. However, e-service quality does not exert a statistically significant influence on the satisfaction of this customer segment.

In the context of multiple linear regression analysis, it is essential to emphasize the statistical significance levels, often denoted as p-values. The p-value for the analysis of both price fairness and logistics service quality is less than 0.001, which is significantly lower than the conventional significance threshold of 0.05. Consequently, both null hypotheses corresponding to these variables are rejected, indicating their substantial impact on customer satisfaction. In the case of performance in handling product returns, the p-value is 0.001, still falling below the 0.05 threshold, leading to the rejection of the null hypothesis regarding its impact on customer satisfaction. Conversely, the analysis of e-service quality yields a p-value exceeding 0.05, thereby failing to meet the significance threshold, and consequently, the null hypothesis for this variable is not rejected. Moreover, the coefficient of determination (R-square) for

this analysis is 0.583, signifying that approximately 58.3% of the variance in the dependent variable (customer satisfaction) can be explained by the independent variables integrated into the regression model.

Table 4: illustrates multiple linear regression $H_1 - H_4$

Hypothesis	B	SE B	β	t	p	Null Hypothesis
H1	0.148	0.042	0.180	3.480	< .001*	Reject H_0
H2	0.204	0.054	0.196	3.780	< .001*	Reject H_0
H3	0.158	0.049	0.163	3.230	0.001*	Reject H_0
H4	0.063	0.052	0.061	1.210	0.229	Fail to reject H_0

Note: $R^2 = 0.583$, Adjusted $R^2 = 0.575$

*p < 0.05, Dependent Variable = Customer Satisfaction

4.3.2 Result of Simple Linear Regression of H5

H_0: Customer satisfaction has no significant impact on customer loyalty in Chinese domestic e-commerce platforms.

H_a: Customer satisfaction has a significant impact on customer loyalty in Chinese domestic e-commerce platforms.

Table 5 indicates the analysis calculation result by single linear regression which Customer satisfaction has a significant impact on customer loyalty in Chinese domestic e-commerce platforms. From the single linear regression, customer satisfaction analysis shows that the significant level (or P-value) from this study is less than 0.001. Considering P-value should be less than 0.05, this null hypothesis was rejected. The R-square from analysis is 0.657, which means that roughly 65.7% of the variability in the dependent variable can be accounted for by the independent variables present in the model.

Table 5: illustrates multiple linear regression H_5

Hypothesis	B	SE B	β	t	p	Null Hypothesis
H5	0.432	0.051	0.396	8.510	< .001*	Reject H0

Note: $R^2 = 0.657$, Adjusted $R^2 = 0.655$

*p＜0.05, Dependent Variable = Customer Loyalty

5. Conclusions

5.1 Summary of findings

This research delves into the realm of China's e-commerce platforms, utilizing quantitative methods to unravel the intricacies of online customer behavior. The backdrop is set by the staggering growth in China's online shopper base, which surged to 840 million by December 2021, accompanied by a remarkable 12 trillion yuan in online retail sales. A sample size of 384, determined through Cochran's sampling method, ultimately reached 390

respondents via convenience sampling.

The reliability of the research instrument, a questionnaire featuring closed-ended questions, was substantiated through a Cronbach Alpha test with 50 respondents, resulting in a coefficient exceeding 0.7. The subsequent statistical analyses, employing both multiple linear regression and single linear regression, aimed to test hypotheses related to six variables.

Demographic insights from the respondents revealed a predominant male representation (50%), with a significant portion falling in the 25-34 age group (35.1%) and an annual income range of 50,000-100,000 yuan (32.6%). Monthly online purchases were most common (41.8%), with Taobao emerging as the preferred platform (34.9%), and Alipay being the primary payment choice (46.4%). Notably, 36.4% identified price fairness as the key factor influencing loyalty.

The assessment of factors influencing customer loyalty unveiled that customer satisfaction held the highest mean (4) and standard deviation (0.819). E-service quality (Mean = 3.94, SD = 0.795), Logistics service (Mean = 3.84, SD = 0.784), Performance in handling product returns (Mean = 3.81, SD = 0.844), Price fairness (Mean = 3.71, SD = 1), and customer loyalty had the lowest mean (Mean = 3.68, SD = 0.892).

Hypothesis testing using simple linear regression (SLR) and multiple linear regression (MLR) yielded significant results, with p-values below 0.05 for Price fairness, Logistics service, Performance in handling product returns, and customer satisfaction. However, E-service quality did not meet the significance level.

Finally, a comparative analysis of variable strengths influencing customer satisfaction and loyalty revealed that customer satisfaction significantly impacts customer loyalty (B=0.432). Logistics services emerged as the leading influencer on customer satisfaction (B=0.204), followed closely by the impact of performance in handling product returns (B = 0.157), and the third-ranking variable was the impact of price fairness on customer satisfaction (B = 0.147).

5.2 Discussion based on Findings

The analysis of the hypotheses reveals valuable insights into the factors influencing customer satisfaction within China's domestic e-commerce platforms.

5.2.1 Price Fairness, Logistics Service, and Handling Product Return on Customer Satisfaction:

The findings underscore the crucial role of logistics services, handling product returns, and price fairness in shaping customer satisfaction. Logistics Services: Statistical analysis yielded a significance value below 0.001, affirming the substantial impact of logistics services on customer satisfaction. The non-standardized coefficient (B=0.204)

highlights logistics services as the foremost catalyst, aligning with Rajendran et al. (2018), and Yu and Nuangjamnong (2022) emphasizing its positive influence on shopper satisfaction. Handling Product Returns: The significance value of 0.001 reinforces the positive impact of efficient return processes on customer satisfaction (B=0.157). Proficient product return handling, as emphasized by Jalil (2019), contributes significantly to satisfying customer requisites.

Price Fairness: The correlation between price fairness and customer satisfaction demonstrated a significance value below 0.001 (B=0.147). Perceived justifiability in pricing positively influences platform satisfaction, aligning with Fiqqih's (2022) emphasis on competitive pricing for customer retention.

In the multiple linear regression model, these variables collectively accounted for 58.3% of the variability in customer satisfaction within e-commerce platforms.

5.2.2 Customer Satisfaction on Customer Loyalty

Hypothesis 5, exploring the link between customer satisfaction and loyalty, revealed a significant association (p<0.001). The unstandardized coefficient (B=0.432) emphasizes customer satisfaction as the foremost variable influencing customer loyalty. Mofokeng (2021), and Laosuraphon and Nuangjamnong (2022) support this, asserting that loyalty to e-commerce platforms hinges on customer satisfaction. The single linear regression model explained approximately 65.7% of the variability in customer loyalty, highlighting the substantial role of customer satisfaction in predicting loyalty.

5.2.3 E-service Quality on Customer Satisfaction

Contrary to expectations, the research analysis indicates that electronic service quality lacks a significant impact on customer satisfaction (p=0.229). While not statistically significant, maintaining excellent electronic service quality remains crucial for establishing a positive company image and potentially expanding impact, which contrasts with the studies by Wang and Nuangjamnong (2023), and Mitchev and Nuangjamnong, (2021).

These findings contribute significant insights into the involved dynamics between e-service quality, customer satisfaction, and loyalty within the evolving landscape of China's e-commerce platforms.

5.3 Recommendations Based on Findings

5.3.1 Enhancing Customer Loyalty through Customer Satisfaction

The research affirms that customer satisfaction stands as the foremost driver of customer loyalty. Recognized as a pivotal element for sustained business success, customer

satisfaction serves as a prerequisite for fostering customer loyalty. The analysis underscores logistics services, returns performance, and price fairness as critical factors influencing customer satisfaction. Therefore, strategic efforts by e-commerce platforms to prioritize enhancements in logistics services, return performance, and price fairness are recommended. Elevating customer satisfaction levels directly contributes to heightened customer loyalty, thereby positively impacting the long-term success of the company.

5.3.2 Optimizing Logistics Services for Enhanced Customer Satisfaction

Logistics services emerge as the most influential factor shaping customer satisfaction, as per the research findings. Consequently, it is advised that e-commerce platforms prioritize improvements in logistics services. This entails ensuring fast and reliable delivery methods, encompassing standard express delivery, multiple express delivery options, same-day delivery, and designated time delivery to cater to diverse consumer needs. Transparency in the cost structure, including freight and surcharges, is paramount to avoid hidden charges and establish a clear pricing framework. Additionally, meticulous attention to product packaging is crucial to mitigate the risk of damage and uphold the confidentiality of purchases.

5.3.3 Streamlining Return Service Performance for Customer Satisfaction

Return service performance emerges as the second most impactful factor influencing customer satisfaction. To address this, e-commerce platforms are encouraged to prioritize simplified return services. This involves implementing a straightforward return process, establishing a clear return policy, and providing easily understandable information for consumers to initiate and navigate the return process. Introducing cost-effective or free return alternatives can alleviate the financial burden on consumers, fostering trust and reinforcing the perception that companies prioritize consumer rights. Investing in friendly and attentive customer service to resolve queries related to return processes and offering necessary support contributes to fast and efficient returns processing, thereby maintaining high levels of customer satisfaction. Effective communication during returns processing enhances the overall customer experience.

5.3.4 Ensuring Price Fairness for Enhanced Customer Satisfaction.

The research emphasizes that price fairness is the third most influential factor impacting customer satisfaction. E-commerce platforms are advised to conduct comprehensive market research to assess the competitiveness of their pricing in comparison to other platforms. Recognizing that

consumers often compare prices across brands and products, platforms should strategically implement pricing strategies, such as promotional pricing, bundled sales, discount coupons, etc. These measures not only attract consumers but also contribute to improved satisfaction levels with the platform. Implementing these recommendations will aid e-commerce platforms in optimizing customer satisfaction, fostering loyalty, and ultimately ensuring sustained success in the competitive market landscape.

5.4 Implications, Limitations, and Further Study

Incorporating findings from the investigation and theoretical frameworks, formulate strategies for enhancing customer loyalty within the realm of Chinese e-commerce platforms. Recognizing the pivotal role of customer satisfaction and its profound impact on fostering loyalty, scholars advocate for targeted improvements, emphasizing the need to enhance logistics services, streamline product return processes, ensure price fairness, and address related aspects to bolster consumer loyalty.

While the impact of electronic service quality on shaping customer satisfaction remains inconclusive, deploying a platform with an aesthetically pleasing design, superior visual effects, and user-friendly navigation can convey positive signals for e-commerce platforms. Integrating these recommendations, along with leveraging specific advantages identified in our investigative findings, empowers e-commerce platforms to systematically refine their service architecture, thereby nurturing enduring consumer relationships.

The researcher's exploration of study limitations reveals several factors influencing the loyalty of Chinese online consumers on domestic e-commerce platforms. First, the study exclusively focused on Chinese domestic online consumers, potentially limiting the generalizability of findings to other cultural backgrounds or international consumers. Second, while a quantitative approach facilitates statistical analysis, it may not comprehensively capture the intricate motivations and emotions guiding travelers' decisions. Supplementing this approach with qualitative methods such as in-depth interviews or focus groups can offer a more comprehensive understanding of the consumer experience.

Building upon the research results and related theories, several potential future research directions in the field of Chinese e-commerce platforms are suggested to gain a deeper understanding of the impact of different factors on consumer satisfaction and loyalty. Firstly, considering the prevalence of short video platforms and the formation of consumer behaviors, future research could explore how influencers and user-generated content on social media platforms, such as WeChat, Weibo, and Douyin, influence customer satisfaction and loyalty through electronic word-of-mouth (eWOM).

Secondly, in the context of the increasing use of big data and AI robots in business development, future research could investigate whether incorporating AI robots into customer service influences e-service quality and subsequently impacts customer satisfaction. This exploration could shed light on the evolving role of AI in shaping customer experiences and loyalty within the realm of Chinese e-commerce platforms.

References

Akıl, S., & Üngan, M. C. (2021). E-Commerce Logistics service quality. *Journal of Electronic Commerce in Organizations, 20*(1), 1-19. https://doi.org/10.4018/jeco.292473

Ali, Z., & Bhaskar, S. B. (2016). Basic statistical tools in research and data analysis. *Indian Journal of Anaesthesia, 60*(9), 662. https://doi.org/10.4103/0019-5049.190623

Avania, I. K., & Widodo, A. (2023). Effect of E-Service Quality on E-Customer Loyalty through E-Customers Satisfaction on E-Commerce Shopee Application. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal) 5*(1), 5339-5346.

Brusch, M., & Stüber, E. (2013). Trends in logistics in the german e-commerce and the particular relevance of managing product returns. *DOAJ (DOAJ: Directory of Open Access Journals)*, *9*(4). https://doaj.org/article/66fea15a4b874829833f6623392b99cd

Cochran, W. G. (1997). *Sampling Techniques* (3rd ed.). John Wiley & Sons.

Colburn, R. T. (2013). *Determining the Effect of the Returns Management Experience on Consumer Satisfaction.* Chancellor's Honors Program Projects. https://trace.tennessee.edu/cgi/viewcontent.cgi?article=2592&context=utk_chanhonoproj

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297-334. https://doi.org/10.1007/bf02310555

Fiqqih, M. N. (2022). The Effect of Perceived Price Fairness, Product Quality, and Service Quality on Customer Loyalty with Customer Satisfaction Mediation on Shopee Consumers. *Advances in economics, business and management research*, 265-271. https://doi.org/10.2991/978-94-6463-008-4_35

Ginting, Y. M., Chandra, T., Miran, I., & Yusriadi, Y. (2023). Repurchase intention of e-commerce customers in Indonesia: An overview of the effect of e-service quality, e-word of mouth, customer trust, and customer satisfaction mediation. *International Journal of Data and Network Science, 7*(1), 329-340. https://doi.org/10.5267/j.ijdns.2022.10.001

Goranda, I. R., Nurhayati, P., & Simanjuntak, M. (2021). Analysis of Consumer Satisfaction and Loyalty Factors with CRM Approach in Agribusiness E-commerce Company. *Journal of Consumer Sciences, 6*(2), 111-128. https://doi.org/10.29244/jcs.6.2.111-128

Hassan, M., Hassan, S., Nawaz, M. S., & Aksel, I. (2013). Measuring customer satisfaction and loyalty through service fairness, service quality and price fairness perception: an empirical study of Pakistan Mobile telecommunication sector. *Science International, 25*(4), 971-980.

Herrmann, A., Xia, L., Monroe, K. B., & Hüber, F. (2007). The influence of price fairness on customer satisfaction: an empirical test in the context of automobile purchases. *Journal of Product & Brand Management, 16*(1), 49-58. https://doi.org/10.1108/10610420710731151

Homsud, S., & Chaveesuk, S. (2014). Understanding a proposed model of customer loyalty formation in B2C e-Commerce. *International Journal of Future Computer and Communication, 3*(3), 191-196. https://doi.org/10.7763/ijfcc.2014.v3.294

Huong, Q., Kim, T. Y., & Wang, X. (2023). Effects of logistics service quality and price fairness on customer repurchase intention: The moderating role of cross-border e-commerce experiences. *Journal of Retailing and Consumer Services, 70*, 103165. https://doi.org/10.1016/j.jretconser.2022.103165

Jalil, E. E. A. (2019, December). Customer satisfaction and reverse logistics in e-commerce: The case of klang valley. *Proceedings of the 9th International Conference on Operations and Supply Chain Management, Ho Chi Minh City, Vietnam*, 15-18.

Kalia, P., Arora, R., & Kumalo, S. (2016). E-service quality, consumer satisfaction and future purchase intentions in e-retail. *e-Service Journal*, *10*(1), 24. https://doi.org/10.2979/eservicej.10.1.02

Khan, S. A., Ling, Y., & Shahzad, S. (2015). An empirical study of perceived factors affecting customer satisfaction to Re-Purchase intention in online stores in China. *Journal of Service Science and Management, 8(3)*, 291-305. https://doi.org/10.4236/jssm.2015.83032

Laosuraphon, N., & Nuangjamnong, C. (2022). Factors affecting customer satisfaction, trust, and repurchase intention towards online streaming shopping in Bangkok, Thailand: A Case Study of Facebook Streaming Platform. *AU-HIU International Multidisciplinary Journal, 2(2)*, 21-32. http://www.assumptionjournal.au.edu/index.php/auhiu/article/view/6275

Lin, Y., Luo, J., Zhou, L., Ieromonachou, P., Huang, L., Cai, S., & Ma, S. (2014). The impacts of service quality and customer satisfaction in the e-commerce context. *2014 11th International Conference on Service Systems and Service Management (ICSSSM)*. https://doi.org/10.1109/icsssm.2014.6874093.

Mitchev, T., & Nuangjamnong, C. (2021). The Impact of E-Commerce on Customer Satisfaction and Customer Loyalty during the COVID-19 Pandemic: A Quantitative Analysis in Thailand. *AU-GSB e-Journal, 14*(2), 59-70. https://doi.org/10.14456/augsbejr.2021.15

Mofokeng, T. E. (2021). The impact of online shopping attributes on customer satisfaction and loyalty: Moderating effects of e-commerce experience. *Cogent Business & Management, 8*(1), 1-33. https://doi.org/10.1080/23311975.2021.1968206

Muharam, H., Chaniago, H., Endraria, E., & Harun, A. (2021). E-Service quality, Customer trust and satisfaction: Marketplace Consumer Loyalty analysis. *Journal Minds, 8*(2), 237. https://doi.org/10.24252/minds.v8i2.23224

Octaviani, O. C., Rizan, M., & P, A. K. R. (2021). The effect of e-service quality and perceived price fairness on customer loyalty, with customer satisfaction as intervening study on online shopping site in Indonesia Pedagogi: *Journal Penelitian Pendidikan, 4(1)*, 143-171. https://doi.org/10.21009/jdmb.04.1.7

Pasaribu, F., Sari, W. P., Bulan, T. R. N., & Astuty, W. (2022). The effect of e-commerce service quality on customer satisfaction, trust and loyalty. *International Journal of Data and Network Science, 6(4)*, 1077-1084. https://doi.org/10.5267/j.ijdns.2022.8.001

Rajendran, S. D., Wahab, S. N., Ling, Y. W., & Yun, L. S. (2018). The Impact of Logistics Services on The E-Shoppers' Satisfaction. *International Journal of Supply Chain Management, 7*(5), 461-469. https://ojs.excelingtech.co.uk/index.php/IJSCM/article/download/2390/1237

Ramanathan, R. (2011). An empirical analysis on the influence of risk on relationships between handling of product returns and customer loyalty in E-commerce. *International Journal of Production Economics, 130*(2), 255-261. https://doi.org/10.1016/j.ijpe.2011.01.005

Ringle, C. M., Wende, S., & Becker, J. M. (2015). SmartPLS 3. SmartPLS GmbH, Boenningstedt. *Journal of Service Science and Management*, *10*(3), 32-49.

Urbanke, P., Kranz, J., & Kolbe, L. (2015). Predicting product returns in e-commerce: the contribution of mahalanobis feature extraction. *Thirty Sixth International Conference on Information System, Forth Worth 2015*.

Vasić, N., Kilibarda, M., Andrejić, M., & Jović, S. (2020). Satisfaction is a function of users of logistics services in e-commerce. *Technology Analysis & Strategic Management, 33*(7), 813-828. https://doi.org/10.1080/09537325.2020.1849610

Wang, G., & Nuangjamnong, C. (2023). The Influence of Online Shopping Platform on Customer Satisfaction and Trust toward Customer Loyalty: A Case Study of JD E-commerce Platform in China. *International Journal of Social Sciences and Humanities, 10*(1), 7623-7649. https://doi.org/10.18535/ijsshi/v10i01.08

Yu, J., & Nuangjamnong, C. (2022). The Impact of Mobile Banking Service on Customer Satisfaction: A Case Study of Commercial Banks in China. *International Journal for Research & Technology, 3*(10), 43-64. https://uijrt.com/paper/the-impact-of-mobile-banking-service-on-customer-satisfaction.

2022 China E-Commerce Development Report. (2022, August 9). *GlobalData's E-Commerce Analytics.* https://www.globaldata.com/media/banking/china-continues-to-lead-global-e-commerce-market-with-over-2-trillion-sales-in-2022-says-globaldata/