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Behavioral Determinants of Independent Umrah Preference Among Indonesian Generation Z: Evidence From PLS-SEM

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Abstract: Indonesia's Umrah sector underwent a major regulatory transformation with the enactment of UU No. 14/2025, which formally permits independent Umrah (Umrah Mandiri) as an alternative to travel through registered operators (PPIU). This study investigates the determinants of Indonesian Generation Z Muslims' preference for independent Umrah using an extended Theory of Planned Behavior (TPB) integrated with the Technology Acceptance Model (TAM) and Value Perception Theory. Seven constructs were examined: Digital Readiness, Perceived Cost Advantage, Attitude, Subjective Norm, Perceived Behavioral Control, Behavioral Intention, and Choice Preference. Data were collected from 245 Generation Z Muslim respondents through an online survey and analyzed using PLS-SEM in SmartPLS 4. The results supported five of seven hypotheses. Digital Readiness significantly influenced both Attitude and Perceived Behavioral Control, while Perceived Behavioral Control was the strongest predictor of Behavioral Intention, followed by Subjective Norm. Behavioral Intention emerged as the strongest determinant of Choice Preference for independent Umrah. In contrast, Perceived Cost Advantage did not significantly affect Attitude, and Attitude did not significantly influence Behavioral Intention. These findings indicate that Generation Z's preference for Umrah Mandiri is driven primarily by digital capability and self-efficacy rather than cost considerations, offering practical implications for PPIU operators, digital service providers, and policymakers.

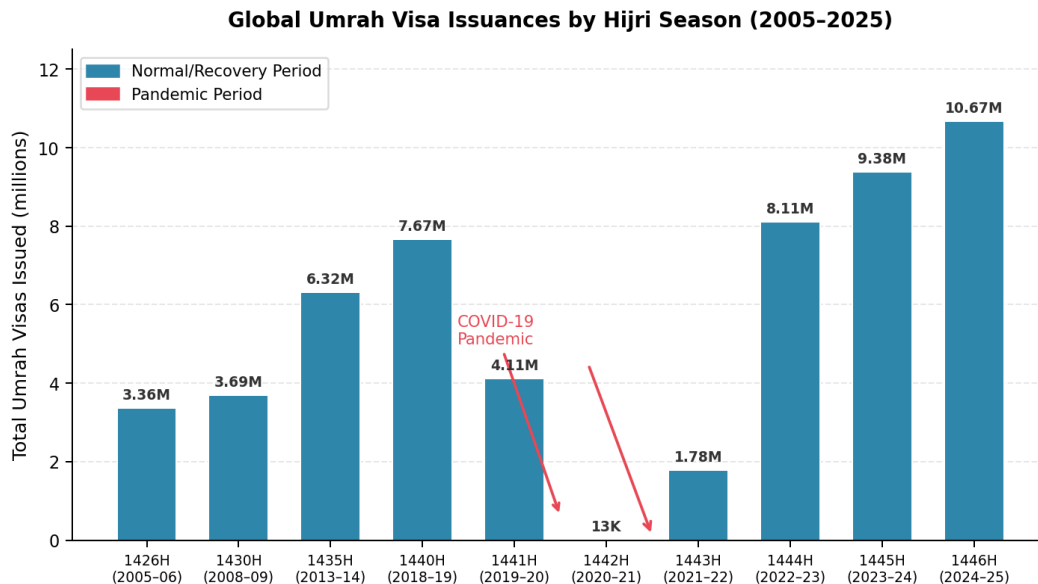
Keywords: Independent Umrah, Generation Z, Theory Of Planned Behavior, Perceived Behavioral Control, PLS-SEM.

INTRODUCTION

The global Umrah market has experienced substantial growth over the past two decades, increasing from approximately 3.4 million visa issuances in the 2005–2006 Hijri season to 10.7 million in 2024–2025. This expansion reflects rising Muslim purchasing power alongside strategic policy initiatives implemented under Saudi Arabia's Vision 2030 (General Authority for Statistics of Saudi Arabia, 2025; Pilgrim Experience Program, 2024). A key driver of this transformation has been the digitalization of pilgrimage services through the introduction of

the Saudi e-visa system, the Nusuk digital platform, and expanded transportation infrastructure connecting Jeddah, Mecca, and Medina (Ministry of Hajj & Umrah, 2023; Salaam Gateway, 2025). These developments have significantly reduced the logistical barriers that historically made independent Umrah arrangements difficult, creating a more open and digitally enabled pilgrimage ecosystem (Harun et al., 2024; Sayid Abas et al., 2025).

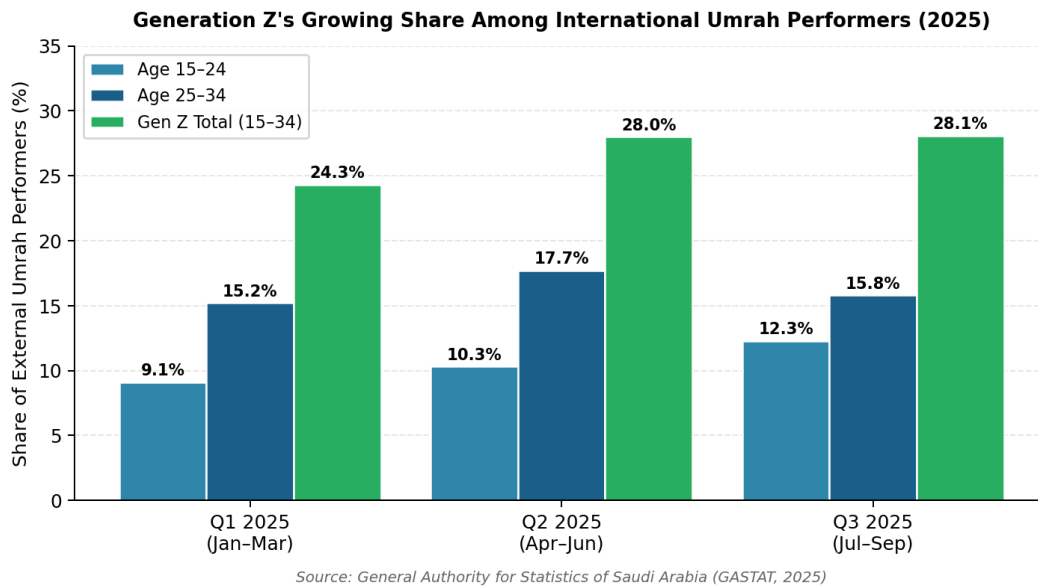
Figure 1 illustrates the sustained growth of global Umrah demand and its strong post-pandemic recovery, which has now exceeded pre-COVID levels.



Source: General Authority for Statistics of Saudi Arabia (2025)
Figure 1. Global Umrah Visa Issuances by Hijri Season, 2005–2025

Indonesia occupies a central position within this transformation. As the world's largest Muslim-majority country, Indonesia recorded approximately 1.8 million Umrah performers in 2024, of whom around 1.4 million traveled through registered Umrah travel operators (PPIU) (GoodStats, 2025; Radio Republik Indonesia, 2025). The difference between these figures suggests that a substantial number of pilgrims had already been arranging their journeys independently prior to formal regulatory recognition. This practice gained legal legitimacy through the enactment of UU No. 14/2025, which explicitly permits independent Umrah (Umrah Mandiri) without the involvement of licensed travel operators. The regulation introduces a new competitive environment for Indonesia's approximately 2,592 active PPIU operators while simultaneously creating opportunities for digitally capable pilgrims to organize their own religious travel.

The implications of this regulatory shift become particularly significant when viewed through Indonesia's demographic structure. Generation Z, generally defined as individuals born between 1997 and 2012, represents an increasingly important segment of the Umrah market. According to General Authority for Statistics of Saudi Arabia (2025), pilgrims aged 15–34 accounted for approximately 26.8% of international Umrah performers in 2025, with the proportion of younger pilgrims continuing to increase across quarters. At the same time, Indonesia's labor-force participation rates among individuals aged 20–34 indicate growing economic capacity to undertake pilgrimage activities (Badan Pusat Statistik, 2024). Beyond financial capability, Gen Z is characterized by strong digital engagement, preference for self-service technologies, and reliance on peer networks during decision-making processes (Popşa, 2024; Puiu et al., 2025). These characteristics suggest that this generation may be particularly receptive to the newly legalized Umrah Mandiri pathway.



Source: General Authority for Statistics of Saudi Arabia (2025)

Figure 2. Generation Z's Growing Share Among International Umrah Performers by Quarter, 2025

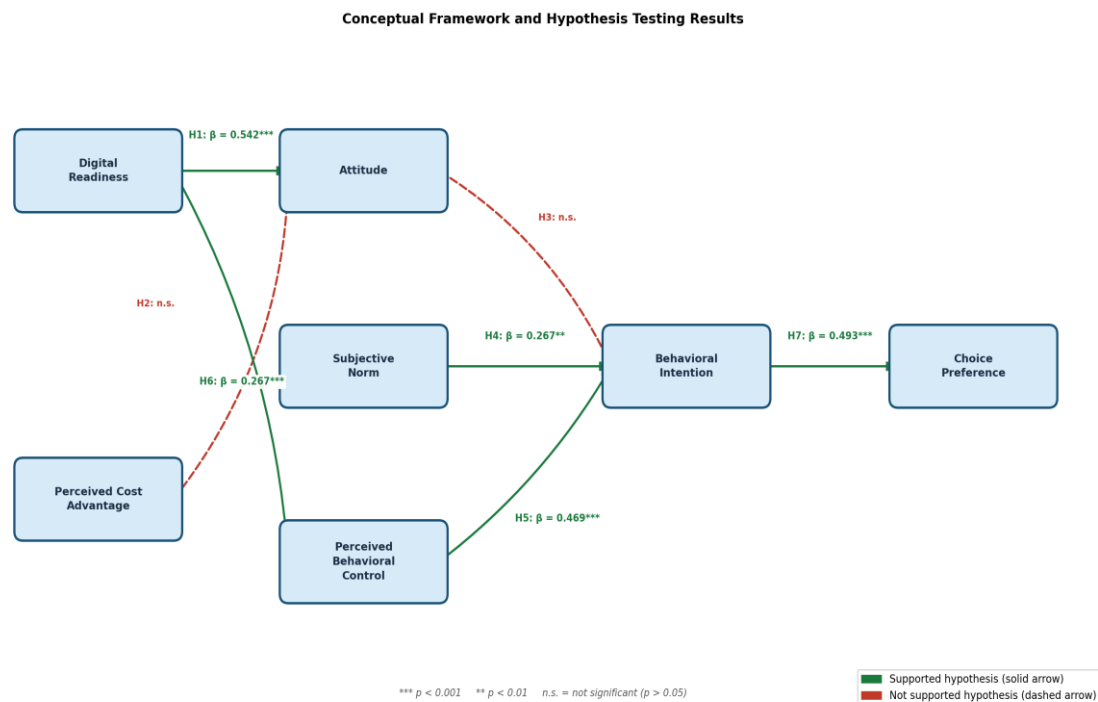
Despite the growing relevance of independent Umrah, empirical evidence regarding its behavioral determinants remains limited. Previous studies have primarily examined pilgrim satisfaction, loyalty, service quality, and travel motivation among general Umrah populations (Harun et al., 2024; Mursid & Wu, 2022; Othman et al., 2021). Relatively little attention has been devoted to generational differences or to pilgrims' channel preferences between PPIU-mediated and independently organized Umrah. Moreover, no study has specifically investigated Umrah Mandiri preference within the regulatory context created by (*Undang-Undang Republik Indonesia Nomor 14 Tahun 2025 Tentang Penyelenggaraan Ibadah Haji Dan Umrah*, 2025).

To address this gap, this study draws upon the Theory of Planned Behavior (TPB) (Ajzen, 1991), which posits that behavioral intention is determined by Attitude, Subjective Norm, and Perceived Behavioral Control. TPB has been widely applied in tourism and pilgrimage research because of its strong explanatory power regarding behavioral decision-making (Bui, 2023; Erul et al., 2023). However, the contemporary Umrah environment is increasingly mediated by digital technologies, suggesting the need for theoretical extensions beyond the traditional TPB framework.

Accordingly, this study integrates the Technology Acceptance Model (TAM) (Davis, 1989) and Value Perception Theory (Monroe, 1990; Zeithaml, 1988). TAM suggests that familiarity and confidence in digital technologies influence users' attitudes and perceptions of behavioral capability. In the context of Umrah Mandiri, digitally competent individuals are expected to perceive independent pilgrimage arrangements as both manageable and attractive (Valencia-Arias et al., 2023). Therefore, Digital Readiness is proposed as an antecedent of both Attitude and Perceived Behavioral Control. In addition, Value Perception Theory suggests that perceived economic benefits influence individuals' evaluations of available alternatives. Consequently, Perceived Cost Advantage is expected to shape favorable attitudes toward independent Umrah arrangements (Monroe, 1990; Zeithaml, 1988).

Based on these theoretical perspectives, seven hypotheses are developed. Digital Readiness is expected to positively influence Attitude (H1) and Perceived Behavioral Control (H6) because greater digital competence reduces the complexity of independently organizing pilgrimage activities (Chen et al., 2023; Sayid Abas et al., 2025; Tan et al., 2025; Valencia-Arias et al., 2023). Perceived Cost Advantage is expected to positively influence Attitude (H2)

because perceived economic value can improve evaluations of alternative travel arrangements (Monroe, 1990; Zeithaml, 1988). Consistent with TPB, Attitude (H3), Subjective Norm (H4), and Perceived Behavioral Control (H5) are expected to positively influence Behavioral Intention (Ajzen, 1991; Bui, 2023; Prabowo et al., 2026). Social influence is particularly relevant within Muslim communities where family, peers, and religious networks often shape pilgrimage decisions (Erul et al., 2023; Khadijah et al., 2022; Roy et al., 2025). Finally, Behavioral Intention is expected to positively influence Choice Preference for independent Umrah (H7), reflecting the central proposition that stronger intentions translate into stronger behavioral preferences (Ajzen, 2002). The conceptual framework integrating these relationships is presented in Figure 3.



Source: Authors' elaboration based on Theory of Planned Behavior (Ajzen, 1991, 2002), Technology Acceptance Model (Davis, 1989), and Value Perception Theory (Monroe, 1990).

Figure 3. Conceptual Framework and Hypothesis Testing Results

Note: Solid arrows indicate supported hypotheses, while dashed arrows indicate unsupported hypotheses. *** $p < 0.001$; ** $p < 0.01$; n.s. = not significant ($p > 0.05$).

This study contributes to the literature in three ways. First, it provides the first empirical evidence on the determinants of Umrah Mandiri preference following the enactment of UU No. 14/2025. Second, it extends TPB by incorporating Digital Readiness and Perceived Cost Advantage to better explain pilgrimage decisions in a digitally mediated environment. Third, it offers practical implications for PPIU operators, digital platform providers, and policymakers seeking to navigate the transformation of Indonesia's Umrah industry in the post-regulatory era.

METHOD

Research Design

This study adopts a quantitative, cross-sectional research design grounded in hypothesis-testing logic. The unit of analysis is individual-level behavioral intention and choice preference among Indonesian Generation Z Muslims in the context of UU No. 14/2025. An online survey

instrument was employed as the primary data collection method, appropriate given the demographic's high digital activity and the nationwide scope of the study.

Population, Sampling, and Data Collection

The target population comprises Indonesian Muslim citizens born between 1997 and 2012 (Generation Z), who have either performed Umrah, plan to perform it, or express active interest in doing so. Sampling was conducted using a purposive and snowball approach, distributed via digital channels including WhatsApp, Instagram, and university networks. A total of 250 responses were received. Three respondents who identified as non-Muslim were excluded at the screening stage; two additional respondents identified as non-Indonesian citizens were excluded during data cleaning. The final valid sample comprised $n = 245$ respondents, exceeding the minimum threshold recommended for PLS-SEM structural models of this complexity (Hair et al., 2021).

Purposive sampling was employed because the study specifically targeted Indonesian Generation Z Muslims who were either prospective Umrah pilgrims or had a genuine interest in performing Umrah, ensuring that respondents possessed sufficient contextual relevance to evaluate independent Umrah (Umrah Mandiri). Snowball sampling complemented this approach by facilitating access to individuals within religious and social networks where pilgrimage-related information is commonly exchanged. Given that independent Umrah has only recently been formally legalized under UU No. 14/2025 and no comprehensive sampling frame for this specific population currently exists, the combination of purposive and snowball sampling was considered appropriate for exploratory theory testing rather than population estimation. Nevertheless, this approach may limit the statistical generalizability of the findings.

Research Instrument

The survey instrument consisted of 24 reflective items across seven constructs, measured on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The instrument was developed through an iterative pilot test ($n = 32$), during which six items with outer loadings below 0.70 were removed (DR2, DR3, SN1, SN2, CP1, PBC3) and two new items were added (SN5, CP3) to strengthen construct coverage. Two existing items (DR1, DR4) were substantially reworded following pilot results. The final instrument covers Digital Readiness (3 items), Perceived Cost Advantage (4 items), Attitude (4 items), Subjective Norm (3 items), Perceived Behavioral Control (3 items), Behavioral Intention (4 items), and Choice Preference (3 items).

Analytical Approach

Data were analyzed using PLS-SEM in SmartPLS 4, following the two-stage analytical procedure recommended by Hair et al. (2021). The first stage evaluated the measurement model through outer loadings (threshold ≥ 0.70), composite reliability using ρ_c (threshold > 0.70), average variance extracted (AVE > 0.50), and discriminant validity via the Heterotrait-Monotrait (HTMT) ratio (threshold < 0.85). The second stage evaluated the structural model through coefficient of determination (R^2), effect sizes (f^2), and path coefficient significance assessed via bootstrapping with 5,000 resamples (two-tailed, $\alpha = 0.05$).

RESULTS AND DISCUSSION

Results

Respondent Profile

The 245 valid respondents were predominantly female (65.7%), aged 22–25 (46.9%), and educated to undergraduate level (59.2%). A majority (68.6%) had not yet performed Umrah but expressed active planning intent, making them directly relevant to the study's focus

on pre-behavior intention and channel preference. The sample's demographic profile is consistent with a digitally active, Umrah-aspiring Gen Z Muslim population in Indonesia.

Measurement Model

Outer loadings for all 24 items met or approached the ≥ 0.70 threshold. The single borderline item was PBC2 (loading = 0.676), retained on theoretical grounds as it captures the capability to arrange Umrah independently without a travel agent the construct's most contextually relevant dimension and removing it would reduce PBC to two items, insufficient for a reflective construct. Composite reliability (ρ_c) and AVE for PBC remained within acceptable bounds ($\rho_c = 0.833$, AVE = 0.628). Table 1 presents the full reliability and validity results.

Table 1. Construct Reliability and Validity (n = 245)

Construct	Cronbach's α	CR (ρ_c)	AVE	Status
AT	0.817	0.880	0.647	All criteria met
BI	0.860	0.905	0.705	All criteria met
CP	0.844	0.906	0.762	All criteria met
DR	0.729	0.847	0.648	All criteria met
PBC	0.704	0.833	0.628	All criteria met
PCA	0.792	0.858	0.601	All criteria met
SN	0.791	0.878	0.706	All criteria met

Source: Authors' calculations based on survey data analyzed using SmartPLS 4.

Note: Thresholds $\alpha > 0.70$; $\rho_c > 0.70$; AVE > 0.50 (Hair et al., 2021).

Discriminant validity was confirmed through HTMT analysis. All off-diagonal values fell below the 0.85 threshold (Table 2), with the highest pair being SN–AT (HTMT = 0.760).

Table 2. HTMT Discriminant Validity Matrix (n = 245)

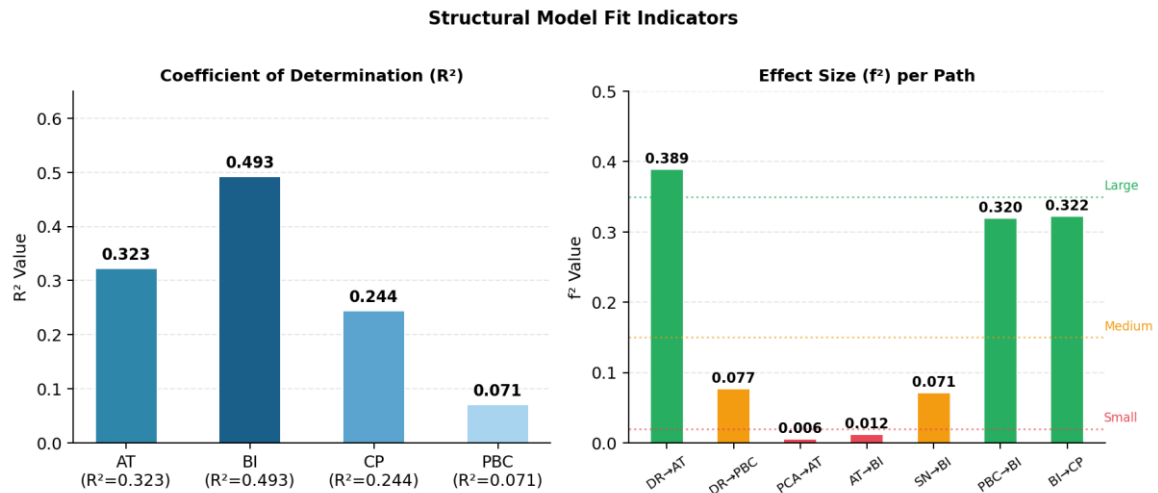
	AT	BI	CP	DR	PBC	PCA	SN
AT	-						
BI	0.498	-					
CP	0.264	0.572	-				
DR	0.728	0.407	0.399	-			
PBC	0.400	0.793	0.753	0.366	-		
PCA	0.267	0.430	0.775	0.406	0.607	-	
SN	0.760	0.696	0.313	0.485	0.664	0.300	-

Source: Authors' calculations based on survey data analyzed using SmartPLS 4.

Note: All HTMT values < 0.85 , confirming satisfactory discriminant validity.

Structural Model and Hypothesis Testing

R² values indicate moderate-to-substantial explanatory power for the key endogenous constructs: BI (R² = 0.493), AT (R² = 0.323), CP (R² = 0.244), and PBC (R² = 0.071). Figure 4 presents the R² values and effect size (f²) results for all path relationships, confirming three large-effect paths: DR → AT (f² = 0.389), PBC → BI (f² = 0.320), and BI → CP (f² = 0.322) as the structural backbone of the model.



Source: Authors' calculations based on survey data analyzed using SmartPLS 4.

Note: Cohen (1988) thresholds for effect size interpretation: large ($f^2 \geq 0.35$), medium ($f^2 \geq 0.15$), and small ($f^2 \geq 0.02$).

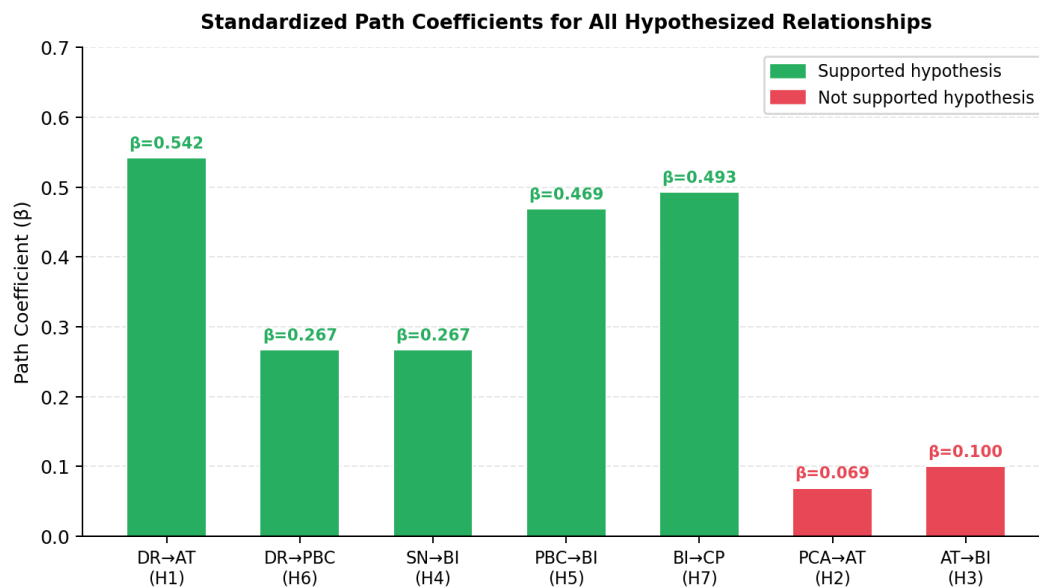
Figure 4. Structural Model Fit Indicators: R^2 Values (left) and Effect Sizes f^2 per Path (right)

Table 3 presents the full hypothesis testing results from bootstrapping with 5,000 subsamples. Figure 5 provides a visual comparison of all standardized path coefficients, clearly distinguishing supported from non-supported hypotheses.

Table 3. Hypothesis Testing Results (n = 245, Bootstrapping 5,000 Subsamples)

H	Path	β	t-value	p-value	95% CI	Decision
H1	DR → AT	0.542	6.365	< 0.001	[0.361, 0.700]	Supported
H2	PCA → AT	0.069	1.295	0.195	[-0.021, 0.186]	Not Supported
H3	AT → BI	0.100	1.460	0.144	[-0.027, 0.239]	Not Supported
H4	SN → BI	0.267	2.775	0.006	[0.072, 0.446]	Supported
H5	PBC → BI	0.469	7.511	< 0.001	[0.349, 0.594]	Supported
H6	DR → PBC	0.267	3.629	< 0.001	[0.125, 0.408]	Supported
H7	BI → CP	0.493	7.690	< 0.001	[0.368, 0.618]	Supported

Source: Authors' calculations based on survey data analyzed using SmartPLS 4 (Bootstrapping = 5,000 subsamples).



Source: Authors' calculations based on survey data analyzed using SmartPLS 4.

Note: Green bars indicate supported hypotheses ($p < 0.05$), while red bars indicate unsupported hypotheses ($p > 0.05$).

Figure 5. Standardized Path Coefficients for All Hypothesized Relationships

Discussion

Digital Readiness as the Central Construct

The most consequential finding of this study is the dominant, system-wide role of Digital Readiness. With the strongest direct effect on Attitude ($\beta = 0.542$) and a significant indirect pathway through PBC to Behavioral Intention ($\beta_{\text{indirect}} = 0.125$, $p = 0.001$), Digital Readiness effectively anchors the entire preference formation process for independent Umrah. This finding extends TAM (Davis, 1989) into the religious travel domain, demonstrating that digital competence functions not merely as a technology adoption predictor but as the primary enabler of independent pilgrimage behavior among a digitally native cohort. It substantively deepens Sayid Abas et al. (2025) preliminary findings on digital technology adoption in Umrah ecotourism by showing that digital readiness shapes both attitudinal and control-based pathways simultaneously.

The practical interpretation is strategically significant. When Gen Z respondents are digitally capable, they do not simply recognize that Umrah Mandiri is possible they feel equipped to execute it. The tools are already in place: Nusuk for visa registration and service booking, Traveloka and Tiket.com for accommodation and flight comparison, and a rapidly growing ecosystem of independent Umrah guides (Ministry of Hajj & Umrah, 2025; Traveloka, 2025). As digital literacy continues to rise among Indonesian Gen Z, the perceived necessity of a PPIU intermediary structurally declines not because PPIU become worse, but because the digital capability gap that made them indispensable continues to narrow.

Perceived Behavioral Control Dominates Intention Formation

PBC is the strongest single predictor of Behavioral Intention ($\beta = 0.469$, $f^2 = 0.320$), substantially exceeding both Subjective Norm and Attitude in explanatory contribution. This represents a meaningful deviation from the classical TPB, which assigns theoretically equal weight to all three antecedents of intention. In the context of a high-involvement, spiritually significant decision where the stakes of mismanaging logistics, visa applications, or housing carry religious and personal consequences it is plausible, and empirically demonstrated, that control beliefs dominate over evaluative or normative ones. Individuals may hold positive

attitudes toward Umrah and feel social pressure to perform it, yet still not form a concrete intention unless they believe they can actually execute it independently.

This PBC-centrality is consistent with Ajzen (2002) revision emphasizing self-efficacy as the core motivational mechanism in complex volitional behaviors, and aligns with Prabowo et al. (2026) who found analogous patterns in Indonesian Gen Z's technology-mediated behavioral decisions. Interventions aimed at increasing Umrah intention among Gen Z are therefore most efficient when they target perceived capability, financial readiness and logistical confidence rather than attitude change or social normalization alone.

The Role of Subjective Norm in an Indonesian Social Context

Subjective Norm exerts a significant and meaningful influence on Behavioral Intention ($\beta = 0.267$, $p = 0.006$), reflecting Indonesia's community-embedded Islamic practice. Unlike purely individualistic choice contexts, Umrah in Indonesia carries strong communal significance: performing it is publicly visible, socially celebrated, and increasingly amplified through social media. Gen Z respondents embedded in Umrah-encouraging social networks through peer stories, Instagram content, or family encouragement demonstrate meaningfully stronger intention to perform it (Khadijah et al., 2022; Roy et al., 2025). Particularly notable is that the SN $\rightarrow$ BI path operates independently of attitude: even when positive attitude toward Umrah fails to predict intention (H3 not supported), social normalization continues to drive it directly.

Behavioral Intention as the Bridge to Umrah Mandiri Preference

The BI $\rightarrow$ CP path carries the highest beta in the model ($\beta = 0.493$, $f^2 = 0.322$), confirming that once Gen Z respondents form a concrete intention to perform Umrah, they are substantially more likely to prefer the independent route over PPIU-mediated travel. This aligns with Ajzen (2002) channel choice extension and Phi & Duong (2024) evidence on online travel agency preference. It also situates the enactment of UU No. 14/2025 at a strategically favorable moment: the regulation has legalized a pathway for which Gen Z's intention and preference were already structurally primed. What was previously an unregulated and legally ambiguous practice has become a formally recognized option for a cohort already behaviorally inclined toward it.

The Irrelevance of Price: H2 and H3 Not Supported

The non-support of H2 (PCA $\rightarrow$ AT, $\beta = 0.069$, $p = 0.195$) and H3 (AT $\rightarrow$ BI, $\beta = 0.100$, $p = 0.144$) constitutes the most theoretically significant set of findings. Together, they reveal that Gen Z's preference shift toward Umrah Mandiri is neither price-driven nor purely attitudinal. Respondents broadly acknowledge that independent Umrah can be more cost-efficient, yet this awareness does not translate into a more favorable attitude toward Umrah Mandiri, and even where favorable attitudes exist, they do not reliably produce behavioral intention. The non-significant relationship between Perceived Cost Advantage and Attitude suggests that economic considerations alone are insufficient to shape Generation Z's evaluation of independent Umrah. Unlike conventional tourism products, Umrah represents a religious experience in which spiritual value, perceived safety, trust, and convenience frequently outweigh monetary savings. Similar findings have been reported in religious tourism and high-involvement travel contexts, where perceived value extends beyond financial benefits to include psychological reassurance, service reliability, and spiritual fulfillment (Harun et al., 2024; Othman et al., 2021). The insignificant effect of Attitude on Behavioral Intention also indicates that positive evaluations of independent Umrah do not automatically translate into behavioral commitment. Within the TPB framework, attitude may become secondary when individuals perceive substantial practical constraints or rely heavily on perceived capability

and social influence. This pattern has likewise been observed in several technology-enabled travel studies, where Perceived Behavioral Control emerged as the dominant predictor of intention, particularly for complex decisions requiring confidence and self-efficacy (Chen et al., 2023; Erul et al., 2023). For Indonesian Generation Z, favorable attitudes appear insufficient unless accompanied by confidence in independently managing pilgrimage arrangements. Moreover, studies in international tourism have shown that younger travelers increasingly prioritize flexibility, digital convenience, and personalized experiences over price advantages alone. The implication for PPIU operators is direct: competing on price alone will not reverse the preference trend, because price does not appear to be the primary driver. The strategic response must address the experiential and trust-based dimensions of what PPIU can offer that Umrah Mandiri structurally cannot certified spiritual guidance, group community experience, guaranteed consumer protection, and curated packages that transcend travel logistics.

CONCLUSION

This study examined the behavioral determinants of Indonesian Generation Z Muslims' preference for independent Umrah (Umrah Mandiri) following the enactment of UU No. 14/2025, which formally permits Umrah to be performed without licensed travel operators (PPIU). Using an extended Theory of Planned Behavior (TPB) framework integrated with the Technology Acceptance Model (TAM) and Value Perception Theory, and analyzed through PLS-SEM with 245 valid respondents, the findings demonstrate that preference for independent Umrah is primarily driven by digital capability and practical self-efficacy rather than cost considerations. Digital Readiness emerged as the most influential antecedent, significantly shaping both Attitude and Perceived Behavioral Control, while Perceived Behavioral Control was identified as the strongest predictor of Behavioral Intention. Subjective Norm also significantly influenced intention, highlighting the continuing importance of social influence in religious travel decisions. Behavioral Intention, in turn, was the strongest determinant of Choice Preference for independent Umrah. In contrast, Perceived Cost Advantage and Attitude did not significantly influence subsequent behavioral outcomes.

These findings suggest that the competitive challenges faced by Indonesia's PPIU industry are capability-driven rather than price-driven. Consequently, PPIU operators should strengthen value propositions that cannot be easily replicated through digital self-service, including religious guidance, consumer protection, curated pilgrimage experiences, and digitally integrated service delivery. Likewise, digital platforms and policymakers should focus on improving digital readiness and reducing practical barriers through accessible planning tools, verified information, and youth-oriented pilgrimage support programs.

This study is subject to several limitations. First, the use of purposive and snowball sampling may overrepresent digitally active Generation Z respondents, thereby limiting the statistical generalizability of the findings to the broader Indonesian Muslim population. Second, the cross-sectional research design captures respondents' perceptions and behavioral intentions at a single point in time, preventing the examination of causal relationships and the evolution of intentions into actual independent Umrah behavior following the implementation of UU No. 14/2025. Third, all constructs were measured using self-reported questionnaires, which may be susceptible to common method bias and social desirability bias despite the anonymity of the survey. Finally, although the proposed model explains a substantial proportion of behavioral intention, other potentially relevant factors, such as perceived risk, trust in digital platforms, previous Umrah experience, and family decision-making dynamics, were not included in the present study. Future research is encouraged to employ longitudinal designs, probability-based sampling where feasible, behavioral or observational data, and

additional explanatory variables to provide a more comprehensive understanding of independent Umrah adoption.

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