

Analysis of Service Quality and Product Quality on User Loyalty of Point Of Sales (POS) Applications Mediated by User Satisfaction of *Point Of Sales (POS) Applications for the Food and Beverage (Fnb) Business Sector in Padang City*

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Abstract

This study aims to analyze the effect of service quality and product quality of the POS application on the loyalty of POS application users mediated by user satisfaction in the food and beverage (FnB) business sector in Padang City. The data used are primary data obtained from cashiers/baristas/owners of FnB business owners spread across the city of Padang. The sample that will be taken is 85 samples and obtained using the Hair formula, while the sampling technique uses the purposive sampling method because the FnB business sector that can be set as a sample only uses the POS application as their transaction tool. Data analysis used Structural Equation Model (SEM) analysis with the help of Partial Least Square (PLS) software. The results of this study indicate that Service Quality does not affect User Loyalty mediated by User Satisfaction, while Product Quality has a positive effect on User Loyalty mediated by User Satisfaction.

Keywords

service and product quality; customer satisfaction; customer loyalty; point of sales; food and beverage



I. Introduction

Technology is an important aspect in facilitating all human activities and mobility at this time, therefore the role of technology is very important in facilitating all human activities. In this sophisticated era, technology has become difficult to separate in all aspects of human life, because based on *the Internet World Stats website* (Miniwatts Marketing Group., 2021) as of June 2021, 76.8% of the total population of Indonesia are active internet users. All of this is caused by the results of increasingly advanced human thinking, this can be seen from the always presence of innovations in terms of technology that always provide convenience for humans.

In terms of information systems, technology has a very important message in facilitating all activities and activities of its users, such as facilitating business activities, entertainment, and the learning process to the fulfillment of human needs today. In terms of doing business, technology has a very important role, such as in the marketing process, managing customer data, managing employees to managing transaction processes that occur between sellers and buyers. Technology is always involved in every line of human activity so that it can result in facilitating all human activities (Hoe & Mansori, 2018).

The participation of technology in various human activities has made business activities increase, especially in the culinary business (Hasan et al., 2021). Along with the times, business processes continue to develop following the trend of human lifestyle from year to year, for example, the development of the *Food and Beverage (FnB)* business including the restaurant, restaurant, and coffee shop business. Along with its development, the FnB business in Indonesia has undergone many changes, especially concept changes,

as a result, many businesses in the modern nuanced FnB field have started to appear that are adapted to the lifestyle of today's consumers.

Padang City is the capital city of West Sumatra Province which is the city with the largest population in West Sumatra Province. As one of the largest cities, there are also opportunities for entrepreneurship. This is evident from the data that has been obtained from the Tourism and Creative Economy Office of West Sumatra province in 2021 that the number of restaurants or restaurants, especially in the Padang City area, is recorded as 318 restaurants or restaurants (Department of Tourism and Creative Economy of West Sumatra province, 2021). Based on these data, it proves that there are many coffee shops, restaurants, and restaurants that are starting to mushroom in every corner of the city. Due to the intense competition in the FnB business, business owners are required to be creative in terms of management, service improvement, quality, and product quality to attract customers' attention and retain the customers they have.

In facilitating business activities, a cashier application (Point of Sales) is needed that is capable of simplifying the transaction process because a quality cashier application can speed up the transaction process and bring a sense of comfort to customers. Each POS must have its advantages so that users remain loyal to the products and services that the POS provides. Service quality and product quality is a presentation of a product or service that is in accordance with company standards and strives to deliver the product to what customers expect or exceed their expectations (Wandi et al., 2020).

According to Sourav & Emanuel (2020), POS is a software solution from basic information technology in the business world, which can be a solution in terms of recapitulating daily sales, storing transaction history, and generating reports based on business needs. Companies need to use complex systems to simplify the transaction process (Saeed et al, 2019). POS is software specifically designed to carry out transaction activities to record (Alexander & Husufa, 2020). POS is a means in an information system that allows users to process transactions which include the use of cash registers as usual (Samsir & Siddik, 2020). The presence of POS has made it easy for business people in terms of maximum utilization of cash registers based on current technological developments.

II. Review of Literature

2.1 Service Quality

According to Putri & Subagja (2017), Service quality is the overall features and characteristics of a product or service that affect its ability to meet needs or exceed consumer expectations. Service quality is the level of excellence expected or control over the level of excellence of service to meet user desires (Martua & Djati, 2018) and can increase user confidence in trusting a company in meeting user needs (Rashwan et al., 2020). A service is something that is offered by one party to another that does not result in ownership and is intangible (Alauddin et al., 2019). Service quality is the advantage of a service that meets the wishes and expectations of users and can increase the user's sense of trust in the service provider company and has an intangible nature.

2.2 Product Quality

Product quality is the advantage or value of a product offered by the company to meet customer expectations or needs (Hoe & Mansori, 2018; Razak, 2019). A product is something that will be offered to the market for consumption to be used, obtained, or owned to meet consumer needs (Hartanto & Andreani, 2019). However, whether or not

consumer expectations are met for the products offered depends on the consumer's assessment of the quality of the products offered by the company (Razak, 2019). Quality products are products that can meet the needs, values, and expectations of consumers for these products and the assessment of quality products is the result of company evaluations from consumers who buy or consume their products.

2.3 User Satisfaction

User satisfaction is an overall feeling of satisfaction with the tangible or intangible services provided by the company (Huang et al., 2019). User satisfaction is a feeling of satisfaction that will arise if the product or service provided is in accordance with user expectations (Halin, 2018; Hartanto & Andreani, 2019; Martua & Djati, 2018). User satisfaction itself is where the expectations and desires of users are met (Nasution et al., 2021; Novianti et al., 2018), and if they are not in line with expectations, the user will be disappointed. (Afnina & Hastuti, 2018) . User satisfaction is an assessment of products or services intended for users (El-Adhy, 2018). User satisfaction is the user's response to the product or service provided. Users will feel satisfied if the product or service they get is as expected and if it is not in line with expectations, there will be a sense of dissatisfaction with the service or product they get.

2.4 User Loyalty

Loyal or loyalty can be interpreted as loyal or loyalty and arises without any coercion (Martua & Djati, 2018). User loyalty is a response or user response to a product or service from a company (Rasyid, 2017). User loyalty is the behavior of consumers who always repurchase the products or services provided by the company after evaluating the product and being satisfied with the product or service (Hartanto & Andreani, 2019). User loyalty is the tendency of consumers to like and be loyal to a product compared to other products (Novianti et al., 2018). Achieving user loyalty is the main goal of a company (Hoe & Mansori, 2018). User loyalty is a user's loyal attitude towards a product or service provided by the company where the loyal attitude appears without any coercion.

User loyalty can be reflected in the support for products or services that are realized by a recommendation process between one user to another (Novianti et al., 2018). User loyalty can be concluded as a liaison between users and products in the form of goods or services of the company itself (Setiawan & Sayuti, 2017). Loyal users can be free promotional media for a company (Nasution et al., 2021). Marketing is a process of planning and execution, starting from the conception stage, pricing, promotion, to the distribution of goods, ideas and services, to make exchanges that satisfy the individual and his institutions (Dianto in Asmuni *et al*, 2020). User loyalty can bring indirect benefits to the company, such as reduced marketing or promotional costs (Abror & Patrisia, 2019), this marketing process itself will emerge from loyal users and feel valued (Yadav & Rahman, 2018). The behavior of users who intend to spread positive word of mouth about the services or products they get can reflect the loyal attitude of a user (Hoe & Mansori, 2018). The benefit of loyal users is that they can attract other users to buy the product and will not switch to other companies that provide similar products (El-Aldy, 2019). Loyal users will make their contributions to the products or services they enjoy and one way is by providing recommendations to other potential users for the advantages they get after getting the product or service.

Service quality can affect user satisfaction (Budinewita & Besra, 2020; Kusumasasti & Hadiwidjojo, 2017; Martua & Djati, 2018; Nasution et al., 2021) . The influence given by the quality of service is significant on user satisfaction (Novianti et al., 2018; Rita et al.,

2019). Service quality is believed to be an important aspect of the company's success because it has a close relationship with user satisfaction (Alauddin et al., 2019). Service quality is one of the factors that affect user satisfaction (Yanuar et al., 2017) because quality services will give users a sense of security and comfort (Afthanorhan et al., 2019). The quality of the services provided by the cashier application (POS) has a significant effect on user satisfaction of the cashier application users themselves so it has an impact on the success of the cashier application in providing the best and quality service.

H1. It is suspected that service quality is related to user satisfaction with the use of POS applications

According to Yanuar et al (2017), a product is anything that can be offered to the market for attention, purchase, use or consumption that can satisfy a want or need. User satisfaction is a comparison of user expectations and the performance of the product received by the user (Adetayo et al., 2021). Presenting quality products is one of the keys to generating user satisfaction (Putri & Subagja, 2017). High product quality can have an impact on high user satisfaction with the products they get (Ibrahim & Thawil, 2019) because users will feel satisfied if the products they use or consume are of high quality. (Afnina & Hastuti, 2018) . The aspect of user satisfaction is directly proportional to the quality of the products provided by the cashier application service provider (POS) to cashier application users, so the better the product quality of the cashier application, the more satisfied the cashier application users are.

H2. It is suspected that product quality is related to user satisfaction with the use of POS applications

User loyalty will arise if the company focuses on increasing user satisfaction so that the company will get a positive image in the eyes of users (Hartanto & Andreani, 2019), as a result, will arise what is called service loyalty from the results of user satisfaction received (Martua & Djati, 2018; Rasyid, 2011). 2017). User satisfaction is one of the important factors in increasing user loyalty (Budinewita & Besra, 2020; Nasution et al., 2021; Novianti et al., 2018). User satisfaction is the most important aspect that affects user loyalty (Halan, 2018). User satisfaction of cashier application service users is one of the factors in facilitating cashier application service provider companies in achieving user loyalty as service users.

H3. It is suspected that user satisfaction is related to user loyalty to the use of POS applications

Providing quality services can create a sense of loyalty for users (Abror & Patrisia, 2019). Service quality has a significant effect on user loyalty (Budinewita & Besra, 2020). Quality service is one of the causes of user loyalty to the services they get. Gaining user loyalty is one way to win the competition (Novianti et al., 2018), therefore user loyalty is given more attention in winning the competition and taking the user's day (Rasyid, 2017). User loyalty must be one of the priority things that must be obtained by a company because user loyalty is one way to win the competition between a company and its competitors.

H4. It is suspected that service quality is related to user loyalty to the use of POS applications

Loyalty is an important aspect that must be obtained by a company from the users of their products or services. User satisfaction that is met by a product or service can lead to a sense of loyalty in users towards the company that produces the product or service

(Rashwan et al., 2020). User loyalty is one of the main weapons in winning the competition (Rasyid, 2017). User loyalty is a user's positive attitude towards a product (Hartanto & Andreani, 2019). Gaining loyalty from the use of a product is one of the company's goals in presenting its products to customers to win the competition and fulfill the wants and needs of users.

H5. It is suspected that product quality is related to user loyalty to the use of POS applications

User loyalty is a positive impact on user satisfaction caused by maximum service delivery (Budinewita & Besra, 2020; Leninkumar, 2017; Putri & Subagja, 2017; Rasyid, 2017). This loyalty arises from the company's efforts to increase user satisfaction (Martua & Djati, 2018). Service quality can lead to user loyalty (Novianti et al., 2018; Setiawan & Sayuti, 2017) . Service quality has an important role in linking service quality and user loyalty (Afthanorhan et al., 2019). Service quality can make users stay with a company for the services offered (Yanuar et al., 2017). User satisfaction in using the cashier application can be achieved, one of which is the provision of quality services for the applications they use and can result in user loyalty as users of the cashier application.

H6. It is suspected that service quality is related to user loyalty and is mediated by user satisfaction with the use of POS applications

User satisfaction can be improved by improving the quality of user-focused products to keep them coming back (Razak, 2019). Users who are satisfied with the quality of the products offered will return the products offered (Afnina & Hastuti, 2018) . Companies are required to focus on getting user satisfaction and loyalty by improving product quality (Hoe & Mansori, 2018) . One of the benchmarks for user loyalty to a product in terms of using an application is to look at the user's sense of dependence in using a product, including the user's dependence on using the cashier application to simplify their business processes.

H7. It is suspected that product quality is related to user loyalty and is mediated by user loyalty to the use of POS applications

Based on the description above, it can be described a research framework to show the relationship between variables as follows:

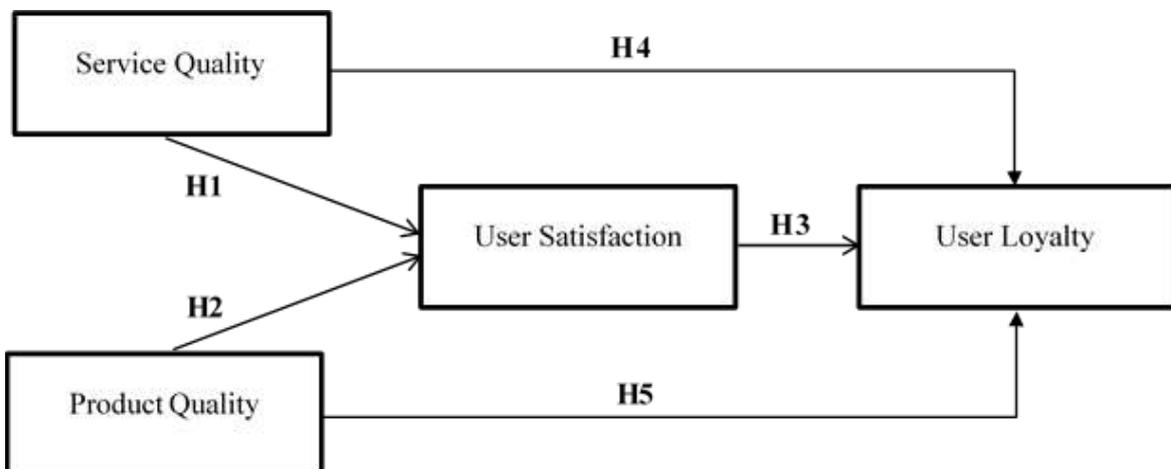


Figure 1. Research Framework Model

III. Research Method

3.1 Population and Sample

Population refers to all groups of people, events, or interests that the researcher wants to investigate. In this study, researchers will make all business actors engaged in the FnB business spread across the city of Padang as the population. The business actors in the FnB field include restaurants, cafes and *coffee ships* in the city of Padang.

In this study, researchers took samples from the population that the researchers described earlier, namely business actors in the FnB field who use the POS application as their transaction tool spread across the city of Padang as a sample that researchers will examine later.

Because the population is too large, the determination of the number of samples can be obtained from the number of indicators multiplied by 5 to 10 (Hair et al., 2018). Generally, the minimum number of indicators in a study is multiplied by 5 (5:1) and the maximum number of multiplications from the number of indicators is multiplied by 10 (10:1) to get the ideal number of samples in a study. In this research, there are 17 indicators and the minimum and maximum number of this research are:

From the number of indicators, which are 17 indicators, the minimum number of samples is 85 and the maximum number is 170. So in this study the researcher will take the minimum number of samples at a ratio of 5:1, namely the number of 85 samples due to the use of POS applications in the city. Padang has not been comprehensive in every cafe, restaurant or restaurant and the actual number is not known.

3.2 Data Collection Technique

In this study the researcher will use a sampling technique using a non-probability method with a *purposive sampling technique*, the researcher uses a *purposive sampling technique* because the sampling in this case is limited to certain parties who can provide the desired information. In this study, researchers will take information only from a few restaurant, cafe and restaurant business actors who use the POS application and businesses, restaurants, samples and restaurants that have used the POS application for more than a year as a source of information in this study.

3.3 Analysis Method

This research model will be analyzed using the *Structural Equation Model* (SEM) technique, using *Partial Least Square* (PLS) software. The main benefits of SEM compared to the first generation of *multivariate* are *principal component analysis*, *factor analysis*, *discriminant analysis* and *multiple regression*. SEM has higher flexibility for researchers to link theory and data (Ghozali and Laten, 2015). In this study, the data analysis used used the *Partial Least Square* (PLS) approach which is component or variant based. Ghozali and Laten (2015) revealed that PLS is an alternative approach that shifts from a covariance-based SEM approach to a variant-based approach.

3.4 Operational Variables

The results of the definitions, variables, indicators and sources can be seen in the table description below:

Table 1. Indicator Data

Variable	Definition	Indicator	Source
Service Quality	Service quality is the level of excellence expected or control over the level of excellence of a service to meet user desires	1. Ease and speed in the transaction process 2. Meet user needs during the transaction process 3. Experience an increase in service quality for the better 4. Reliable 5. Help service available	Rita et al, 2019 Wilis & Nurwulandari (2020)
Product quality	Product quality is the advantage or value of a product offered by the company to meet customer expectations or needs.	1. Attractive product display 2. According to expectations 3. According to the needs	Nasution et al, (2021)
User Satisfaction	User satisfaction as an assessment of a product or service intended for users.	1. Why are you satisfied with the overall service 2. Service close to ideal 3. Service exceeds expectations 4. It's a wise decision	Wilis & Nurwulandari (2020) Budidewita & Besra, (2020)
User Loyalty	User loyalty is the behavior of users who always repurchase the products or services provided by the company after evaluating the product and being satisfied with the product or service.	1. Leave a positive review or comment 2. Recommend to others 3. Willing to pay more 4. Be the first choice 5. Intention to repurchase	Wilis & Nurwulandari (2020)

Source: Primary Data Processed, 2022

IV. Results and Discussion

4.1 Data Analysis

In this research, hypothesis testing uses partial least square (PLS) analysis technique using Smart PLS 3.3.9 program the model using the validity and reliability test and the coefficient of determination of the model can be seen based on the table below:

Table 2. Data Analysis

Variable	Code	Loading Factor	Cronbach's Alpha	Composite Reliability
Service Quality	KL6	0.988	0.957	0.979
	KL7	0.989		
Product quality	KP1	0.751	0.722	0.844
	KP2	0.817		
	KP3	0.738		
User Satisfaction	KPP1	0.754	0.771	0.868
	KPP2	0.811		

	KPP3	0.715		
	KPP4	0.837		
User Loyalty	LP1	0.808	0.852	0.894
	LP2	0.848		
	LP4	0.728		
	LP5	0.706		
	LP6	0.708		

Source: Primary Data Processed, 2022

Convergent validity will be valid if the outer loading value or correlation score is greater than 0.7 (Ghozali, 2013). If in this study the loading indicator value is less than 0.5, the instrument validation will be deleted and then re-estimated.

Based on the table above, it can be seen that the composite reliability value is above 0.70 and Cronbach's alpha value is above 0.60. From the Smart PLS output above, all constructs have a composite value above 0.70 and Cronbach's alpha above 0.60. So it can be concluded that the construct has good reliability and has a high level of reliability so that it is in accordance with the requirements that have been set.

4.2 Hypothesis Testing Result

After finding the hypotheses mentioned earlier, the significant effect of Product Quality (X2) on User Loyalty (Y) is mediated by User Satisfaction (M). The next step is to compare or contrast the value of t must be greater than the value of t table (t count > t table) with a significance of 5% alpha, where the alpha known as the statistical value is 1.98. However, the hypothesis of Service Quality (X1) on User Loyalty (Y) mediated by User Satisfaction (M) gets an insignificant value, where the t value is smaller than t table (t < t table) which is below 1.98. This can be seen in the description of the table below:

Table 3. Hypothesis Test Results

Direct Influence				
	Hypothesis	T value	Results	Information
H1	Service quality has a positive effect on user satisfaction	1,244	Not significant	Not received yet
H2	Product quality has a positive effect on user satisfaction	9,351	Significant	Received
H3	User satisfaction has a positive effect on user loyalty	2,742	Significant	Received
H4	Service quality has a positive effect on user loyalty	2,536	Significant	Received
H5	Product quality has a positive effect on user loyalty	3,756	Significant	Received
H6	Service quality has a positive effect on user loyalty which is influenced by user satisfaction	1,280	Not significant	Not received yet
H7	Product quality has a positive effect on user loyalty which is influenced by user satisfaction	2,459	Significant	Received

In this study, there are seven hypotheses that have connected two independent variables, one mediating variable and one dependent variable. The results of this study also contained 5 positive and significant hypotheses, and there were 2 more hypotheses that were not significant. Based on the results of the SEM (Structural Equation Modeling) test using the SmartPLS application, several conclusions can be drawn, including:

Service quality does not have a significant effect on User Satisfaction on the use of POS applications in business activities for the FnB sector in Padang City. These two variables have no effect, where the greater the value of service quality will not affect user satisfaction. This is due to the freedom of the POS application in terms of payment of usage fees which results in no effect on the quality of service on the satisfaction of POS application users.

Product quality has a positive and significant effect on user satisfaction on the use of POS applications in business activities in the FnB sector in the city of Padang. The effect is positive, where the greater the product quality of a POS application, the greater the level of user satisfaction felt by users of the POS application for the FnB business sector in Padang City.

User Satisfaction has a positive and significant effect on User Loyalty on the use of POS applications in FnB sector business activities in Padang City. The effect is positive, where the greater the user satisfaction of a POS application, the greater the level of user loyalty felt by users of the POS application for the FnB business sector in Padang City.

Service quality has a positive and significant effect on User Loyalty on the use of POS applications in FnB sector business activities in Padang City. The effect is positive, where the greater the service quality of a POS application, the greater the level of user loyalty felt by POS application users for the FnB business sector in Padang City.

Product quality has a positive and significant effect on User Loyalty on the use of POS applications in FnB sector business activities in Padang City. The effect is positive, where the greater the product quality of a POS application, the greater the level of user loyalty felt by POS application users for the FnB business sector in Padang City.

In this study, it was found that the role of user satisfaction in mediating service quality on user loyalty was considered insignificant in the use of POS applications in FnB sector business activities in Padang City. In this hypothesis, it can be seen that service quality has no significant effect on loyalty mediated by satisfaction in the use of POS applications in Padang City. In terms of calculating VAF, it is also impossible to do because the significance of a hypothesis is an initial requirement for determining the amount of mediation value and determining how much influence the mediation has in a hypothesis.

There is a mediating role of User Satisfaction between Product Quality and User Loyalty which is considered positive and significant in the use of POS applications in FnB sector business activities in Padang City. The effect is positive, where the greater the product quality of a POS application, the higher the level of user loyalty felt by POS application users with user satisfaction acting as a medium. In this hypothesis, a value is obtained that shows a significant relationship between product quality and user loyalty mediated by satisfaction in terms of using the POS application for business actors in the F&B sector in Padang City. In this case, it can be seen how big the mediation value is by determining the VAF value, it can be described as follows:

$$VAF = \frac{(9,351 \times 3,756)}{2,459 + (9,351 \times 3,756)}$$

In the above formula, the results obtained are 0.9345 or 93.45%. It can be concluded that the hypothesis that connects product quality to loyalty mediated by satisfaction in terms of using POS applications for F&B sector business actors in Padang City has a full mediation category, this is because the VAF value of this hypothesis is greater than 80%.

V. Conclusion

Based on the results of research on loyalty from the use of POS applications in the city of Padang, service quality and product quality can affect loyalty from using POS applications. This is also supported by the satisfaction factor which mediates the quality of service on loyalty and product quality on the loyalty of POS application users.

This study shows significant results from the relationship of product quality to POS application user satisfaction, satisfaction to POS application user loyalty, service quality to POS application user loyalty, product quality to POS application user loyalty and product quality to POS application user loyalty mediated by satisfaction user.

In contrast to the description above, there are several hypotheses that show insignificant results. Not significant results are found in the relationship of service quality to POS application user satisfaction and service quality relationship to POS application user loyalty which is mediated by user satisfaction. This insignificant relationship is caused by the existence of several applications that provide services for free, so that the quality of service does not affect the satisfaction of POS application users in the city of Padang.

Suggestion

Based on the results of research on loyalty from the use of POS applications in the city of Padang, service quality and product quality can affect loyalty from using POS applications. This is also supported by the satisfaction factor which mediates the quality of service on loyalty and product quality on the loyalty of POS application users. This study shows significant results from the relationship of product quality to POS application user satisfaction, satisfaction to POS application user loyalty, service quality to POS application user loyalty, product quality to POS application user loyalty and product quality to POS application user loyalty mediated by satisfaction user.

In contrast to the description above, there are several hypotheses that show insignificant results. Not significant results are found in the relationship of service quality to POS application user satisfaction and service quality relationship to POS application user loyalty which is mediated by user satisfaction. This insignificant relationship is caused by the existence of several applications that provide services for free, so that the quality of service does not affect the satisfaction of POS application users in the city of Padang.

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