

Digital Transformation and Service Innovation Effects on Mobile Application Usage Through Customer Satisfaction at Prudential Syariah

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Abstract

This study aims to analyze the effect of digital transformation and service innovation on mobile application usage in Islamic insurance through customer satisfaction in Medan City. This research employed a quantitative approach using a survey method involving 100 Prudential Syariah customers selected through purposive sampling. Data were collected using questionnaires and analyzed using SPSS through validity, reliability, classical assumption tests, path analysis, t-test, coefficient of determination (R^2), and Sobel test. The results indicate that digital transformation and service innovation have a positive and significant effect on customer satisfaction. Furthermore, digital transformation, service innovation, and customer satisfaction also have a positive and significant effect on mobile application usage. The Sobel test confirms that customer satisfaction mediates the relationship between digital transformation, service innovation, and mobile application usage. In conclusion, improving digital transformation and service innovation can enhance customer satisfaction and encourage sustainable use of mobile applications. Therefore, Islamic insurance companies are recommended to continuously develop innovative, secure, and user-friendly digital services to improve customer experience and loyalty

Keywords: *Digital Transformation, Service Innovation, Customer Satisfaction, Mobile Application Usage, Islamic Insurance.*

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1. Introduction

Advances in information and communication technology have driven digital transformation across various industrial sectors, including the Sharia insurance industry. Digital transformation has become one of the key strategies for companies to improve operational efficiency, expand access to services, and provide a better experience for customers. In the Sharia insurance industry, digitization is realized through the development of technology-based services such as mobile apps, digital payment systems, online claims services, and real-time access to policy information. One company actively implementing this digital transformation is Prudential Syariah through its PRUServices app, designed to make it easier for customers to access various insurance services anytime and anywhere (Siregar et al., 2023; Prabowo & Anggraini, 2023; Marpaung & Syafina, 2024). The implementation of this digital transformation is expected to improve service quality and strengthen the company's relationship with customers in today's digital age (Vial, 2019; Prudential Syariah, 2024).

Nevertheless, the success of digital transformation is not solely determined by the sophistication of a company's

technology but also depends on the level of customer acceptance and understanding of the available digital services. In practice, there are still some customers who are more comfortable using services in person through agents or branch offices rather than utilizing digital applications (Aliyah et al., 2022; Sari et al., 2026). This situation is caused by various factors, such as low digital literacy, a lack of understanding of app features, and perceptions of risk related to data security and digital transactions (Tamara et al., 2022; Nur et al., 2025). As a result, the use of mobile apps in the Islamic insurance sector has not yet reached its full potential, even though the technological infrastructure is well established (Rogers, 2003; OECD, 2020; Gefen et al., 2003).

The steadily increasing internet penetration rate in Indonesia actually presents a significant opportunity for the development of digital services in the Islamic insurance industry. According to data from the Indonesian Internet Service Providers Association (APJII), the national internet penetration rate has reached approximately 79% of Indonesia's total population, while in urban areas such as the city of Medan, it exceeds 80% (APJII, 2024). However, this high level of internet access has not yet been fully accompanied by optimal use of mobile applications for

sharia insurance services. This indicates a gap between the availability of digital technology and the extent to which customers utilize it. This situation presents both a challenge and an opportunity for Prudential Syariah to continue improving the quality of its digital services in order to encourage wider use of mobile applications among its customers (OJK, 2024).

In addition to digital transformation, another key factor in increasing mobile app usage is service innovation. Service innovation refers to a company's efforts to create service updates that are more effective, efficient, and tailored to customer needs. In the context of Prudential Syariah, service innovation can be achieved through the development of features such as online premium payments, real-time policy status monitoring, digital claims filing, and technology-based customer support services. Innovations that provide convenience and comfort to customers will enhance positive perceptions of the company and encourage sustained use of the mobile app. Therefore, service innovation is a strategic factor that must be considered to support the success of digital transformation at Prudential Syariah (Tidd & Bessant, 2018; Kotler & Keller, 2016).

Furthermore, customer satisfaction is also an integral factor in the success of digital transformation and service innovation. Customer satisfaction reflects the degree to which customer expectations align with the services received. When digital services provide ease of access, transaction speed, data security, and user convenience, customer satisfaction levels will increase. Conversely, if digital services are difficult to use or fail to meet customer needs, satisfaction will decline. High customer satisfaction has the potential to encourage repeated and sustained use of mobile applications, thereby increasing loyalty to Islamic insurance companies (Parasuraman et al., 2005; Oliver, 2014).

According to Prudential Syariah's annual report, the company continues to demonstrate its commitment to strengthening its digital transformation through the development of the PRUServices app as a digital service hub for customers. The app allows customers to access policy information, make premium payments, monitor investments, and file claims online. The availability of these digital services is expected to increase customer satisfaction while expanding the use of mobile apps as the primary means of accessing sharia insurance services. However, the extent to which Prudential Syariah's digital transformation and service innovations can increase mobile app usage through customer satisfaction still requires further research (Prudential Syariah, 2024).

Table 1. Number of Prudential Syariah Participants in Indonesia (2020–2025)

Year	Number of Participants	Growth (%)	Description
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2020	2,800,000	–	Initial launch of the application
2021	2,950,000	5.4%	Development of application features
2022	3,120,000	5.8%	PRUServices became available through the application
2023	3,310,000	6.1%	Optimization of digital services within the application
2024	3,520,000	6.3%	Progress in digital transformation
2025	3,750,000	6.5%	Development of new digital service features

Source: Processed from Prudential Syariah Annual Reports.

The growth in the number of policyholders also indicates increasing public confidence in the services provided by Prudential Syariah. However, amid this growth, the company continues to face challenges in increasing customers' use of digital services. As public behavior shifts toward greater reliance on digital technology, Prudential Syariah is required to continue advancing its digital transformation and service innovations to deliver a better experience to customers through its mobile app. Therefore, strengthening digital services has become a key strategy for enhancing customer satisfaction while promoting the sustained use of the mobile app (Prudential Syariah, 2024).

In addition, the growing number of policyholders also has the potential to increase the demand for fast, easy, and efficient services. Under these circumstances, mobile apps become an important tool to help customers access policy information, make premium payments, monitor investment performance, and file claims online. If the digital services provided can meet customers' needs and expectations, customer satisfaction will increase, thereby encouraging more optimal use of mobile apps. Thus, digital transformation and service innovation are critical factors in supporting the future growth and sustainability of Prudential Syariah's business (Yusof & Shamsuddin, 2021).

This study aims to analyze the impact of digital transformation and service innovation on the use of mobile applications among Prudential Syariah customers in Medan. Additionally, this study aims to identify the extent to which digital transformation implemented through the PRUServices app can enhance the customer experience in accessing sharia insurance services effectively and efficiently. This study also examines the role of service innovation in enhancing customer satisfaction, thereby encouraging the sustained use of mobile applications. Thus, this study is expected to provide a comprehensive overview of the factors influencing the use of mobile applications at Prudential Syariah in Medan.

The theoretical contribution of this study is to enrich the literature on digital transformation, service innovation, customer satisfaction, and the use of mobile applications in the Islamic insurance industry, particularly at Prudential Syariah. This study can also serve as a reference for future research on the digitization of services at Islamic financial institutions. From a practical standpoint, this study is expected to provide evaluation material for Prudential Syariah in developing more effective digital transformation and service innovation strategies to enhance customer satisfaction.

2. Literature Review

2.1. Digital Transformation

Digital transformation refers to the integration of digital technologies into organizational processes to improve service efficiency, accessibility, and customer experience. Vial (2019) explains that digital transformation involves organizational changes triggered by digital technologies that enable firms to create new value and improve their operational processes. Similarly, Verhoef et al. (2021) emphasize that digital transformation extends beyond technology adoption because it also involves changes in customer interaction and value creation. In the insurance industry, digital transformation enables customers to access information, conduct transactions, and obtain services more efficiently through digital platforms. Accordingly, this study conceptualizes digital transformation through accessibility, service speed, digital security, information availability, and process efficiency, consistent with the dimensions previously specified in the manuscript.

Previous studies suggest that digital transformation is closely associated with customer responses toward digital services. Yusof and Shamsuddin (2021) indicate that improvements in digital services can support customer satisfaction and continued use of digital platforms. This relationship is also consistent with the Technology Acceptance Model proposed by Davis (1989), which emphasizes the importance of perceived usefulness and ease of use in encouraging technology adoption. In the context of Prudential Syariah, digital transformation through PRUServices provides customers with digital access to policy information, contribution payments, investment monitoring, and online claims. Therefore, improvements in digital transformation are expected to enhance customer satisfaction and encourage greater use of the mobile application.

2.2. Service Innovation

Service innovation refers to the development or improvement of services to create greater value and provide more effective solutions to customer needs. Tidd and Bessant (2018) explain that innovation

involves the implementation of new ideas, processes, or services that improve organizational performance and customer value. In service-oriented businesses, innovation may take the form of new features, simplified service processes, improved accessibility, and more responsive customer interactions. Kotler and Keller (2016) further emphasize that service development should respond to changing customer needs and expectations. Accordingly, this study conceptualizes service innovation through new feature development, ease of use, compatibility with customer needs, service practicality, and service responsiveness, as specified in the research instrument.

In digital financial services, service innovation can influence how customers perceive and continuously use a digital platform. Innovative services that are practical, responsive, and aligned with customer needs can provide a more satisfactory service experience and encourage repeated application usage. In the context of Prudential Syariah, service innovation is reflected in the development of digital features that facilitate contribution payments, policy monitoring, online claims, and technology-based customer assistance. Therefore, service innovation is expected not only to directly encourage the use of PRUServices but also to increase customer satisfaction, which may subsequently strengthen continued mobile application usage.

2.3. Customer Satisfaction

Customer satisfaction reflects customers' evaluation of whether the performance of a service meets or exceeds their expectations. Kotler and Keller (2016) describe satisfaction as the feeling that arises from comparing perceived service performance with prior expectations, while Tjiptono and Chandra (2020) emphasize its importance in evaluating service quality and customer experience. In digital services, satisfaction is influenced not only by the quality of the core service but also by convenience, security, accessibility, and the overall experience of using the digital platform. Accordingly, this study conceptualizes customer satisfaction through expectation fulfillment, satisfaction with service quality, application convenience, security, and intention to reuse the service.

Customer satisfaction is particularly important in explaining the continued use of mobile applications. When digital transformation provides faster, more accessible, and secure services, and service innovation offers practical features that correspond to customer needs, customers are more likely to develop a positive evaluation of their service experience. Satisfied customers are subsequently more inclined to reuse digital services, indicating that satisfaction can function as an intermediary mechanism linking service improvements to continued technology usage. In the context of Prudential Syariah, satisfaction with the digital service experience is therefore expected to

mediate the effects of digital transformation and service innovation on the use of the PRUServices mobile application.

2.4. Mobile application usage

Mobile application usage refers to the extent to which customers utilize mobile-based applications to access information and obtain services efficiently. Davis (1989), through the Technology Acceptance Model (TAM), explains that technology usage is strongly related to users' perceptions of its usefulness and ease of use. In the context of Islamic financial services, Amin (2019) also highlights the importance of customer acceptance in explaining the intention to use mobile-based services. Therefore, mobile application usage in this study is reflected through frequency of use, intensity of feature utilization, ease of use, perceived benefits, and continuance of application usage.

The use of mobile applications may increase when customers perceive that digital services provide practical benefits and facilitate their interactions with service providers. Within Prudential Syariah, PRUServices allows customers to access policy information, make contribution payments, monitor investments, and submit claims through a digital platform. Consequently, customers who perceive the application as useful, convenient, and capable of meeting their service needs are more likely to use its features intensively and continuously. In this study, mobile application usage therefore represents the behavioral outcome expected to result from digital transformation and service innovation, both directly and indirectly through customer satisfaction.

2.5. Conceptual Framework

This study proposes a conceptual framework explaining the relationships among digital transformation, service innovation, customer satisfaction, and mobile application usage. Digital transformation and service innovation are positioned as independent variables, customer satisfaction as a mediating variable, and mobile application usage as the dependent variable. The framework assumes that improvements in digital transformation and service innovation can enhance customer satisfaction and directly encourage customers to use mobile applications. Furthermore, customer satisfaction is expected to increase mobile application usage and serve as a mechanism through which digital transformation and service innovation influence customer usage behavior.

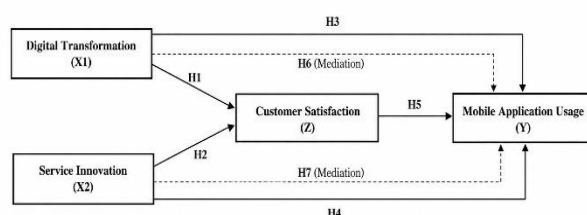


Figure 1. Conceptual Framework of the Research

The conceptual framework consists of five direct relationships and two indirect relationships. The direct relationships examine the effects of digital transformation and service innovation on customer satisfaction, the effects of digital transformation and service innovation on mobile application usage, and the effect of customer satisfaction on mobile application usage. The indirect relationships examine the mediating role of customer satisfaction in the effects of digital transformation and service innovation on mobile application usage. Based on these relationships, seven hypotheses are proposed:

H1: Digital transformation has a positive and significant effect on customer satisfaction.

H2: Service innovation has a positive and significant effect on customer satisfaction.

H3: Digital transformation has a positive and significant effect on mobile application usage.

H4: Service innovation has a positive and significant effect on mobile application usage.

H5: Customer satisfaction has a positive and significant effect on mobile application usage.

H6: Customer satisfaction mediates the effect of digital transformation on mobile application usage.

H7: Customer satisfaction mediates the effect of service innovation on mobile application usage.

3. Methods

This study employed a quantitative approach with a survey design to examine the effects of digital transformation and service innovation on mobile application usage through customer satisfaction among Prudential Syariah customers in Medan City. The study consisted of four variables: digital transformation (X1) and service innovation (X2) as independent variables, customer satisfaction (Z) as the mediating variable, and mobile application usage (Y) as the dependent variable. Primary data were collected through questionnaires distributed to respondents who met the criteria established for this study.

The population consisted of approximately 31,600 Prudential Syariah participants in North Sumatra, based on the 2022 Prudential Syariah annual report. The minimum sample size was determined using the Slovin formula with a 10% margin of error. The calculation resulted in 99.68 respondents, which was rounded to 100 respondents. The respondents were selected using purposive sampling to ensure that the collected responses were relevant to the context of Prudential Syariah digital services.

The research instrument measured digital transformation through accessibility, service speed, digital security, information availability, and process efficiency. Service innovation was measured through new feature development, ease of use, compatibility with customer needs, service practicality, and responsiveness. Customer satisfaction was measured through expectation fulfillment, satisfaction with service quality, application convenience, security, and intention to reuse the service. Meanwhile, mobile application usage was measured through frequency of use, intensity of feature utilization, ease of use, perceived benefits, and continuance of application usage. Responses were collected using a structured questionnaire and subsequently processed for statistical analysis.

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS). Prior to hypothesis testing, the research instrument was evaluated using validity and reliability tests. Descriptive statistical analysis was then performed to summarize the characteristics of the research variables. The classical assumption tests included normality, multicollinearity, and heteroscedasticity tests. Path analysis based on multiple regression was employed to estimate the direct and indirect relationships among the variables. Hypothesis testing was conducted using the t-test, while the coefficient of determination (R^2) was used to evaluate the explanatory power of each structural model. The mediating effects of customer satisfaction were further examined using the Sobel test. The two models were used to evaluate hypotheses H1–H5 concerning direct effects, while the Sobel test was employed to evaluate H6 and H7 concerning the mediating role of customer satisfaction.

4. Results and Discussions

4.1 .Descriptive Statistic

Descriptive statistical analysis was conducted to provide an overview of the distribution and characteristics of the research data. The analysis covers four variables, namely digital transformation (X1), service innovation (X2), customer satisfaction (Z) as the mediating variable, and mobile application usage (Y) as the dependent variable. The descriptive statistics include the number of observations, minimum and maximum values, mean, and standard deviation for each variable, as presented in Table 2.

Table 3. Descriptive Statistics of Research Variables

Variable	N	Min	Max	Mean	Std.
DT (X1)	100	9.00	25.00	18.67	3.473
SI (X2)	100	11.00	25.00	19.17	3.108
CS (Z)	100	12.00	25.00	19.55	2.959
MAU (Y)	100	10.00	25.00	19.28	3.075

Source: Authors' data processing (2026).

Table 1 presents the descriptive statistics of the four variables based on 100 respondents. Digital transformation has a minimum score of 9.00 and a maximum of 25.00, with a mean of 18.67 and a standard deviation of 3.473. Service innovation ranges from 11.00 to 25.00, with a mean of 19.17 and a standard deviation of 3.108. These results indicate that respondents generally provided relatively high assessments of the digital transformation and service innovation implemented by Prudential Syariah. The variation in scores also indicates differences in customers' perceptions and experiences regarding the accessibility, efficiency, features, and quality of the digital services provided.

Customer satisfaction records the highest mean among the variables at 19.55, with scores ranging from 12.00 to 25.00 and a standard deviation of 2.959. Meanwhile, mobile application usage has a mean of 19.28, a minimum score of 10.00, a maximum of 25.00, and a standard deviation of 3.075. The relatively high mean scores suggest that respondents generally report favorable levels of satisfaction and application usage. Furthermore, the standard deviations of all variables are substantially lower than their respective means, indicating that the responses are relatively concentrated around the average, although some variation among respondents remains.

4.2 . Validity and Reliability Tests

The validity and reliability tests were conducted to evaluate the quality and consistency of the research instrument before further statistical analysis. Item validity was assessed by comparing the calculated correlation coefficient (r-count) with the critical r-table value of 0.196. Meanwhile, internal consistency was evaluated using Cronbach's Alpha, with a minimum reliability threshold of 0.600. The results of both tests are presented in Table 3.

Table 3. Validity and Reliability Test Results

Variable	Item	r-count	r-table	Description	CA
DT (X1)	X1_1	0.752	0.196	Valid	0.844
	X1_2	0.825	0.196	Valid	
	X1_3	0.746	0.196	Valid	
	X1_4	0.776	0.196	Valid	
	X1_5	0.824	0.196	Valid	
SI (X2)	X2_1	0.742	0.196	Valid	0.773
	X2_2	0.753	0.196	Valid	
	X2_3	0.678	0.196	Valid	
	X2_4	0.719	0.196	Valid	
	X2_5	0.730	0.196	Valid	
CS (Z)	Z_1	0.680	0.196	Valid	0.786
	Z_2	0.783	0.196	Valid	
	Z_3	0.734	0.196	Valid	
	Z_4	0.742	0.196	Valid	
	Z_5	0.730	0.196	Valid	
MAU (Y)	Y_1	0.759	0.196	Valid	0.790
	Y_2	0.707	0.196	Valid	
	Y_3	0.812	0.196	Valid	
	Y_4	0.700	0.196	Valid	
	Y_5	0.709	0.196	Valid	

Source: Authors' data processing (2026).

The validity test results show that all 20 measurement items have r-count values ranging from 0.678 to 0.825, exceeding the critical r-table value of 0.196. Therefore, all items measuring digital transformation, service innovation, customer satisfaction, and mobile application usage are considered valid and can be retained for subsequent analysis. The highest correlation coefficient is observed for item X1_2 (0.825), while the lowest is recorded for item X2_3 (0.678); nevertheless, both values remain above the required threshold.

The reliability test further demonstrates that all constructs have Cronbach's Alpha values exceeding the minimum criterion of 0.600. Digital transformation records the highest coefficient (0.844), followed by mobile application usage (0.790), customer satisfaction (0.786), and service innovation (0.773). These results indicate satisfactory internal consistency across all research constructs. Accordingly, the questionnaire items are both valid and reliable and are considered appropriate for subsequent hypothesis and path analyses.

4.3. Classical Assumption Tests

Classical assumption tests were conducted prior to path analysis to ensure that the regression model satisfied the required statistical assumptions. The tests consisted of the Kolmogorov–Smirnov normality test, multicollinearity test using tolerance and Variance Inflation Factor (VIF), and heteroscedasticity test using the Glejser method. The results of the classical assumption tests are summarized in Table 3.

Table 3. Classical Assumption Test Results

Variable	Normality	Heteroscedasticity	Multicollinearity
DT (X1)		t-statistic = 0.618 p-value = 0.538	Tolerance = 0.698 VIF = 1.433
SI (X2)	Test Statistic = 0.070 p-value = 0.200	t-statistic = -1.331 p-value = 0.186	Tolerance = 0.756 VIF = 1.323
CS (Z)		t-statistic = -0.458 p-value = 0.648	Tolerance = 0.567 VIF = 1.764

Source: Authors' data processing (2026).

The normality test produced a Kolmogorov–Smirnov test statistic of 0.070 with an Asymp. Sig. (2-tailed) value of 0.200, which exceeds the 0.05 significance level. This result indicates that the residuals are normally distributed. The multicollinearity test also shows that all independent variables have tolerance values greater than 0.10 and VIF values below 10. Digital transformation has a tolerance value of 0.698 and VIF of 1.433, service innovation has a tolerance value of 0.756 and VIF of 1.323, while customer satisfaction has a tolerance value of 0.567 and VIF of 1.764. Therefore, the regression model does not indicate a multicollinearity problem.

The Glejser test further shows significance values of 0.538 for digital transformation, 0.186 for service

innovation, and 0.648 for customer satisfaction, all of which are greater than 0.05. Thus, none of the independent variables significantly affects the absolute residuals, indicating the absence of heteroscedasticity in the regression model. Overall, the normality, multicollinearity, and heteroscedasticity tests indicate that the regression model satisfies the classical assumptions and is appropriate for subsequent path and hypothesis analyses.

4.4. Path Analysis

Path analysis was employed to examine the direct and indirect relationships among digital transformation, service innovation, customer satisfaction, and mobile application usage. The analysis was conducted using two structural models. Structural Model I estimates the effects of digital transformation and service innovation on customer satisfaction, while Structural Model II estimates the effects of digital transformation, service innovation, and customer satisfaction on mobile application usage. The standardized path coefficients obtained from both models were subsequently used to calculate the indirect and total effects.

The first structural model examines the effects of digital transformation (X1) and service innovation (X2) on customer satisfaction (Z). The standardized path coefficients are 0.451 for digital transformation and 0.375 for service innovation. The residual coefficient ($\sqrt{e_1}$) is 0.807. Accordingly, the first structural equation can be expressed as:

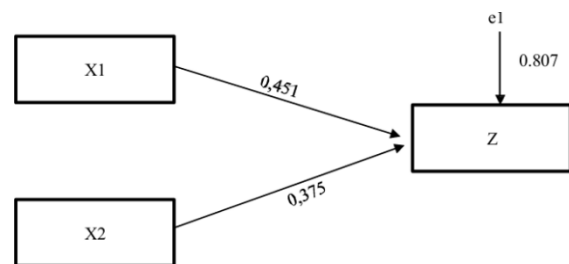


Figure 2. Equation 1

The positive coefficients indicate that both digital transformation and service innovation are positively associated with customer satisfaction. Digital transformation has a path coefficient of 0.451, while service innovation has a coefficient of 0.375. Thus, improvements in digital transformation and service innovation are associated with higher customer satisfaction among Prudential Syariah customers.

The second structural model incorporates customer satisfaction as a mediating variable in explaining mobile application usage. The standardized coefficients show direct effects of 0.258 for digital transformation, 0.211 for service innovation, and 0.327 for customer satisfaction on mobile application usage. The residual coefficient is 0.769. Therefore, the second structural equation can be written as:

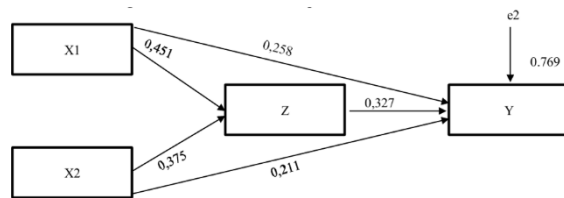


Figure 3. Equation 2

The results indicate positive direct relationships between digital transformation, service innovation, customer satisfaction, and mobile application usage. Customer satisfaction has a direct coefficient of 0.327 on mobile application usage. Furthermore, digital transformation and service innovation also have indirect relationships with mobile application usage through customer satisfaction. The magnitude of these relationships is summarized in Table 4.

Table 4. Direct, Indirect, and Total Effects

Relationship	Direct Effect	Indirect Effect	Total Effect
Digital Transformation (X1) → Customer Satisfaction (Z)	0.451	–	0.451
Service Innovation (X2) → Customer Satisfaction (Z)	0.375	–	0.375
Customer Satisfaction (Z) → Mobile Application Usage (Y)	0.327	–	0.327
Digital Transformation (X1) → Mobile Application Usage (Y)	0.258	0.147	0.405
Service Innovation (X2) → Mobile Application Usage (Y)	0.211	0.123	0.334

Source: Authors' data processing (2026).

Table 4 shows that digital transformation has a direct effect of 0.258 on mobile application usage and an indirect effect of 0.147 through customer satisfaction, resulting in a total effect of 0.405. Similarly, service innovation has a direct effect of 0.211 and an indirect effect of approximately 0.123, resulting in a total effect of approximately 0.334. These findings indicate that part of the relationship between digital transformation and service innovation with mobile application usage operates through customer satisfaction.

Importantly, the indirect effects should not yet be interpreted as statistically significant mediation based solely on these coefficients. The path coefficients only indicate the magnitude and direction of the indirect relationships. The statistical significance of the mediation effects should be determined using the Sobel test, which in this study is used to test H6 and H7.

4.5. Hypothesis Testing and Model Evaluation

Table 5 shows that all seven hypotheses are statistically supported at the 5% significance level. Digital transformation and service innovation positively affect customer satisfaction, while digital transformation, service innovation, and customer satisfaction positively affect mobile application usage. The Sobel test further confirms the significant mediating role of customer satisfaction in both indirect relationships. In terms of explanatory power, Model I records an R^2 of 0.433 and an adjusted R^2 of 0.421, indicating that digital transformation and service innovation explain approximately 42.1% of the adjusted variation in customer satisfaction. Model II records an R^2 of 0.408 and an adjusted R^2 of 0.390, indicating that digital transformation, service innovation, and customer satisfaction explain approximately 39.0% of the adjusted variation in mobile application usage, while the remaining variation is attributable to factors outside the specified models.

Table 5. Hypothesis Testing and Model Explanatory Power

Hypothesis / Model	Relationship	Coefficient	p-value	Decision
Hypothesis 1	Digital Transformation → Customer Satisfaction	0.451	<0.001	Supported
Hypothesis 2	Service Innovation → Customer Satisfaction	0.375	<0.001	Supported
Hypothesis 3	Digital Transformation → Mobile Application Usage	0.258	0.007	Supported
Hypothesis 4	Service Innovation → Mobile Application Usage	0.211	0.021	Supported
Hypothesis 5	Customer Satisfaction → Mobile Application Usage	0.327	0.002	Supported
Hypothesis 6	Digital Transformation → Customer Satisfaction → Mobile Application Usage	0.147	0.0068	Supported
Hypothesis 7	Service Innovation → Customer Satisfaction → Mobile Application Usage	0.123	0.0080	Supported
Model I	X1, X2 → Customer Satisfaction	$R^2 = 0.433$	Adj. $R^2 = 0.421$	

Model II	X1, X2, Z → Mobile Application Usage	R ² = 0.408	Adj. R ² = 0.390
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Source: Authors' data processing (2026)

4.6. Discussion

The findings demonstrate that digital transformation has a positive and significant effect on customer satisfaction, with a standardized path coefficient of 0.451 and a significance level of $p < 0.001$, supporting H1. This finding indicates that improvements in digital accessibility, service speed, security, information availability, and process efficiency contribute to a more satisfactory customer experience. In the context of Prudential Syariah, the implementation of PRUServices facilitates access to policy information, contribution payments, and other insurance services, thereby reducing the time and effort required to interact with the company. This result is consistent with Vial (2019), who emphasizes that digital transformation changes organizational processes and value creation through the integration of digital technologies. It is also consistent with Verhoef et al. (2021), who argue that digital transformation reshapes customer interactions and customer experience, as well as Yusof and Shamsuddin (2021), who associate the development of digital services with improved customer satisfaction. Thus, digital transformation in Islamic insurance should be understood not merely as technological adoption but as a mechanism for creating more accessible, efficient, and customer-oriented services.

Service innovation also has a positive and significant effect on customer satisfaction, with a path coefficient of 0.375 and $p < 0.001$, supporting H2. The result suggests that the development of new features, ease of use, service practicality, responsiveness, and compatibility with customer needs can generate additional value for Prudential Syariah customers. This finding is consistent with Tidd and Bessant (2018), who explain that innovation creates value through the development and implementation of improved products, processes, and services. It is also relevant to the perspective of Kotler and Keller (2016), which emphasizes that customer satisfaction emerges when service performance meets or exceeds customer expectations. In this context, digital service innovation can reduce complexity in insurance transactions and enable customers to obtain services more conveniently. Consequently, innovation becomes meaningful to customers not simply because a new digital feature is introduced, but because the feature provides practical benefits and responds to their actual service needs.

Regarding mobile application usage, digital transformation ($\beta = 0.258$; $p = 0.007$), service innovation ($\beta = 0.211$; $p = 0.021$), and customer satisfaction ($\beta = 0.327$; $p = 0.002$) all show positive and significant effects, supporting H3, H4, and H5. These findings indicate that application usage is associated not

only with the technological development of the service but also with customers' evaluations of their experience with that service. The results are consistent with the Technology Acceptance Model developed by Davis (1989), particularly the argument that perceived usefulness and ease of use are important determinants of technology acceptance and usage. The findings are also relevant to Amin (2019), who highlights customer acceptance in the adoption of mobile-based financial services. Furthermore, the positive relationship between customer satisfaction and mobile application usage supports Kotler and Keller's (2016) view that satisfactory service experiences can encourage continued customer behavior. Therefore, when PRUServices provides useful features, convenient access, and satisfactory digital experiences, customers are more likely to utilize the application continuously rather than treating it merely as an alternative service channel.

The mediation analysis further strengthens these relationships. The indirect effect of digital transformation on mobile application usage through customer satisfaction is 0.147, with a Sobel statistic of 2.704 ($p = 0.0068$), supporting H6. Similarly, service innovation has an indirect effect of approximately 0.123 through customer satisfaction, with a Sobel statistic of 2.654 ($p = 0.0080$), supporting H7. These findings demonstrate that customer satisfaction acts as a significant mediating mechanism linking both digital transformation and service innovation to mobile application usage. In other words, technological improvements and service innovations are associated with application usage both directly and indirectly through the satisfaction generated by customers' digital service experiences. This mechanism is consistent with Vial (2019) and Verhoef et al. (2021), who position customer value and experience as important outcomes of digital transformation, while Tidd and Bessant (2018) emphasize value creation as a central outcome of innovation. It also aligns with Davis (1989) and Kotler and Keller (2016) in suggesting that favorable evaluations of technology and service experiences can translate into subsequent usage behavior. Taken together, the results indicate that the effectiveness of digital transformation and service innovation in Prudential Syariah depends not only on the availability of digital technology and innovative features, but also on whether these developments generate satisfactory customer experiences that encourage sustained use of PRUServices.

5. Conclusions

This study concludes that digital transformation and service innovation play important roles in strengthening customer satisfaction and mobile application usage among Prudential Syariah customers in Medan City. Digital transformation and service innovation have positive and significant effects on customer satisfaction, while digital transformation, service innovation, and customer satisfaction also positively and significantly affect mobile application usage. Furthermore, customer satisfaction significantly mediates the effects of both digital transformation and service innovation on mobile application usage. These findings answer the research objectives by demonstrating that the adoption of digital services is not determined solely by technological development and service innovation, but also by the extent to which these improvements create satisfactory customer experiences. The study therefore contributes to the literature on digital transformation in Islamic insurance by positioning customer satisfaction as an important mechanism linking digital service improvements with continued application usage.

From a practical perspective, Prudential Syariah should continuously improve PRUServices by prioritizing accessibility, ease of use, transaction efficiency, security, responsiveness, and features that correspond to customers' actual insurance needs. Digital transformation should not focus merely on expanding technological capabilities but should also ensure that each digital feature provides tangible value and a convenient customer experience. Service innovation should consequently be developed based on customer feedback and changing digital behavior. Strengthening customer education regarding application features and digital services may also encourage customers who remain dependent on agents or branch-based services to become more confident in using PRUServices. These efforts are expected to strengthen satisfaction and encourage sustained application usage.

This study nevertheless has several limitations. The analysis was limited to 100 Prudential Syariah customers in Medan City selected through purposive sampling, which restricts the generalizability of the findings to customers in other regions or Islamic insurance companies. Template of JBE Journal 2025(4) In addition, the model focuses on digital transformation, service innovation, and customer satisfaction, whereas mobile application usage may also be influenced by other technological and behavioral factors. Future studies should therefore involve larger and more geographically diverse samples, compare multiple Islamic insurance providers, and incorporate additional determinants such as digital literacy, perceived risk, trust, perceived usefulness, perceived ease of use, or digital service quality. Future research may also employ longitudinal designs or alternative analytical approaches to provide a broader understanding of

customers' continued adoption of digital Islamic insurance services.

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Author Contributions Statement

Hayathun Maira contributed to conceptualization, methodology, software, validation, formal analysis, investigation, data curation, and writing. Nurbaiti contributed to conceptualization, methodology, investigation, resources, data curation, and writing. Purnama Ramadani contributed to methodology, formal analysis, investigation, resources, and writing. All authors reviewed and approved the final manuscript.

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C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

W : Writing - Review

Conflict of Interest Statement

The authors declare no conflicts of interest related to this study.

Informed Consent

Informed consent was obtained from all respondents who voluntarily participated in this study.

Ethical Approval

The study was conducted in accordance with applicable research ethics and principles concerning voluntary participation and confidentiality.

Data Availability

data supporting the findings of this study are available from the corresponding author upon reasonable request.

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