

# **The Mediating Role of E-Satisfaction in The Influence of Perceived Ease of Use, Perceived Usefulness, and Product Quality on E-Loyalty (A Study on Kopi Kenangan Application Users in Denpasar City)**



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## **Abstract**

In today's increasingly competitive business environment, maintaining long-term relationships with customers has become a key driver of business success. Customer loyalty, which encompasses both attitudinal and behavioral aspects, plays a vital role in sustaining competitiveness, particularly in the digital era where consumers are offered numerous service alternatives. Within the context of beverage ordering applications such as Kopi Kenangan, building customer loyalty presents both a challenge and a strategic opportunity. This study aims to examine the influence of perceived ease of use, perceived usefulness, and product quality on e-loyalty, with e-satisfaction serving as a mediating variable. Drawing on the Technology Acceptance Model (TAM), a quantitative approach was employed involving 210 respondents selected through purposive sampling. Data were collected using an online questionnaire and analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4.1. The results reveal that all three independent variables exert a positive and significant effect on e-loyalty, both directly and indirectly through e-satisfaction as a partial mediator. These findings highlight the critical role of ease of use, perceived benefits, and product quality in shaping satisfaction and fostering sustainable customer loyalty.

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## 1 Introduction

The massive wave of digital transformation has significantly altered consumer behavior in every stage of the purchasing decision process. The most apparent shift is the transition from offline shopping to online shopping. This condition compels businesses to adapt, one of which is through the development of mobile applications that facilitate transactions, provide access to information, and build long-term relationships with brands (Kotler & Keller, 2016). Maintaining long-term relationships is crucial for business sustainability, one of which is reflected in customer loyalty. In the context of services delivered through mobile applications, customer loyalty is referred to as electronic loyalty (e-loyalty). According to (Khoa, 2020), e-loyalty represents customers' commitment to continuously using a brand's digital services or applications and their willingness to recommend them to others.

Loyal customers not only make repeat purchases but also contribute positively to a brand's reputation and growth through word-of-mouth and digital reviews (Febrianti & Beni, 2023). Therefore, companies are required not only to offer high-quality products but also to create enjoyable and satisfying digital experiences for customers. In the digital context, and in line with the Technology Acceptance Model (TAM), customer behavior in the form of loyalty is influenced by two factors: perceived ease of use and perceived usefulness (Davis, 1989; Monic et al., 2024).

In an effort to remain competitive in today's digital era, Kopi Kenangan has also adapted through its digital services aimed at enhancing customer satisfaction. Since its establishment, this coffee chain has been widely recognized. Data from *topbrand-award.com* (2024) shows that Kopi Kenangan ranked second (39%) in the 2024 Top Brand Award, just below Janji Jiwa (44.8%). From a product standpoint, coffee enthusiasts primarily evaluate the quality of the product. For those with ample time, enjoying coffee directly in-store fulfills not only their beverage needs but also their social and emotional needs, such as meeting with peers, taking a short break from work, or other unspoken desires. However, customers with limited time or high mobility do not enjoy such conveniences. Acknowledging this, Kopi Kenangan's management developed an online service application with a grab-and-go concept. Through this application, the brand successfully attracted urban consumers seeking quick, practical, and affordable services (Regita et al., 2024). The application has thus become a strategic channel for managing direct customer relationships. While product quality remains the core benefit sought by customers, it is complemented by efficient digital services that enhance customer satisfaction, which in turn strengthens customer loyalty. In the digital context, satisfaction plays a critical role in bridging expectations and actual customer experiences, acting as a mediating factor in shaping e-loyalty (Firmansyah et al., 2019).

Nevertheless, the application also presents certain challenges, particularly in ensuring that users truly perceive its usefulness, experience ease of use, and gain satisfying interactions. Reviews extracted from the Google Play Store indicate that customers appreciate the simple interface, fast ordering process, and loyalty program benefits. However, recurring complaints were also observed, particularly regarding bugs, failed transactions, and slow refund processes (Google Play Store, 2024).

The purpose of this study is to examine and explain the influence of perceived ease of use, perceived usefulness, and product quality on e-loyalty, mediated by e-satisfaction. This research was conducted in Denpasar City, where Kopi Kenangan is one of the most preferred coffee chains. The outlets are widespread and easily accessible across various locations in Denpasar, and they actively serve customers through the brand's self-developed application.

### *Technology Acceptance Model (TAM)*

This study refers to the Technology Acceptance Model (TAM) developed by Davis (1989). The model was designed to explain the factors influencing individuals' acceptance and use of technology. TAM was derived from earlier theories, namely the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). Within TAM, perceived usefulness and perceived ease of use are the two primary constructs shaping an individual's attitude and intention to use a given technology.

The two exogenous constructs in TAM are perceived ease of use and perceived usefulness. Perceived ease of use is defined as the degree to which an individual believes that using a particular system would be free of effort. Meanwhile, perceived usefulness refers to the extent to which an individual believes that using a particular system will enhance their performance or productivity in completing tasks. The higher the perceived usefulness, the greater the likelihood that the user will adopt the technology (Davis, 1989). Both constructs are the core components of TAM and directly influence an individual's attitude toward a given behavior, ultimately leading to the acceptance or adoption of a specific technology (Davis, 1989).

### *E-Satisfaction*

E-satisfaction refers to the level of satisfaction experienced by customers after using digital services. It reflects the extent to which their expectations are fulfilled, particularly in terms of ease of use, usefulness, and service quality (Anderson & Srinivasan, 2020; Verma & Sharma, 2021).

### *Perceived Ease of Use*

Perceived ease of use is defined as the degree to which an individual believes that using a particular system will be free from effort or difficulty. This concept is one of the key factors in the Technology Acceptance Model (TAM), which significantly influences the acceptance and use of technology (Davis, 1989).

### *Perceived Usefulness*

Perceived usefulness refers to the extent to which an individual believes that using a system or application will enhance their effectiveness or efficiency in performing specific tasks (Davis, 1989). This concept is crucial in technology adoption, particularly in the e-commerce sector, as it directly affects users' decisions to continue using the technology.

### *Product Quality*

Product quality refers to the quality of products offered through digital applications or online platforms, encompassing aspects such as reliability, durability, design, and the product's ability to meet user needs. In the context of e-commerce, product quality plays a critical role as it can enhance user satisfaction and foster customer loyalty (Walean et al., 2023).

### *E-Loyalty*

E-loyalty refers to customers' intention to continuously use a digital platform or application and to make repeat purchases consistently as a result of their satisfaction with the services provided. It reflects a strong attachment to the digital platform and serves as a key indicator of successful customer retention (Kartono & Halilah, 2019).

#### *The Effect of Perceived Ease of Use on E-Loyalty*

Perceived ease of use, one of the core components of the Technology Acceptance Model (TAM) developed by Davis (1989), refers to the extent to which an individual believes that using a technology will be free of effort or difficulty. The easier a system is to use, the more likely individuals are to adopt it and remain loyal. Prior studies have shown that perceived ease of use has a positive effect on satisfaction, trust, and e-loyalty, both directly and indirectly through e-satisfaction. For instance, Wilson et al. (2021) found a positive impact on customer loyalty in the computer industry in China, while Rahmawati & Ramli (2024) confirmed a similar effect in the context of TikTok Shop. Similarly, Az-Zahra et al. (2023) demonstrated that ease of use enhances loyalty with customer satisfaction acting as a mediator. Based on these findings, the hypothesis proposed in this study is:

H1: Perceived ease of use has a positive and significant effect on e-loyalty.

#### *The Effect of Perceived Usefulness on E-Loyalty*

Perceived usefulness, as defined in the Technology Acceptance Model (TAM) developed by Davis (1989), refers to the extent to which an individual believes that using a particular system will enhance their performance. This factor plays a crucial role in influencing consumers' decisions to adopt a technology or system, where greater perceived benefits, such as convenience in ordering, time savings, and increased efficiency, lead to a higher likelihood of continued use. Prior studies have demonstrated that perceived usefulness positively affects satisfaction and e-loyalty. For example, Marso (2023) confirmed its positive impact in the context of e-commerce, Yulisetiarini et al. (2024) found similar evidence in online trading applications, and Faizah & Sanaji (2022) reported the same effect on user behavior. Based on these findings, the following hypothesis is proposed:

H2: Perceived usefulness has a positive and significant effect on e-loyalty.

#### *The Effect of Product Quality on E-Loyalty*

Product quality in digital platforms encompasses aspects such as durability, features, reliability, and alignment with customer needs, which influence not only satisfaction and e-loyalty directly but also variables within the Technology Acceptance Model (TAM), such as perceived usefulness and perceived ease of use. The higher the product quality, the

more likely users are to perceive the platform as useful, easy to use, satisfying, and worth continued usage. Previous studies have shown that product quality positively affects customer satisfaction and loyalty. For instance, [Indrawati \(2018\)](#) confirmed this among Cincau Station Surabaya customers, [Aisyah & Alfiah \(2023\)](#) found similar results with Haidee Rental Malang customers, and [Daniswara & Rahardjo \(2023\)](#) emphasized that reliable products that meet expectations and provide added value enhance customer loyalty. Based on these findings, the following hypothesis is proposed:

H3: Product quality has a positive and significant effect on e-loyalty.

#### *The Effect of Perceived Ease of Use on E-Satisfaction*

Perceived ease of use, defined as the extent to which an individual believes that using a particular system or technology requires minimal effort [Davis \(1989\)](#), is a core component of the Technology Acceptance Model (TAM) that influences technology adoption. In the context of digital platforms such as e-commerce, ease of use, reflected in intuitive navigation, seamless transactions, and user-friendly interfaces, plays a crucial role in shaping e-satisfaction. Prior studies have demonstrated that the easier a platform is to use, the higher the user satisfaction. For example, [Rahmawati & Ramli \(2024\)](#) confirmed this effect among TikTok Shop users, [Wilson et al. \(2021\)](#) found similar results in China's computer industry, and [Bagas Hapsoro & Kismiatun \(2022\)](#) showed a positive influence of perceived ease of use on e-satisfaction among Generation Z e-wallet users in Demak City. Based on these findings, the hypothesis proposed in this study is:

H4: Perceived ease of use has a positive and significant effect on e-satisfaction.

#### *The Effect of Perceived Usefulness on E-Satisfaction*

Perceived usefulness, defined as the extent to which users believe that a system or technology helps enhance their performance or simplify their activities, is considered a key factor influencing e-satisfaction within the Technology Acceptance Model (TAM) [Davis \(1989\)](#). When users perceive a digital platform as beneficial, for instance, by enabling faster transactions or simplifying product searches, their satisfaction is likely to increase. Previous studies support this positive relationship. For example, [Putra & Hayuningtias \(2023\)](#) confirmed this in the context of online purchases, while [Mandasari & Giantari \(2017\)](#) demonstrated that the higher the perceived usefulness, the greater the user satisfaction. Based on these findings, the following hypothesis is proposed:

H5: Perceived usefulness has a positive and significant effect on e-satisfaction.

#### *The Effect of Product Quality on E-Satisfaction*

Although product quality is not a core variable in the Technology Acceptance Model (TAM), it can influence perceived usefulness, namely the perception that a platform provides tangible benefits to users. High-quality products, evaluated in terms of durability, features, and consistency with expectations, encourage users to perceive the platform as beneficial, thereby enhancing e-satisfaction. Empirical evidence supports this relationship. [Wungkana & Santoso \(2021\)](#), [Putra & Seminari \(2020\)](#), as well as [Gunawan & Sinuraya \(2022\)](#), each found that higher product quality significantly improves customer satisfaction in e-commerce contexts. Based on these findings, the hypothesis proposed in this study is:

H6: Product quality has a positive and significant effect on e-satisfaction.

#### *The Effect of E-Satisfaction on E-Loyalty*

Within the extended framework of the Technology Acceptance Model (TAM), e-satisfaction serves as a mediator between users' initial perceptions, such as perceived usefulness and perceived ease of use, and e-loyalty. Satisfaction experienced after using a digital platform indicates that the system has met users' expectations and needs. When users feel satisfied, they tend to develop emotional attachment and trust toward the platform, which fosters their commitment to continued use and recommendation of the service. Several studies support the significant role of e-satisfaction in influencing e-loyalty. For instance, [Safitri et al. \(2023\)](#) confirmed this among Flip.id users, [Valentina \(2020\)](#) found similar evidence in OVO e-wallet users, and [Effendi et al. \(2023\)](#) demonstrated the same effect among Lazada e-commerce users, all highlighting that higher satisfaction enhances loyalty and encourages repeat purchases. Based on these findings, the following hypothesis is proposed:

H7: E-satisfaction has a positive and significant effect on e-loyalty.

*The Mediating Role of E-Satisfaction in the Relationship Between Perceived Ease of Use and E-Loyalty*

Based on the Technology Acceptance Model (TAM), perceived ease of use can indirectly influence e-loyalty through e-satisfaction as a mediating variable. Platforms that are easy to use, such as those with clear navigation and efficient processes, tend to enhance user satisfaction, which in turn motivates continued usage and positive recommendations. Previous studies provide empirical support for this mediating role. [Rahmawati & Ramli \(2024\)](#) found that perceived ease of use positively influences e-satisfaction, which subsequently strengthens e-loyalty, while [Irawan & Setiawan \(2024\)](#) demonstrated that ease of use increases customer satisfaction and ultimately loyalty. Therefore, the hypothesis proposed in this study is:

H8: E-satisfaction mediates the effect of perceived ease of use on e-loyalty.

*The Mediating Role of E-Satisfaction in the Relationship Between Perceived Usefulness and E-Loyalty*

According to the Technology Acceptance Model (TAM), perceived usefulness indirectly influences e-loyalty through e-satisfaction as a mediating variable. When users perceive that a platform provides tangible benefits such as completing tasks more quickly or efficiently, they are more likely to feel satisfied, and this satisfaction, in turn, fosters loyalty toward continued use of the platform. In the context of e-commerce, perceived usefulness refers to the extent to which the platform enhances performance or provides benefits, e-satisfaction reflects the level of user satisfaction with the online shopping experience, and e-loyalty represents the commitment to continue transacting on the platform. Prior studies support this mediating relationship. [Marso \(2023\)](#) found that perceived usefulness significantly affects customer loyalty, [Rahmawati & Ramli \(2024\)](#) emphasized the role of e-satisfaction in shaping e-loyalty, and [Al Amin et al. \(2024\)](#) demonstrated that perceived usefulness and perceived ease of use positively influence satisfaction, which subsequently enhances loyalty. Based on these findings, the following hypothesis is proposed:

H9: E-satisfaction mediates the effect of perceived usefulness on e-loyalty.

*The Mediating Role of E-Satisfaction in the Relationship Between Product Quality and E-Loyalty*

Product quality refers to the quality of goods offered through digital platforms, encompassing dimensions such as durability, features, reliability, and alignment with customer expectations, which play a crucial role in shaping both e-satisfaction and e-loyalty. Empirical studies provide evidence of this relationship. [Ferry Nasrulloh et al. \(2024\)](#) reported that product quality positively influences consumer satisfaction among millennial users on Shopee, while [Septyandari et al. \(2023\)](#) confirmed that high customer satisfaction strengthens loyalty toward e-commerce platforms. These findings suggest that higher product quality enhances customer satisfaction, which subsequently reinforces loyalty. Accordingly, the following hypothesis is proposed:

H10: E-satisfaction mediates the effect of product quality on e-loyalty.

The conceptual model can explain the relationship between the variables to be studied as follows.

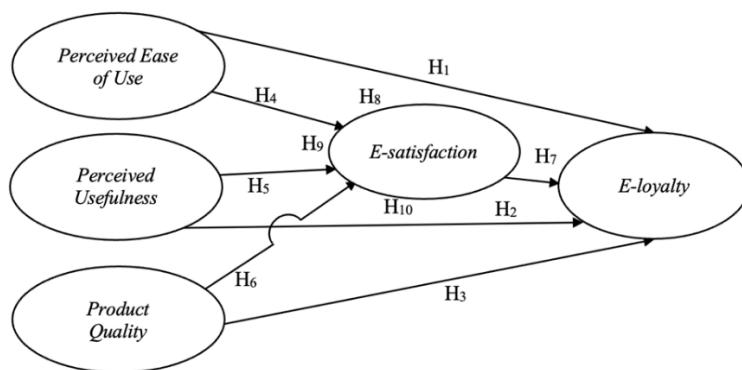


Figure 1. Conceptual Framework

## 2 Materials and Methods

This study employed a quantitative causal design to examine the effect of independent variables on the dependent variable through a mediating variable. Data were collected purposively from 240 customers of Kopi Kenangan outlets in Denpasar City, targeting respondents aged 17 years and above who had purchased Kopi Kenangan products through the application within the past month. A structured questionnaire was administered (offline or online) to capture demographic profiles and respondents' perceptions of indicators measuring each research variable, namely e-satisfaction, perceived ease of use, perceived usefulness, product quality, and e-loyalty. E-satisfaction was measured by satisfying experience, product quality, interaction quality, perceived value, and responsiveness; perceived ease of use by ease of learning, clarity of transactions, purchasing speed, comfort, and independence; perceived usefulness by work efficiency, time efficiency, productivity, information accessibility, and navigation convenience; product quality by description accuracy, durability, consistency, and conformity; and e-loyalty by repeat usage, recommendation, willingness to pay more, continued use, and repeated preference. The questionnaire was pre-tested and found valid, with correlation coefficients ranging from 0.657 to 1.000, exceeding the 0.30 threshold, and reliable, with Cronbach's Alpha values between 0.921 and 0.974, surpassing the 0.60 cutoff. Data were analyzed using descriptive statistics (mean) and inferential statistics with the SEM-PLS approach.

## 3 Results and Discussions

The majority of respondents in this study were female (59%), indicating that women tend to be more active users of the Kopi Kenangan application for ordering beverages and utilizing digital services. Most respondents were within the age range of 17–26 years (70%), reflecting the dominance of young users who are highly familiar with technology and application-based food and beverage services. In terms of education, 52.4% of respondents had completed senior high school (SMA/SMK), suggesting that the users generally come from groups accustomed to integrating technology into their daily activities. Furthermore, 45.2% of respondents were private-sector employees, a segment that typically values practical and efficient services such as ordering drinks through an application. Interestingly, 38.6% of respondents reported a monthly income below IDR 2 million, demonstrating that the Kopi Kenangan application also appeals to lower-income groups seeking to maintain a modern lifestyle at an affordable cost.

### *Data Analysis and Hypothesis Testing*

This study employed the Partial Least Squares, Structural Equation Modeling (PLS-SEM) method using SmartPLS 4.1 software. The evaluation of the model was carried out in two stages: Measurement Model Evaluation and Structural Model Evaluation. The results of the analysis are presented in Figure 2.

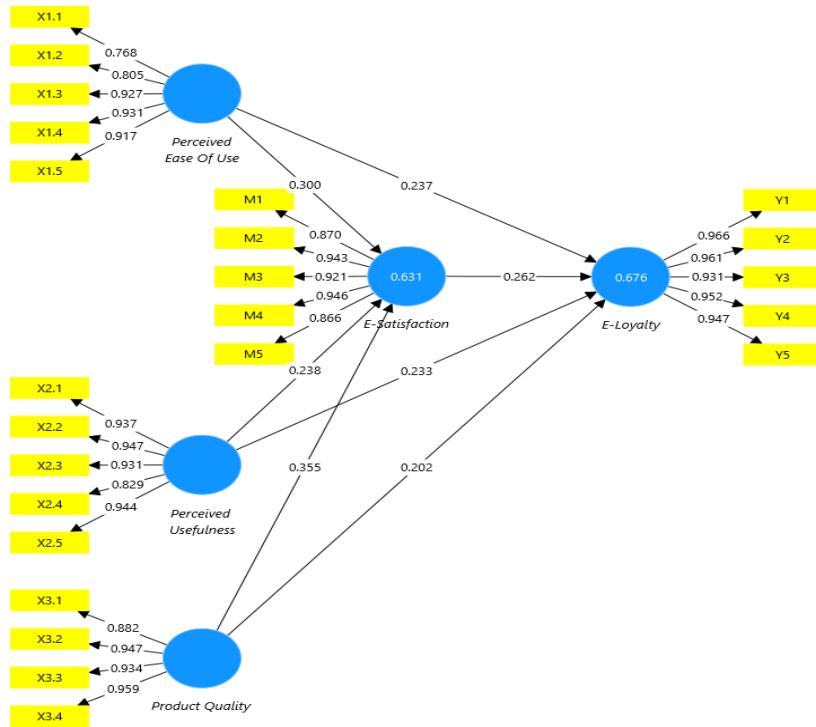


Figure 2. Result of Evaluation of the Measurement Model

#### Measurement Model Evaluation (Outer Model)

The outer measurement model with reflective indicators is evaluated using convergent validity and discriminant validity of the indicators, as well as composite reliability for the overall indicators (Hair et al., 2018)

#### Convergent Validity

The evaluation of the measurement model was conducted by examining the convergent validity coefficients. The results indicate that convergent validity was achieved, as all factor loadings exceeded the threshold value of 0.70, ranging from 0.768 to 0.966. Furthermore, discriminant validity was confirmed, as each indicator showed a stronger correlation with its respective construct compared to the other constructs. Based on these criteria, the measurement model is considered adequate. The next step involves evaluating the structural model by examining the R-square values, predictive relevance, and hypothesis testing.

#### Discriminant Validity

##### a. Cross Loading

The evaluation of discriminant validity using cross-loading analysis shows that each indicator has the highest loading value on its respective construct compared to other constructs. The obtained cross-loading values ranged from 0.521 to 0.966, with the highest correlations consistently appearing in the constructs measured by the respective indicators. For example, all indicators of perceived ease of use demonstrated the highest correlation with the perceived ease of use construct compared to perceived usefulness, product quality, e-satisfaction, or e-loyalty. A similar pattern was observed for perceived usefulness, product quality, e-satisfaction, and e-loyalty, where the indicators of each construct showed the strongest correlation with their respective variables. Thus, all indicators in this study are considered to have met the discriminant validity criteria based on cross-loading analysis, indicating that each indicator accurately measures the intended construct without overlapping with other constructs.

##### b. Average Variance Extracted Values

All research variables demonstrated Average Variance Extracted (AVE) values above the minimum threshold of 0.50 as recommended by Hair et al. (2018). Specifically, the AVE values were 0.761 for perceived ease of use, 0.844 for perceived usefulness, 0.867 for product quality, 0.828 for e-satisfaction, and 0.906 for e-loyalty. Moreover, the square

root of AVE ( $\sqrt{AVE}$ ) for each construct was higher than its correlations with other constructs, indicating that each variable possesses strong discriminant validity. Therefore, it can be concluded that all constructs in this study not only meet the discriminant validity criteria but also demonstrate sufficient convergent validity, suggesting that the measurement instruments used are able to represent the underlying concepts accurately.

### c. Composite Reliability

All research variables showed Composite Reliability and Cronbach's Alpha values exceeding the threshold of 0.70, indicating that they can be categorized as reliable. Specifically, perceived ease of use recorded a Composite Reliability of 0.940 and a Cronbach's Alpha of 0.921; perceived usefulness 0.964 and 0.953; product quality 0.963 and 0.949; e-satisfaction 0.960 and 0.948; and e-loyalty 0.980 and 0.974, respectively. These results indicate that all constructs demonstrate excellent internal consistency and that the instruments used were capable of measuring the research variables consistently. Thus, the measurement tools employed in this study are considered reliable in representing perceived ease of use, perceived usefulness, product quality, user satisfaction, and user loyalty.

### Evaluation of Measurement Model (Inner Model)

The evaluation of the structural model was conducted by examining the R-squared ( $R^2$ ) values, which serve as indicators of model fit. In PLS analysis, the  $R^2$  values help assess the predictive relevance of the model for each variable. These values indicate how accurately the model can explain and predict the observed data based on the estimated parameters.

#### a. R-Square

The calculation of the R-squared ( $R^2$ ) value aims to determine the extent of the influence that exogenous variables have on endogenous variables in the structural model. A high R-squared value indicates that the model has a strong explanatory power for the variables being studied.

Tabel 1  
R-square

Variable	R Square
E-satisfaction	0,631
E-loyalty	0,676

Source: data processed, 2025

Based on Table 1, the R-squared value for e-satisfaction is 63.1 percent. This indicates that 63.1 percent of the variation in e-satisfaction can be explained by perceived ease of use, perceived usefulness, and product quality, while the remaining 36.9 percent is influenced by other factors outside the model.

For e-loyalty, the R-squared value is 67.6 percent, meaning that 67.6 percent of its variation is explained by perceived ease of use, perceived usefulness, product quality, and e-satisfaction, while the remaining 32.4 percent is attributed to other factors not examined in this model.

#### b. Q-Square predictive relevance

The Q-Square ( $Q^2$ ) value indicates how well the model is able to predict outcomes. A  $Q^2$  value greater than zero suggests that the model has predictive relevance, with values closer to 1 indicating stronger predictive capability. Conversely, a  $Q^2$  value equal to or below zero implies that the model lacks predictive relevance.

$$\begin{aligned}
 Q2 &= 1 - (1 - R21)(1 - R22) \\
 &= 1 - (1 - 0,631)(1 - 0,676) \\
 &= 1 - (0,369)(0,324) \\
 &= 1 - 0,119 = 0,881
 \end{aligned}$$

A  $Q^2$  value of 0.881 indicates that 88.1 percent of the variance in e-satisfaction and e-loyalty is explained by perceived ease of use, perceived usefulness, and product quality, while the remaining 11.9 percent is influenced by factors outside the model. This value demonstrates that the model possesses strong predictive capability (Ghozali & Latan, 2015).

*Hypothesis Testing*

Hypotheses were tested by examining the p-value. If the  $p\text{-value} \leq 0.05$ , the effect is considered significant; whereas if the  $p\text{-value} > 0.05$ , the effect is not significant. Significant indicators are deemed valid. When the relationships between variables are significant, it indicates that one variable influences another. PLS analysis was employed to assess these inter-variable relationships.

Table 7  
Hypothesis Testing

Hipotesis	Original Sample	T Statistics	P values	Information
Direct Influence				
<i>Perceived Ease Of Use -&gt; E-Loyalty</i>	0,237	3,330	0,001	Significant
<i>Perceived Usefulness -&gt; E-Loyalty</i>	0,233	2,219	0,028	Significant
<i>Product Quality-&gt; E-Loyalty</i>	0,202	2,285	0,023	Significant
<i>Perceived Ease Of Use -&gt; E-Satisfaction</i>	0,300	3,898	0,000	Significant
<i>Perceived Usefulness -&gt; E-Satisfaction</i>	0,238	3,256	0,001	Significant
<i>Product Quality-&gt; E-Satisfaction</i>	0,355	5,345	0,000	Significant
<i>E-Satisfaction -&gt; E-Loyalty</i>	0,262	3,003	0,003	Significant
Indirect Influence				
<i>Perceived Ease Of Use -&gt; E-Satisfaction -&gt; E-Loyalty</i>	0,079	2,021	0,045	Significant
<i>Perceived Usefulness -&gt; E-Satisfaction -&gt; E-Loyalty</i>	0,062	2,249	0,026	Significant
<i>Product Quality -&gt; E-Satisfaction -&gt; E-Loyalty</i>	0,093	3,284	0,001	Significant

Source: data processed, 2025

*The Effect of Perceived Ease of Use on E-Loyalty among Kopi Kenangan Application Users in Denpasar*

The effect of perceived ease of use on e-loyalty was found to be significant, with a t-statistic of  $3.330 > 1.96$  and a p-value of  $0.001 \leq 0.05$ , thus confirming that H1 is accepted. This indicates that perceived ease of use has a positive and significant influence on e-loyalty among Kopi Kenangan application users in Denpasar. The easier the application is to use, such as learning how it works, conducting transactions, and placing orders, the more loyal users become. When users feel comfortable and encounter no difficulties in operating the application, they tend to continue using it over time. This finding supports the Technology Acceptance Model (TAM), which emphasizes that perceived ease of use affects individuals' willingness to adopt technology. The result is consistent with prior studies, such as [Marso \(2023\)](#), who found that perceived ease of use positively influences customer loyalty in e-commerce, and [Rahmawati and Ramli \(2024\)](#), who reported similar effects among TikTok Shop users. Furthermore, [Wilson et al. \(2021\)](#) also highlighted that ease of use plays a critical role in enhancing customer loyalty in digital services. Therefore, perceived ease of use of the Kopi Kenangan application emerges as a crucial factor in shaping and strengthening users' e-loyalty.

*The Effect of Perceived Usefulness on E-Loyalty Among Kopi Kenangan Application Users in Denpasar*

The effect of perceived usefulness on e-loyalty was found to be significant, with a t-statistic of  $2.219 > 1.96$ , and a p-value of  $0.028 \leq 0.05$ , confirming that H2 is accepted. This indicates that users who perceive the Kopi Kenangan app as useful, such as for efficient shopping, easy access to ordering and promotions, and support in daily transactions, are more likely to remain loyal. High perceived usefulness encourages repeat usage and long-term engagement. These results are consistent with the Technology Acceptance Model (TAM) by [Davis \(1989\)](#), which emphasizes that perceived usefulness shapes user attitudes and intentions to continue using a technology. This study aligns with previous research: [Marso \(2023\)](#) found that perceived usefulness and ease of use positively affect e-commerce customer loyalty; [Yulisetiarini et al. \(2024\)](#) reported a significant positive effect of perceived usefulness on loyalty in online trading apps; and [Faizah & Sanaji \(2022\)](#) showed that users who perceive a system as efficient tend to develop higher loyalty. Therefore, the perceived usefulness of the Kopi Kenangan app is a key factor in increasing and maintaining users' e-loyalty.

*The Effect of Product Quality on E-Loyalty among Kopi Kenangan Application Users in Denpasar*

The results indicate that product quality has a positive and significant effect on e-loyalty, with a t-statistic of  $2.285 > 1.96$  and a p-value of  $0.023 \leq 0.05$ , thus confirming that H3 is accepted. This finding suggests that when users perceive product quality in terms of consistency of taste, accurate descriptions, and added value that meets their expectations, they are more likely to remain loyal to the application. The better the product quality as perceived by users, the greater the likelihood of continued usage of the application. This supports the Technology Acceptance Model (Davis, 1989), which posits that perceived usefulness and ease of use influence user behavior. When the application consistently delivers high-quality products, users perceive it as beneficial and satisfactory, thereby enhancing their loyalty. These results are consistent with prior studies by [Aisyah & Alfiah \(2023\)](#) and [Daniswara & Rahardjo \(2023\)](#), which found that product and service quality positively influence customer loyalty. High product quality reassures users and fosters comfort in continued usage of the application, ultimately strengthening e-loyalty.

*The Effect of Perceived Ease of Use on E-Satisfaction among Kopi Kenangan Application Users in Denpasar*

The findings show that perceived ease of use has a positive and significant effect on e-satisfaction, with a t-statistic of  $3.898 > 1.96$  and a p-value of  $0.000 \leq 0.05$ , thereby confirming that H4 is accepted. This indicates that the easier the application is to use, whether in terms of navigation, understanding features, or completing transactions, the more satisfied users tend to be. This result supports the Technology Acceptance Model (TAM) proposed by [Davis \(1989\)](#), which explains that the easier a technology is to use, the greater the likelihood of its acceptance and the higher the resulting user satisfaction. User-friendly application features enhance user comfort and efficiency, leading to greater satisfaction. These findings are consistent with previous studies. [Rahmawati & Ramli \(2024\)](#) found that perceived ease of use has a positive and significant effect on e-satisfaction among TikTok Shop users. Similarly, [Wilson et al. \(2021\)](#) identified a positive impact of perceived ease of use on customer satisfaction in the computer industry in China. [Hapsoro & Kismiatur \(2022\)](#) also demonstrated that perceived ease of use positively affects e-satisfaction.

*The Effect of Perceived Usefulness on E-Satisfaction Among Kopi Kenangan Application Users in Denpasar*

The results indicate that perceived usefulness has a positive and significant effect on e-satisfaction, with a t-statistic of  $3.256 (> 1.96)$  and a p-value of  $0.001 (\leq 0.05)$ , thus confirming that H5 is accepted. This means that the more users perceive the application as useful, such as facilitating transactions, saving time, improving daily productivity, and enabling access to key features, the more satisfied they become. These findings support the Technology Acceptance Model (TAM) proposed by [Davis \(1989\)](#), which posits that the higher the perceived usefulness of a technology, the greater the likelihood that users will experience satisfaction. This result is consistent with prior studies. [Putra & Hayuningtias \(2023\)](#) found that perceived usefulness has a positive and significant effect on customer satisfaction in the context of online shopping. Similarly, [Wilson et al. \(2021\)](#) identified a positive effect of perceived usefulness on customer satisfaction in the technology industry in China. Furthermore, [Hapsoro & Kismiatur \(2022\)](#) also confirmed that perceived usefulness significantly influences e-satisfaction.

*The Effect of Product Quality on E-Satisfaction among Kopi Kenangan Application Users in Denpasar*

The analysis shows that product quality has a positive and significant effect on e-satisfaction, with a t-statistic of  $5.345 (> 1.96)$  and a p-value of  $0.000 (\leq 0.05)$ , thus confirming that H6 is accepted. This indicates that the better the product quality perceived by users through the Kopi Kenangan application, such as product conformity, taste, and added value, the higher the e-satisfaction experienced. These findings support the Technology Acceptance Model (TAM), which posits that the quality of user experiences, including usefulness and ease of use, influences satisfaction with digital services. The results are consistent with [Wungkana & Santoso \(2021\)](#), who found that product quality significantly contributes to consumer satisfaction on e-commerce platforms. Similarly, [Putra & Seminari \(2020\)](#) demonstrated that high product quality enhances customer satisfaction, while [Gunawan & Sinuraya \(2022\)](#) emphasized that strong product quality combined with effective internal control can increase consumer satisfaction in digital services.

### *The Effect of E-Satisfaction on E-Loyalty among Kopi Kenangan Application Users in Denpasar*

The findings reveal that e-satisfaction positively and significantly affects e-loyalty, with a t-statistic of 3.003 ( $> 1.96$ ) and a p-value of 0.003 ( $\leq 0.05$ ), thereby confirming H7. This implies that higher satisfaction levels, derived from ease of use, service speed, product quality, and overall transaction experience, enhance the likelihood of users remaining loyal to the application. Satisfied users tend to repurchase and recommend the application to others. This supports TAM, which explains that user satisfaction with technology drives digital loyalty. The result aligns with [Andriani & Wijayanto \(2021\)](#), [Safitri et al. \(2023\)](#), and [Valentina \(2020\)](#), all of whom confirmed that satisfied customers exhibit stronger loyalty behaviors. Similarly, [Effendi et al. \(2023\)](#) showed that e-satisfaction positively influences e-loyalty among Lazada e-commerce users.

### *The Mediating Role of E-Satisfaction in The Effect of Perceived Ease of Use and E-Loyalty*

The study indicates that e-satisfaction partially mediates the relationship between perceived ease of use and e-loyalty, with a t-statistic of 2.021 ( $> 1.96$ ) and a p-value of 0.045 ( $\leq 0.05$ ), thus supporting H8. This means that ease of use not only directly impacts loyalty but also indirectly strengthens it through enhanced satisfaction. When the application is easy to navigate, users become more satisfied, which in turn fosters loyalty. These results are consistent with TAM and are reinforced by [Dewi & Darma \(2020\)](#), [Laili & Widodo \(2021\)](#), [Rahmawati & Ramli \(2024\)](#), [Irawan & Setiawan \(2024\)](#), all of whom confirmed that perceived ease of use enhances satisfaction, which then drives loyalty.

### *The Mediating Role of E-Satisfaction in The Effect of Perceived Ease, Usefulness, and E-Loyalty*

The results also show that e-satisfaction partially mediates the relationship between perceived usefulness and e-loyalty, with a t-statistic of 2.249 ( $> 1.96$ ) and a p-value of 0.026 ( $\leq 0.05$ ), thus confirming H9. This suggests that perceived usefulness influences loyalty not only directly but also indirectly through satisfaction. The more useful the application is perceived, the more satisfied users become, which ultimately increases loyalty. This finding is consistent with TAM and supported by [Dewi & Darma \(2020\)](#), [Laili & Widodo \(2021\)](#), [Rahmawati & Ramli \(2024\)](#), and [Al Amin et al. \(2024\)](#), all of which demonstrated the mediating role of satisfaction in the usefulness–loyalty relationship.

### *The Influence of Product Quality on E-Loyalty Mediated by E-Satisfaction*

The study confirms that e-satisfaction partially mediates the relationship between product quality and e-loyalty, with a t-statistic of 3.451 ( $> 1.96$ ) and a p-value of 0.001 ( $\leq 0.05$ ), supporting H10. This means that product quality impacts loyalty both directly and indirectly via satisfaction. Higher product quality leads to higher satisfaction, which in turn fosters loyalty. This finding extends TAM and is in line with [Dewi & Darma \(2020\)](#), [Ferry Nasrulloh et al. \(2024\)](#), and [Septyandari et al. \(2023\)](#), who emphasized the critical role of product quality in shaping both customer satisfaction and loyalty in digital services.

## 4 Discussion

The hypothesis testing results indicate that all independent variables, perceived ease of use, perceived usefulness, and product quality, positively and significantly influence both e-satisfaction and e-loyalty of Kopi Kenangan application users in Denpasar City. Moreover, e-satisfaction is proven to partially mediate the effect of these three variables on e-loyalty. Based on the coefficients of direct influence, product quality emerges as the strongest contributor to the formation of e-satisfaction and e-loyalty compared to perceived ease of use and perceived usefulness. This finding emphasizes that, although digital applications simplify transaction processes, the quality of the product received by consumers remains the primary determinant of their satisfaction and loyalty. In other words, the application functions merely as a supporting tool, while the essence of loyalty is rooted in the consistent and expectation-aligned consumption experience ([Asmarina et al., 2022](#)).

An analysis at the indicator level provides deeper insights. Within the perceived ease of use variable, the highest-scoring indicator is *ease of learning*, showing that users quickly master the application's features. While this contributes to satisfaction, its effect remains weaker than that of product quality. In the case of perceived usefulness,

the highest indicator is *ease of navigation*, which means users can move seamlessly between features such as ordering, payment, and promotions, adding value to their transaction experience. Meanwhile, within product quality, the highest indicator is *product durability*. Consistency in taste, safe packaging, and alignment with product descriptions on the application generate a satisfying consumption experience, which in turn fosters repurchase intentions (Brosnan & Sun, 2004; Rodríguez et al., 2020).

These findings reinforce the Technology Acceptance Model (TAM) developed by Davis (1989), which posits that ease of use and perceived usefulness influence technology acceptance. However, in the context of food and beverage industries using digital applications, TAM requires enrichment by incorporating product quality as a core construct. Product quality is not merely an additional factor but a central determinant that strengthens the relationship between e-satisfaction and e-loyalty.

In conclusion, product quality serves as the key to building digital loyalty, while the application acts as an enabler that enhances customer experience through ease of use and beneficial features. Therefore, customer loyalty strategies should combine consistent product quality with the continuous development of application features that simplify and enrich the transaction process. By doing so, both satisfaction and loyalty can be achieved sustainably (Audrain-Pontevia et al., 2013).

## 5 Conclusion

This study demonstrates that perceived ease of use, perceived usefulness, and product quality have a positive and significant effect on e-loyalty among Kopi Kenangan application users in Denpasar City. In other words, the better users perceive the ease of use, usefulness of the application, and quality of the products, the greater their likelihood of remaining loyal to the application. Furthermore, these three variables were also found to positively and significantly influence e-satisfaction, indicating that user satisfaction is shaped by how easy and useful the application is, as well as by the quality of the products received.

In addition, e-satisfaction was shown to exert a positive and significant effect on e-loyalty. This finding highlights the crucial role of customer satisfaction in fostering user loyalty toward the application. E-satisfaction was proven to partially and complementarily mediate the effects of perceived ease of use, perceived usefulness, and product quality on e-loyalty. This implies that customer satisfaction strengthens the direct influence of these three variables on user loyalty.

From a theoretical perspective, this study reinforces the applicability of the Technology Acceptance Model (TAM) in the context of app-based food and beverage ordering services. Perceptions of ease of use and usefulness are confirmed as two important determinants that not only influence satisfaction but also contribute to user loyalty. From a practical perspective, the findings provide insights for Kopi Kenangan's management to enhance user retention by improving application usability, feature usefulness, and product quality.

Based on these results, it is recommended that Kopi Kenangan prioritize improving the usability and convenience of the application. Fast access and seamless navigation should remain optimal even under unstable internet conditions, as these factors strongly determine user satisfaction and continued use. Furthermore, the application should provide more useful and accurate information, particularly regarding order status and promotions, through real-time notifications so that users feel more supported and actively connected.

Product quality must also be consistently maintained, especially regarding alignment between product descriptions and actual offerings. Menu descriptions within the application should be more detailed, including portion size, sweetness levels, main ingredients, and additional options, to minimize discrepancies with user expectations. Providing clear product information will enhance the overall user experience, ultimately increasing satisfaction and strengthening loyalty toward the application.

For future research, it is suggested to incorporate additional variables that may influence e-loyalty, such as trust, brand image, or user engagement, to broaden the understanding of factors affecting user loyalty. Moreover, expanding the research scope beyond Denpasar City would allow for more representative results that can be applied on a national scale.

### *Limitation*

This study has several limitations. First, it focuses solely on Kopi Kenangan application users in Denpasar City, and therefore, the findings may not represent users in other regions. Second, the study employed a quantitative approach

using questionnaires, which may limit deeper insights into user behavior. Lastly, the examined variables, perceived ease of use, perceived usefulness, product quality, e-satisfaction, and e-loyalty do not encompass all potential factors that may influence user loyalty, such as price, service quality, or brand image.

#### *Conflict of interest statement*

The authors declared that they have no competing interests.

#### *Statement of authorship*

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

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