

Digital Pilgrimage Adoption in the Emerging Umrah Market: Examining the Roles of Perceived Risk, Price Value, and Platform Usability in Shaping Independent Umrah Intentions

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ARTICLE INFO

Article history:

Received 2026-06-15

Revised 2026-06-21

Accepted 2026-07-17

Published 2026-08-18

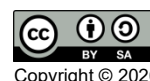
Keywords:

Behavioral intention; Digital pilgrimage; Independent Umrah; Online application usability; Perceived risk; Price perception; Theory of Planned Behavior

Abstract

The rapid digitalization of pilgrimage services has transformed the way prospective Muslims organize Umrah, enabling greater autonomy through online platforms. This study investigates the effects of perceived risk, price perception, and online application usability on the intention to perform independent Umrah in Batu Bara Regency, Indonesia. Drawing upon the Theory of Planned Behavior, a quantitative survey was conducted among 100 respondents selected through purposive sampling. Data were analyzed using multiple linear regression. The findings reveal that perceived risk does not significantly influence independent Umrah intention. In contrast, price perception and online application usability exert positive and significant effects on behavioral intention. Simultaneously, the three variables significantly explain variations in intention, highlighting affordability and digital convenience as key determinants of independent Umrah adoption. These findings extend the understanding of consumer behavior within the emerging digital pilgrimage ecosystem and suggest that technology-enabled accessibility and transparent pricing are more influential than risk perceptions in shaping independent Umrah intentions. The study offers practical implications for policymakers and digital Umrah service providers seeking to enhance user engagement and support the growth of independent pilgrimage services.

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How to cite item:

Zulmi, A., Harahap, M. I., & Silalahi, P. R. (2026). Digital pilgrimage adoption in the emerging Umrah market: Examining the roles of perceived risk, price value, and platform usability in shaping independent Umrah intentions. *Journal of Regional Economics Indonesia*, 7(2), 160-174.

1. Introduction

The rapid advancement of digital technology has significantly transformed various sectors of the global economy, including religious tourism and pilgrimage services. In the context of Umrah, digitalization has enabled prospective pilgrims to access information, arrange travel itineraries, process visas, book accommodation, and complete payment transactions through online platforms without relying entirely on conventional travel agencies. This transformation has created a new pattern of

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pilgrimage behavior known as independent Umrah, in which individuals organize and manage their pilgrimage activities autonomously using digital applications and online services. The emergence of digital platforms such as Nusuk has further accelerated this phenomenon by providing integrated services that simplify the entire Umrah process, ranging from registration and visa issuance to accommodation and transportation arrangements (Wati, 2022).

Historically, Umrah has occupied an important position in Islamic worship since the era of Prophet Ibrahim and Prophet Ismail, who were commanded to establish and purify the Ka'bah as a center of monotheistic worship (Yafiz et al., 2020). During the time of Prophet Muhammad (peace be upon him), the implementation of Umrah became more structured and was performed according to specific religious guidelines, including ihram, tawaf, sa'i, and tahallul (Munir & Ahmadi, 2025). Although Umrah is not obligatory like Hajj, it remains a highly recommended act of worship that contributes positively to spiritual well-being and religious commitment among Muslims (Kurniawan et al., 2024). Consequently, the increasing accessibility of digital technologies has generated new opportunities for Muslims to perform Umrah more independently while maintaining compliance with religious requirements.

The growing popularity of independent Umrah has also been supported by regulatory developments in Indonesia. Law Number 14 of 2025 concerning the Third Amendment to Law Number 8 of 2019 on the Organization of Hajj and Umrah formally recognizes independent Umrah as one of the legal channels for performing the pilgrimage, alongside services provided by licensed Umrah Travel Organizers (Penyelenggara Perjalanan Ibadah Umrah or PPIU) and government-facilitated arrangements (Hakim, 2020). Furthermore, Article 87A stipulates specific administrative requirements for independent pilgrims, including passport validity, confirmed flight tickets, medical certificates, Umrah visas, and verification through the Ministry of Religious Affairs information system and the Saudi Arabian Nusuk platform (Andryani, 2025). These regulatory reforms have expanded opportunities for prospective pilgrims to organize their own journeys while simultaneously increasing the importance of digital literacy and technological readiness.

Despite its advantages, independent Umrah is not without challenges. Unlike pilgrims who use licensed travel agencies, independent pilgrims bear greater responsibility for managing administrative procedures, travel arrangements, accommodation reservations, and emergency situations during the pilgrimage. Consequently, perceived risk becomes an important consideration in the decision-making process. Risk may arise from visa rejection, financial loss, accommodation problems, online fraud, data security concerns, and legal uncertainties associated with independent travel arrangements (Nurhayati, Abu Rokhmad et al., 2022; Yeni & Habibatur Ridhah, 2025). Several cases involving fraudulent travel arrangements and stranded pilgrims have further heightened public awareness regarding the potential risks associated with self-managed Umrah journeys (Husna & Mairita, 2024).

In addition to risk considerations, price remains a major factor influencing consumer decisions in the Umrah market. Independent Umrah offers the possibility of substantial cost savings because pilgrims can customize transportation, accommodation, and supporting services according to their budgets. Estimates indicate that independent Umrah may cost between IDR 19 million and IDR 25.5 million, whereas conventional travel packages generally range from IDR 24 million to IDR 29 million (Dwi Hanadya & Nyayu Uly Auliana, 2024). Such affordability may increase the attractiveness of independent Umrah, particularly among middle-income Muslim communities seeking economically efficient pilgrimage alternatives.

Another important determinant is the perceived ease of using online applications. The success of independent Umrah largely depends on pilgrims' ability to navigate digital platforms for information search, booking procedures, payment transactions, and travel management. Previous studies indicate that ease of use, system reliability, transaction speed, and security significantly influence users' acceptance of digital services (Imsar, Nurhayati, 2023; Yenni Samri Juliati Nasution et al., 2021). When

prospective pilgrims perceive online applications as simple, accessible, and trustworthy, their confidence in independently organizing Umrah is likely to increase (Raudati et al., 2025).

Although previous studies have discussed Umrah literacy (Landri et al., 2024), backpacker Umrah behavior (Pitaya, P., Makhasi, G. M., & Hanafiah, 2021), digitalization of Umrah services (Ivano, 2023), and travel management strategies (Nurani, 2023), empirical research examining independent Umrah intention from the perspectives of perceived risk, price perception, and online application usability remains limited. Moreover, few studies have simultaneously investigated these factors within the context of Indonesia's emerging digital pilgrimage ecosystem. This gap is particularly important considering the increasing adoption of digital platforms and the growing trend of independent pilgrimage arrangements following recent regulatory reforms.

Drawing upon the Theory of Planned Behavior (TPB), this study seeks to analyze the effects of perceived risk, price perception, and online application usability on the intention to perform independent Umrah in Batu Bara Regency. By examining these determinants, the study contributes to the growing literature on digital pilgrimage behavior and provides empirical evidence regarding consumer decision-making in technology-enabled religious travel services. The findings are expected to offer practical insights for policymakers, digital platform providers, and Umrah service operators in developing more accessible, transparent, and user-friendly pilgrimage services that support the sustainable growth of independent Umrah.

2. Literature Review

Theory of Planned Behavior and Independent Umrah Intention

The Theory of Planned Behavior (TPB) provides a robust framework for explaining individual intentions and decision-making processes. According to TPB, behavioral intention is the most immediate predictor of actual behavior and is influenced by attitudes, subjective norms, and perceived behavioral control. In the context of independent Umrah, intention reflects an individual's willingness and readiness to independently organize pilgrimage activities without relying on licensed Umrah travel agencies. The emergence of digital platforms has expanded opportunities for prospective pilgrims to manage travel arrangements autonomously, thereby increasing the relevance of behavioral intention in understanding independent Umrah adoption. The growing trend of self-managed pilgrimage arrangements demonstrates how technological advancement has reshaped religious travel behavior and consumer decision-making in the digital era.

Independent Umrah refers to a pilgrimage arrangement in which pilgrims independently manage administrative requirements, transportation, accommodation, and travel schedules through digital platforms and online services. This model offers greater flexibility and autonomy compared to conventional Umrah packages provided by travel agencies. The increasing availability of online booking systems, electronic visas, digital payment services, and integrated pilgrimage applications has facilitated the development of independent Umrah as an alternative form of religious travel. Previous studies indicate that technological accessibility and digital innovation have significantly transformed service delivery in religious tourism, enabling consumers to become more actively involved in managing their pilgrimage experiences (Ivano, 2023; Wati, 2022).

Behavioral intention toward independent Umrah can be reflected through several indicators, including an individual's willingness to arrange travel independently, preference for self-managed pilgrimage over agency-based services, readiness to complete administrative procedures personally, and intention to recommend independent Umrah to others. These indicators demonstrate the extent to

which prospective pilgrims perceive independent Umrah as a feasible and attractive alternative to conventional pilgrimage arrangements (Al-Kahfi et al., 2025).

Perceived Risk

Perceived risk has long been recognized as an important determinant of consumer behavior, particularly in situations involving uncertainty and potentially adverse outcomes. In the context of independent Umrah, perceived risk refers to an individual's assessment of possible losses, uncertainties, and unfavorable consequences associated with independently organizing pilgrimage activities. Such risks may include administrative errors, visa rejection, accommodation problems, transportation disruptions, financial losses, online fraud, data security concerns, and limited access to emergency assistance during the pilgrimage process. These uncertainties may reduce confidence and discourage individuals from choosing independent pilgrimage arrangements.

Risk perception is particularly relevant in digital service environments because consumers often depend on online platforms to process sensitive personal information and conduct financial transactions. Digital literacy and information security therefore become essential considerations in shaping public confidence toward online Umrah services (Syafitri et al., 2024). Previous studies indicate that higher levels of perceived risk generally reduce consumer willingness to adopt digital products and services because uncertainty increases concerns regarding possible negative outcomes (Kurniawan et al., 2024). Likewise, risk management practices within Umrah travel services play an important role in ensuring service reliability and regulatory compliance (Yeni & Habibatur Ridhah, 2025).

From the perspective of TPB, perceived risk can weaken behavioral intention by reducing perceived behavioral control. Individuals who perceive greater uncertainty may feel less capable of successfully managing travel arrangements independently. Consequently, perceived risk is expected to negatively influence the intention to perform independent Umrah. This argument is consistent with findings showing that administrative, operational, and legal uncertainties often generate hesitation among prospective pilgrims considering self-managed travel options (Kristiani & Hadiprajitno, 2023; Niswaaa & Thayib, 2025).

Price Perception

Price perception represents an individual's evaluation regarding the fairness, affordability, and value of the costs associated with a product or service. In consumer behavior literature, price is not merely viewed as a monetary sacrifice but also as an indicator of value received from consumption. Within the context of independent Umrah, price perception plays a critical role because pilgrimage expenses often constitute one of the primary considerations influencing decision-making. Prospective pilgrims continuously evaluate whether the benefits obtained justify the financial costs incurred.

One of the major attractions of independent Umrah is its potential to reduce overall travel expenses. By eliminating intermediary costs and allowing pilgrims to customize accommodation, transportation, and supporting services according to their preferences, independent Umrah offers greater cost efficiency compared to conventional travel packages. Research indicates that self-managed Umrah arrangements can generate substantial savings compared to agency-organized pilgrimage programs (Dwi Hanadya & Nyayu Ully Auliana, 2024). Furthermore, transparent and affordable pricing increases consumer confidence and strengthens the attractiveness of independent travel alternatives (Affandy, 2020).

Several studies have demonstrated that favorable price perceptions positively influence consumer purchase intentions and decision-making processes. When consumers perceive prices as reasonable and aligned with expected benefits, they are more likely to develop positive attitudes toward adoption (Wahyuni, 2023; Widitya et al., 2024; Zaliany & Sabrina, 2025). Therefore, in the context of independent

Umrah, positive price perceptions are expected to encourage stronger behavioral intentions among prospective pilgrims.

Ease of Online Application Use

The rapid digitalization of Umrah services has increased the importance of technology acceptance factors, particularly perceived ease of use. Ease of online application use refers to the extent to which individuals believe that interacting with a digital platform requires minimal effort and can be performed efficiently. User-friendly systems reduce complexity, increase confidence, and facilitate technology adoption. In the independent Umrah context, digital applications play an essential role in enabling pilgrims to complete administrative requirements, obtain visas, reserve accommodation, purchase transportation tickets, and access pilgrimage-related information.

According to Kamilah and Nasution (2024), ease of use is reflected through interface simplicity, system accessibility, and technological efficiency. Similarly, indicators such as navigation clarity, transaction security, processing speed, and platform reliability contribute significantly to user perceptions of convenience (Imsar, Nurhayati, 2023). Modern digital platforms such as Nusuk and online travel systems have simplified many pilgrimage procedures that were previously dependent on travel agencies, thereby empowering individuals to independently manage complex travel arrangements (Wati, 2022).

Previous studies consistently demonstrate that ease of use positively influences behavioral intention across various digital environments. Users are more likely to adopt technological innovations when they perceive them as simple, accessible, and beneficial. In the context of public service applications, intuitive interfaces and efficient systems significantly increase user acceptance and engagement (Ikhsan et al., 2024). Likewise, the application of user-centered design principles has been shown to enhance user satisfaction and technology adoption within Umrah management applications (Raudati et al., 2025). Consequently, perceived ease of online application use is expected to positively affect the intention to perform independent Umrah.

Hypothesis Development

Based on the theoretical arguments and empirical evidence discussed above, the hypotheses proposed in this study are:

H1: Perceived risk has a significant negative effect on the intention to perform independent Umrah.

H2: Price perception has a significant positive effect on the intention to perform independent Umrah.

H3: Ease of online application use has a significant positive effect on the intention to perform independent Umrah.

H4: Perceived risk, price perception, and ease of online application use simultaneously have a significant effect on the intention to perform independent Umrah.

3. Methodology

This study employed a quantitative research approach to examine the influence of perceived risk, price perception, and online application usability on the intention to perform independent Umrah. A quantitative approach was considered appropriate because it enables the measurement of relationships among variables through statistical analysis and facilitates objective hypothesis testing. The study was conducted in Batu Bara Regency, North Sumatra Province, Indonesia, where awareness and interest in independent Umrah have increased following the introduction of digital pilgrimage services and the implementation of the Saudi Arabian Nusuk platform.

Research Design

The research adopted an explanatory survey design aimed at identifying and explaining causal relationships between independent variables and the dependent variable. The independent variables consisted of perceived risk (X_1), price perception (X_2), and online application usability (X_3), while the dependent variable was independent Umrah intention (Y). The conceptual framework assumes that each independent variable individually and collectively influences the intention of prospective pilgrims to undertake independent Umrah arrangements.

Population and Sample

The population of this study comprised Muslim residents of Batu Bara Regency who possessed knowledge regarding independent Umrah services and online pilgrimage applications. Since the exact population size was not known, the study employed a non-probability sampling technique using purposive sampling. This technique was selected because respondents were required to meet specific criteria relevant to the research objectives.

The criteria used for respondent selection included: Being a Muslim resident of Batu Bara Regency, Having knowledge of independent Umrah services, being familiar with online applications used in Umrah arrangements, having an interest in performing Umrah in the future. Based on these criteria, a total of 100 respondents were selected as research participants. The sample size was considered sufficient for multiple linear regression analysis and fulfilled the minimum requirement for examining relationships among the study variables.

Data Sources and Collection Techniques

The study utilized both primary and secondary data sources. Primary data were collected directly from respondents through structured questionnaires distributed using a Likert scale measurement format. Secondary data were obtained from books, journal articles, regulations, government publications, and previous studies related to Umrah services, digital pilgrimage, consumer behavior, and technology adoption.

The questionnaire consisted of statements representing each research variable. Respondents were asked to indicate their level of agreement using a five-point Likert scale ranging from: The scale ranged from 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), to 5 (Strongly Agree). This measurement approach facilitates the quantification of respondents' perceptions regarding risk, price, online application usability, and independent Umrah intention.

Operational Definition of Variables, the variables investigated in this study were operationalized based on indicators. Perceived Risk (X_1) refers to an individual's perception of uncertainty and potential losses associated with independent Umrah arrangements. The indicators include financial risk, operational risk, security risk, and service-related uncertainty. Price Perception (X_2) refers to an individual's evaluation of affordability, fairness, and value associated with the costs of independent Umrah services. The indicators include price affordability, price suitability, value for money, and economic benefits.

Online Application Usability (X_3) refers to the extent to which users perceive online Umrah applications as easy to learn, operate, and utilize effectively. The indicators include ease of navigation, accessibility, efficiency, and convenience. Independent Umrah Intention (Y) refers to the willingness and readiness of prospective pilgrims to independently organize Umrah activities without relying on conventional travel agencies. The indicators include intention to use independent Umrah services, preference for self-management, future adoption plans, and recommendation intentions.

Data Analysis Technique

Data analysis was conducted using the Statistical Package for Social Sciences (SPSS). The analysis procedure consisted of several stages, namely descriptive analysis, instrument testing, classical assumption testing, and hypothesis testing.

The validity test was employed to determine whether each questionnaire item accurately measured the intended construct. An item was considered valid when the calculated correlation coefficient exceeded the critical value of the correlation table. Reliability testing was conducted using Cronbach's Alpha coefficient to evaluate the internal consistency of the measurement instrument. A Cronbach's Alpha value greater than 0.60 indicated acceptable reliability.

Before hypothesis testing, classical assumption tests were performed, including Normality Test, to assess whether the residuals followed a normal distribution. Multicollinearity Test, to identify potential correlations among independent variables using Tolerance and Variance Inflation Factor (VIF) values. Heteroscedasticity Test, to examine whether residual variance remained constant across observations.

Multiple Linear Regression Analysis, to examine the effects of perceived risk, price perception, and online application usability on independent Umrah intention, the study employed multiple linear regression analysis using the following model:

$$Y=a+b_1X_1+b_2X_2+b_3X_3+e$$

Where: Y = Independent Umrah Intention; a = Constant; b1, b2, b3 = Regression coefficients; X1= Perceived Risk; X2= Price Perception; X3= Online Application Usability; e = Error term.

Hypothesis testing was conducted through the t-test to evaluate partial effects, the F-test to assess simultaneous effects, and the coefficient of determination (R²) to determine the proportion of variance in independent Umrah intention explained by the independent variables. Statistical significance was assessed at the 5% significance level ($\alpha = 0.05$).

4. Results

This section presents the empirical findings obtained from 100 respondents in Batu Bara Regency. Consistent with the research framework, the analysis examines the influence of perceived risk, price perception, and online application usability on the intention to perform independent Umrah. The analytical procedures include descriptive statistics, instrument testing, classical assumption testing, and hypothesis testing using multiple linear regression. All statistical outputs presented in this section are derived from the original dataset and analysis reported in the study.

Descriptive Statistics

The descriptive statistics provide an overview of respondents' perceptions regarding the four variables examined in this study. The results are presented in Table 1.

Table 1. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Risk	100	14	32	27.31	3.784
Price	100	19	35	28.03	3.457
Ease of Online Applications	100	21	35	29.61	3.235
Independent Umrah Intention	100	15	35	28.96	3.567
Valid N (listwise)	100				

Source: Primary data processing results (2026)

The findings indicate that all variables have mean values above the midpoint of the measurement scale, suggesting generally favorable perceptions among respondents. The highest mean score was recorded for ease of online applications (Mean = 29.61), indicating that respondents highly appreciated the usability and accessibility of digital platforms supporting independent Umrah arrangements. Independent Umrah intention also demonstrated a relatively high mean score (Mean = 28.96), reflecting strong public interest in independently organizing pilgrimage activities. Meanwhile, price perception (Mean = 28.03) and perceived risk (Mean = 27.31) remained within positive ranges, suggesting that respondents generally considered independent Umrah affordable while acknowledging manageable levels of risk.

Instrument Validity and Reliability

Prior to hypothesis testing, all questionnaire items were subjected to validity and reliability assessments. The validity results reported in the original study indicate that all indicators of perceived risk, price, online application usability, and independent Umrah intention achieved significant item-total correlation coefficients (Sig. < 0.05). Therefore, all measurement items were considered valid and suitable for further statistical analysis.

Similarly, reliability testing using Cronbach's Alpha demonstrated satisfactory internal consistency across all variables. The reliability coefficients were 0.703 for perceived risk, 0.658 for price, 0.758 for online application usability, and 0.758 for independent Umrah intention. These values exceeded the minimum acceptable threshold adopted in the study, confirming that the measurement instruments were reliable (see Table 2).

Table 2. Reliability Test Results

Variable	Items	Cronbach's Alpha	Interpretation
Risk	7	0.703	Reliable
Price	7	0.658	Reliable
Ease of Online Applications	7	0.758	Reliable
Independent Umrah Intention	7	0.758	Reliable

Source: Primary data processing results (2026)

Classical Assumption Testing

The regression model was evaluated through classical assumption tests before conducting hypothesis testing. The multicollinearity test revealed tolerance values of 0.853 for risk, 0.806 for price, and 0.820 for online application usability. Corresponding Variance Inflation Factor (VIF) values were 1.173, 1.241, and 1.219, respectively. All tolerance values exceeded 0.10 and all VIF values remained substantially below the critical threshold of 10. Therefore, no multicollinearity problem was detected, indicating that each independent variable contributed unique explanatory information to the model.

These findings confirm that the regression model satisfied the assumptions required for multiple linear regression analysis and was therefore appropriate for hypothesis testing.

Multiple Linear Regression Analysis

The effects of perceived risk, price perception, and online application usability on independent Umrah intention were estimated using multiple linear regression analysis. The results are presented in Table 3.

Table 3. Multiple Linear Regression Analysis

Variable	B	Std. Error	Beta	t	Sig.
Constant	13.275	3.612	–	3.675	<0.001
Risk	-0.048	0.093	-0.051	-0.516	0.607
Price	0.296	0.105	0.287	2.818	0.006
Ease of Online Application	0.293	0.111	0.266	2.633	0.010

Dependent Variable: Independent Umrah Intention Source: Primary data processing results (2026)

The estimated regression equation is:

$$Y = 13.275 - 0.048X_1 + 0.296X_2 + 0.293X_3 + e$$

where: Y = Independent Umrah Intention, X₁ = Perceived Risk, X₂ = Price, X₃ = Ease of Online Application Use

The regression coefficients indicate that perceived risk has a negative coefficient (-0.048), whereas price (0.296) and online application usability (0.293) have positive coefficients. These findings suggest that increases in favorable price perceptions and perceived ease of application use are associated with stronger intentions to perform independent Umrah, whereas higher risk perceptions tend to reduce intention, although the effect is not statistically significant.

Partial Hypothesis Testing (t-Test)

The t-test was conducted to examine the individual influence of each independent variable on independent Umrah intention.

The results indicate that perceived risk does not significantly influence independent Umrah intention (t = -0.516; p = 0.607). Because the significance value exceeds 0.05, Hypothesis 1 is not supported. These findings imply that respondents do not perceive risk as a major obstacle when considering independent Umrah arrangements.

In contrast, price perception demonstrates a positive and statistically significant effect on intention (t = 2.818; p = 0.006). Therefore, Hypothesis 2 is supported. Respondents who perceive independent Umrah as more affordable and economically beneficial exhibit stronger intentions to undertake self-managed pilgrimage arrangements.

Similarly, online application usability has a positive and significant influence on intention (t = 2.633; p = 0.010), supporting Hypothesis 3. This result indicates that respondents are more likely to engage in independent Umrah when digital platforms are perceived as easy to use, accessible, and efficient.

Simultaneous Hypothesis Testing (F-Test)

To evaluate the collective influence of all independent variables, an F-test was conducted see table 4.

Table 4. ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	246.748	3	82.249	7.794	<0.001
Residual	1.013.092	96	10.553		
Total	1.259.840	99			

Dependent Variable: Independent Umrah Intention Source: Primary data processing results (2026)

The F-statistic of 7.794 with a significance level below 0.001 confirms that perceived risk, price perception, and online application usability jointly have a significant effect on independent Umrah intention. Consequently, Hypothesis 4 is supported, and the overall regression model is considered statistically fit.

The model summary indicates a strong relationship between the independent variables and independent Umrah intention. The study reports an R Square value of 0.696, suggesting that 69.6% of the variation in independent Umrah intention can be explained by perceived risk, price perception, and online application usability, while the remaining 30.4% is attributable to factors not included in the model, such as religiosity, social influence, trust, and personal motivation.

Overall, the empirical results consistently demonstrate that price perception and online application usability are the primary determinants of independent Umrah intention, whereas perceived risk does not exert a statistically significant influence within the observed sample.

5. Discussion

The findings of this study provide important insights into the determinants of independent Umrah intention within Indonesia's emerging digital pilgrimage ecosystem. By examining perceived risk, price perception, and online application usability, this study contributes to understanding how prospective pilgrims evaluate and adopt self-managed Umrah arrangements in an increasingly digitalized environment. The results indicate that perceived risk does not significantly influence independent Umrah intention, whereas price perception and online application usability exert significant positive effects. Furthermore, the three variables collectively explain a substantial proportion of variation in independent Umrah intention.

The Effect of Perceived Risk on Independent Umrah Intention

The empirical results demonstrate that perceived risk does not significantly influence independent Umrah intention. Although the regression coefficient is negative, the relationship fails to reach statistical significance. This finding suggests that respondents do not consider risk as a primary factor when deciding whether to undertake independent Umrah arrangements.

From a theoretical perspective, this result partially diverges from conventional consumer behavior literature, which generally argues that risk perception reduces behavioral intention by increasing uncertainty and decreasing perceived behavioral control. However, the present finding may reflect the evolving nature of digital pilgrimage services. The increasing availability of official digital platforms, standardized procedures, and government-recognized systems such as Nusuk may have reduced concerns regarding administrative uncertainty and service reliability. As a result, prospective pilgrims may perceive independent Umrah as a relatively safe and manageable option despite potential operational risks. This interpretation is consistent with the growing acceptance of digital service ecosystems discussed in the literature reviewed in the original manuscript (Wati, 2022; Ivano, 2023).

Another possible explanation relates to the characteristics of the respondents. Individuals familiar with online services may possess sufficient digital literacy and confidence to independently manage pilgrimage arrangements. Consequently, concerns regarding financial, operational, and technological risks become less influential in shaping behavioral intentions. This finding supports the argument that technological familiarity can mitigate perceived uncertainty and increase confidence in self-service environments.

The Effect of Price Perception on Independent Umrah Intention

The results indicate that price perception has a positive and statistically significant influence on independent Umrah intention. Respondents who perceive independent Umrah as affordable and

economically beneficial demonstrate stronger intentions to perform self-managed pilgrimage arrangements.

This finding reinforces the view that economic considerations remain a central component of pilgrimage decision-making. Unlike conventional Umrah packages that bundle transportation, accommodation, and administrative services, independent Umrah provides greater flexibility in selecting service providers and controlling travel expenditures. Consequently, prospective pilgrims can optimize costs according to their preferences and financial capabilities. As documented in the original study, independent Umrah may generate substantial savings compared to conventional travel packages, thereby enhancing its attractiveness among middle-income Muslim consumers.

From a behavioral perspective, favorable price perceptions increase the perceived value of independent Umrah. Consumers are more likely to engage in a particular behavior when they believe that the benefits outweigh the associated costs. The positive coefficient obtained in this study suggests that respondents evaluate independent Umrah not only as a religious activity but also as a rational economic choice. This finding is consistent with previous studies cited in the original manuscript, which emphasize the role of affordability and value perception in shaping consumer intentions (Affandy, 2020; Wahyuni, 2023; Widitya et al., 2024).

The Effect of Online Application Usability on Independent Umrah Intention

The analysis further reveals that online application usability has a positive and significant influence on independent Umrah intention. This result highlights the critical role of digital technology in facilitating independent pilgrimage arrangements.

The significance of this variable indicates that prospective pilgrims place considerable importance on system accessibility, ease of navigation, transaction efficiency, and user convenience. Independent Umrah requires pilgrims to independently manage various travel-related activities, including visa applications, accommodation reservations, transportation bookings, and information searches. Therefore, user-friendly digital platforms substantially reduce complexity and increase confidence in self-managed pilgrimage arrangements. The finding is consistent with the conceptualization of ease of use presented in the original manuscript and aligns with prior evidence demonstrating that technology usability promotes adoption intentions in digital service environments (Imsar & Nurhayati, 2023; Raudati et al., 2025).

The result also reflects broader trends in digital transformation across the religious tourism sector. As pilgrimage-related services become increasingly integrated into online platforms, consumers expect efficient, transparent, and accessible digital experiences. Consequently, technological convenience emerges as an important determinant of behavioral intention, particularly among users accustomed to digital service interactions.

Simultaneous Influence of the Independent Variables

The F-test results confirm that perceived risk, price perception, and online application usability collectively have a significant influence on independent Umrah intention. Although perceived risk does not exert a significant individual effect, its inclusion contributes to the overall explanatory power of the model.

The reported coefficient of determination indicates that a substantial proportion of variation in independent Umrah intention can be explained by the three variables examined in this study. This finding suggests that independent Umrah adoption is influenced by a combination of economic evaluations and technological considerations rather than solely by concerns regarding risk. The results therefore support the growing view that digital pilgrimage behavior reflects an integration of religious

motivation, consumer rationality, and technology acceptance. Within the context of Indonesia's evolving pilgrimage ecosystem, affordability and digital convenience appear to be more influential than perceived uncertainty in encouraging prospective pilgrims to adopt independent Umrah arrangements.

Policy Implications and Recommendations

The findings of this study have important implications for policymakers, digital platform providers, and Umrah service stakeholders. First, the significant influence of price perception suggests that government agencies and service providers should promote greater transparency in pilgrimage-related costs. Providing accessible information regarding visa fees, accommodation expenses, transportation options, and administrative procedures can help prospective pilgrims make informed decisions and enhance the perceived affordability of independent Umrah.

Second, the significant role of online application usability highlights the importance of developing user-centered digital platforms. Service providers should continuously improve application interfaces, simplify navigation processes, strengthen transaction security, and provide multilingual support to accommodate diverse user groups. Enhancing platform usability may increase public confidence and encourage broader adoption of independent Umrah services.

Third, although perceived risk was not found to significantly influence intention, policymakers should continue strengthening consumer protection mechanisms and digital literacy programs. The Ministry of Religious Affairs, together with relevant stakeholders, can provide educational initiatives regarding safe digital transactions, regulatory compliance, and the effective use of official pilgrimage platforms. Such measures may further enhance public trust and support the sustainable development of Indonesia's digital pilgrimage ecosystem. Finally, future policy initiatives should encourage collaboration between government institutions, technology providers, and Umrah service operators to create integrated and accessible pilgrimage services that balance efficiency, affordability, and user protection.

6. Conclusion

This study examined the effects of perceived risk, price perception, and online application usability on the intention to perform independent Umrah among prospective pilgrims in Batu Bara Regency. The findings reveal that perceived risk does not have a statistically significant effect on independent Umrah intention, indicating that concerns regarding uncertainty and potential losses are not the primary considerations influencing respondents' decisions. In contrast, price perception and online application usability exert positive and significant effects on intention, suggesting that affordability and technological convenience play central roles in encouraging the adoption of independent Umrah arrangements.

Furthermore, the simultaneous analysis confirms that perceived risk, price perception, and online application usability collectively influence independent Umrah intention. The results demonstrate that the growing acceptance of independent Umrah is largely driven by favorable economic evaluations and the increasing accessibility of digital pilgrimage platforms. These findings highlight the importance of digital transformation in reshaping pilgrimage behavior and expanding opportunities for self-managed religious travel.

The study contributes to the emerging literature on digital pilgrimage and independent Umrah by providing empirical evidence on the determinants of behavioral intention within Indonesia's evolving pilgrimage ecosystem. Practically, the findings underscore the need for transparent pricing strategies, user-friendly digital applications, and continuous efforts to strengthen digital literacy and service accessibility. Future studies are encouraged to incorporate additional variables, such as religiosity, trust,

social influence, and digital literacy, while employing broader geographical coverage and larger samples to enhance the generalizability of findings.

References

- Affandy, F. F. (2020). Perilaku konsumen Muslim di Indonesia terhadap ibadah umroh: Antara 'ubudiyah dan gaya hidup. *OIKONOMIKA: Jurnal Kajian Ekonomi dan Keuangan Syariah*, 1(2), 78–87. <https://doi.org/10.53491/oikonomika.v1i2.73>
- Al-Kahfi, E. P. Dewi, & Mohamoud, M. E. (2025). The backpacker Umrah phenomenon in the digital era: Impact on pilgrims' spirituality and travel. *Multazam: Jurnal Manajemen Haji dan Umrah*, 5(1).
- Denianti, L., & Muhajarah, K. (2025). Pemenuhan kebutuhan psikologis dasar dalam motivasi jamaah umrah mandiri. *Kamaya: Jurnal Ilmu Agama*, 8(1), 76–87. <https://doi.org/10.37329/KAMAYA.V8I1.4034>
- Dwi Hanadya, & Auliana, N. U. (2024). Pemenuhan kebutuhan pelayanan kepada jemaah oleh KBIHU dan tour & travel haji dan umroh. *NAWASENA: Jurnal Ilmiah Pariwisata*, 3(2), 81–88. <https://doi.org/10.56910/nawasena.v3i2.1675>
- Ikhsan, R., Nursanto, G. A., & Piranti, N. M. (2024). Tinjauan literatur analisis aplikasi pelayanan publik. *INNOVATIVE: Journal of Social Science Research*, 4(4), 8052–8074.
- Imsar, Nurhayati, & Harahap, I. H. (2023). Analysis of digital economic interactions, economic openness, Islamic Human Development Index (I-HDI), and investment on Indonesia's GDP growth. *Edukasi Islami: Jurnal Pendidikan Islam*.
- Ivano, R. H. (2023). Perancangan sistem informasi pelayanan administrasi ibadah umroh menggunakan metode personal extreme programming berbasis web (studi kasus PT. Astri Duta Mandiri). *LOGIC: Jurnal Ilmu Komputer dan Pendidikan*, 2(1), 50–58.
- Kamilah, Y. S. J., & Nasution. (2024). The optimization of digitalization in facing global competition: The case of Islamic accounting. *Qubahan Academic Journal*.
- Kristiani, Y. I. A., & Hadiprajitno, B. (2023). The effect of enterprise risk management (ERM) disclosure on firm value mediated by profitability: Empirical study on banks listed on the IDX 2018–2020. *Jurnal Maksipreneur: Manajemen, Koperasi, dan Entrepreneurship*, 13(1), 167–180.
- Kurniawan, T. A., Primastiwi, A., & Milanda, D. P. (2024). Perceived risk and self-efficacy effect on digital gold applications usage. *Jurnal Manajemen*, 28(3), 547–566.
- Landri, P., Nurani, R., Islam, U., Sultan, N., Kasim, S., Johan, J. B., Islam, U., Sultan, N., & Kasim, S. (2024). *Hawa: Jurnal Pemberdayaan dan Pengabdian Masyarakat*, 2(3), 92–96.
- Nainggolan, E. P. (2023). Peran mediasi inklusi keuangan pada literasi keuangan dan kinerja UMKM di Kabupaten Deli Serdang. *Balance: Jurnal Akuntansi dan Manajemen*, 2(1).
- Niswaaa, N. K., & Thayib, S. (2025). Identifikasi risiko teknologi informasi pada layanan umroh digital di Indonesia. *Lab*, 9(2), 173–190. <https://doi.org/10.33507/lab.v9i02.2808>
- Nurani, H. A., & K. (2023). Marketing strategy in efforts to improve the quality of competitiveness in the travel bureau of PT. Babul Umroh Mandiri Wisata Branch Bukittinggi. *Multazam: Jurnal Manajemen Haji dan Umrah*, 3(1). <https://doi.org/10.32332/multazam.v3i1.6661>
- Pitaya, P., Makhasi, G. M., & Hanafiah, M. H. (2021). Not only about price but also lifestyle: Recent phenomena of backpacker Umrah in Indonesia. *Economica: Jurnal Ekonomi Islam*. <https://doi.org/10.21580/economica.2021.12.1.7038>

- Raudati, I., Setiawan, D., & Arsa, D. (2025). Penerapan metode design thinking pada UI/UX aplikasi mobile manajemen umrah di PT. Ajwa Tour. *Jurnal Sistem Informasi Triguna Dharma (JURSI TGD)*, 4(4), 1045–1056. <https://doi.org/10.53513/jursi.v4i4.11428>
- Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Syafitri, J. D., Setiawan, R. A., & Esore, S. (2024). Digital literacy and information security of the community in online Umrah. *International Journal of Contemporary Islamic Thought*, 1(1), 6–12. <https://doi.org/10.29300/IJOCIT.V1I1.2494>
- Wahyuni, P. R. (2023). The influence of price and product quality on batik purchasing decisions: Evidence from Sumenep Regency, Indonesia. *International Journal of Social Science and Human Research*, 6(9), 5754–5759. <https://doi.org/10.47191/IJSSHR/V6-I9-53>
- Wati, R. (2022). Perancangan e-katalog berbasis web pada RR Collection Sampit sebagai media branding menggunakan aplikasi Figma. *EJECTS: E-Journal Computer, Technology and Information System*, 2(1), 8–13.
- Widitya, A. A., Susanti, N. I., Suyoko, Y., & Sumaryanto. (2024). Pengaruh kualitas pelayanan, kualitas produk, dan persepsi harga terhadap minat beli melalui kepuasan konsumen sebagai variabel intervening. *Jurnal STIE Semarang*, 16(2), 95–103.
- Yeni, P. H., & Habibatur Ridhah. (2025). Analisis manajemen risiko terkait regulasi perjalanan umrah di AET Travel. *Jurnal Penelitian Ilmu-Ilmu Sosial*, 2(11), 267–273.
- Zalianty, N., & Sabrina, H. (2025). Pengaruh service quality dan persepsi harga terhadap kepuasan pelanggan transportasi online InDriver. *Jurnal Ilmiah Manajemen dan Bisnis (JIMBI)*, 6(1), 55–62. <https://doi.org/10.31289/jimbi.v6i1.5796>
- Zulkifli, M. A., & Hamzah, Z. (2022). Analisis pelayanan ibadah umroh pada perusahaan jasa penyelenggara umroh di Kota Pekanbaru. *Syarikat: Jurnal Rumpun Ekonomi Syariah*, 5(1), 62–71. [https://doi.org/10.25299/syarikat.2022.vol5\(1\).9887](https://doi.org/10.25299/syarikat.2022.vol5(1).9887)