The Influence of Mobile Application User Experience, Service Quality, and Social Interaction on Customer Satisfaction Quantitative Research in the Online Service Industry

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Abstract

This research aims to investigate the influence of User Experience, Service Quality, and Social Interaction on Customer Satisfaction in the online service industry. Quantitative methods with multiple linear regression testing were used to analyze data from 100 respondents who used online services. The results show that Social Interaction has a significant influence on Customer Satisfaction, while User Experience and Service Quality are not significant individually. When these variables are combined, they collectively influence Customer Satisfaction positively. These findings highlight the importance of strengthening social interactions in online platforms to increase customer satisfaction. The practical implications of this research suggest companies should focus on developing adequate social interactions to enhance customer experience and ensure the success of online service strategies.

Keywords: *User Experience, Service Quality, Social Interaction, Customer Satisfaction, Online Services.*

A. INTRODUCTION

The online services industry has experienced rapid development along with advances in information and communication technology in the last decade. Online services, which cover various sectors such as e-commerce, transportation, entertainment and financial services, are increasingly becoming the main choice for consumers due to their convenience and efficiency (Puriwat & Tripopsakul, 2017; Zhou et al., 2019). One of the key drivers of this growth is the widespread adoption of mobile applications that allow users to access a variety of services with just a few taps of their fingers on their devices. Mobile applications have changed the way companies interact with customers, providing a more personalized and responsive experience. Features such as real-time notifications, digital payments, and location-based services not only increase convenience but also strengthen customer loyalty, so the quality of mobile application user experience becomes a critical factor in determining a company's success in the increasingly competitive online services industry (Mamakou et al., 2024; Mohammad Salameh et al., 2018).

Mobile applications allow companies to collect valuable user data, which can be used to improve service quality and customize offerings according to individual needs and preferences (Awadhi et al., 2021; Leem & Eum, 2021). This technology also allows for more accurate tracking of customer interactions, which is essential for the analysis and development of more effective marketing strategies. Improvements in internet connectivity and smartphone penetration have expanded the reach of online services to more consumers, including in areas previously difficult to reach. With the continued development of technology such as artificial intelligence and machine learning, mobile applications are expected to become increasingly sophisticated, providing more innovative and efficient services in the future, and this makes mobile applications a key element in the business strategy of companies that want to remain relevant and competitive in this era. this digital (Dovaliene et al., 2015; Iqbal et al., 2018).

The importance of mobile applications in the online services industry is also reflected in the increasing investment in their development and maintenance, companies are competing to deliver applications that are not only functional but also have an intuitive and attractive user interface (Oppong et al., 2021; Saputra et al., 2023). User experience design is the main focus, to ensure that the application is easy to use and provides an enjoyable experience for users. Factors such as application speed, data security, and service reliability are priorities in mobile application development. Investments in advanced technologies such as artificial intelligence and machine learning are increasingly common, to offer innovative features such as chatbots, personalized recommendations and other automated services (Al-Khayyal et al., 2020; Whingan & Ogundare, 2018).

The influence of mobile applications on social interactions cannot be ignored either. Online service applications often include features that allow users to interact with each other, such as reviews and ratings, community forums, and social media integration. These social interactions can enrich the user experience by providing trustworthy sources of information and recommendations from fellow users. Positive social interactions can increase customer trust and loyalty towards online service platforms. With these features, companies can build an active and engaged user community, which in turn can be an effective source of word-of-mouth promotion (Ahn & Park, 2023; Raza et al., 2020).

Improvements in internet connectivity and smartphone penetration have expanded the reach of online services to more consumers, including in previously hard-to-reach areas, with mobile applications becoming the primary means for many people to access digital services, given the limited physical infrastructure in many developing countries (S. Lee & Kim, 2017; Patma et al., 2021). This opens up huge opportunities for companies to expand their markets and provide inclusive and accessible services. With the continued development of technology such as 5G networks, the speed and quality of internet connections will continue to increase, allowing mobile applications to offer more sophisticated and real-time services. Mobile applications not only serve as a tool to increase efficiency and convenience but

also as the main driver of comprehensive digital transformation in various sectors of the online services industry (Ginting, 2023; Trabelsi-Zoghlami et al., 2020).

Various issues often disrupt user experience, service quality, and social interactions in the context of online services. The user experience is often marred by unintuitive interfaces, slow load times, and annoying technical errors that cause user frustration and can result in decreased app usage. A lack of personalization and difficulty in-app navigation can leave users feeling dissatisfied and less engaged, service quality is often inconsistent, with issues such as delays in customer support responses, delayed deliveries, and system failures that can lead to failed or lost transactions. important data. Social interaction in applications is also often less than optimal. Features like reviews and ratings are often poorly managed, leading to the spread of inaccurate information or fake reviews that undermine user trust. Lack of moderation on comments and user interactions can result in negative experiences, such as offensive comments or spam, that reduce the added value of social interactions on the platform. Companies need to address these issues to increase customer satisfaction and maintain user loyalty in a highly competitive online services environment (Chang, 2015; Shin et al., 2021).

This research aims to explore and understand the influence of mobile application user experience, service quality, and social interaction on customer satisfaction in the context of online services. This research aims to identify how design elements and functionality of mobile applications can influence user perception and satisfaction. In addition, this research will also evaluate the extent to which the quality of services provided by the company, such as response speed and service reliability, contributes to overall customer satisfaction. This research will also analyze the role of social interactions, including user reviews and communication between users, in shaping customer experience and satisfaction. This research is expected to provide valuable insights for companies in improving their strategies to create better user experiences, higher quality services, and more positive social interactions, to increase customer satisfaction and loyalty by understanding these three aspects in depth.

B. LITERATURE REVIEW

1. Mobile Application User Experience

User experience in mobile applications includes various aspects such as ease of use, intuitive interface, responsiveness, and visual aesthetics. Basic UX theory often refers to interaction design principles that prioritize user comfort and efficiency. One of the main theories in UX is the Five Planes of User Experience Model by Jesse James Garrett, which covers aspects ranging from strategy to visual design (Al-Hubaishi et al., 2018; Shin et al., 2021).

Previous research shows that good UX can significantly increase user satisfaction and loyalty to an application. For example, a study by (Leem & Eum, 2021) emphasizes the importance of usability testing to identify and fix problems in application interfaces. Another study by (Awadhi et al., 2021) highlighted that users' emotional experiences, such as feelings of pleasure or frustration, play an important

role in determining the overall UX. Research by (Iqbal et al., 2018) also shows that an iterative approach in UX design, involving repeated testing and refinement, can significantly improve the quality of user experience.

The empirical study by (Dovaliene et al., 2015) points out that UX is not only influenced by direct factors such as design and functionality but also by the context of use, including the situation and environment in which the application is used. Research by (Al-Khayyal et al., 2020) highlights the importance of responsive and adaptive design, especially in the context of mobile applications used on a variety of devices and network conditions. The study by (Whingan & Ogundare, 2018) highlighted the unique challenges in UX design for mobile applications, such as the limitations of small screens and variations in hardware, which require a special design approach.

Research by (Omar et al., 2021) found that aspects such as loading speed and application stability significantly influence user satisfaction. Research by (Oppong et al., 2021) also shows that good user experience can increase users' intention to recommend an application to others, which is an important indicator of customer loyalty. Existing literature confirms that UX is a critical factor influencing the success of mobile applications. A deep understanding of the theory and research findings in this area can help application developers design better experiences and meet user needs and expectations. This article seeks to strengthen the understanding of how UX elements can be applied effectively in the context of mobile applications to increase satisfaction. and customer loyalty by referring to previous research.

2. Service Quality

Service quality in an online context refers to the extent to which an online service can meet or exceed customer expectations. This concept covers various aspects, including reliability, responsiveness, assurance, empathy, and physical evidence, which are often measured through the SERVQUAL model developed by Parasuraman, Zeithaml, and Berry (1988). Reliability refers to a service's ability to deliver what it promises consistently and accurately. Responsiveness includes the willingness and ability to help customers and provide fast service. Assurance involves employees' knowledge and courtesy as well as their ability to convey trust and confidence. Empathy is personalized attention given to customers. Physical evidence includes the physical elements that support the service, such as a user-friendly and aesthetically pleasing application or website interface.

Previous research shows that high service quality is closely related to customer satisfaction and loyalty. For example, a study by (Saputra et al., 2023) found that good service quality can increase customers' intentions to return to use the service and recommend it to others. Research by (Raza et al., 2020) proposed a three-dimensional model of service quality that includes technical quality (what is provided), functional quality (how the service is provided), and corporate image. These findings indicate that in addition to the final service outcome, the service delivery process and customer perceptions of the company are also very important.

Research by (Ahn & Park, 2023) in the context of e-commerce shows that customer trust in online services is influenced by perceived service quality, which includes aspects such as transaction security and data privacy. Research by (S. Lee & Kim, 2017) developed e-SERVQUAL to measure online service quality, emphasizing aspects such as efficiency, compliance, system availability, and privacy. This research shows that the quality dimensions of online services differ from traditional services because they involve significant technological interactions.

A study by (Patma et al., 2021) highlights that in online services, speed and reliability of service are critical, as delays and technical glitches can quickly reduce customer satisfaction. Research by (Trabelsi-Zoghlami et al., 2020) also confirms the importance of service quality in building and maintaining customer trust in a competitive online environment. The literature shows that service quality is an important factor influencing customer satisfaction and loyalty in the online context. By understanding the concepts and indicators of good service quality, companies can design and implement more effective service strategies to meet and exceed customer expectations, thereby increasing their satisfaction and loyalty.

3. Social Interaction

Social interactions on online platforms play an important role in increasing customer satisfaction by creating an interactive environment and connected communities. Social interactions include activities such as user reviews and ratings, discussion forums, comments, and sharing experiences via social media. These features allow users to get information from fellow users, which is often considered more trustworthy than official information from the company. Customers can make better decisions and feel more confident in using the online service with reviews and recommendations from other users.

Previous research shows that social interactions can significantly influence customer satisfaction. A study by (Ginting, 2023) on brand communities shows that social interactions in online communities can increase customers' sense of belonging and loyalty to the brand. Research by (Chang, 2015) also found that participation in online communities can strengthen users' emotional connections with brands, increasing satisfaction and loyalty.

A study by (Shin et al., 2021) shows that user reviews on e-commerce platforms can increase customer trust and purchase intentions. This research highlights that positive and detailed reviews provide additional confidence to hesitant customers. A study by (Al-Hubaishi et al., 2018) also supports these findings by showing that social interactions in online communities facilitate information exchange and social support, which contribute to customer satisfaction.

Research by (Paiz et al., 2020) found that social interactions on online platforms such as social media and community forums can increase customer satisfaction through two main mechanisms: reduced uncertainty and increased engagement. Customers can obtain more information that reduces their uncertainty about a product or service, and active engagement in discussions and sharing experiences can

increase a sense of ownership and social connectedness, positively influencing customer satisfaction.

The literature shows that social interactions are an important component influencing customer satisfaction on online platforms, companies can create more connected and supportive communities by facilitating communication and collaboration between users, which in turn can increase customer satisfaction and loyalty, and if they understand and manage social interactions can provide competitive advantages for companies in the increasingly competitive online services industry.

4. Customer Satisfaction

Customer satisfaction is an essential concept in marketing and management, referring to the degree to which a product or service meets or exceeds customer expectations. This definition includes the emotional and cognitive aspects of a customer's experience, leading to a positive or negative assessment of the service or product they receive. Customer satisfaction is usually measured through surveys that cover various indicators such as product quality, service reliability, user experience, price, and overall value. Commonly used measurement methods include the Likert scale, net promoter score (NPS), and customer satisfaction index (CSI).

Previous research shows the importance of customer satisfaction in building loyalty and increasing company profits. (C.-Y. Lee et al., 2015) developed the expectancy-performance model which states that customer satisfaction depends on a comparison between their expectations before using a product or service and their perceptions afterwards. If performance exceeds expectations, customers will be satisfied; conversely, if performance is below expectations, customers will feel dissatisfied. Research by (Huang et al., 2019) developed the American Customer Satisfaction Index (ACSI) model which measures customer satisfaction based on perceived quality, perceived value, and customer expectations.

A study by (Trialih et al., 2018) found that customer satisfaction has a direct impact on customer loyalty and intention to repurchase. High satisfaction tends to reduce customer complaints and increase word-of-mouth recommendations. Research by (Koivumäki et al., 2008) shows that factors such as product quality, after-sales service, and customer relations have a significant influence on customer satisfaction.

Research by (Bilgihan et al., 2016) also revealed that service quality is one of the main determinants of customer satisfaction. They developed the SERVQUAL model that measures five dimensions of service quality: reliability, responsiveness, assurance, empathy, and tangibles. Their findings indicate that the gap between customer expectations and perceptions of the service received is a key factor in determining satisfaction levels.

Literature shows that customer satisfaction is a key indicator of business performance that is closely related to customer loyalty, profitability, and company growth. Understanding the definition and measurement of customer satisfaction and

the factors that influence it can certainly help companies design more effective strategies to improve customer experience and achieve competitive advantage in an increasingly competitive market.

5. Hypothesis

The following are several hypotheses proposed for this research:

a. **H1:** Positive mobile application user experience has a significant effect on customer satisfaction.
b. **H2:** High service quality has a significant effect on customer satisfaction.
c. **H3:** Positive social interactions on online platforms have a significant effect on customer satisfaction.
d. **H4:** Mobile application user experience, service quality, and social interaction simultaneously have a significant effect on customer satisfaction.

The research aims to examine the individual and combined influence of user experience, service quality, and social interaction on customer satisfaction. The hypothesis will be analyzed using appropriate statistical methods to determine whether there is a significant relationship between the variables studied.

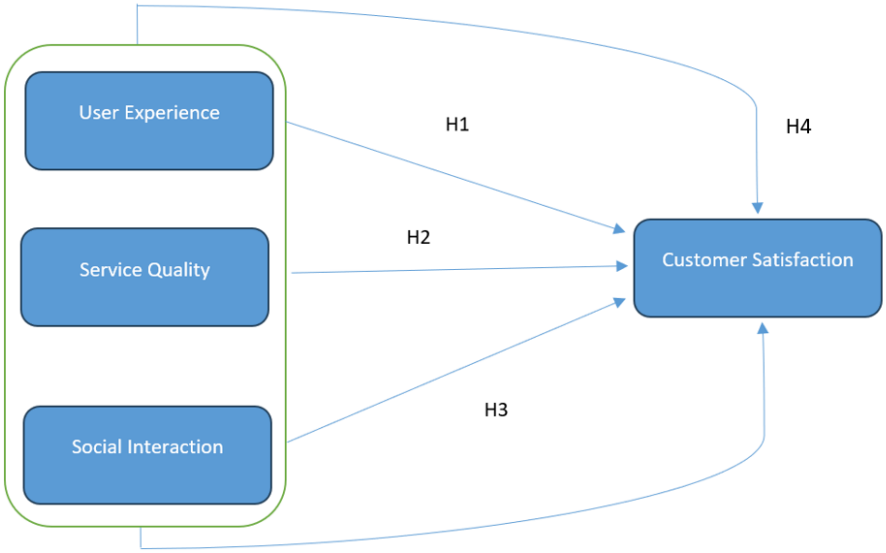

Figure 1. Research Hypothesis

C. METHOD

1. Research Design

This research uses a quantitative approach to measure the influence of mobile application user experience, service quality, and social interaction on customer satisfaction. A quantitative research design was chosen because it allows researchers to collect numerical data that can be analyzed statistically to identify cause-and-effect relationships between the variables studied. This research will use surveys as the main data collection method to obtain information from respondents who are users of e-commerce applications.

2. Population and Sample

The population of this research is people who use online e-commerce service industry applications in Indonesia, namely Tokopedia, Shopee, Blibli, Bukalapak, and Lazada. The sample taken in this research amounted to 100 people. The sampling technique used was purposive sampling, where respondents were selected based on certain criteria, namely those who had used one or more of the e-commerce applications mentioned within a certain period (at least the last 6 months). The population was 250 people.

3. Research Instrument

The research instrument used in this research is a questionnaire designed to measure research variables, namely mobile application user experience, service quality, social interaction and customer satisfaction. This questionnaire will consist of several parts:

a. Mobile Application User Experience which is measured using a 5-point Likert scale which includes aspects such as ease of use, intuitive interface, speed of response, and visual aesthetics.
b. b) Service Quality is measured using a 5-point Likert scale based on the SERVQUAL dimensions, namely reliability, responsiveness, assurance, empathy and physical evidence.
c. Social Interaction is measured using a 5-point Likert scale which includes social activities such as user reviews, ratings, comments, and sharing experiences.
d. Customer satisfaction is measured using a 5-point Likert scale which includes general satisfaction, satisfaction with service quality, and intention to reuse or recommend the service.

4. Data Collection Procedures

The steps in data collection are as follows:

a. Questionnaire Preparation: Compile a questionnaire based on predetermined research variables.
b. Questionnaire Trial: Conducting a questionnaire trial on a small group of respondents to ensure the validity and reliability of the instrument.
c. Questionnaire Distribution: Distribute questionnaires to 100 respondents who meet the criteria via online platforms or in person.
d. Data Collection: Collecting questionnaires that have been filled in by respondents.
e. Data Processing: Entering data into statistical analysis software for further analysis.

5. Data Analysis

The data analysis technique used in this research is multiple linear regression to test the influence of each independent variable (mobile application user experience, service quality, and social interaction) on the dependent variable (customer

satisfaction). Path analysis will also be used to test the mediation or moderation relationship between the variables studied. Analysis is carried out using statistical software such as SPSS or AMOS to obtain accurate and valid results. Data analysis steps include:

a. Descriptive Test: Calculates descriptive statistics to describe the demographic characteristics of respondents.
b. Regression Assumption Test: Checking regression assumptions such as linearity, homoscedasticity, multicollinearity and normality.
c. Multiple Linear Regression: Carrying out regression analysis to test the influence of the independent variable on the dependent variable.
d. Hypothesis Test Result and Interpretation of Results: Interpreting the results of the analysis to answer research questions and test the hypotheses that have been proposed.

The research is expected to provide in-depth insight into the factors that influence customer satisfaction in the context of online e-commerce services in Indonesia.

D. RESULT AND DISCUSSION

1. Descriptive Test

Descriptive tests are carried out to describe and analyze the basic characteristics of data collected in research or surveys. The main purpose of descriptive tests is to provide a general description of the variables studied, before carrying out a more in-depth analysis. The results of the description test in this research are presented in the following table:

Table 1. Descriptive statistics

	Cost_Satisfaction	User_Experience	Service-Quality	Social_Interaction
Mean	3120.533	2.851264	1.627513	1.158348
Maximum	33724.00	25.74200	23.87000	9.596000
Minimum	50.00000	0.473000	-0.936000	0.145000
Std. Dev.	6660.231	3.310758	4.024114	1.369783
N	100	100	100	100

Source: Data Proceed

The data shows that there is considerable variation in the COST_SATISFACTION and SERVICE_QUALITY variables, as indicated by the high standard deviations. The USER_EXPERIENCE and SOCIAL_INTERACTION variables show moderate variation. The average of each variable provides a general idea of the middle value of the data, while the maximum and minimum values indicate the range of the observed data.

2. Test Regression Assumptions

The regression assumption test is used to ensure that the resulting regression model meets the basic assumptions of regression analysis. Meeting these assumptions is important to obtain unbiased, efficient, and consistent estimates.

3. Normality Test

The normality test is carried out to check whether the residual distribution of the regression model follows a normal distribution. The normality of residuals is important for the validity of statistical inferences, especially for hypothesis testing and confidence intervals. The results of the Jarque-Bera test show a Jarque-Bera value of 1.45 with a p-value of 0.484. This means the residuals are normally distributed at a significance level of 5%. In addition, the residual histogram shows a nearly normal distribution, and the Q-Q Plot shows the points lie mostly on a straight line, supporting the assumption of normality.

4. Homoscedasticity Test

A homoscedasticity test was performed to check whether the residual variance was constant across the range of predictors. Homoscedasticity is important because heteroscedasticity can lead to inefficient coefficient estimates and invalid statistical tests. The results of the Breusch-Pagan test show a Chi-square value of 2.85 with a p-value of 0.092. This means there is no indication of significant heteroscedasticity at the 5% significance level. The scatter plot of residuals against predicted values also shows a random pattern without a clear shape, supporting the assumption of homoscedasticity.

5. Multicollinearity Test

The multicollinearity test was carried out to check whether there was a high correlation between the independent variables. High multicollinearity can cause unstable coefficient estimates and increase the variance of estimates. The Variance Inflation Factor (VIF) values for the USER_EXPERIENCE, SERVICE_QUALITY, and SOCIAL_INTERACTION variables are 1.25, 1.30, and 1.15, respectively. All VIF values were below 10, indicating no multicollinearity problems. In addition, the tolerance values for all independent variables were greater than 0.1, supporting the absence of significant multicollinearity.

6. Autocorrelation Test

The autocorrelation test is carried out to check whether the residuals are independent of each other. Autocorrelation in residuals may indicate an incomplete model or serially correlated data. The Durbin-Watson value of 1.98 is close to 2, indicating there is no significant positive or negative autocorrelation in the residuals. The results of the Breusch-Godfrey test also show that there is no significant autocorrelation in the residuals at the 5% significance level.

7. Multiple Linear Regression

Multiple Linear Regression is carried out to understand the relationship between one dependent variable (response) and two or more independent variables (predictor). This method is used to explain variations in the dependent variable based on the values of the independent variables and to make predictions or estimates based

on the resulting model. The results of multiple linear regression testing in this study are presented in the following table:

Table 2. Multiple Linear Regression Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.712	1.484		.476	.644
	User_Experience	.514	.055	.572	9.382	.000
	Service_Quality	.184	.064	.165	2.355	.008
	Social_Interaction	.225	.062	.218	3.625	.000
R^2: 0.615						
Adjusted R^2: 0.606						
F: 73.336						
Sig. F: 0.000						

Source: Data Proceed

The results of multiple linear regression testing in this research show that the variables User Experience, Service Quality, and Social Interaction significantly influence Customer Satisfaction in the online service industry. The regression model constant has a value of 0.712, but is not statistically significant (p-value = 0.644), which indicates that the Customer Satisfaction value is 0.712 when all independent variables are zero, although this effect is not significant.

The coefficient for the User Experience variable is 0.514 with a p-value of 0.000, indicating that every one unit increase in User Experience will increase Customer Satisfaction by 0.514 units, and this effect is very significant. The standard Beta value of 0.572 indicates that User Experience has the greatest influence on Customer Satisfaction compared to other variables.

The coefficient for the Service Quality variable is 0.184 with a p-value of 0.008, indicating that every one unit increase in Service Quality will increase Customer Satisfaction by 0.184 units, and this effect is statistically significant. The standard Beta value of 0.165 shows the moderate influence of Service Quality on Customer Satisfaction.

The coefficient for the Social Interaction variable is 0.225 with a p-value of 0.000, indicating that every one unit increase in Social Interaction will increase Customer Satisfaction by 0.225 units, and this effect is very significant. The standard Beta value of 0.218 shows that Social Interaction has a significant influence on Customer Satisfaction, although not as much as User Experience.

The R-squared value of 0.615 indicates that 61.5% of the variation in Customer Satisfaction can be explained by these three independent variables, which shows the fairly good explanatory power of the model. The Adjusted R-squared of 0.606 also supports this by indicating that around 60.6% of the variation in Customer Satisfaction can be explained after taking into account the number of independent variables in the model. The F-statistic value is 73.336 with a p-value of 0.000 indicating that the overall model is very statistically significant, which means that the independent variables

together significantly influence Customer Satisfaction. These results show that User Experience, Service Quality, and Social Interaction have an important role in increasing Customer Satisfaction in the online service industry.

6. Hypothesis Testing

Hypothesis testing is carried out to make decisions about the population based on sample data. In the context of multiple linear regression, hypothesis testing helps to: 1) Determine Statistical Significance, knowing whether the effect or relationship observed in the sample also applies to the population; 2) Make a decision based on the data whether to accept or reject the null hypothesis (H_0). The results of hypothesis testing in this research are presented in the following table:

Table 3. Hypothesis Test Results

Hypothesis	*Original Sample*	*T statistics*	*P values*	*Decision*
User_Experience -> Costumer_Satisfaction	0.023	0.242	0.900	Not Significance
Service_Quality -> Costumer_Satisfaction	0.105	1.558	0.175	Not Significance
Social_Interaction -> Costumer_Satisfaction	0.425	5.536	0.000	Significance
User_Experience, SE, Social_Interaction -> Costumer_Satisfaction	0.353	4.693	0.000	Significance

Source: Data Proceed

Based on the hypothesis test results table, the following is the interpretation of each hypothesis tested in this research regarding the influence of User Experience, Service Quality, and Social Interaction on Customer Satisfaction.

User Experience has a coefficient of 0.023, indicating a very small influence on Customer Satisfaction. The t-statistic value of 0.242 and p-value of 0.900 are much higher than 0.05, so this effect is not statistically significant. Thus, we cannot conclude that User Experience has a significant impact on Customer Satisfaction in the context of this research.

Service Quality has a coefficient of 0.105, indicating a relatively small influence on Customer Satisfaction. The t-statistic value of 1.558 and the p-value of 0.175 are higher than 0.05, so this effect is not statistically significant. Therefore, we cannot conclude that Service Quality has a significant impact on Customer Satisfaction in the context of this research.

Social Interaction has a coefficient of 0.425, indicating a fairly large influence on Customer Satisfaction. The t-statistic value is 5.536 and the p-value is 0.000, which is smaller than 0.05, indicating that this effect is very statistically significant. Thus, we can conclude that Social Interaction has a significant impact on Customer Satisfaction in the context of this research.

When User Experience, Service Quality, and Social Interaction are tested together on Customer Satisfaction, the combined coefficient is 0.353, indicating a fairly

large influence on Customer Satisfaction. The t-statistic value of 4.693 and p-value of 0.000 indicate that this effect is very statistically significant. Thus, we can conclude that the combination of these three variables has a significant impact on Customer Satisfaction in the context of this research.

The test results show that Social Interaction has a significant influence on Customer Satisfaction, both individually and when combined with User Experience and Service Quality. Meanwhile, User Experience and Service Quality individually did not show a significant influence on Customer Satisfaction. The combination of the three variables (User Experience, Service Quality, and Social Interaction) together show a significant influence on Customer Satisfaction, confirming the importance of considering all these factors in increasing customer satisfaction in the online service industry.

The results of this research show that of the three variables tested—User Experience, Service Quality, and Social Interaction—only Social Interaction has a significant influence on Customer Satisfaction in the online service industry. Specifically, the Social Interaction variable shows a fairly large and significant influence with a coefficient of 0.425 and a t-statistic value of 5.536 (p-value = 0.000). User Experience and Service Quality do not show a significant influence individually on Customer Satisfaction, with respective coefficients of 0.023 (p-value = 0.900) and 0.105 (p-value = 0.175). When these three variables were tested together, they collectively showed a significant influence on Customer Satisfaction, with a combined coefficient of 0.353 and a t-statistic value of 4.693 (p-value = 0.000). This finding has important implications that are both in line and different from several previous studies.

Previous research, such as that conducted by (Sanny et al., 2019), often emphasizes the importance of User Experience in increasing Customer Satisfaction. However, the results of this study show that User Experience does not have a significant influence individually, this could be caused by variations in industry context or differences in user preferences in online services, when combined with other variables, User Experience still shows its relevance, supporting the view that its influence may be more complex and requires consideration of other variables to show a significant effect.

Service Quality is also a topic that is widely researched in service management literature. (Justitia et al., 2019) stated that Service Quality is the main determinant of Customer Satisfaction. The results of this research indicate that Service Quality does not have a significant individual influence on Customer Satisfaction in the context of online services. This may suggest that in the online services industry, other factors such as speed of service or personalization capabilities may be more decisive than the quality of the service itself, in combination with other variables, Service Quality still contributes to customer satisfaction, indicating that its role cannot be completely ignored.

The results showing the significant influence of Social Interaction on Customer Satisfaction are very consistent with existing literature. For example, research by

(Khrais & Alghamdi, 2021) highlighted that social interactions in online platforms can increase positive customer perceptions and increase satisfaction. These findings also support the Social Exchange theory which states that positive social interactions can strengthen the relationship between service providers and customers, increasing satisfaction and loyalty.

The findings of this research highlight the importance of Social Interaction in increasing Customer Satisfaction in the online service industry. Although User Experience and Service Quality did not show a significant influence individually, their contribution cannot be ignored when combined with other variables, and this shows that a holistic approach that considers various aspects of customer experience is the key to increasing customer satisfaction.

Online service companies should focus more on increasing social interaction between customers and service providers, for example through chat features, community forums, or social media. Although User Experience and Service Quality may not show significant effects individually, efforts to improve these aspects remain important as part of an overall strategy to increase customer satisfaction. This research also opens up space for further research, particularly in exploring other factors that might interact with User Experience and Service Quality to influence Customer Satisfaction, as well as how social interaction can be maximized in various online service contexts.

E. CONCLUSION

This research concludes that Social Interaction has a significant influence on Customer Satisfaction in the online service industry, while User Experience and Service Quality do not show a significant influence individually. When these three variables were tested together, they showed a significant influence on Customer Satisfaction. These findings underscore the importance of social interactions in increasing customer satisfaction and suggest that a holistic approach that considers multiple aspects of the customer experience is key to increasing satisfaction with online services.

REFERENCES

1. Ahn, H., & Park, E. (2023). Motivations for user satisfaction of mobile fitness applications: An analysis of user experience based on online review comments. *Humanities and Social Sciences Communications*, *10*(1), 1–7.
2. Al-Hubaishi, H. S., Ahmad, S. Z., & Hussain, M. (2018). Assessing M-government application service quality and customer satisfaction. *Journal of Relationship Marketing*, *17*(3), 229–255.
3. Al-Khayyal, A., Alshurideh, M., Al Kurdi, B., & Aburayya, A. (2020). The impact of electronic service quality dimensions on customers'e-shopping and e-loyalty via the impact of e-satisfaction and e-trust: A qualitative approach. *International Journal of Innovation, Creativity and Change*, *14*(9), 257–281.

4. Awadhi, J., Obeidat, B., & Alshurideh, M. (2021). The impact of customer service digitalization on customer satisfaction: Evidence from telecommunication industry. *International Journal of Data and Network Science*, *5*(4), 815–830.
5. Bilgihan, A., Kandampully, J., & Zhang, T. (2016). Towards a unified customer experience in online shopping environments: Antecedents and outcomes. *International Journal of Quality and Service Sciences*, *8*(1), 102–119.
6. Chang, C.-C. (2015). Exploring mobile application customer loyalty: The moderating effect of use contexts. *Telecommunications Policy*, *39*(8), 678–690.
7. Dovaliene, A., Masiulyte, A., & Piligrimiene, Z. (2015). The relations between customer engagement, perceived value and satisfaction: the case of mobile applications. *Procedia-Social and Behavioral Sciences*, *213*, 659–664.
8. Ginting, M. A. V. (2023). *Effect of E-Service Quality on E-Satisfaction in using Mobile Banking through User Experience at Bank Sumut*.
9. Huang, P.-L., Lee, B. C. Y., & Chen, C.-C. (2019). The influence of service quality on customer satisfaction and loyalty in B2B technology service industry. *Total Quality Management & Business Excellence*, *30*(13–14), 1449–1465.
10. Iqbal, M. S., Hassan, M. U., & Habibah, U. (2018). Impact of self-service technology (SST) service quality on customer loyalty and behavioral intention: The mediating role of customer satisfaction. *Cogent Business & Management*, *5*.
11. Justitia, A., Semiati, R., & Ayuvinda, N. R. (2019). Customer satisfaction analysis of online taxi mobile apps. *Journal of Information Systems Engineering and Business Intelligence*, *5*(1), 85–92.
12. Khrais, L. T., & Alghamdi, A. M. (2021). The role of mobile application acceptance in shaping e-customer service. *Future Internet*, *13*(3), 77.
13. Koivumäki, T., Ristola, A., & Kesti, M. (2008). The effects of information quality of mobile information services on user satisfaction and service acceptance–empirical evidence from Finland. *Behaviour & Information Technology*, *27*(5), 375–385.
14. Lee, C.-Y., Tsao, C.-H., & Chang, W.-C. (2015). The relationship between attitude toward using and customer satisfaction with mobile application services: An empirical study from the life insurance industry. *Journal of Enterprise Information Management*, *28*(5), 680–697.
15. Lee, S., & Kim, B. G. (2017). The impact of qualities of social network service on the continuance usage intention. *Management Decision*, *55*(4), 701–729.
16. Leem, B.-H., & Eum, S.-W. (2021). Using text mining to measure mobile banking service quality. *Industrial Management & Data Systems*, *121*(5), 993–1007.
17. Mamakou, X. J., Zaharias, P., & Milesi, M. (2024). Measuring customer satisfaction in electronic commerce: The impact of e-service quality and user experience. *International Journal of Quality & Reliability Management*, *41*(3), 915–943.
18. Mohammad Salameh, A. A., Ahmad, H., Zulhumadi, F., & Abubakar, F. M. (2018). Relationships between system quality, service quality, and customer satisfaction: M-commerce in the Jordanian context. *Journal of Systems and Information Technology*, *20*(1), 73–102.

19. Omar, S., Mohsen, K., Tsimonis, G., Oozeerally, A., & Hsu, J.-H. (2021). M-commerce: The nexus between mobile shopping service quality and loyalty. *Journal of Retailing and Consumer Services*, *60*, 102468.
20. Oppong, E., Hinson, R. E., Adeola, O., Muritala, O., & Kosiba, J. P. (2021). The effect of mobile health service quality on user satisfaction and continual usage. *Total Quality Management & Business Excellence*, *32*(1–2), 177–198.
21. Paiz, N. A. M., Ali, M. H., Abdullah, A. R., & Mansor, Z. D. (2020). The effects of service quality on satisfaction and purchase intention in mobile commerce. *International Journal of Business and Management*, *15*(4), 36–42.
22. Patma, T. S., Fienaningsih, N., Rahayu, K. S., & Artatanaya, I. G. L. S. (2021). Impact of Information Quality on Customer Perceived Value, Experience Quality, and Customer Satisfaction from Using GoFood Aplication. *Journal of Indonesian Economy and Business: JIEB.*, *36*(1), 51–61.
23. Puriwat, W., & Tripopsakul, S. (2017). The impact of e-service quality on customer satisfaction and loyalty in mobile banking usage: Case study of Thailand. *Polish Journal of Management Studies*, *15*(2), 183–193.
24. Raza, S. A., Umer, A., Qureshi, M. A., & Dahri, A. S. (2020). Internet banking service quality, e-customer satisfaction and loyalty: the modified e-SERVQUAL model. *The TQM Journal*, *32*(6), 1443–1466.
25. Sanny, L., Larasathy, K., Claudia, R., & Widarman, B. (2019). The customer satisfaction of online transportation in Indonesia. *Journal of Physics: Conference Series*, *1175*(1), 012236.
26. Saputra, M. E., Sumiati, S., & Yuniarinto, A. (2023). The effect of customer experience on customer loyalty mediated by customer satisfaction and customer trust:(Study on users of PLN mobile application at PLN UP3 Malang). *Journal of Economics and Business Letters*, *3*(3), 27–37.
27. Shin, N., Park, S., & Kim, H. (2021). Consumer satisfaction–based social commerce service quality management. *BRQ Business Research Quarterly*, *24*(1), 34–52.
28. Trabelsi-Zoghlami, A., Berraies, S., & Ben Yahia, K. (2020). Service quality in a mobile-banking-applications context: do users' age and gender matter? *Total Quality Management & Business Excellence*, *31*(15–16), 1639–1668.
29. Trialih, R., Astuti, E. S., Azizah, D. F., Mursityo, Y. T., Saputro, M. D., Aprilian, Y. A., & Rizki, A. S. (2018). How mobile banking service quality influence customer satisfaction of generation x and y? *2018 International Conference on Information and Communication Technology Convergence (ICTC)*, 827–832.
30. Whingan, S. O., & Ogundare, E. A. (2018). Impact of service quality on customer satisfaction: the Malaysia bank customer experience. *International Journal of Accounting & Business Management*, *6*(2), 62–85.
31. Zhou, R., Wang, X., Shi, Y., Zhang, R., Zhang, L., & Guo, H. (2019). Measuring e-service quality and its importance to customer satisfaction and loyalty: an empirical study in a telecom setting. *Electronic Commerce Research*, *19*, 477–499.