



## E-Service Quality And Brand Image On E-Loyalty Through E-Customer Satisfaction In MyPertamina

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### ABSTRACT

*A research was conducted into the role of e-service quality and brand image as determinants of e-loyalty, with e-customer satisfaction positioned as an intervening variable, among MyPertamina application users in the Jabodetabek region. A quantitative survey approach was employed, whereby a Likert-scale instrument was administered to 107 purposively sampled respondents; the data were subsequently analyzed through SPSS and the Sobel test. No statistically significant direct relationship was detected between e-service quality and e-loyalty. However, when e-customer satisfaction was introduced as a mediating construct, meaningful indirect effects on e-loyalty were demonstrated to be produced by both e-service quality and brand image. On this basis, e-customer satisfaction is identified as an indispensable intermediary mechanism through which perceptions of digital service performance and brand associations are translated into enduring loyalty behavior. Accordingly, improvements encompassing digital service quality, brand positioning, and user satisfaction are recommended for the cultivation of e-loyalty within the MyPertamina platform.*

**Keywords:** E-Service Quality, Brand Image, E-Customer Satisfaction, E-Loyalty, MyPertamina

## **Introduction**

Rapid technological advancement has altered the modalities of firm and customer interactions (Yanti et al., 2025). Digital transformation is currently restructuring business processes and the distribution of value to align organizational practices with evolving consumer behavior (Yaqub & Al-Sabban, 2023). This development has been observed across a wide range of sectors, including the energy industry, where opportunities for enhancing digital service quality via technological innovation have been created to improve customer experience and secure competitive advantage (Al Firdaus & Rachmawati, 2024). According to the Southeast Asia Economic Report (2023), Indonesia's digital economy expanded markedly to an estimated US\$82 billion in 2023 and is projected to surpass US\$130 billion by 2025 (Hoppe et al., 2023). This expansion has coincided with increased uptake of mobile applications across multiple domains, e-commerce, digital finance, transportation, and energy, thereby generating both opportunities and strategic challenges for firms seeking to design effective customer acquisition and retention approaches within a transforming service landscape.

The energy industry, especially petroleum fuels, contributed significantly to the national GDP in 2024 by 18.98% (Badan Pusat Statistik, 2025), with fuel consumption in Indonesia reaching 1.6 million barrels per day (Worldometer, 2026). Although PT Pertamina (Persero) dominates more than 60% Indonesian market (Mordor Intelligence, 2025). However, the enforcement of Law No.22 of 2001, which allowed private labels in fuel distribution, required Pertamina to strengthen organizational competitiveness by improving service quality, differentiation, and adaptability (Arifin et al., 2025). However, digital adoption of Pertamina is relatively low among other private companies, this condition reinforcing the urgency to digitize services. Therefore, PT Pertamina launched their own digital app called MyPertamina in 2017 to facilitate customer transactions and access Pertamina products or services online.

Since its launch, the MyPertamina application has been downloaded more than ten million times and holds an average rating of 4.7 out of 5 on the Google Play Store, with over 487,000 user reviews recorded as of 2026. Notwithstanding this rapid user growth, challenges in maintaining and enhancing customer loyalty persist. Analysis of Google Play Store feedback indicates that the application has been repeatedly criticized for system instability, sluggish responsiveness, difficulties in account verification, and data security concerns. These performance shortcomings have been linked to reductions in customer satisfaction and loyalty (Nirwana et al., 2024). Moreover, user uptake has been driven predominantly by the application's status as the mandated channel for purchasing subsidized fuel rather than by voluntary user

preference (Idris, 2022). For the purposes of this study, customer loyalty is defined as a consumer's sustained commitment to a brand that consistently provides satisfactory service (Padilla & Becerra, 2022) a construct that encompasses both repurchase intention and willingness to recommend the brand to others (Riyadi et al., 2023)

Reported deficiencies in digital literacy and constrained smartphone ownership among rural and lower-middle-income populations (Mufid, 2022), have raised doubts as to whether user loyalty reflects genuine affective attachment or is only transactional and choice-driven (Khan et al., 2023). Digital service quality is conceptualized here as the user's overall evaluation of services delivered through digital platforms, typically manifested by an interface that is accessible and efficient for transactions (Bhattacharya & Mulay, 2024). Prior research has demonstrated that e-service quality exerts a substantial influence on customer loyalty when e-customer satisfaction functions as a mediating mechanism (Qatawneh et al., 2024). In parallel, brand image, defined as the collection of perceptions and beliefs stored in consumers' memory, has been implicated in the cultivation of trust and enduring commitment to digital services, thereby contributing to loyalty (Li & Lee, 2024).

Pertamina's long-standing reputation as a leading national energy company in Indonesia is acknowledged. However, digitalization has introduced novel challenges as consumer judgments increasingly reflect digital innovation, convenience, and application reliability. Public trust was notably eroded following the controversy concerning illegal blending of RON 88 and RON 90 fuels, which produced significant reputational damage (Jefrisani, 2025). Negative evaluations of digital service performance have been shown to weaken brand trust and loyalty even for firmly established firms (Pramono et al., 2023). For current study, e-customer satisfaction is defined as the user's combined cognitive and affective appraisal following application use, inclusive of both continuance intention and willingness to recommend (Putri et al., 2024). Accordingly, e-customer satisfaction is served to mediate the effects of e-service quality and brand image on e-loyalty (Pramono et al., 2023).

Empirical study that concurrently address e-service quality, brand image, e-customer satisfaction, and e-loyalty within public-service applications such as MyPertamina remain limited. Existing literature has largely treated these constructs in separated or within other sectors (e-commerce, digital banking, online transportation). Users' experiences with MyPertamina are influenced not only by application functionality but also by socio-policy conditions, for instance perceptions linked to fuel subsidy policies. Consequently, loyalty in this setting may encompass social and policy-related dimensions. Theoretically, the extension of e-loyalty frameworks to government-affiliated energy application, where adoption can be driven by administrative mandates such as subsidized-fuel channels, is therefore warranted. From a practical standpoint, Indonesia's rapid digital transformation in

the energy sector and the mounting competitive pressures faced by Pertamina render this inquiry timely. Reports of user dissatisfaction, reflected in low ratings, recurrent complaints regarding system instability and verification failures, indicate multiple customer touchpoints in need of improvement. This study therefore aims to examine the influence of e-service quality and brand image on e-loyalty via e-customer satisfaction within the context of digital public services in the energy industry. By testing an integrated model that has been little applied to Indonesia's energy sector, the research seeks to address a gap in the literature and to generate actionable insights for strategic decision-making amid ongoing technological investments and evolving market conditions.

## Literature Review

### *E-Service Quality*

Service quality is conventionally framed as the gap between consumer expectations and the actual service experienced, consistent with the disconfirmation paradigm. With ongoing technological progress, a shift from traditional service delivery toward electronic modalities has been authorized, thereby transforming the interaction patterns between users and providers. E-service quality is defined as the capability of services delivered by online organizations via digital platforms, aimed at improving the functionality of applications or websites so that transactions can be executed more effectively and efficiently across spatial boundaries (Padilla & Becerra, 2022). In mobile application environments, assessments of digital service quality are typically shaped by the pragmatic aspects encountered during interaction and by perceived post-usage value. Accordingly, attention must be directed to factors ranging from navigational ease to post-transaction procedures (Bhattacharya & Mulay, 2024). Empirical findings indicate that superior digital service quality leads to elevated customer satisfaction, which in turn influences purchasing behavior and the likelihood of repeat purchases over time (Padilla & Becerra, 2022). The constructs and metrics of digital service quality have also been extended to public-sector digital services. E-government is characterized as the capability of public service systems to provide services that satisfy citizen needs (Pham et al., 2023). Digital service has been reported to reduce the costs, time, and effort required relative to traditional public service channels (El-Gamal et al., 2022). Prior studies by Pham et al. (2023) has conceptualized digital service quality as a multidimensional construct that includes ease of interaction, fulfilment, security, privacy, citizen support, and trustworthiness.

### *Brand Image*

Brand is an identity, expressed in a name, symbol, design, or set of attribute, that is employed to recognize a firm's products or services from those of competitors.

Brand image is regarded as a strategic asset for firms, being influential in securing competitive advantage and fostering enduring customer relationships (Daniati & Roostika, 2021) consequently, strategies that are aligned with product or service characteristics are required (ATA et al., 2025). Consumers' perceptions of a brand are reflected in brand image and are formed on the basis of product quality, perceived value, and memorability, all of which are shaped by customer experiences and emotional value (Tirtayasa et al., 2024). Trust is fostered, credibility is enhanced, and emotional bonds with consumers are strengthened when brand image is positive. In mobile application contexts, users' perceptions, expectations regarding application quality, and adoption behaviors are substantially influenced by brand image. By contrast, adoption may be discouraged by a negative brand image even when functional superiority is present. In the case of the MyPertamina application, the app's reception may be positively affected by Pertamina's established reputation as a national energy provider and the public trust it has accumulated. However, in the digital era, it is increasingly the quality of digital experiences rather than historical legacy alone, that determines brand image. Therefore, alignment between the MyPertamina user experience and Pertamina's overall brand identity is required to preserve brand equity within the digital environment.

#### *E-Loyalty*

The relationship marketing concept asserts that long-term relationships provide greater benefits to firms than temporary discounting. With rapid developments in information and communication technology, it is necessary to understand how customer loyalty is formed in the digital era (Kowalska, 2021). E loyalty is defined as loyalty that is formed through digital interactions between customers and sellers via the internet, and it is described as a consumer's commitment to repeatedly repurchase a specific product (Novitasari & Marliani, 2025). In digital markets, where alternatives are easily compared, choices are abundant, and switching costs are low. Customer loyalty is identified as a critical factor for competitiveness, thus, efforts to cultivate strong loyalty must be undertaken (Kowalska, 2021). E loyalty is typically divided into two dimensions: attitudinal loyalty and behavioral loyalty (Li & Lee, 2024).

#### *E-Customer Satisfaction*

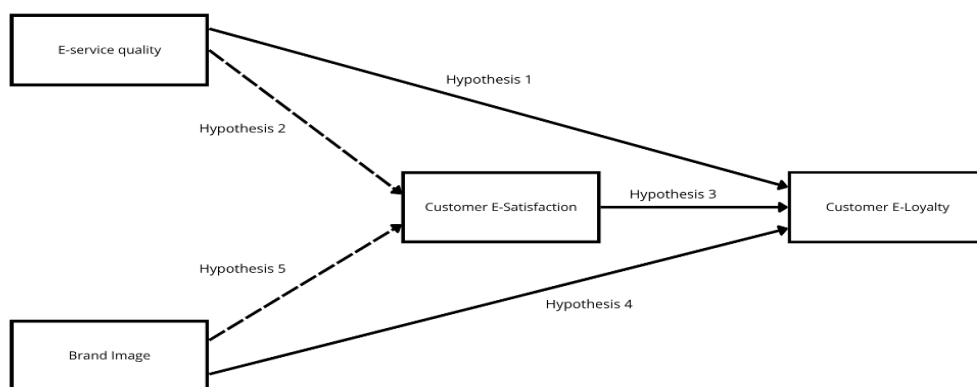
E-customer satisfaction has been conceptualized as the affective response elicited from consumers by their experiences on online platforms (Triatmojo et al., 2025). Such satisfaction is generated by emotional reactions associated with online transactions (Wahid & Afifah, 2023), and is formed through a comparison between expected and received service, emotions involved such as joy, fear, surprise, sadness,

and anticipation, have been reported to exert direct effects on consumer behavior (Sun et al., 2025). When service provision fails to satisfy expectations, dissatisfaction is produced, when expectations are met, satisfaction results, and when delivery exceeds expectations, the highest level of satisfaction is attained (Yuwono & Anggiani, 2024). Within the B2C e-commerce domain, e-customer satisfaction has been identified as a pivotal determinant of sustained business performance (Mofokeng, 2025), and is regarded as an indicator of an organization’s capacity to predict future purchase behavior (Tirtayasa et al., 2024). In the case of the MyPertamina application, aggregate user experience and feedback are employed as proxies for user satisfaction. A range of determinants has been associated with the formation of e-customer satisfaction, notably the digital service quality provided by the application—system stability, navigability, transaction speed and fluidity, and the quality of customer support. For Pertamina, user satisfaction is positioned both as an operational objective for enhancing the user experience and as a strategic foundation for consolidating customer loyalty and ensuring the long-term viability of the MyPertamina platform.

**Methods**

A quantitative methodology was employed to examine the effects of e-service quality and brand image on e-loyalty, with e-customer satisfaction specified as the mediating variable, among users of the MyPertamina application in the Jabodetabek area. A cross-sectional research design was adopted. The target population comprised MyPertamina users domiciled within the Jabodetabek region, representing an aggregate population exceeding approximately 33 million. Primary data were gathered using an online questionnaire distributed via Google Forms, while secondary sources consisted of existing literature, books, and official reports. Sampling was conducted through a non-probability approach, specifically purposive sampling.

**Figure 1.** Research Framework



Source: Author

**H1: e-service quality has a direct and significant influence on e-loyalty**

Digital service quality as delivered through a platform is considered a critical determinant of user loyalty (Hassan, 2024). When services provided digitally are consistently appraised as reliable, responsive, secure, and informative, continued use of the platform and reduced propensity to switch to competitors are more likely to be observed. Empirical evidence has indicated that digital service quality has a positive and statistically significant effect on customer loyalty (Khan et al., 2023).

**H2: e-service quality has an indirect effect on e-loyalty through e-customer satisfaction**

It is posited that the effect of digital service quality on e-loyalty is transmitted through the psychological construct of e-customer satisfaction. When digital service performance meets or exceeds user expectations, satisfaction is elicited and continuance loyalty is thereby promoted (Tirtayasa et al., 2024). In the present study, e-customer satisfaction is specified as the primary mediating variable linking e-service quality to e-loyalty. Empirical evidence indicates that enhancements in digital service quality raise satisfaction levels, which in turn contribute to stronger loyalty (Fadilatussakinah & Septrizola, 2025).

**H3: e-customer satisfaction has a direct and significant impact on e-loyalty**

E-customer satisfaction is conceived as the catalyst user experience, incorporating factors such as interface usability, transactional fluidity, and the quality of after-service support. When interactions with a digital platform result in satisfaction, increased continuance of service use and greater propensity to recommend the service to others are more likely to be observed, these outcomes are regarded as central constituents of e-loyalty. Consistent with this framing, previous studies have reported that e-customer satisfaction has a direct and statistically significant effect on e-loyalty (Tirtayasa et al., 2024).

**H4: brand image has a direct and significant impact on e-loyalty**

A favorable brand image has been associated with the strengthening of attitudinal and affective bonds formed between users and digital platforms, through which a form of loyalty extending beyond post-transaction behaviors is promoted, with deeper psychological commitment being reflected as a result (Al-Adwan et al., 2022). In cases where PT Pertamina is perceived positively by its users, more extended engagement with the application is likely to be observed. This relationship is further supported by findings reported by Cachero-Martinez et al. (2021), in which a positive and statistically significant effect of brand image on e-loyalty was identified within digital service settings.

**H5: brand image has an indirect impact on e-loyalty via customer e-satisfaction**

Both a direct impact on e-loyalty and an indirect influence exerted through e-customer satisfaction as a mediating variable are posited to be generated by brand image. Elevated customer satisfaction has been indicated by empirical evidence as being led to by favorable brand images. In instances where consumers' actual experiences are found to be consistent with the brand image held in memory, satisfaction with the electronic service is substantially increased, by which e-loyalty is subsequently strengthened (Ellitan et al., 2023). A similar pattern was reported by Mofokeng (2021), in which customer satisfaction was found to be produced by positive brand perceptions, which was subsequently translated into durable loyalty behaviors.

The populations that used in this research consist of people who domicile in Jabodetabek (Jakarta, Bogor, Depok, Tangerang, Bekasi). To determine the sample size, the researcher used the Slovin formula as follows:

$$n = N / 1 + Ne^2$$

Notes:

N: total population size of Jabodetabek

e: tolerated margin of error

The calculation yields:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{33,728,821}{1 + 33,728,821 (0,1)^2}$$

$$n = \frac{33,728,821}{337,288.81}$$

$$n = 99.999$$

n = total sample

N = total population

e = error limit

A minimum sample of 107 respondents was determined to be required for this study, by which the validity threshold for the collected data could be qualified. Multiple linear regression and the Sobel test were employed in subjecting the dataset to analysis. Classical assumption checks were performed, in which an assessment of normality was conducted, multicollinearity was detected through Tolerance and variance inflation factor diagnostics, and heteroscedasticity was examined using the Glejser test. The F-test, t-test, Sobel test, and the coefficient of determination ( $R^2$ ) were utilized in testing the hypotheses, with all analyses being conducted using IBM SPSS Statistics version 26.

## Results

The study sample was composed of 107 respondents, with all being identified as active users of the MyPertamina application residing in the Jabodetabek metropolitan area (Jakarta, Bogor, Depok, Tangerang, and Bekasi). An online questionnaire distributed to participants selected through purposive sampling was used in obtaining the data. Domicile in Jabodetabek, a minimum age of 18 years, and the completion of at least one in-app transaction were required as eligibility criteria for respondents. The general profile of vehicle users in the Jabodetabek region was found to be reflected by the resulting sample distribution. With regard to age, respondents aged 18–24 years were found to constitute the majority (89.7%), followed by those aged 25–34 years (8.6%), while respondents older than 40 years accounted for the remaining proportion (1.7%). In terms of residence, the largest share of participants was found to originate from Tangerang (37.1%), followed by Jakarta (21.6%), Bogor (15.5%), Depok (12.1%), and Bekasi (12.1%).

## Instrument And Classical Assumption Test Results

Instrument validity and classical assumption assessments were conducted, through which all measurement items were found to be valid, as the corrected item total correlations for indicators of e-service quality, brand image, e-customer satisfaction, and e-loyalty were found to exceed the critical r-table value of 0.190. Acceptable internal consistency for all constructs was indicated by reliability analysis, with Cronbach's alpha coefficients being found above the 0.60 threshold: e-service quality (0.820), brand image (0.642), e-customer satisfaction (0.752), and e-loyalty (0.731). Suitability for multiple regression analysis was confirmed through classical assumption diagnostics. A normal distribution was determined for the dataset, with skewness and kurtosis statistics being found to fall within acceptable bounds (–2 to +2 and –7 to +7). Multicollinearity was not detected, as a value of 0.10 was exceeded by Tolerance values (range: 0.287–0.429), while a value of 10 was not exceeded by variance inflation factors (VIF) (range: 2.332–3.489). The Glejser test was employed in assessing heteroscedasticity, and no heteroscedasticity was indicated, given that a value of 0.05 was exceeded by significance values for all independent variables.

## Multiple Linear Regression Analysis Results

**Table 1.** Multiple Linear Regression - Equation 1

Model	Unstandardized B	Std. Error	Standardized Beta
1 (Constant)	0.378	0.251	
E-Service Quality (X1)	0.685	0.085	0.643
Brand Image (X2)	0.226	0.077	0.234

Source: Primary Data Results

**Table 2.** Multiple Linear Regression – Equation 2

Model	Unstandardized B	Std. Error	Standardized Beta
1 (Constant)	0.458	0.296	
E-Service Quality (X1)	0.141	0.127	0.125
Brand Image (X2)	0.282	0.094	0.277
E-Customer Satisfaction (Z)	0.485	0.115	0.458

Source: Primary Data Results

In This research there are 2 equations that will explains as follow:

$$\text{Equation 1: } Z = 0.378 + 0.685X1 + 0.226X2$$

$$\text{Equation 2: } Y = 0.458 + 0.141X1 + 0.282X2 + 0.485Z$$

**F Test Results**

**Table 3.** F-Test E-Customer Satisfaction (Z) - (ANOVA A)

Model	Sum of Square	df	Mean Square	F	Sig.
Regression	25.022	2	12.511	115.559	0.000
Residual	11.260	104	0.108		
Total	36.282	106			

Source: Primary Data Results

a. Dependent Variable: E-Customer Satisfaction (Z)

b. Predictors: (Constant), E-Service Quality, and Brand Image

The simultaneous significance of the model was evaluated through a comparison between the computed F statistic and the critical F value established at the 0.05 significance threshold. An F statistic of 115.559 was obtained, accompanied by a significance value (p) of 0.000. These results are considered to satisfy the criteria for overall model significance, given that the computed F value of 115.559 exceeds the critical F value ( $F_{critical} = 3.09$ ) and the obtained p-value of 0.000 falls below the 0.05 threshold. The critical F value was derived through the following procedure:

$$F_{table} = (k ; (n-k))$$

$$F_{table} = (2 ; (107-2))$$

$$F_{table} = (2; 104)$$

$$F_{table} = 3.09 \text{ (with probability value = 0.05)}$$

Based on the findings, it can be concluded that E-Service Quality (X1), Brand Image (X2), and E-Customer Satisfaction (Z) are simultaneously demonstrated to

produce a statistically significant influence on E-Loyalty (Y), as evidenced by data collected from users of the MyPertamina application within the Jabodetabek region.

**Table 4.** F-Test E-Loyalty (Y) - (ANOVA B)

Model	Sum of Square	df	Mean Square	F	Sig.
Regression	0.659	3	0.220	4.129	0.008
Residual	5.476	103	0.053		
Total	6.135	106			

Source: Primary Data Results

a. Dependent Variable: E-Loyalty (Y)

b. Predictors: (Constant), E-Service Quality, Brand Image, E-Customer Satisfaction

To examine whether all predictor variables simultaneously contributed to the outcome, the computed F statistic was contrasted against the critical F value established at a significance level of  $\alpha = 0.05$ . A value of  $F = 4.129$  was produced by the model, with an associated significance value (p) of 0.008. The condition for simultaneous model significance was regarded as satisfied, given that the obtained F value of 4.129 surpasses the critical threshold and the recorded p-value of 0.008 remains below the 0.05 boundary. The determination of the critical F value was carried out through the following steps:

$$F_{table} = (k ; (n-k))$$

$$F_{table} = (3 ; (107-3))$$

$$F_{table} = (3 ; 103)$$

$$F_{table} = 2.07 \text{ (with probability value} = 0.05)$$

Based on the evidence presented above, it is established that E-Service Quality (X1), Brand Image (X2), and E-Customer Satisfaction (Z) are collectively found to exert a statistically significant impact on E-Loyalty (Y), as reflected in the dataset obtained from MyPertamina application users residing within the Jabodetabek area.

### T Test Results

The following findings were yielded by the t-test analysis, which encompassed standardized coefficients Beta, t-calculated values, and significance levels. A positive directional relationship between E-Service Quality (X1) and E Customer Satisfaction (Z) was found to exist, as evidenced by a standardized Beta coefficient of 0.643. The t-table threshold of 1.659 was found to be markedly surpassed by the t-calculated value of 8.025, by which statistical significance was confirmed, with a significance value of 0.000 being further recorded below the 0.05 threshold. Similarly, a positive directional

relationship between Brand Image (X2) and E-Customer Satisfaction (Z) was also established, as reflected by a standardized Beta coefficient of 0.234. The t-table value of 1.659 was determined to be exceeded by the t calculated value of 2.921, with a corresponding significance value of 0.004 being recorded below the 0.05 criterion, by which statistical significance was thereby confirmed. In contrast, no statistically significant relationship was found between E Service Quality (X1) and E-Loyalty (Y), as indicated by a standardized Beta coefficient of 0.125. The t-table value of 1.695 was observed to not be reached by the t-calculated value of 1.114, with a significance value of 0.268 being recorded above the 0.05 threshold. Meanwhile, a positive and statistically significant relationship between Brand Image (X2) and E-Loyalty (Y) was identified, as supported by a standardized Beta coefficient of 0.277. The t-table value of 1.695 was found to be surpassed by the t calculated value of 3.006, with a significance value of 0.003 being confirmed below 0.05. Lastly, a positive and statistically significant relationship between E-Customer Satisfaction (Z) and E-Loyalty (Y) was established, as reflected by a standardized Beta coefficient of 0.458. The t-table value of 1.985 was determined to be exceeded by the t calculated value of 4.233, with a significance value of 0.000 being observed well below the 0.05 level.

### Coefficient of Determination Results

The relationships among the variables under investigation were examined through two separate summary model analyses. In the first analytical model, the extent to which E-Service Quality (X1) and Brand Image (X2) contribute to E-Customer Satisfaction (Z) was assessed, yielding an R value of 0.830, an R Square of 0.690, and an Adjusted R Square of 0.684. These figures indicate that 69.0% of the total variance observed in E-Customer Satisfaction among MyPertamina application users within the Jabodetabek region is attributable to the combined influence of E-Service Quality and Brand Image. The proportion of variance that remains unexplained is considered to be accounted for by additional variables that fall outside the boundaries of the current research framework. In accordance with the classification, this relationship is categorized strong (Supriyanto & Maharani, 2013). In the second analytical model, the degree to which E-Service Quality (X1), Brand Image (X2), and E-Customer Satisfaction (Z) collectively contribute to E-Loyalty (Y) was explored. An R value of 0.791 was recorded, from which a strong associative relationship between the aforementioned predictors and E-Loyalty is inferred. An R Square value of 0.626 was additionally obtained, through which 62.6% of the total variation present in the E Loyalty variable is accounted for by the simultaneous contribution of E-Service Quality, Brand Image, and E-Customer Satisfaction. This outcome is likewise classified as reflecting a strong degree of association. (Supriyanto & Maharani, 2013).

### Sobel Test Results

#### Direct Value Test Results

The significance of the indirect effect exerted by variable X on variable Y through the mediating role of variable Z was subjected to evaluation by means of a mediation analysis, in which the Sobel test was utilized as the primary analytical instrument. Drawing from the outcomes derived through this procedure, the enhancement of digital service performance and the preservation of a well-established brand reputation are recognized as critical strategic dimensions through which e-loyalty is fostered by way of e-customer satisfaction as the mediating mechanism.

#### Indirect Value Test Results

**Table 5.** Indirect Value

Mediation Path	Indirect Value	Z Sobel	P-Value
X1 → Z → Y	0.332	3.73664069	0.0001865
X2 → Z → Y	0.110	2.40908132	0.01599273

Source: Primary Data Results

Within the first mediation pathway, designated as X1 → Z → Y an indirect effect coefficient of 0.332 was established, through which a Sobel Z statistic of 3.73664069 and an associated P-Value of 0.0001865 were subsequently derived. As the obtained Sobel Z statistic of 3.73664069 is demonstrated to surpass the threshold of 1.96 and the corresponding P-Value of 0.0001865 is confirmed to fall beneath the 0.05 significance boundary, the mediating role performed by E-Customer Satisfaction in the relationship linking E-Service Quality to E-Loyalty is determined to be statistically significant.

Within the second mediation pathway, designated as X2 → Z → Y an indirect effect coefficient of 0.110 was documented, from which a Sobel Z statistic of 2.40908132 and a corresponding P-Value of 0.01599273 were subsequently generated. Given that the resulting Sobel Z statistic of 2.40908132 is ascertained to exceed the critical value of 1.96 and the recorded P-Value of 0.01599273 is established to remain below the 0.05 threshold, the mediating function carried out by E-Customer Satisfaction in the association between Brand Image and E-Loyalty is likewise determined to attain statistical significance.

## Discussion

The present study was designed to examine the extent to which e-service quality and brand image contribute to e-loyalty, with e-customer satisfaction being positioned as a mediating variable, within the context of MyPertamina application users located across the Jabodetabek region. Through the application of multiple linear regression analysis, e-service quality was identified as the predictor exerting the most pronounced positive and statistically significant contribution toward e-customer satisfaction, a finding from which it is inferred that improvements directed at the functional and technical dimensions of the application are associated with elevated levels of user satisfaction. A positive and statistically significant effect on e-customer satisfaction was additionally attributed to brand image, from which it is implied that the perception of Pertamina as a credible and reputable brand is linked to greater levels of user satisfaction. Considered in combination, 69.0% of the total variance observed in e-customer satisfaction is accounted for by these two predictor variables, a magnitude that is classified as reflecting a strong effect. Upon the incorporation of e-customer satisfaction as a mediating variable within the second analytical model, the direct influence previously attributed to e-service quality on e-loyalty was rendered non-significant, a result from which full mediation is inferred and through which it is established that the effect of e-service quality on loyalty is channeled entirely through the mechanism of customer satisfaction. A contrasting pattern was observed with respect to brand image, which retained a positive and significant direct association with e-loyalty, thereby demonstrating that favorable brand perception is capable of contributing to loyalty through pathways that operate independently of satisfaction. Within the framework of the mediated model, e-customer satisfaction was found to emerge as the most influential determinant of e-loyalty, a result that corroborates the proposition that MyPertamina users characterized by higher satisfaction levels are more inclined toward sustained application usage and the demonstration of long-term loyalty. The validity of the overall model was confirmed through an F-test, by which e-service quality, brand image, and e-customer satisfaction are collectively established to account for 62.6% of the variance attributable to e-loyalty. The mediating function of e-customer satisfaction along the pathway connecting e-service quality to e-loyalty was further substantiated through the administration of a Sobel test, a result that is regarded as consistent with the condition of full mediation. Taken as a whole, the findings generated by this investigation suggest that e-customer satisfaction is to be regarded as a pivotal transmission mechanism through which the influences of e-service quality and brand image are converted into sustained user loyalty within the MyPertamina platform. The strategic necessity of maintaining high standards in digital service delivery and cultivating a strong brand identity as instruments for promoting enduring user

retention is underscored by these results. A novel theoretical contribution is additionally offered by this study through the situating of the investigation within a government-affiliated digital application operating in the energy sector. In contrast to purely commercial digital platforms, MyPertamina is characterized by its embeddedness within a policy-integrated environment in which government administered fuel subsidy schemes and mandatory digital registration requirements introduce a set of distinct operational dynamics. The mediating role demonstrated by e-customer satisfaction across the relationships linking e-service quality, brand image, and e-loyalty to one another is considered to extend prevailing theoretical frameworks to government-linked digital ecosystems, from which new directions for scholarly inquiry into public service delivery within digital contexts are suggested.

### **Conclusions**

On the basis of the investigation that was carried out, a number of conclusions were made. The absence of a statistically significant direct effect of e-service quality on e-loyalty was noted among users of the MyPertamina application, a finding from which it is inferred that the performance of digital services, when considered in limited, is insufficient to generate platform loyalty among users. Notwithstanding this, a statistically significant indirect effect of e-service quality on e-loyalty was established through the mediating function of e-customer satisfaction, from which it is suggested that advancements in service quality are associated with elevated satisfaction levels, which are subsequently linked to the cultivation of long-term loyalty. A direct and statistically significant contribution to e-loyalty was demonstrated by e-customer satisfaction itself, through which it is implied that users whose overall digital experience is characterized by higher satisfaction are more inclined toward continued transactional engagement and sustained commitment to the application over an extended period. Furthermore, a significant direct effect on e-loyalty as well as a significant indirect effect channeled through e-customer satisfaction were both attributed to brand image, from which it is indicated that a positively perceived brand is capable of generating emotional attachment and, by way of heightened satisfaction, of reinforcing enduring behavioral loyalty. The actionable evidence yielded by these findings is considered relevant to PT Pertamina and to other organizations operating within analogous domains as a basis for informed strategic decision-making. The reliability, security, and responsiveness of digital platforms are recommended to be accorded priority, given that e-service quality is recognized as a determinant of customer satisfaction and the loyalty that is subsequently derived from it. The maintenance of uninterrupted transaction flows and the consistent provision of accurate information are regarded as necessary conditions for the fulfillment of user expectations. In view of the central mediating function attributed to e-customer

satisfaction, the continuous monitoring of user feedback pertaining to interface usability and post-transaction service quality is advised as a means by which elevated satisfaction levels may be preserved and positive word-of-mouth behavior may be encouraged.

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