

The Impact of Lazziechat on Enhancing Customer Experience, Service Quality, and Perceived Value in E-Commerce Platforms: Examining Moderating and Mediating Factors on Customer Satisfaction at Lazada

Klacia Rizky Pratama¹, Indrawati²

¹*Faculty of Economics and Business, Telkom University, Bandung, Indonesia
klacia@student.telkomuniversity.ac.id*

²*Faculty of Economics and Business, Telkom University, Bandung, Indonesia,
indrawati@telkomuniversity.ac.id*

Using ChatGPT technology as a means of customer communication on the Lazada e-commerce platform. ChatGPT is a type of artificial intelligence that can understand and respond to customer questions and requests efficiently. Lazada uses ChatGPT technology in LazzieChat, an AI chatbot supported by Microsoft Azure OpenAI, to increase the ease and speed with which consumers obtain product information and make purchases. This research aims to identify respondents' assessments of customer experience, service quality, perceived value, familiarity and comfort, gender, age, and trust, and measure the influence of these factors on customer satisfaction at Lazada. The research method used is quantitative using primary and secondary data. Probability sampling technique with simple random sampling method was used to distribute 384 questionnaires to Lazada customers who use LazzieChat. Data were analyzed using Structural Equation Modeling (SEM). The research results show that customer experience, service quality, and perceived value have a significant effect on customer satisfaction. Familiarity and comfort moderate the influence of customer experience, service quality, and perceived value on customer satisfaction, while gender and age do not have a moderating effect. Trust mediates the influence of customer experience, service quality, and perceived value on customer satisfaction at Lazada.

Keywords: Customer Satisfaction, Customer Experience, Service Quality, Perceived Value.

1. Introduction

The advancement of technology and the internet has transformed the way consumers shop, with e-commerce becoming a primary choice for many. E-commerce is the use of the Internet, the web, mobile apps, and browsers on mobile devices for business transactions [14]. Lazada, as one of the largest e-commerce platforms in Southeast Asia, continues to innovate to enhance the user experience. One such innovation is the launch of LazzieChat, an AI-based chatbot designed to assist users with shopping-related questions and issues [41]. According to [47], AI-powered chatbots can provide various benefits in enhancing customer experience in digital marketing.

The integration of ChatGPT as a support tool for customer interaction on the Lazada e-commerce platform represents a significant advancement. ChatGPT, a form of artificial intelligence, is capable of understanding and responding to customer inquiries and requests swiftly and efficiently [1]. Integrated via the Microsoft Azure OpenAI Service, ChatGPT can provide product links and descriptions, allowing customers to access information and make purchases easily and quickly [4].

As of now, Lazada is the only e-commerce platform in Southeast Asia that has integrated ChatGPT into its LazzieChat service using Azure OpenAI Service. Competitors such as Shopee, Tokopedia, Bukalapak, and Blibli have yet to announce similar collaborations with ChatGPT or comparable artificial intelligence technologies. The uniqueness of LazzieChat lies not only in its ability to answer user questions in a natural and interactive manner but also in its capability to offer personalized product recommendations and provide direct purchase links. This results in a more efficient and convenient shopping experience for users.

As of January 2024, according to a report by We Are Social, Indonesia ranks as the 9th highest internet user in terms of online shopping frequency [4]. Popular e-commerce platforms among Indonesians include Shopee, Tokopedia, Lazada, Blibli, and Bukalapak [44]. Lazada ranked 3rd in terms of visitor numbers in Indonesia from January to December 2023, with a total of 762.4 million visits [4]. Despite the implementation of ChatGPT technology, this decision has not yet achieved the anticipated impact on e-commerce rankings. There is a need to understand the extent to which ChatGPT usage affects Lazada's ranking and how moderating factors can enhance customer experience to lead to higher customer satisfaction. This research topic is selected based on the discrepancy between the expectation that the use of technology like ChatGPT could provide a significant competitive advantage and the reality that Lazada remains in third place. Therefore, further investigation is necessary to understand why LazzieChat has not yet reflected the expected improvement in ranking.

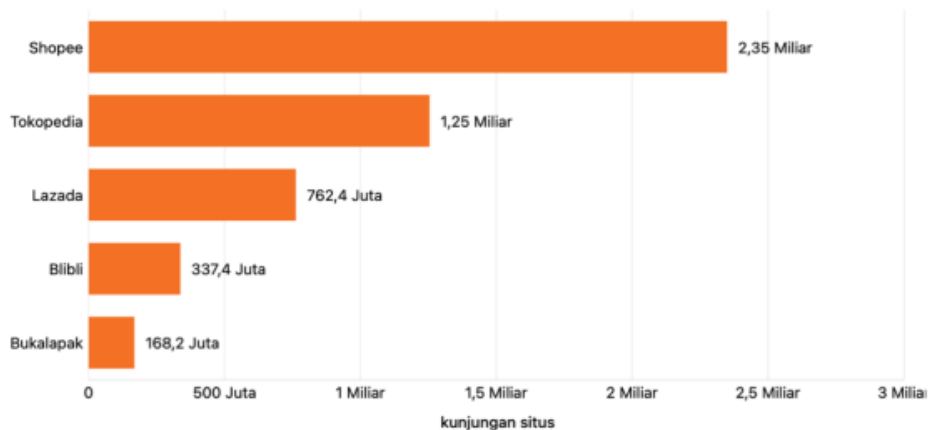


Figure 1 E-Commerce Platforms with the Highest Number of Visits in 2023

Source: databoks.katadata.com

From the data, it is evident that Lazada holds the third position in terms of user visits for the year 2023, trailing behind Shopee and Tokopedia. This aligns with data from Google Trends over the past five years, which shows that the public remains less active in searching for the keyword "Lazada" on Google, as illustrated in the image below:



Figure 2 Search Tren for Lazada

Source: Google Trends 2019 – 2023

The data shows a declining trend in searches for Lazada on Google each year. This indicates a decreasing user interest in searching for "Lazada" over time. Meanwhile, data from SimilarWeb reveals that despite the launch of LazzieChat in May 2023, Lazada experienced a 4.75% month-to-month (mtm) decrease in visitors, falling to 45.03 million visitors in February 2024. This decline may be attributed to several factors, including increased competition from other e-commerce platforms, changes in user preferences, or shifts in Lazada's own marketing and promotional strategies.

Through LazzieChat, users can easily inquire about products, request recommendations, or resolve transaction issues directly. This feature aims to make the shopping experience on Lazada more interactive, personalized, and directly aligned with user needs and desires. LazzieChat enhances the relationship between customers and the platform by providing easy and direct access to the information they need. It helps reduce barriers in the online

purchasing process, thereby boosting conversion rates and user retention [25]. Despite LazzieChat being a key feature intended to increase user engagement or visit numbers on both the Lazada app and website, the results have not met expectations. This is reflected in the rankings of the Lazada app on the Google Play Store and App Store:

Peringkat Aplikasi Marketplace & E-commerce di Google Play Store

Peringkat	Nama Aplikasi
#1	Shopee 6.6 Mega Elektronik
#2	Lazada – Great Deals Everyday
#3	Akulaku – Shop On Installment
#4	TikTok Shop Seller Center
#5	Shopee Lite: Shop Online

Peringkat Aplikasi Marketplace & E-commerce di App Store

Peringkat	Nama Aplikasi
#1	Shopee 6.6 Mega Elektronik
#2	TikTok Shop Seller Center
#3	Tokopedia
#4	Lazada – Great Deals Everyday
#5	Akulaku – Shop On Installment

Figure 3 Lazada App Rankings on Google Play Store and App Store

Source: sasanadigital.com (2024)

According to data from sasanadigital.com, Lazada is ranked second on the Google Play Store, behind Shopee, and fourth on the App Store, following Shopee, TikTok, and Tokopedia. This indicates that Lazada's service quality may not be the highest, and the user experience on the platform may still be lacking.

According to [29], a high rating typically indicates that most users are satisfied with the service. [24] notes that user reviews and ratings provide direct insight into how customers perceive a product or service, reflecting how well a company meets customer expectations. [26] argue that reviews and ratings offer valuable information about customer experiences. The following data highlights user comments and feedback for Lazada:

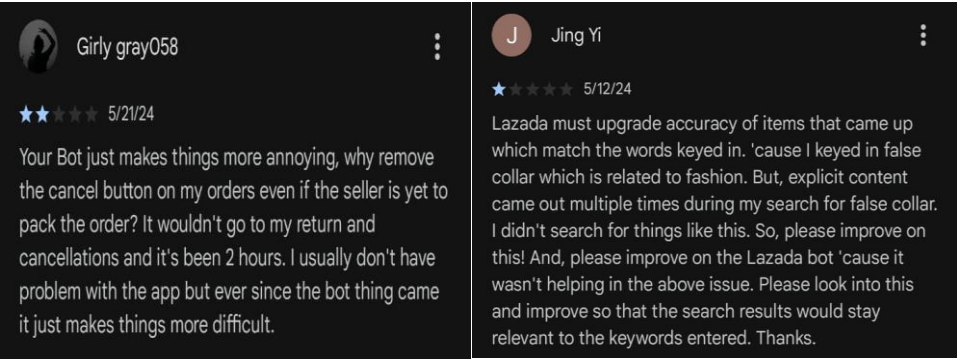


Figure 4 Users Review on Lazada

Source: Google Play Store (2024)

Based on Figure 4, it is evident that some users have expressed dissatisfaction with Lazada's chatbot. Reviews from users like Girly gray058 indicate that the chatbot has made the experience more frustrating and less efficient. Jing Yi's review highlights issues with the chatbot's inability to accurately resolve search queries, as search results often do not match the input keywords. These negative reviews and low ratings reflect poor user experiences, which can damage Lazada's reputation among other users.

According to [21], positive user experience is significantly influenced by application functionality and performance, appealing design, and interactive features that aid in shopping. [13] argue that user-friendly applications contribute to user comfort. Utilizing familiar design conventions, such as standard icons and clear navigation, helps users feel comfortable with the app from the start.

Poor experiences with LazzieChat, such as inaccurate search results, frequent app crashes, and inadequate customer support, can undermine user trust in the platform. Trust, in the context of e-commerce, encompasses customers' confidence in the reliability and integrity of both the platform and its sellers [50]. This trust involves not only online transaction security but also the accuracy of product descriptions, the quality of products, and the efficiency of delivery services.

[32] emphasize that user-centered design in e-commerce apps must account for the needs and capabilities of diverse user groups. This includes designing interfaces that are accessible and usable by people of various ages and genders. According to a survey report by Kredivo and Katadata Insight Center (KIC) from June 2022 on consumer behavior in Indonesian e-commerce, transactions from older consumers (aged 36-55) have increased, while transactions from Generation Z (aged 18-25) and Millennials (aged 26-35) have declined. This indicates a demographic shift in e-commerce usage that Lazada needs to consider.

The Kredivo and Katadata Insight Center (KIC) survey also reveals that male consumers shop on e-commerce platforms more frequently than female consumers since 2020. Males account for 62% of total transactions, while females account for only 38%. The average expenditure for males is IDR 320,982, higher than the IDR 289,163 spent by females. Thus, Lazada needs to understand shopping preferences based on user demographics to optimize

the user experience and enhance satisfaction because the habits of people in buying and selling online are very diverse [2].

Previous research has shown that positive customer experience significantly contributes to customer satisfaction, influencing repeat purchase intentions and word-of-mouth promotion [29;24;52;35]. However, in online environments, where direct buyer-seller interaction is minimal, trust becomes a critical factor influencing customer experience perceptions [46].

Despite numerous studies on factors affecting customer satisfaction in e-commerce, there remains a research gap, particularly concerning how familiarity, comfort, gender, age, and trust moderate the relationship between customer experience and satisfaction. Most previous research has focused on the direct impact of customer experience on satisfaction without considering these moderating factors. This study is prompted by the need to address this gap and to investigate the impact of LazzieChat on enhancing customer experience in e-commerce, specifically by examining moderating factors on customer satisfaction at Lazada. The study aims to understand why, despite technological adoption, the impact has not fully realized its potential in the competitive e-commerce industry in Indonesia.

From a business perspective, this research focuses on the role of LazzieChat, the chatbot on the Lazada platform, in enhancing customer service efficiency and shopping experience. [24] states that customer satisfaction results from the comparison between customer expectations and the actual performance of a product or service. While chatbots can enhance service efficiency and improve the shopping experience, it is essential to understand the factors that might moderate the impact of shopping experiences on consumers so that LazzieChat on the Lazada platform can remain optimal [39].

From an academic perspective, this research addresses the need for a deeper understanding of the impact of chatbot usage in e-commerce. Variations in customer experience may be influenced by moderating factors [1]. Familiarity and comfort refer to how accustomed users are to the app's interface and features, which can reduce cognitive load and enhance satisfaction [13]. [32] note that men and women have different communication and interaction styles, affecting how they evaluate their shopping experiences and satisfaction. [21] explain that lower cognitive load from an easy-to-use interface increases satisfaction across various age groups. Additionally, high trust in the service and platform security can boost customer satisfaction [47].

The research problem focuses on the moderating factors affecting customer experience, service quality, perceived value, customer satisfaction, familiarity and comfort, gender, age, and trust at Lazada. Research questions include evaluating how respondents assess these aspects and the impact of each on customer satisfaction. The study also explores the role of familiarity, comfort, gender, age, and trust as moderating or mediating factors in the relationship between customer experience, service quality, and perceived value with customer satisfaction at Lazada.

The objective of this study is to identify respondents' evaluations of customer experience, service quality, perceived value, customer satisfaction, familiarity and comfort, gender, age, and trust at Lazada. The research aims to measure the impact of customer experience, service quality, and perceived value on customer satisfaction at Lazada, and the role of familiarity,

comfort, gender, age, and trust in moderating or mediating these relationships. Consequently, the study seeks to provide in-depth insights into the factors influencing customer experiences at Lazada.

The benefits of this research include both theoretical and practical aspects. Theoretically, the study contributes to the development of customer experience theory and a deeper understanding of moderating and mediating factors in the context of chatbot usage in e-commerce. It can serve as a foundation for future studies related to theory in the digital era and human interactions with artificial intelligence. Practically, the findings can help Lazada optimize chatbot interactions based on customer demographics, and provide insights to Lazada users and the public on how chatbots influence customer experience, thereby enhancing service quality and purchase decisions.

2. Literature Review

According to [23], marketing is an organizational activity and a series of processes aimed at creating, communicating, delivering, and offering goods or services with value expected by customers, clients, partners, and society at large.

2.1 Customer Experience

In the context of e-commerce, consumer or customer experience can be measured by observing how customers interact with the e-commerce website, which is reflected in the user experience. User experience is the perception or experience of a person and their response to using a product, system, or service [28]. According to [51], customer experience involves providing a unique experience to customers. With customer experience, customers will directly feel pleasure or dissatisfaction after interacting with a company. [47] identify several dimensions of customer experience, including perceived personalization, perceived relevance, perceived accuracy, and perceived convenience.

The Relationship Between Customer Experience and Customer Satisfaction. Customer experience is the overall impression customers receive from interacting with a company or brand. This experience encompasses all aspects from pre-purchase to post-purchase [48]. According to research by [1], there is a positive correlation between satisfying customer experience and the level of customer satisfaction. The study indicates that customers with positive experiences tend to report higher levels of satisfaction. Similarly, [17] found that value, service quality, and customer experience have a positive impact on customer satisfaction. Customer satisfaction also contributes to customer loyalty [36], although customer experience does not directly impact customer loyalty.

H1: There is an effect of customer experience on customer satisfaction at Lazada.

2.2 Service Quality

Service quality can be manifested in meeting consumer needs and expectations, as well as the accuracy of delivery to align with consumer expectations [45]. [38] explain that service quality is a long-term cognitive evaluation by consumers of the service provided by a company. Service quality (servqual) is a model to assess services based on its performance's perception [41]. [33] states that service quality is the fulfillment of customer needs and

Nanotechnology Perceptions Vol. 20 No.3 (2024)

desires, along with the accuracy of delivery to meet customer expectations. Therefore, two main factors influence service quality: expected service and perceived service. According to [47], there are five dimensions of SERVQUAL, namely assurance, empathy, reliability, responsiveness, and tangibility.

The Relationship Between Service Quality and Customer Satisfaction. Service quality is the customer's assessment of the overall excellence and superiority of a service. If performance meets expectations, customers will be satisfied. Conversely, if performance falls below expectations, customers will be dissatisfied. [47] found that service quality has a significant impact on customer satisfaction. [10] indicate that e-chatbot services provide interactive and engaging brand/customer service interactions.

H2: There is an effect of service quality on customer satisfaction at Lazada.

2.3 Customer Perceived Value

According to [38], Customer Perceived Value refers to the customer's perception of the benefits or desirability of a product or service for them, particularly when compared to competing products. Customer Perceived Value is the value of a product or service that exists in the consumer's mind [30]. Generally, consumers are unaware of the actual production costs of a product or service they purchase. Instead, they have an internal feeling about the perceived value of a product or service. [31] describes Customer Perceived Value as the overall assessment of the value or benefits that customers believe they will receive from a product or service. This includes both tangible and intangible factors such as quality, functionality, price, brand reputation, and post-purchase support. Therefore, Customer Perceived Value is the perception formed by customers regarding the benefits they receive from a product or service. According to [50], Customer Perceived Value is formed from the dimensions of Functional Value, Emotional Value, and Social Value.

The Relationship Between Customer Perceived Value and Customer Satisfaction. Perceived value is the customer's assessment of the benefits (both functional and emotional) received from a product or service compared to their expectations. Customers who feel they have received high value from their purchase tend to feel more satisfied. [50] found that perceived value significantly affects customer satisfaction. Research by [5] indicates that perceived value has a positive and significant effect on user satisfaction.

H3: There is an effect of customer perceived value on customer satisfaction at Lazada.

2.4 Familiarity and Comfort with Technology

[13] explain that familiarity and comfort with technology refer to the extent to which individuals feel comfortable and competent in using technology in their daily lives. This concept encompasses the level of knowledge and experience users have with various forms of technology, such as computers and tablets. The level of skill can vary, ranging from basic knowledge to high proficiency in using the technology. Indicators of familiarity and comfort with technology, according to [14], [22], and [1], include clarity of instructions, ease of navigation, responsiveness, error messages, and the learning curve.

The Relationship Between Familiarity and Comfort with Technology and Customer Satisfaction. Familiarity and comfort with technology assess how comfortable and familiar

users are with the technology used in a service or product. Research by [1] indicates that familiarity and comfort with technology act as a moderator in the relationship between customer experience with ChatGPT and satisfaction with digital marketing. [8] found that perceived usefulness and perceived ease of use from the Technology Acceptance Model (TAM) positively impact customer satisfaction in the context of mobile banking.

H4: Familiarity and comfort with technology moderate the effect of customer experience, service quality, and perceived value on customer satisfaction at Lazada.

2.5 Gender

Gender, as an issue, addresses the implications arising from differences between sexes and plays a strategic role in shaping civilization. The theory of gender involves analyzing the differences in social life that individuals experience according to their sex [51]. Gender is not an inherent trait or destiny but rather an attribute assigned to individuals based on their roles and actions in life. According to [39], gender is the manifestation of behavioral adjustments made by individuals during their social interactions, influenced by varying cultural and social regulations across different societies. Unlike biological sex, which refers to physical differences such as reproductive organs between males and females, gender is a social construct defined by human-created norms and expectations [40].

The Relationship Between Gender and Customer Satisfaction. Research indicates significant differences in customer satisfaction based on gender. For example, [27] found that men and women have different expectations and perceptions of service quality, which ultimately affects their satisfaction levels differently. In contrast, [1] observed that gender acts as a moderating factor in the relationship between customer experience with ChatGPT and overall customer satisfaction.

H5: Gender moderates the effect of customer experience, service quality, and perceived value on customer satisfaction at Lazada.

2.6 Age

According to the Kamus Besar Bahasa Indonesia (KBBI), age refers to the duration of life or existence since birth. Age is a measure of how long someone has lived, influencing their physical condition [16]. As individuals age, their decision-making behavior tends to become more cautious, as older individuals often avoid excessive spending to avoid becoming a burden [16]. People in their productive years generally exhibit higher productivity compared to older individuals whose physical strength may be diminished and limited [6]. Age impacts physical condition and decision-making behavior [20]. Older individuals tend to make more prudent decisions, avoiding excessive spending to prevent future financial burdens [49].

The Relationship Between Age and Customer Satisfaction. Age also plays a significant role in determining customer satisfaction. [1] found that older customers tend to have different expectations and report higher satisfaction with services that offer more personal support, in contrast to the latest technologies favored by younger age groups.

H6: Age moderates the effect of customer experience, service quality, and perceived value on customer satisfaction at Lazada.

2.7 Trust

According to [19], trust is the willingness to depend on another party that is deemed reliable. [7] defines trust as the belief that a service provider can maintain a long-term relationship with customers, and the willingness or belief of exchange partners to establish a long-term relationship to produce positive work. [47] describes consumer trust as the knowledge and conclusions that consumers form about objects, attributes, and their benefits. Trust dimensions are closely related to online shopping [9]. [47] identify three factors that form trust: ability, benevolence, and integrity.

Relationship Between Trust and Customer Satisfaction. Trust is another critical factor in customer satisfaction. [12] found that trust in chatbots for customer service is influenced by factors including interpretation quality, human-likeness, and perceived security. Similarly, [47] concluded that trust mediates the relationship between service quality and customer satisfaction.

H7: Trust mediates the effect of customer experience, service quality, and perceived value on customer satisfaction at Lazada.

2.8 Customer Satisfaction

According to [24], satisfaction is the feeling of pleasure or disappointment someone experiences when comparing the perceived performance of a product (or outcome) to their expectations. If the performance falls short of expectations, customers will be dissatisfied. If the performance meets expectations, customers will be satisfied. Additionally, if performance exceeds expectations, customers will be very satisfied or pleased. [52] define customer satisfaction as the response of fulfillment from customers regarding a product or service that has met their needs and expectations. [34] also states that, customer satisfaction affects post-purchase consumer behavior, and this behavior directly affects whether or not a client will make another purchase.

[3] states that satisfaction is the feeling of pleasure or disappointment that arises after comparing the match between product performance and consumer expectations. If the result of this comparison meets expectations, consumers will feel pleased and satisfied. Consumer satisfaction is a psychological condition achieved through positive experiences during the purchasing process [11]. [53] identify several dimensions of customer satisfaction, including Declaration of Satisfaction, Recommendation to Others, and Intend of Using Again in Future.

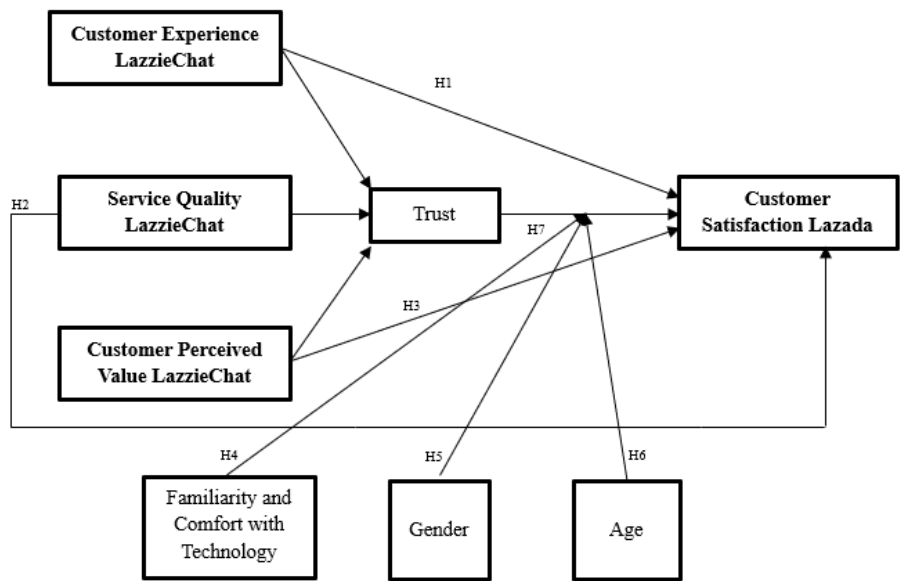


Figure 5. Theoretical Framework

3. Materials and Methodology

Research methodology is the approach required to conduct research and bring together specific objectives and uses [43]. This study employs a quantitative research method. According to [18], quantitative research is a method that attempts to accurately measure behavior, knowledge, opinions, or attitudes.

In quantitative research, the goal of hypothesis testing is to determine whether the null hypothesis can be accepted or rejected, while the alternative hypothesis may be considered as a stronger or more suitable option based on statistical evidence obtained from sample data. The null hypothesis is initially assumed to be true, but this approach may introduce the risk of inaccuracies (error) when conclusions are drawn for the population based on sample data [18].

This research combines two types of studies: descriptive and verifivative research. Descriptive research is used to describe or analyze the variables being measured, while verifivative research aims to test hypotheses that have been established against a specific population or sample. Additionally, this research is causal in nature, focusing on cause-and-effect relationships between observed variables, as explained in the concept of causality [42].

Table 1 Type of Research

Type of Research	Information
Research Purpose	Causal
Research Paradigm	Positivism
Approach to Theory Development	Deductive
Research Methodology	Quantitative
Research Strategy	Survey

Type of Research	Information
Data Collection Method	Questionnaire
Unit of Analysis	Individual
Research Involvement	Minimal
Research Setting	Non-contrived
Research Timeframe	Cross-Sectional

4. Results and Discussion

Table 2 Respondent Demography Summary

Demographic Categories	Frequency (n=384)	
Age Group		
< 20 years old	120	31,3%
21 – 30 years old	141	36,7%
31 – 40 years old	102	26,6%
> 41 years old	21	5,5%
Gender		
Female	212	55,2%
Male	172	44,8%

Based on Table 2, which shows the demographics of respondents by age, out of the 384 respondents in this study, the majority of Lazada customers using LazzieChat are in the age group of 21-30 years, accounting for 37%. This indicates that Lazada customers using LazzieChat are mostly teenagers to young adults. Regarding the demographics of respondents by gender, out of the 384 respondents in this study, the majority are female, accounting for 55%, compared to 45% male. This indicates that more Lazada customers using LazzieChat are female than male.

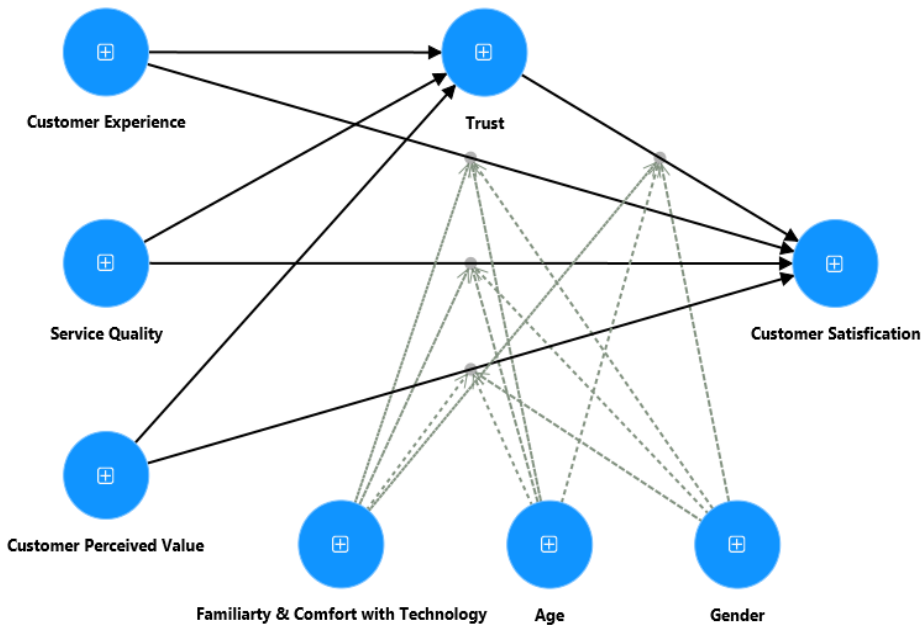


Figure 6 Partial Least Square Model

Table 3 Validity and Reliability Test Results

Construct	Item Code	LF	VIF	AVE	CA	CR
Customer Experience	CE.1	0,705	2,264	0,633	0,966	0,967
	CE.2	0,830	3,243			
	CE.3	0,767	3,028			
	CE.4	0,762	2,962			
	CE.5	0,765	2,601			
	CE.6	0,786	2,882			
	CE.7	0,748	3,065			
	CE.8	0,799	3,717			
	CE.9	0,868	3,197			
	CE.10	0,876	2,442			
	CE.11	0,802	3,405			
	CE.12	0,784	3,542			
	CE.13	0,780	2,955			
	CE.14	0,788	2,830			
	CE.15	0,855	3,962			
	CE.16	0,788	3,127			
	CE.17	0,799	3,380			
	CE.18	0,797	3,232			
Service Quality	SQ.1	0,897	3,029	0,800	0,937	0,939
	SQ.2	0,923	3,749			
	SQ.3	0,886	3,259			
	SQ.4	0,847	2,481			
	SQ.5	0,918	3,986			
Customer Perceived Value	CPV.1	0,841	2,060	0,755	0,892	0,893
	CPV.2	0,892	2,807			
	CPV.3	0,869	2,556			
	CPV.4	0,874	2,806			
Customer Satisfaction	CS.1	0,903	2,644	0,852	0,913	0,913
	CS.2	0,925	3,427			
	CS.3	0,940	3,888			
Famiiarty & Comfort with Technology	FM.1	0,863	2,057	0,774	0,854	0,861
	FM.2	0,867	2,006			
	FM.3	0,909	2,420			
Age	AGE	1,000	1,000	-	-	-
Gender	GDR	1,000	1,000	-	-	-
Trust	T.1	0,916	3,672	0,835	0,934	0,934
	T.2	0,903	3,311			
	T.3	0,913	3,740			
	T.4	0,923	3,844			

Table 3 presents the validity and reliability test results, which meet critical thresholds for several constructs. For Customer Experience, the LF values range from 0.705 to 0.876 ($LF > 0.7$), VIF values are between 2.264 and 3.962 ($VIF < 5$), AVE is 0.633 ($AVE > 0.5$), CA is 0.966 ($CA > 0.6$), and CR is 0.967 ($CR > 0.7$). Service Quality exhibits LF values from 0.847 to 0.923, VIF from 2.481 to 3.986, AVE of 0.800, CA of 0.937, and CR of 0.939. Customer Perceived Value has LF values between 0.841 and 0.892, VIF from 2.060 to 2.807, AVE of 0.755, CA of 0.892, and CR of 0.893. Customer Satisfaction shows LF values from 0.903 to 0.940, VIF from 2.644 to 3.888, AVE of 0.852, CA of 0.913, and CR of 0.913. Familiarity & Comfort with Technology has LF values from 0.863 to 0.909, VIF from 2.006

to 2.420, AVE of 0.774, CA of 0.854, and CR of 0.861. The Age and Gender constructs each have an LF and VIF value of 1.000. The Trust construct displays LF values from 0.903 to 0.923, VIF from 3.311 to 3.844, AVE of 0.835, CA of 0.934, and CR of 0.934. All constructs surpass the critical thresholds, indicating strong validity and reliability.

Table 4 HTMT Test Results

Construct	HTMT
Customer Experience <-> Age	0,059
Customer Perceived Value <-> Age	0,086
Customer Perceived Value <-> Customer Experience	0,087
Customer Satisfaction <-> Age	0,071
Customer Satisfaction <-> Customer Experience	0,057
Customer Satisfaction <-> Customer Perceived Value	0,077
Familiarity & Comfort with Technology <-> Age	0,104
Familiarity & Comfort with Technology <-> Customer Experience	0,192
Familiarity & Comfort with Technology <-> Customer Perceived Value	0,238
Familiarity & Comfort with Technology <-> Customer Satisfaction	0,376
Gender <-> Age	0,100
Gender <-> Customer Experience	0,049
Gender <-> Customer Perceived Value	0,043
Gender <-> Customer Satisfaction	0,061
Gender <-> Familiarity & Comfort with Technology	0,047
Service Quality <-> Age	0,089
Service Quality <-> Customer Experience	0,054
Service Quality <-> Customer Perceived Value	0,051
Service Quality <-> Customer Satisfaction	0,057
Service Quality <-> Familiarity & Comfort with Technology	0,261
Service Quality <-> Gender	0,048
Trust <-> Age	0,077
Trust <-> Customer Experience	0,438
Trust <-> Customer Perceived Value	0,489
Trust <-> Customer Satisfaction	0,586
Trust <-> Familiarity & Comfort with Technology	0,355
Trust <-> Gender	0,057
Trust <-> Service Quality	0,375

Table 4 presents the HTMT (Heterotrait-Monotrait Ratio) test results for the constructs analyzed. The results indicate that all HTMT values are below the critical threshold of 0.9. Thus, these results confirm that the constructs in the model are distinct from one another, ensuring discriminant validity.

Table 5 Hypothesis Test Results

Construct	T statistics	P values	Hyphotesis
Customer Experience -> Customer Satisfication	5,292	0,000	Accepted
Service Quality -> Customer Satisfication	6,971	0,000	Accepted
Customer Perceived Value -> Customer Satisfication	3,173	0,002	Accepted
Familiarity & Comfort with Technology x Customer Experience -> Customer Satisfication	3,070	0,002	Accepted
Familiarity & Comfort with Technology x Service Quality -> Customer Satisfication	2,337	0,019	Accepted
Familiarity & Comfort with Technology x Customer Perceived Value -> Customer Satisfication	2,141	0,032	Accepted

Construct	T statistics	P values	Hyphotesis
Satisfaction			
Gender x Customer Experience -> Customer Satisfaction	1,280	0,201	Rejected
Gender x Service Quality -> Customer Satisfaction	0,275	0,783	Rejected
Gender x Customer Perceived Value -> Customer Satisfaction	1,180	0,238	Rejected
Age x Customer Experience -> Customer Satisfaction	1,598	0,110	Rejected
Age x Service Quality -> Customer Satisfaction	0,202	0,840	Rejected
Age x Customer Perceived Value -> Customer Satisfaction	1,863	0,063	Rejected
Customer Experience -> Trust -> Customer Satisfaction	4,733	0,000	Accepted
Service Quality -> Trust -> Customer Satisfaction	10,693	0,000	Accepted
Customer Perceived Value -> Trust -> Customer Satisfaction	3,017	0,003	Accepted

a. The Effect of Customer Experience on Customer Satisfaction at Lazada

The first hypothesis tests the relationship between customer experience and customer satisfaction. The results show a t-statistic value of $5.292 > 1.96$ and a p-value of $0.000 < 0.05$, indicating that the first hypothesis is accepted. This proves that customer experience has a significant effect on customer satisfaction at Lazada. This result is consistent with previous research by [1], which found a positive correlation between satisfying customer experiences and customer satisfaction levels. Similarly, [17] found that value, service quality, and customer experience positively impact customer satisfaction.

b. The Effect of Service Quality on Customer Satisfaction at Lazada

The second hypothesis tests the relationship between service quality and customer satisfaction. The results show a t-statistic value of $6.971 > 1.96$ and a p-value of $0.000 < 0.05$, indicating that the second hypothesis is accepted. This proves that service quality has a significant effect on customer satisfaction at Lazada. This finding is consistent with research by [44], which stated that service quality significantly affects customer satisfaction. Similarly, [10] found that e-Chatbot services provide interactive and engaging brand/customer service interactions.

c. The Effect of Customer Perceived Value on Customer Satisfaction at Lazada

The third hypothesis tests the relationship between customer perceived value and customer satisfaction. The results show a t-statistic value of $3.173 > 1.96$ and a p-value of $0.002 < 0.05$, indicating that the third hypothesis is accepted. This proves that customer perceived value has a significant effect on customer satisfaction at Lazada. This result is consistent with [47], which stated that perceived value significantly affects customer satisfaction. Similarly, [5] found that perceived value positively and significantly impacts user satisfaction.

d. Familiarity and Comfort with Technology as a Moderator of the Relationship Between Customer Experience, Service Quality, and Perceived Value on Customer Satisfaction at Lazada

The fourth hypothesis tests the role of familiarity and comfort with technology as a moderator in the relationship between customer experience, service quality, and customer perceived value and customer satisfaction. The results show t-statistic values greater than 1.96 (3.070; 2.337; 2.141) and p-values less than 0.05 (0.002; 0.019; 0.032), indicating that the fourth hypothesis is accepted. This proves that familiarity and comfort with technology can moderate the effect of customer experience, service quality, and customer perceived value on customer satisfaction at Lazada. This finding aligns with [1], which shows that familiarity and comfort with technology moderate the relationship between customer experience with ChatGPT and satisfaction with digital marketing. It is also consistent with [8], which found that perceived usefulness and perceived ease of use from the Technology Acceptance Model (TAM) positively affect customer satisfaction in mobile banking.

e. Gender as a Moderator of the Relationship Between Customer Experience, Service Quality, and Perceived Value on Customer Satisfaction at Lazada

The fifth hypothesis tests the role of gender as a moderator in the relationship between customer experience, service quality, and customer perceived value and customer satisfaction. The results show t-statistic values less than 1.96 (1.280; 0.275; 1.180) and p-values greater than 0.05 (0.210; 0.783; 0.238), indicating that the fifth hypothesis is rejected. This proves that gender does not moderate the effect of customer experience, service quality, and customer perceived value on customer satisfaction at Lazada. This finding contrasts with [1], which found that gender moderates the relationship between customer experience with ChatGPT and customer satisfaction. In contrast, [27] found that men and women do not have different expectations and perceptions of service quality, which ultimately affects their satisfaction levels differently.

f. Age as a Moderator of the Relationship Between Customer Experience, Service Quality, and Perceived Value on Customer Satisfaction at Lazada

The sixth hypothesis tests the role of age as a moderator in the relationship between customer experience, service quality, and customer perceived value and customer satisfaction. The results show t-statistic values less than 1.96 (1.598; 0.202; 1.863) and p-values greater than 0.05 (0.110; 0.840; 0.063), indicating that the sixth hypothesis is rejected. This proves that age does not moderate the effect of customer experience, service quality, and customer perceived value on customer satisfaction at Lazada. This finding contrasts with [1], which showed that older customers tend to have different expectations and report higher satisfaction with services providing more personal support compared to the latest technology, preferred by younger age groups.

g. Trust as a Mediator in the Relationship Between Customer Experience, Service Quality, and Perceived Value on Customer Satisfaction at Lazada

The seventh hypothesis tests the role of trust as a mediator in the relationship between customer experience, service quality, and customer perceived value and customer satisfaction. The results show t-statistic values greater than 1.96 (4.733; 10.693; 3.017) and

p-values less than 0.05 (0.000; 0.000; 0.003), indicating that the seventh hypothesis is accepted. This proves that trust can mediate the effect of customer experience, service quality, and customer perceived value on customer satisfaction at Lazada. This finding supports [12], which found that trust in chatbots for customer service is influenced by factors including interpretation quality, human-likeness, and security perception. It is also consistent with [47], which concluded that trust mediates the relationship between service quality and customer satisfaction.

5. Conclusion and Future Work

Based on the research findings examining the impact of LazzieChat on enhancing customer experience, service quality, and perceived value in e-commerce platforms: examining moderating and mediating factors on customer satisfaction at Lazada discussed in the previous chapter, conclusions can be drawn that address the research questions as follows:

- a. Respondents' evaluations of customer experience are categorized as high, while service quality, perceived value, customer satisfaction, familiarity and comfort, and trust are categorized as moderate. The average age of Lazziechat users is adolescent to early adulthood, with the majority being female.
- b. Customer experience has a significant impact on customer satisfaction at Lazada.
- c. Service quality has a significant impact on customer satisfaction at Lazada.
- d. Customer perceived value has a significant impact on customer satisfaction at Lazada.
- e. Familiarity and comfort with technology can moderate the impact of customer experience, service quality, and customer perceived value on customer satisfaction at Lazada.
- f. Gender does not moderate the impact of customer experience, service quality, and customer perceived value on customer satisfaction at Lazada.
- g. Age does not moderate the impact of customer experience, service quality, and customer perceived value on customer satisfaction at Lazada.
- h. Trust mediates the impact of customer experience, service quality, and customer perceived value on customer satisfaction at Lazada.

References

1. Abdelkader, O. A. (2023). ChatGPT's influence on customer experience in digital marketing: Investigating the moderating roles. *Heliyon*, 9(8).
2. Adellia, N., & Prasetyo, A. (2016, April). Customer perception mapping analysis of Indonesian e-commerce marketplace sites based on attributes usability, site design, information quality, trust, and empathy (Case study of Tokopedia, Bukalapak, Elevenia, Qoo10, and Rakuten). In *2016 4th International Conference on Cyber and IT Service Management* (pp. 1-7). IEEE.
3. Adhari, I. Z. (2021). *Kepuasan Pelanggan & Pencapaian Brand Trust*. Yogyakarta: CV. Penerbit Qiara Media.

4. Ahdiat, A. (2024). 5 E-Commerce dengan Pengunjung Terbanyak Sepanjang 2023. <https://databoks.katadata.co.id>.
5. Akbar, N. F. (2019). Analisis Persepsi Manfaat, Persepsi Kemudahan, dan Kualitas Pelayanan terhadap Kepuasan Pengguna Aplikasi Komunikasi Snaapp pada SD Ignatius Slamet Riyadi Karawang. *Indikator*, 3(3), 353-468.
6. Aprilyanti, S. (2017). Pengaruh usia dan masa kerja terhadap produktivitas kerja (Studi kasus: PT. Oasis Water International Cabang Palembang). *Jurnal Sistem dan Manajemen Industri*, 1(2), 68-72.
7. Arifin, S. (2011). Pengaruh Kepercayaan, fasilitas dan kualitas pelayanan terhadap kepuasan konsumen pada hotel jepara indah. *Jurnal Dinamika Ekonomi dan Bisnis*, 8(1).
8. Ashsifa, I. (2020). Pengaruh Technology Acceptance Model (Tam) Terhadap Kepuasan Pelanggan Dan Niat Penggunaan Mobile Banking Secara Berkelanjutan (Privasi Dan Personalisasi Sebagai Variabel Moderasi). *TECHNOBIZ: International Journal of Business*, 3(1), 25-29.
9. Chen, S. C., & Dhillon, G. S. (2003). Interpreting dimensions of consumer trust in e-commerce. *Information technology and management*, 4, 303-318.
10. Chung, M., Ko, E., Joung, H., & Kim, S. J. (2020). Chatbot e-service and customer satisfaction regarding luxury brands. *Journal of Business Research*, 117, 587-595.
11. Dai, H., Luo, X. R., Liao, Q., & Cao, M. (2015). Explaining consumer satisfaction of services: The role of innovativeness and emotion in an electronic mediated environment. *Decision Support Systems*, 70, 97-106.
12. Følstad, A., Nordheim, C. B., & Bjørkli, C. A. (2018). What makes users trust a chatbot for customer service? An exploratory interview study. In *Internet Science: 5th International Conference, INSCI 2018, St. Petersburg, Russia, October 24–26, 2018, Proceedings 5* (pp. 194-208). Springer International Publishing.
13. Fütterer, T., Hoch, E., Lachner, A., Scheiter, K., & Stürmer, K. (2023). High-quality digital distance teaching during COVID-19 school closures: Does familiarity with technology matter?. *Computers & education*, 199, 104788.
14. Girsang, M. J., Hendayani, R., & Ganesan, Y. (2020, June). Can Information Security, Privacy and Satisfaction Influence The E-Commerce Consumer Trust?. In *2020 8th International Conference on Information and Communication Technology (ICoICT)* (pp. 1-7). IEEE.
15. Gordijn, B., & Have, H. T. (2023). ChatGPT: Evolution or revolution? *Medical Healthcare and Philosophy*, 1-2.
16. Hakim, L. N. (2020). Urgensi revisi undang-undang tentang kesejahteraan lanjut usia. *Sumber*, 17(6).
17. Hendra, T. (2017). Pengaruh nilai, kualitas pelayanan, pengalaman pelanggan terhadap kepuasan dan loyalitas pelanggan. *Jurnal Bisnis dan Manajemen*, 4(2).
18. Indrawati. (2015) *Metode Penelitian Manajemen dan Bisnis: Konvergensi Teknologi Komunikasi dan Informasi*. Bandung: Refika Aditama.
19. Ishak, A., & Luthfi, Z. (2011). Pengaruh kepuasan dan kepercayaan konsumen terhadap loyalitas: Studi tentang peran mediasi switching costs. *Jurnal siasat bisnis*, 15(1).
20. Iswanto, C., & Anastasia, N. (2013). Hubungan Demografi, Anggota Keluarga dan Situasi dalam Pengambilan Keputusan Pendanaan Pembelian Rumah Tinggal Surabaya. *Jurnal Finesta*, 1(2), 124-129.
21. Jain, R., Aagja, J., & Bagdare, S. (2017). Customer experience—a review and research agenda. *Journal of service theory and practice*, 27(3), 642-662.
22. Klang, E., & Levy-Mendelovich, S. (2023). Evaluation of OpenAI's large language model as a new tool for writing papers in the field of thrombosis and hemostasis. *Journal of Thrombosis and Haemostasis*.
23. Kotler, P., & Armstrong, G. (2003). *Marketing: an introduction*. Pearson Educación.

24. Kotler, P., & Keller, K. L. (2017). *Marketing Management*, 15thn Edition. New Jersey: Pearson Prentice Hall.
25. Kshetri, N. (2024). Generative Artificial Intelligence and E-Commerce. *Computer*, 57(2), 125-128.
26. Kuppelwieser, V. G., & Klaus, P. (2021). Measuring customer experience quality: The EXQ scale revisited. *Journal of Business Research*, 126, 624-633.
27. Li, X., Liang, L., & Li, D. (2020). A review of chatbot applications in customer service. *Journal of Service Theory and Practice*, 30(4), 554–568.
28. Luh, N., Yolandari, D., Made, N., & Kusumadewi, W. (2018). Pengaruh Pengalaman Pelanggan Dan Kepercayaan terhadap Niat Beli Ulang Secara Online Melalui Kepuasan Pelanggan (Studi Pada Situs Online Berrybenka.com). *OJS UNUD* 7(10), 53435378.
29. Manyanga, W., Kanyepe, J., Chikazhe, L., & Manyanga, T. (2024). The effect of social media marketing on brand loyalty in the hospitality industry in Zimbabwe: the moderating role of age. *Cogent Business & Management*, 11(1), 2302311.
30. Medberg, G. (2016). How do Customers perceive value-in-use. *Empirical Insights from Bank Service Stories*. Helsinki.
31. Morar, D. D. (2013). An overview of the consumer value literature—perceived value, desired value. *Marketing from information to decision*, (6), 169-186.
32. Nicolescu, L., & Tudorache, M. T. (2022). Human-computer interaction in customer service: the experience with AI chatbots—a systematic literature review. *Electronics*, 11(10), 1579.
33. Nitisemito, A. (2020). *Manajemen Sumber Daya Manusia Edisi Ketiga*.
34. Nugraha, M. S., Indrawati, & Sugiat, M. A. (2023). The Effect of Brand Experience on Brand Loyalty with Brand Awareness, Brand Personality, Customer Satisfaction as Intervening Variables in Oronamin C Brand. *resmilitaris*, 13(2), 2809-2823.
35. O. Pappas, I., G. Pateli, A., N. Giannakos, M., & Chrissikopoulos, V. (2014). Moderating effects of online shopping experience on customer satisfaction and repurchase intentions. *International Journal of Retail & Distribution Management*, 42(3), 187-204.
36. Pasacito, M. R. T., & Ariyanti, M. (2024). The Influence of image and product attributes on customer satisfaction and its implications for customer loyalty of Kimia Farma Apotek (KFA) in the Bandung City area. *International Journal of Research in Business and Social Science* (2147-4478), 13(4), 76-88.
37. Prasasti, A. (2023). Brand Trust Capacity in Mediating Social Media Marketing Activities and Purchase Intention: A Case of A Local Brand That Go-Global During Pandemic. *Indonesian Journal of Business and Entrepreneurship (IJBE)*, 9(1), 81-81.
38. Qodar, A. (2022). Pengaruh Hospital Service Quality dan Customer Perceived Value Terhadap Kepuasan dan Keinginan Membayar Iuran BPJS Kesehatan Dimoderasi Perubahan Kebijakan Baru Kelas Rawat Inap Standar di Indonesia. *Equator Journal of Management and Entrepreneurship (EJME)*, 10(04), 194-211.
39. Qomariah, D. N. (2019). Persepsi masyarakat mengenai kesetaraan gender dalam keluarga. *Jendela PLS: Jurnal Cendekiawan Ilmiah Pendidikan Luar Sekolah*, 4(2), 52-58.
40. Rusni, Syaribulan, & Nurdin. (2015). Geneologi gender pada perempuan pembuat ikan kering. *Jurnal Equilibrium Pendidikan Sosiologi*, 3(1).
41. Sari, P. K., Alamsyah, A., & Wibowo, S. (2018, March). Measuring e-Commerce service quality from online customer review using sentiment analysis. In *Journal of Physics: Conference Series* (Vol. 971, p. 012053). IOP Publishing.
42. Silalahi, U. (2018) *Metode Penelitian Sosial*. Bandung: Refika Aditama.
43. Siregar, B. G. & Hardana, A. (2022). *Metode Penelitian Ekonomi dan Bisnis*. Merdeka Kreasi Group.
44. Sunarto, A. (2009). *Seluk beluk e-commerce*. Yogyakarta: Graha Ilmu.
45. Suriah, I. N., & Millanyani, H. (2023). Pengaruh Kualitas Layanan terhadap Kepuasan

- Pelanggan Primajasa Kota Bandung (Studi Pada Rute Bandung-Bandara Internasional Soekarno Hatta Tahun 2023). *J-MAS (Jurnal Manajemen dan Sains)*, 8(2), 1442-1450.
46. Torabi, A., Hamidi, H., & Safaie, N. (2021). Effect of sensory experience on customer word-of-mouth intention, considering the roles of customer emotions, satisfaction, and loyalty. *International Journal of Engineering*, 34(3), 682-699.
47. Uzir, M. U. H., Al Halbusi, H., Thurasamy, R., Hock, R. L. T., Aljaberi, M. A., Hasan, N., & Hamid, M. (2021). The effects of service quality, perceived value and trust in home delivery service personnel on customer satisfaction: Evidence from a developing country. *Journal of Retailing and Consumer Services*, 63, 102721.
48. Wan Jusoh, W. A. B., Bin Sjahrir, M. I., Binti Hussin, N. F. S., & Ishar, N. I. M. (2022). The Strategies to Improve Customer Experience: A Case of Online Shopping Platform. *Jurnal Manajemen Teori dan Terapan*, 15(3).
49. Wijaya, C., Kardinal, K., & Cholid, I. (2018). Analisis Pengaruh Usia, Jenis Kelamin, Pendidikan, dan Pendapatan, Terhadap Literasi Keuangan Warga di Komplek Tanah Mas.
50. Yoo, Y., & Kim, Y. (2020). Understanding The Influence of Chatbots on Customer Experience: An Empirical Study. *J. Interact. Market.* 51, 27–41.
51. Yunus, R. (2022). Analisis Gender terhadap Fenomena Sosial. *Humanities Genius*.
52. Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2018). *Services marketing: Integrating customer focus across the firm*. McGraw-Hill.
53. Zhang, L., & Zhu, Y. (2020). Chatbot Service Quality, Customer Satisfaction, And Loyalty: The Moderating Role of Service Type. *J. Serv. Theor. Prac.* 30 (5). 646–663.