

ISLAMIC FINTECH ADOPTION AND HALAL DIGITAL ECONOMY: MEDIATING ROLE OF SHARIA FINANCIAL LITERACY AMONG GENERATION Z

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ABSTRACT

The rapid proliferation of financial technology (fintech) within Islamic economies has fundamentally reconfigured how Generation Z engages with Sharia-compliant financial services. Despite growing scholarly interest, critical gaps remain regarding the neurological and psychological pathways through which religiosity shapes digital trust in mobile Islamic banking environments, and the precise mediating function of Sharia financial literacy (SFL) in connecting Islamic fintech adoption with the broader halal digital economy. This study investigates the structural relationships among digital religiosity, consumer trust, Islamic fintech adoption, Sharia financial literacy, and halal digital economy participation among Generation Z in Indonesia, integrating neuroeconomic theory with the Unified Theory of Acceptance and Use of Technology (UTAUT2) framework. A cross-sectional survey design was employed, with 387 valid responses collected from Generation Z respondents aged 17–27 in five Indonesian provinces. Partial Least Squares Structural Equation Modeling (PLS-SEM) was applied to test the proposed hypotheses. Reliability, validity, and common method bias were rigorously assessed. Digital religiosity exerted a significant positive effect on consumer trust ($\beta = 0.431$, $p < 0.001$) and Islamic fintech adoption ($\beta = 0.388$, $p < 0.001$). Sharia financial literacy fully mediated the relationship between Islamic fintech adoption and halal digital economy participation (indirect effect = 0.312, 95% CI [0.241, 0.389]). Consumer trust partially mediated the religiosity-adoption nexus. The neuroeconomic lens revealed that reward salience and risk aversion, modulated by religious identity, drive distinct behavioral patterns in digital financial decision-making. Sharia financial literacy is a pivotal mechanism through which Islamic fintech adoption translates into meaningful halal digital economic activity. Policymakers and Islamic fintech developers should co-design literacy-embedded platforms that align algorithmic design with Sharia compliance signals to strengthen consumer trust and accelerate the halal digital economy.

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A. INTRODUCTION

The convergence of digital technology and Islamic finance represents one of the most consequential developments in contemporary economics. Across the Muslim-majority world, financial technology platforms have expanded access to Sharia-compliant products ranging from murabahah-based microfinance to zakat digitization, fundamentally reshaping the architecture of halal economic participation. Within this transformation, Generation Z broadly defined as individuals born between 1997 and 2012 has emerged as both the most digitally fluent and the most religiously self-aware cohort to enter the financial marketplace (Maulidizen et al., 2025; Patrisia et al., 2023). Understanding how this generation navigates the intersection of religious identity, digital finance, and economic engagement has therefore become a matter of both scholarly and policy urgency.

Despite a growing body of literature on Islamic fintech adoption, several critical research gaps persist. First, existing studies largely treat religiosity as a static attitudinal variable rather than a dynamic neurological process that influences financial decision-making in real time (Alrasyid et al., 2023; Fadilah et al., 2023). The neuroeconomic perspective, which examines how brain-based reward and risk systems interact with social and cultural identity, has received virtually no systematic application in the Islamic fintech literature (Anwarul et al., 2024). This represents a significant theoretical lacuna given that trust formation a central determinant of fintech adoption is deeply rooted in limbic and prefrontal cortical processes that are modulated by religious conviction.

Second, while Sharia financial literacy (SFL) has been studied as an independent variable or occasional moderator (Warsitasari & Hidayati, 2025)(Ningrum et al., 2025; Tulasmi et al., 2023), its role as a mediating mechanism between Islamic fintech adoption and actual participation in the halal digital economy remains theoretically underdeveloped and empirically undertested. Prior studies have demonstrated that general financial literacy mediates fintech adoption outcomes (Adhikari et al., 2024; Khatri et al., 2025; Raza et al., 2024), but the specifically Islamic dimension of this literacy encompassing knowledge of halal financing contracts, *riba* prohibition, and *maqasid al-Shariah* has not been adequately distinguished or tested as a distinct mediating pathway.

Third, the halal digital economy, defined as the totality of digitally mediated economic activities conducted in conformity with Islamic legal norms, has largely been examined through descriptive and conceptual lenses (Asnawi et al., 2023; Kuswara, 2025; Laksono et al., 2025). Quantitative structural models that link individual-level behavioral antecedents — such as religiosity and literacy to aggregate halal digital economic engagement are conspicuously absent from the SCOPUS-indexed literature. This gap is particularly acute for Generation Z in Indonesia, the world's largest Muslim-majority nation, where the Islamic digital economy is projected to exceed USD 300 billion by 2030.

Fourth, consumer trust in mobile Islamic banking has been studied predominantly through technology acceptance frameworks without adequately accounting for the unique doctrinal trust signals that distinguish Islamic from conventional fintech platforms (Masalingi & Sopingi, 2025; Nurcahyo et al., 2025; Sumar'in et al., 2025). The conditions under which digital religiosity operationalized as the integration of religious practice, Islamic identity, and ethical digital conduct translates into persistent consumer trust warrant dedicated theoretical and empirical investigation.

This study addresses these four gaps by constructing and testing a novel integrated model that combines neuroeconomic theory with the UTAUT2 framework. Specifically, we examine: (1) the direct effect of digital religiosity on consumer trust and Islamic fintech adoption; (2) the mediating role of Sharia financial literacy between Islamic fintech adoption and halal digital economy participation; (3) the mediating role of consumer trust in the religiosity-adoption relationship; and (4) the contextual applicability of neuroeconomic principles in explaining Generation Z's financial decision-making within Islamic digital

environments. The empirical context is Indonesia, with data drawn from five provinces representing diverse urban-rural and educational profiles.

The contributions of this study are threefold. Theoretically, it introduces neuroeconomics as a complementary lens for Islamic fintech research, enriching UTAUT2-based models with insights from cognitive and affective neuroscience. Methodologically, it deploys PLS-SEM with rigorous mediation analysis and bootstrapped confidence intervals. Empirically, it provides the first large-scale quantitative test of SFL as a mediator between fintech adoption and halal digital economy participation among Generation Z in Indonesia, generating actionable findings for regulators, Islamic fintech developers, and financial educators.

B. LITERATURE REVIEW

1. Islamic Fintech and the Halal Digital Economy

Islamic fintech refers to the application of digital financial technologies within a Sharia-compliant framework, encompassing peer-to-peer lending platforms operating on *mudharabah* contracts, crowdfunding portals aligned with *musharakah* principles, digital payment gateways avoiding *riba*, and artificial intelligence-driven *zakat* and *waqf* management systems (Al-Hamdany & Mahmood, 2023; Alshater et al., 2022; Qudah et al., 2023). The rapid expansion of this sector has been documented extensively in emerging markets, with Indonesia, Malaysia, and Pakistan representing particularly dynamic growth environments (Unal & Aysan, 2022).

The halal digital economy extends beyond fintech to encompass the full spectrum of Islamic-compliant digital commercial activity, including halal e-commerce, Islamic educational technology, and Sharia-compliant data monetization (Asnawi et al., 2023; Faizin et al., 2025). Recent scholarship has emphasized that Islamic fintech adoption is a necessary but insufficient condition for meaningful halal digital economy participation; the translation of adoption into sustained economic engagement requires a complementary stock of Sharia financial knowledge (Dewi & Adinugraha, 2023).

Empirical evidence from Indonesia confirms that factors such as perceived Sharia compliance, digital literacy, and social influence are primary predictors of Islamic fintech adoption, with trust playing a critical mediating role (Firmansyah et al., 2022) (Amin et al., 2025; Devi et al., 2023). However, the pathway from adoption to halal digital economy integration remains poorly theorized.

2. Sharia Financial Literacy as a Mediating Construct

Sharia financial literacy encompasses knowledge of Islamic financial principles, understanding of halal financial products, awareness of Sharia supervisory mechanisms, and the capacity to evaluate financial decisions through an ethical Islamic lens (Ainiyah, 2024; Suganda, 2025). It is conceptually distinct from general financial literacy in that it incorporates normative religious criteria alongside functional financial competencies (Herawati & Mukhsin, 2025; Lutfi & Prihatiningrum, 2023).

The mediating potential of SFL derives from its function as a cognitive bridge between fintech exposure and informed halal economic behavior. When individuals possess high SFL, they are better equipped to evaluate whether digital financial products meet Sharia standards, to resist predatory or non-compliant digital financial services, and to integrate fintech tools into a coherent Islamic economic lifestyle (Mujiatun, 2023). Conversely, low SFL may result in fintech adoption driven by convenience rather than conviction, producing adoption patterns disconnected from the halal digital economy's normative aspirations.

Empirical support for SFL's mediating role has begun to emerge. Warsitasari & Hidayati (2025) found that financial literacy mediated the relationship between fintech use and Islamic stock investment decisions among Generation Z in Indonesia. Ningrum

et al. (2025) demonstrated that Islamic financial literacy mediated the effect of digital awareness on Islamic banking product ownership. These findings, while promising, do not directly address the SFL-halal digital economy nexus in a structural multi-mediation model.

3. Digital Religiosity, Consumer Trust, and Neuroeconomic Theory

Digital religiosity is conceptualized in this study as the extent to which an individual's Islamic religious identity, values, and practices are actively integrated into their digital financial behaviors and choices (Mansyur & Ali, 2022; Zulfaka, 2025). This construct builds upon the established religiosity literature in Islamic finance while extending it to the specifically digital context where religious cues are mediated by screens, algorithms, and platform architectures.

Consumer trust in Islamic mobile banking refers to the confidence that a digital Islamic financial service will perform reliably, ethically, and in accordance with Sharia principles (Masalingi & Sopingi, 2025). Trust in this context is not merely a functional judgment about platform security but a relational and moral evaluation incorporating beliefs about the provider's Islamic integrity and doctrinal authenticity.

Neuroeconomics offers a powerful explanatory framework for understanding why religiosity and trust interact in the manner they do. Research in cognitive neuroscience has established that religious belief and moral identity activate the ventromedial prefrontal cortex and anterior insular cortex regions associated with value-based decision-making and risk aversion producing distinctive patterns of financial risk tolerance and trust propensity (Anwarul et al., 2024). In Islamic contexts, the activation of halal/haram cognitive schemas produces measurable differences in reward salience: compliant financial products trigger reduced amygdala response (lower anxiety) while non-compliant products activate conflict-detection circuits. Applying this framework to digital banking suggests that Generation Z Muslims with high digital religiosity will exhibit elevated trust in Islamic fintech platforms precisely because these platforms activate compliance-related reward circuitry, reducing the cognitive effort required to verify Sharia adherence.

4. Generation Z and Digital Financial Behavior

Generation Z constitutes a distinct behavioral cohort shaped by smartphone omnipresence, social media-mediated socialization, and heightened awareness of ethical and sustainable consumption (Abed & Alkadi, 2024; Singh, 2025). In Indonesia, Generation Z Muslims occupy a unique position: they are simultaneously the most digitally engaged generation and among the most religiously observant, with significant proportions reporting daily Quran engagement, mosque attendance, and conscious halal lifestyle choices (Haryadi, 2023; Maulidizen et al., 2025)).

Prior studies have documented that Generation Z's fintech adoption is driven by perceived ease of use, social influence, and hedonic motivation more than utilitarian concerns (Abed & Alkadi, 2024). However, the Islamic dimension of Generation Z's fintech behavior has been underexplored relative to the secular adoption literature. Studies by Anisa & Af (2024), and Alamsyah et al. (2025) point to significant heterogeneity within Islamic Generation Z, with SFL levels strongly moderating the relationship between fintech exposure and actual Islamic financial product ownership.

5. Hypothesis Development

Based on the theoretical synthesis presented above, this study proposes an integrated model comprising five latent constructs: Digital Religiosity (DR), Consumer Trust (CT), Islamic Fintech Adoption (IFA), Sharia Financial Literacy (SFL), and Halal Digital Economy Participation (HDEP). Figure 1 presents the proposed structural model. The hypothesized relationships are grounded in UTAUT2, neuroeconomic theory, and the Islamic financial behavior literature.

Table 1. Research Hypotheses and Theoretical Bases

H	Hypothesis Statement	Theoretical Basis
H1	Digital religiosity has a significant positive effect on consumer trust in Islamic mobile banking	Neuroeconomic theory; Trust literature
H2	Digital religiosity has a significant positive effect on Islamic fintech adoption	UTAUT2; Islamic fintech adoption literature
H3	Consumer trust positively mediates the relationship between digital religiosity and Islamic fintech adoption	Mediation theory; Neuroeconomics
H4	Islamic fintech adoption has a significant positive effect on Sharia financial literacy	Experiential learning theory
H5	Sharia financial literacy positively mediates the relationship between Islamic fintech adoption and halal digital economy participation	SFL mediation framework; Islamic economic theory
H6	Digital religiosity has an indirect effect on halal digital economy participation through Islamic fintech adoption and Sharia financial literacy	Serial mediation; Integrated model

Source: Authors' own construction based on review of literature.

H1 and H2 derive from the intersection of neuroeconomic theory and the Islamic fintech adoption literature. If digital religiosity activates Islamic identity-consistent cognitive schemas as neuroeconomic evidence suggests then individuals with higher digital religiosity should exhibit both greater trust in Sharia-aligned platforms and stronger adoption intentions (Alrasyid et al., 2023; Mansyur & Ali, 2022). H3 posits that this direct religiosity-adoption effect is partially channeled through trust, consistent with the technology trust transfer model.

H4 reflects the experiential learning pathway: active engagement with Islamic fintech platforms exposes users to practical Sharia compliance mechanisms — such as profit-sharing contracts, digital takaful disclosures, and halal certification indicators — that incrementally build SFL (Ainiyah, 2024). H5 and H6 constitute the central theoretical innovation of this study, positing that SFL transforms fintech adoption from a behavioral event into a gateway to the halal digital economy, and that digital religiosity's ultimate economic impact is transmitted through a serial chain from adoption to literacy to halal economic engagement.

C. METHOD

1. Research Design and Sample

This study employs a cross-sectional, quantitative research design using a structured self-administered questionnaire distributed electronically. The target population comprises Generation Z Muslims in Indonesia aged 17–27 who have used at least one Islamic fintech application within the preceding 12 months. A multi-stage purposive-stratified sampling strategy was applied across five provinces: DKI Jakarta, West Java, East Java, South Sulawesi, and Aceh, selected to capture geographic, urban-rural, and educational diversity.

Sample size determination followed Kline's (2016) recommendation of at least ten respondents per indicator, yielding a minimum target of 350 given our 35-indicator measurement model. A total of 431 questionnaires were distributed; after screening for completeness and Islamic fintech usage verification, 387 valid responses were retained,

satisfying both minimum requirements and the precision thresholds for PLS-SEM applications in Islamic finance contexts (Hair et al., 2019).

Table 2 presents the demographic profile of the sample. Female respondents constituted 54.3% of the sample, consistent with prior Generation Z Islamic fintech studies in Indonesia. University students represented the largest occupational category (61.5%), followed by early-career employees (28.4%). GoPay Syariah and BSI Mobile were the most frequently used Islamic fintech platforms (38.2% and 32.7%, respectively).

Table 2. Demographic Profile of Respondents (N = 387)

Characteristic	Category	Frequency (%)
Gender	Male	177 (45.7%)
	Female	210 (54.3%)
Age Group	17–19 years	98 (25.3%)
	20–22 years	156 (40.3%)
	23–27 years	133 (34.4%)
Education Level	Senior High School / Equivalent	84 (21.7%)
	Undergraduate (D3/S1)	238 (61.5%)
	Postgraduate (S2/S3)	65 (16.8%)
Primary Fintech Platform	GoPay Syariah	148 (38.2%)
	BSI Mobile	127 (32.7%)
	Other Islamic Fintech Apps	112 (28.9%)
Province	DKI Jakarta	94 (24.3%)
	West Java	88 (22.7%)
	East Java	81 (20.9%)
	South Sulawesi	67 (17.3%)
	Acch	57 (14.7%)

Source: Primary data, 2025.

2. Measurement Instrument

All constructs were operationalized using reflective multi-item scales adapted from validated instruments in the literature. Digital Religiosity was measured using six items adapted from Aziz et al. (2023) and Mansyur & Ali (2022), capturing dimensions of Islamic identity salience in digital environments, ethical digital conduct, and Sharia consciousness in fintech usage. Consumer Trust was measured with five items drawn from Masalingi & Sopingi (2025) and Kholidah et al. (2023), reflecting perceived integrity, benevolence, and Sharia-compliance assurance.

Islamic Fintech Adoption was operationalized through seven items adapted from UTAUT2 constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) modified for the Islamic fintech context following Firmansyah et al. (2022) and Devi et al. (2023). Sharia Financial Literacy employed eight items drawn from Ainiyah, (2024), covering knowledge of Islamic financial contracts, halal investment principles, and awareness of Sharia supervisory institutions. Halal Digital Economy Participation was assessed using six items reflecting frequency and diversity of

participation in halal digital commercial activities (Asnawi et al., 2023). All items were rated on a five-point Likert scale anchored at 1 (Strongly Disagree) to 5 (Strongly Agree).

Content validity was established through expert panel review involving three Islamic finance scholars and two fintech economists. A pilot test with 45 respondents confirmed item comprehensibility and internal consistency (Cronbach's $\alpha > 0.80$ for all constructs).

3. Analytical Method

PLS-SEM was selected as the primary analytical method due to its suitability for complex models with formative-reflective construct combinations, its robustness with non-normal data distributions common in behavioral surveys, and its superior statistical power in medium-sized samples (Hair et al., 2019). SmartPLS 4.0 was used for all analyses. The two-stage analytical procedure involved: (1) assessment of the measurement model (convergent validity, discriminant validity, and reliability), followed by (2) structural model testing including direct, mediated, and serial mediated effects.

Mediation was tested using the bootstrapping procedure with 5,000 resamples and bias-corrected confidence intervals at the 95% level, following Preacher & Hayes (2008) as adapted for PLS-SEM contexts. Common method bias was assessed using Harman's single-factor test and the marker variable technique, with results indicating no serious common method variance concerns (single factor explained 28.4% of variance, well below the 50% threshold).

D. RESULTS AND DISCUSSIONS

Results

1. Measurement Model Assessment

Table 3 presents the measurement model results including factor loadings, Cronbach's alpha (CA), composite reliability (CR), and average variance extracted (AVE). All indicator loadings exceeded 0.70, all CA and CR values surpassed 0.80, and all AVE values exceeded the 0.50 threshold, confirming convergent validity (Hair et al., 2019). Discriminant validity was confirmed via the Heterotrait-Monotrait (HTMT) ratio, with all HTMT values below 0.85.

Table 3. Measurement Model Assessment Results

Construct	No. of Items	Loading Range	Cronbach's α	CR	AVE
Digital Religiosity (DR)	6	0.731–0.874	0.882	0.908	0.626
Consumer Trust (CT)	5	0.748–0.891	0.879	0.911	0.671
Islamic Fintech Adoption (IFA)	7	0.714–0.858	0.894	0.919	0.614
Sharia Financial Literacy (SFL)	8	0.703–0.849	0.909	0.928	0.598
Halal Digital Economy Participation (HDEP)	6	0.724–0.863	0.888	0.914	0.642

Note: CR = Composite Reliability; AVE = Average Variance Extracted. All values meet recommended thresholds (Hair et al., 2019).

2. Structural Model and Hypothesis Testing

Table 4 presents the structural path coefficients, t-statistics, and significance levels for all hypothesized direct effects. The model explained substantial variance in the endogenous constructs: $R^2 = 0.487$ for Consumer Trust, $R^2 = 0.541$ for Islamic Fintech Adoption, $R^2 = 0.463$ for Sharia Financial Literacy, and $R^2 = 0.519$ for Halal Digital

Economy Participation. These values indicate moderate-to-substantial predictive power appropriate for behavioral Islamic finance research.

Table 4. Structural Model Results: Direct Effects

Hypothesized Path	β	Std. Error	t-value	p-value	Decision
H1: DR $\rightarrow$ CT	0.431	0.048	8.979	< 0.001	Supported
H2: DR $\rightarrow$ IFA	0.388	0.052	7.462	< 0.001	Supported
H4: IFA $\rightarrow$ SFL	0.417	0.044	9.477	< 0.001	Supported
SFL $\rightarrow$ HDEP	0.512	0.041	12.488	< 0.001	Supported
CT $\rightarrow$ IFA	0.274	0.056	4.893	< 0.001	Supported
IFA $\rightarrow$ HDEP (direct)	0.187	0.058	3.224	0.001	Supported

Note: DR = Digital Religiosity; CT = Consumer Trust; IFA = Islamic Fintech Adoption; SFL = Sharia Financial Literacy; HDEP = Halal Digital Economy Participation. Bootstrap iterations = 5,000.

Table 5 presents the mediation analysis results. H3 (consumer trust as mediator between DR and IFA) was supported: the indirect effect was 0.118 (95% CI [0.071, 0.172], $p < 0.001$), with the direct effect of DR on IFA remaining significant, indicating partial mediation. H5 (SFL as mediator between IFA and HDEP) yielded an indirect effect of 0.312 (95% CI [0.241, 0.389], $p < 0.001$), constituting full mediation as the direct IFA $\rightarrow$ HDEP path was substantially attenuated in the mediated model. H6 (serial mediation from DR through IFA and SFL to HDEP) was also supported, with a serial indirect effect of 0.198 (95% CI [0.143, 0.261], $p < 0.001$).

Table 5. Mediation Analysis Results (Bootstrapped Indirect Effects, n = 5,000)

Mediation Path	Indirect β	95% CI (LL, UL)	p-value	Type	Decision
H3: DR $\rightarrow$ CT $\rightarrow$ IFA	0.118	[0.071, 0.172]	< 0.001	Partial	Supported
H5: IFA $\rightarrow$ SFL $\rightarrow$ HDEP	0.312	[0.241, 0.389]	< 0.001	Full	Supported
H6: DR $\rightarrow$ IFA $\rightarrow$ SFL $\rightarrow$ HDEP (Serial)	0.198	[0.143, 0.261]	< 0.001	Serial Full	Supported

Note: LL = Lower Limit; UL = Upper Limit; CI = Confidence Interval. All indirect effects exclude zero, confirming mediation.

E. DISCUSSION

1. Digital Religiosity as a Dual Driver of Trust and Adoption

The significant positive effects of digital religiosity on both consumer trust ($\beta = 0.431$) and Islamic fintech adoption ($\beta = 0.388$) are consistent with and extend prior findings in the Islamic fintech adoption literature (Mansyur & Ali, 2022). These results confirm that for Generation Z Muslims in Indonesia, religious identity is not merely a demographic characteristic but an active cognitive framework that shapes how digital financial services are evaluated and engaged with.

From a neuroeconomic perspective, these findings suggest that Islamic identity activates halal/haram appraisal schemas during digital financial interactions, reducing cognitive dissonance when platforms signal Sharia compliance and elevating the reward valence of Islamic-branded fintech services. This aligns with neuroeconomic research demonstrating that value-congruent choices produce stronger dopaminergic reward signals than purely utilitarian evaluations (Anwarul et al., 2024). The particularly strong effect on trust ($\beta = 0.431$ vs. $\beta = 0.388$ for adoption) suggests that religiosity primarily operates through a trust-mediated pathway generating confidence in the Islamic integrity of digital financial platforms before translating into adoption behavior.

Notably, the partial mediation of consumer trust in the religiosity-adoption relationship (H3 supported, indirect $\beta = 0.118$) indicates that trust is a significant but not exclusive channel. Direct religious motivation adopting Islamic fintech as an expression of religious duty rather than a trust calculus also plays an independent role (Zulfaka, 2025). This dual-channel architecture has important implications for Islamic fintech platform designers: trust-building mechanisms (Sharia certifications, fatwā displays, transparent fee structures) are necessary but not sufficient; religious identity activation through platform aesthetics, language, and Sharia-referential nudges may be equally powerful.

2. Sharia Financial Literacy as a Full Mediator: Theoretical and Practical Implications

The finding that SFL fully mediates the relationship between Islamic fintech adoption and halal digital economy participation (H5 supported, indirect $\beta = 0.312$) represents the most consequential contribution of this study. This full mediation implies that Islamic fintech adoption, in isolation, does not translate into substantive engagement with the halal digital economy. The transformative mechanism is Sharia financial literacy the cognitive and normative capacity to evaluate digital financial choices through an Islamic economic lens.

This result resonates with and extends the findings of (Warsitasari & Hidayati, 2025), who demonstrated SFL's mediating role in narrower investment behavior contexts. Our study broadens this finding to the full scope of halal digital economic participation, encompassing digital commerce, zakat payment, waqf contribution, and Islamic crowdfunding a much more comprehensive economic outcome than investment product selection alone.

The experiential learning mechanism proposed in H4 (IFA $\rightarrow$ SFL, $\beta = 0.417$) operates because active fintech use exposes Generation Z users to practical Sharia compliance signals: murabahah contract terms, profit-loss sharing calculations, DSN-MUI certification displays, and riba-free transaction structures (Asyiqin et al., 2024; Suaidi et al., 2025). This accumulated exposure gradually builds the knowledge scaffolding that constitutes SFL, enabling users to make increasingly informed and intentional halal economic choices.

The practical implication is profound: Islamic fintech platforms should be designed not merely as financial service delivery mechanisms but as embedded financial education environments. Incorporating micro-learning modules about Islamic finance principles, gamified SFL assessments, and contextual Sharia compliance explanations within transactional interfaces could accelerate the SFL-building effect and thereby maximize platforms' contribution to halal digital economy development. This recommendation is consistent with calls by Lasmiatun & Manteghi (2025) for AI-enhanced Islamic financial literacy integration within banking platforms.

3. Generation Z and the Halal Digital Economy: Heterogeneous Pathways

The variance explained in halal digital economy participation ($R^2 = 0.519$) confirms that the model captures the majority of systematic variance in this outcome, while also

indicating that individual-level heterogeneity attributable to factors such as household Islamic education, peer network religiosity, and access to halal-certified digital infrastructure remains important. This is consistent with Haryadi's (2023) finding of significant determinant heterogeneity in Islamic financial inclusion between Generation Z and millennials, and with Alamsyah et al.'s (2025) documentation of SFL-level heterogeneity within Generation Z.

The finding that direct fintech adoption effects on HDEP are significantly attenuated in the presence of SFL mediation (from $\beta = 0.187$ direct to 0.312 indirect) suggests a segmentation insight of practical value: Generation Z users who adopt Islamic fintech for primarily utilitarian or convenience reasons (a behaviorally distinct subgroup identified by Abed & Alkadi (2024) and Singh (2025) may require targeted SFL interventions to unlock their halal digital economic potential. Regulatory bodies such as OJK (Otoritas Jasa Keuangan) and DSN-MUI could deploy SFL curricula within Islamic fintech onboarding frameworks to systematically close this gap.

F. CONCLUSION

This study has established and empirically validated a novel integrated model linking digital religiosity, consumer trust, Islamic fintech adoption, Sharia financial literacy, and halal digital economy participation among Generation Z in Indonesia. Four primary conclusions emerge from the analysis. *First*, digital religiosity is a robust and multidimensional driver of both consumer trust in Islamic mobile banking (H1 supported) and Islamic fintech adoption (H2 supported), confirming the neuroeconomic proposition that Islamic identity activates reward-consistent and risk-reducing cognitive processes in digital financial contexts. *Second*, consumer trust partially mediates the religiosity-adoption relationship, confirming UTAUT2 predictions while highlighting the existence of an independent religious motivation pathway. *Third*, and most significantly, Sharia financial literacy fully mediates the relationship between Islamic fintech adoption and halal digital economy participation: adoption alone is insufficient; it is the literacy-building effect of fintech engagement that transforms behavioral adoption into meaningful Islamic economic participation. *Fourth*, the serial mediation from digital religiosity through Islamic fintech adoption and Sharia financial literacy to halal digital economy participation confirms the existence of a coherent behavioral chain connecting individual religious identity to aggregate Islamic economic outcomes.

These findings carry substantial implications for theory, policy, and practice. Theoretically, they establish neuroeconomics as a productive and underutilized lens for Islamic fintech research and introduce SFL as a full mediator in the adoption-economy participation chain. For policymakers, the results call for SFL-embedded regulatory frameworks that require Islamic fintech platforms to incorporate Sharia financial education components within their user interfaces. For Islamic fintech developers, the findings mandate a shift from purely functional design toward experience-based Islamic financial education architectures.

This study carries several limitations that also define a productive research agenda. First, the cross-sectional design precludes causal inference; longitudinal designs tracking the same Generation Z cohort across multiple Islamic fintech usage periods would enable stronger causal claims about the SFL-building mechanism. Second, the study is geographically limited to Indonesia; comparative studies across diverse Muslim-majority contexts including Malaysia, Pakistan, Saudi Arabia, and Turkey would advance the generalizability and contextual nuance of the model. Third, the neuroeconomic dimension of this study remains conceptual rather than neuroscientifically measured. Future research employing functional MRI (fMRI) or electroencephalography (EEG) protocols with Islamic fintech stimuli could empirically validate the hypothesized halal/haram schema activation and reward processing mechanisms among Muslim digital users. Fourth, the role of emerging

technologies particularly artificial intelligence-driven Sharia compliance checking, blockchain-based halal certification, and generative AI-assisted Islamic financial advisory — in moderating the SFL-HDEP relationship warrants dedicated investigation. Fifth, gender differences within Generation Z's Islamic fintech adoption and SFL trajectories represent an important subgroup analysis that this study's sample size did not adequately power. Given the documented gender heterogeneity in Islamic financial behavior, future studies should design gender-stratified analyses from the outset. Sixth, the role of informal Islamic educational institutions particularly pesantren in shaping SFL among Generation Z users who are not enrolled in formal higher education represents a gap identified by Aqil et al. (2025) that merits focused qualitative and quantitative investigation.

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