

Transformation of Islamic Religious Education Streams in the Digital Era: A Systematic Literature Review on the Formation of Halal Awareness, Behavior, and Perception of Halal Transparency

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ABSTRACT

The fragmentation between Islamic religious education, halal consumption behavior, and halal supply chain transparency creates a conceptual gap that hinders the development of a sustainable halal ecosystem in the digital era. This study aims to develop an integrative conceptual model that connects Islamic educational streams, digital transformation, internalization of Qur'anic values, halal awareness, halal consumption behavior, and perceptions of halal transparency within a cohesive theoretical framework. A Systematic Literature Review (SLR) design based on the PRISMA 2020 protocol was applied, analyzing 78 final articles selected from 487 identified in Scopus, Web of Science, Google Scholar, and DOAJ. Data were analyzed through narrative synthesis, VOSviewer bibliometric mapping, and NVivo 14 thematic analysis. Results showed that digital contextual approaches in Islamic Religious Education yield stronger internalization of Qur'anic values ($d = 0.61$); 81.6% of studies confirmed that halal awareness positively influences purchasing decisions; and blockchain-based transparency increases consumer trust contingent on halal literacy rooted in Islamic education.

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1. INTRODUCTION

The increasingly massive development of information and communication technology has transformed nearly every aspect of human life, including the domain of religious education. Globally, the digitalization of Islamic education is not simply a phenomenon of technology adoption but an epistemological shift that is changing how Islamic knowledge is produced, transmitted, and internalized by today's students. A systematic literature review of Scopus-indexed articles shows that Islamic education in the digital era presents significant opportunities and complex challenges, particularly in

integrating educators' digital competencies, modernizing curricula using digital platforms, and strengthening Islamic values through technology-based learning media [1]. Furthermore, global trends indicate that millennials and Generation Z tend to access religious content through digital platforms such as YouTube, social media, and sharia-based applications, marking a fundamental shift from traditional face-to-face interactions to more flexible, accessible online media-based learning [2]. The scientific relevance of this transformation is further strengthened by the fact that Indonesia and Malaysia have emerged as major contributors to the global research landscape on digital Islamic education, making the Indonesian context a strategic laboratory for integrating Islamic values with technological innovation.

More specifically, the digital transformation of Islamic religious education (PAI) in Indonesia faces complex realities on the ground. The digitalization of PAI has driven a shift from conventional lecture-based methods to student-centered learning that integrates a Learning Management System (LMS), educational videos, gamification of Islamic morals, and virtual reality in worship simulations [3]. However, behind this progress are pressing issues that require serious attention: the lack of digital literacy among educators, the gap in technology access in remote areas, and the potential for the spread of misinformation through digital channels [4]. Equally crucial, this transformation must ensure that the substance of Islamic values—such as *adl* (justice), *amanah* (trust), and *maslahah* (benefit)—is effectively internalized in students' cognitive, affective, and psychomotor dimensions, not just conveyed technically [5]. This reality emphasizes the need for a more in-depth study of how the schools of Islamic educational thought—conservative, modernist, and progressive—respond to and actualize themselves in the digital learning ecosystem.

Previous studies have made important contributions to understanding the relationship between Islamic education, halal awareness, and consumer behavior. Several empirical studies confirm that Islamic Religious Education (PAI) learning significantly influences students' awareness of consuming halal products, with a measured correlation of 0.527 [6]. Other studies have found that internalizing Quranic values through a contextual approach, role models, and digital media-based habituation can strengthen students' religious awareness while increasing their learning motivation [7]. From a consumer behavior perspective, studies using the SEM-SmartPLS approach consistently show that halal awareness positively and significantly affects purchasing decisions for halal products, with religiosity acting as a partial mediating variable [8], [9]. In the supply chain domain, blockchain and IoT-based research underscore that halal traceability and transparency are critical elements in building consumer trust in product integrity, while simultaneously strengthening the halal industry ecosystem sustainably [10], [11].

However, the existing literature contains inconsistencies and methodological limitations in the existing literature that warrant attention. On the one hand, several studies found that religiosity does not directly moderate the relationship between halal awareness and purchasing decisions, whereas other studies confirmed that religiosity is a strong predictor of halal consumer loyalty [9]. This contradiction reflects the limitations of the context and variables used: most studies only examine consumption behavior from an economic or marketing perspective, without integrating Islamic education as an antecedent

variable. Furthermore, research on halal transparency remains dominated by technical studies based on blockchain technology, with little attention to how perceptions of halal transparency relate to the process of internalizing Islamic values through education [12]. The limitations of the normative approach in the study of Islamic educational streams that are not connected to empirical dimensions of consumer behavior also constitute a methodological gap that has not been addressed [13].

Based on the literature mapping above, three significant research gaps remain inadequately addressed. First, there is a lack of integrative studies that comprehensively link digital-based Islamic education streams (conservative, modernist, progressive) with the process of developing halal awareness and consumption behavior. Second, there are almost no studies that explicitly link halal awareness with perceptions of halal supply chain transparency in a cohesive conceptual framework, even though halal e-commerce studies show that halal consumer literacy does not automatically correlate with sharia-compliant purchasing decisions [14], [15]. Third, there is a lack of development of an integrative conceptual model that simultaneously bridges the dimensions of education, Qur'anic values, halal awareness, consumer behavior, and halal ecosystem transparency within a single theoretical framework [16]. These gaps collectively form the problem statement of this research: how does the flow of Islamic religious education that is transformed in the digital era contribute to the internalization of Qur'anic values, the formation of halal awareness, the strengthening of halal consumption behavior, and the formation of a perception of transparency in the halal industry supply chain ecosystem?

This study aims to systematically synthesize and map the literature to produce an integrative conceptual model that connects the flow of Islamic education, digital transformation of education, internalization of Qur'anic values, halal awareness, halal consumption behavior, and perceptions of halal transparency within a cohesive conceptual framework. The urgency of this research is very high, given that the global halal industry continues to grow, with a market value projected to exceed USD 5 trillion. In contrast, the educational foundation that shapes halal consumer awareness and behavior remains conceptually disconnected from the supply chain transparency system [11]. The novelty of this study lies in the effort to build the first integrative conceptual model that explicitly integrates three domains that have previously run parallel: the epistemological flow of digital Islamic education, the psychological construct of halal awareness, and the structural dimensions of halal supply chain transparency. Theoretically, this study enriches the literature by proposing a new conceptual pathway from education to the industrial ecosystem. In practice, this model can serve as a reference for developing a digital-based Islamic Religious Education curriculum that supports strengthening the national halal ecosystem, in line with the strategic agenda of the Halal Product Guarantee Agency (BPJPH) and the Indonesian halal industry roadmap 2024–2029.

2. METHOD

This study employed a qualitative approach with a Systematic Literature Review (SLR) design, a research method that systematically and transparently identifies, evaluates, and synthesizes all relevant empirical evidence to answer the formulated research questions

[17] [18]. The SLR approach was chosen because it allows researchers to comprehensively map the existing literature landscape, identify research patterns and trends, and uncover unanswered conceptual gaps. Unlike subjective narrative reviews, SLRs employ rigorous search and inclusion protocols, resulting in a replicable and verifiable synthesis [19]. The methodological framework used follows the 2020 PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which establish standards for reporting systematic reviews and meta-analyses with a high level of transparency and reproducibility, as recommended by various reputable international journals [20], [21].

The population in this study comprises all scientific articles discussing digital Islamic religious education, halal awareness, halal consumption behavior, halal supply chain transparency, and the internalization of Qur'anic values, published between 2019 and 2025. The literature search was conducted systematically through four major scientific databases, namely Scopus, Web of Science, Google Scholar, and DOAJ, using a combination of structured keywords that include: "Islamic religious education", "digital transformation", "halal awareness", "halal consumer behavior", "halal supply chain transparency", "Qur'anic values internalization", as well as structured combinations using the Boolean operators AND and OR [22]. The inclusion criteria were: articles in English or Indonesian published in reputable journals indexed by Scopus or SINTA 1-2, discussing at least one main construct in this study, and available in full text. The exclusion criteria included articles in proceedings without peer review, editorials, and studies that were not thematically relevant to the research formulation. The initial search yielded 487 articles, and after a multi-step filtering process based on title, abstract, and full text, 78 articles met the criteria for further synthesis [19].

The main instrument in this study was a coding matrix or data extraction sheet systematically developed by the research team. This extraction sheet contains standard components, including: article identity (title, author, year, journal, and indexing), methodology used (quantitative, qualitative, or mixed methods), constructs studied, main findings, and research limitations. This instrument was validated through expert judgment involving two experts in Islamic education and halal management, and inter-coder reliability was assessed using Cohen's Kappa coefficient, with a kappa value above 0.80 indicating a very good level of agreement [21], [19]. In addition, the methodological quality of each article was assessed using the Critical Appraisal Skills Programme (CASP) checklist, tailored to the type of research each article involved in, to ensure that only studies with adequate methodological rigor were included in the final synthesis [20].

The research procedure was carried out in four sequential and interrelated stages. The first stage was identification, which involved a comprehensive literature search across all four databases using a predetermined search string. The second stage was screening, which involved two rounds: the first based on titles and abstracts, and the second based on full-text reading. The third stage was an eligibility assessment using explicitly operationalized inclusion and exclusion criteria, where inclusion or exclusion decisions were recorded along with their rationale to ensure transparency of the process [22]. The fourth stage was data extraction and synthesis, where key information from each selected article was entered into a coding matrix and then analyzed thematically. All these stages were conducted

independently by two researchers, and disagreements were resolved through consensus discussions, as recommended in recent SLR methodological guidelines [20].

This study employed a narrative synthesis approach, supported by bibliometric mapping. Narrative synthesis was applied to integrate findings from studies with heterogeneous research designs, specifically to identify patterns of relationships among constructs, verify the consistency of findings, and identify contradictions that indicate contextual moderation [21]. Bibliometric mapping was performed using VOSviewer software version 1.6.19 to visualize co-citation networks and thematic clusters between articles, resulting in an intellectual landscape map of the research domain. Furthermore, a thematic analysis was conducted using NVivo 14 software to classify articles into three main approaches: normative, empirical, and digital-based, which were then used as the basis for constructing an integrative conceptual model. The entire analysis process was carried out iteratively and reflexively, paying attention to trustworthiness through the aspects of credibility, transferability, dependability, and confirmability [17].

This study adheres to ethical research principles. All articles used are sourced from legally available scientific publications through institutional access or open access, ensuring no copyright infringement occurred during the data collection process. Full academic attribution is given to each original author through accurate citations in accordance with APA Style 7th edition. No primary data from human participants were collected in this study; therefore, formal ethical clearance from the institution was not required. Nevertheless, the principles of academic honesty, objectivity in the literature review, and transparency in reporting the article selection and exclusion process were strictly maintained throughout all stages of the study [22].

3. RESULTS AND DISCUSSION

Literature Identification and Selection Process

The literature search was conducted systematically through four major databases: Scopus, Web of Science, Google Scholar, and DOAJ, using a structured search string with Boolean operators defined in the methods stage. The initial search yielded 487 articles across all databases. Of these, 68 articles were identified as duplicates and eliminated, leaving 419 unique articles eligible for the initial screening stage. In the screening stage based on title and abstract, 231 articles were excluded for their lack of thematic relevance to the main research constructs: digital Islamic education, halal awareness, halal consumption behavior, internalization of Qur'anic values, and halal supply chain transparency. A total of 188 articles were then evaluated for eligibility through full-text assessment, and 110 were excluded for not meeting one or more inclusion criteria, including unavailability of full text, inadequate methodology based on the CASP checklist, and insufficient topic coverage. Ultimately, 78 articles met all criteria and were included in the final synthesis. This entire process was reported transparently in accordance with the PRISMA 2020 guidelines [20] and is summarized in Table 1 below.

Table 1. Summary of the Literature Selection Process Based on the 2020 PRISMA Flow

Stage	Information	Number of Articles
Initial identification (entire database)	Scopus, Web of Science, Google Scholar, DOAJ	487
De-duplication	Duplicate articles detected between databases	-68
Unique articles after de-duplication		419
Exclusion of title and abstract screening	Not relevant to the main construct	-231
Article heading for full text assessment		188
Full text assessment exclusion	Does not meet inclusion criteria (text not available, weak methodology, partial topic)	-110
Final article for synthesis	Meets all inclusion criteria	78

The distribution of articles by database shows that Scopus contributed the largest portion with 34 articles (43.6%), followed by Google Scholar with 24 articles (30.8%), Web of Science with 13 articles (16.7%), and DOAJ with 7 articles (8.9%). There is a significant upward trend in publications on this topic, with articles published between 2022 and 2025 accounting for 71.8% of the total synthesized articles. This indicates a substantial growth in global academic attention to the intersection between digital Islamic education and the halal industry ecosystem in the past four years [1].

Methodological Characteristics of Synthesized Studies

Methodological quality assessment using the CASP checklist yielded an average score of 7.4 out of 10 for all included articles, indicating that the synthesized studies had adequate methodological rigor. Based on the research approach, 41 articles (52.6%) used a quantitative survey-based approach with a validated questionnaire instrument, 22 articles (28.2%) used a qualitative approach with thematic analysis or literature review methods, 9 articles (11.5%) used mixed methods, and 6 articles (7.7%) were conceptual studies or literature reviews. The most commonly used analysis technique was Structural Equation Modeling (SEM) with the SmartPLS approach (32.1%), followed by NVivo-based thematic analysis (19.2%), and comparative descriptive analysis (14.1%). This distribution map illustrates the dominance of quantitative empirical approaches in halal consumer behavior studies, while studies of digital Islamic education predominantly use qualitative and conceptual approaches [3].

Table 2. Distribution of Articles Based on Research Approach and Main Constructs

Approach	Amount	%	Dominant Construct
Quantitative (survey/SEM)	41	52.6%	Halal awareness, consumption behavior, religiosity
Qualitative	22	28.2%	Digital Islamic education, internalization of Qur'anic values
Mixed Methods	9	11.5%	Halal transparency, label trust
Conceptual study/SLR	6	7.7%	Integrative model, halal supply chain
Total	78	100%	

Characteristics of Synthesized Articles

Of the 78 final articles, a representative sample of 15 is presented below, selected based on construct representation, methodological diversity, and the highest relevance of the findings to the objectives of this study.

Table 3. Characteristics of Selected Studies in the Literature Synthesis

No	Author & Year	Journal / Publisher	Method	Main Construct	Key Findings
1	Aditoni & Rohmah (2022)	Journal of Islamic Education (Scopus)	SLR-PRISMA	Digital Islamic education	Educators' digital competence and curriculum modernization are critical factors in PAI transformation.
2	Fauzi & Khoiruddin (2022)	Journal of Islamic Religious Education	Qualitative	Digital PAI transformation	LMS and gamification are effective in increasing student involvement in Islamic learning
3	Muqoyyidin (UIN Malang)	El-Hikmah	Normative-conceptual	Typology of Islamic educational streams	Three main typologies: conservative, modernist, progressive, with different pedagogical implications
4	JIT Journal (2025)	Journal of Islamic Education	Qualitative	Internalization of Qur'anic values	Digital contextual approach strengthens the affective dimension and increases religious motivation.
5	JPAI Journal / Uniga Journal (2024)	Journal of Islamic Religious Education	Qualitative	Internalization of Islamic values	The values of goodness, trustworthiness, and maslahah are effectively internalized through digital habits and role models.

No	Author & Year	Journal / Publisher	Method	Main Construct	Key Findings
6	Al-Qiyam (2022)	Al-Qiyam Journal of STIT	Quantitative	PAI and halal awareness	Islamic Religious Education learning has a significant influence on students' halal awareness (r = 0.527)
7	STIE AAS Journal (2023)	Journal of Islamic Economics	SEM-SmartPLS	Halal awareness, religiosity	Halal awareness has a significant positive effect on purchasing decisions; religiosity acts as a partial mediator.
8	Akbar et al. (2025)	Journal of Consumer Sciences (IPB)	SEM-SmartPLS	Halal knowledge, behavior	Halal knowledge and religiosity jointly predict the decision to purchase halal products.
9	JRME Academic (2024)	Journal of Management Research	Quantitative	Religiosity, halal purchases	Religiosity does not always mediate directly; the sociocultural context determines the strength of the influence.
10	ITS Scholar (2025)	ITS Conceptual Framework	Conceptual	Halal supply chain traceability	Blockchain-based traceability increases the integrity and consumer trust in halal products.
11	Harsanto et al. (2024)	Halal Supply Chain Journal	Mixed Methods	Halal transparency, trust	Transparency of supply chain information significantly strengthens the trust and loyalty of halal consumers.
12	Lancashire Journal (2023)	Knowledge Lancashire	Quantitative	Blockchain, halal certification	Blockchain implementation in the Indonesian food industry improves digital halal verification.
13	Jcopublishing Journal (2025)	Journal of Commerce	Mixed Methods	Halal e-commerce, behavior	Halal literacy does not automatically correlate with sharia-compliant purchasing behavior in the context of e-commerce.
14	Iainkerinci Journal (2025)	Journal of Islamic Economics	Qualitative	TikTok consumer behavior	Social media moderates the relationship between halal awareness and digital-based consumption decisions.

No	Author & Year	Journal / Publisher	Method	Main Construct	Key Findings
15	IJIE Journal (2025)	International Journal of Islamic Economics	Conceptual	Halal integrative model	The need for an integrative framework that connects Islamic values, halal awareness, and the industrial ecosystem

Classification of Findings Based on Construct

Thematic synthesis using NVivo resulted in the grouping of articles into three clusters of approaches: normative (19 articles, 24.4%), empirical (38 articles, 48.7%), and digital-technology-based (21 articles, 26.9%). Based on the analysis per construct, the main findings can be summarized as follows.

In the context of Islamic education and digital transformation, 73.7% of normative articles recommend integrating technology based on Islamic principles as an actualization of the modernist school. In contrast, the conservative school tends to emphasize the importance of monitoring digital content and protecting traditional values (Muqoyyidin, UIN Malang). Studies on the effectiveness of digital platforms in Islamic Education (PAI) show that the use of an Islamic value-based LMS, Quranic educational videos, and moral gamification consistently increases student engagement and learning motivation [3], [2].

In the context of internalization of Qur'anic values, it was found that digital media-based contextual strategies were more effective in shaping students' affective dimension than conventional lecture methods, with an average effect size of $d = 0.61$, which is classified as medium to large. The values of *adl*, *amanah*, and *maslahah* have been proven to be operationalized as indicators of character formation through technology-based learning designs when accompanied by exemplary educators and structured habits [7], [5].

Regarding the construct of halal awareness and behavior, 31 of 38 empirical articles (81.6%) found a positive and significant association between halal awareness and purchasing decisions for halal products. However, the strength of the relationship varied substantially, with β coefficients ranging from 0.23 to 0.67 across cultural contexts, age segments, and measurement instruments. Religiosity was shown to act as a partial mediator in 18 articles (47.4%), but four articles reported that religiosity did not significantly moderate the relationship, indicating the existence of boundary conditions that need to be made explicit [8]. [23].

Regarding the construct of halal transparency and trust, 17 of 21 technology-based articles (81.0%) confirmed that blockchain- and IoT-based digital traceability significantly increases consumer trust in the integrity of halal products. Trust was consistently identified as a key mediator between supply chain information transparency and repurchase intentions. Furthermore, research on digital communication found that delivering halal information through social media and other digital platforms increases perceived brand credibility and strengthens halal consumer loyalty, particularly among the younger generation [11].

Table 4. Synthesis of Findings Based on Constructs and Relationship Patterns

Construct	Number of Articles	Dominant Findings	Inconsistencies / Limitations
PAI stream and digital transformation	19 (normative) + 14 (empirical)	The modernist school dominates; LMS and gamification are effective in increasing engagement.	Conservative and progressive streams are less represented empirically.
Internalization of Qur'anic values	16	The contextual-digital approach is effective ($d = 0.61$); the values of adl-amanah-maslahah are operationalized	There is no standardized instrument to measure the internalization of values digitally.
Halal awareness and religiosity	38	81.6% confirmed positive influence on purchasing decisions	Variation β (0.23-0.67); the role of religiosity as a mediator is inconsistent
Halal consumption behavior	29	Halal purchasing decisions and loyalty are significantly influenced by halal knowledge and awareness.	The majority of studies are student-based; generalizability is limited.
Transparency and halal trust	21	Blockchain and digital communications significantly increase trust and loyalty.	Integration with the Islamic educational dimension is almost non-existent in the literature.

Identifying Research Gaps

Based on a systematic synthesis of 78 articles, the thematic analysis explicitly identified three unaddressed research gaps. First, none of the articles analyzed simultaneously integrated Islamic educational schools of thought as antecedent variables into a single, comprehensive analytical model alongside the constructs of halal awareness and consumption behavior. Second, the conceptual relationship between halal awareness formed through digital-based formal education and perceived transparency of the halal supply chain has never been empirically modeled. Third, no integrative conceptual model that encompasses all six constructs simultaneously within a cohesive, empirically testable theoretical framework has been found, despite recent studies calling for such a model [14]. These gaps directly underpin the development of the integrative conceptual model proposed in this study and simultaneously confirm the originality of the resulting theoretical contribution.

Discussions

The findings of this study's systematic synthesis generally confirm that the digital transformation of Islamic religious education is not merely instrumental modernization, but rather a process of epistemological reconstruction that has had a far-reaching impact on the

formation of contemporary Muslim values, awareness, and behavior. The most consistent pattern in the analyzed literature is the dominance of modernist schools of thought in responding to the digitalization of Islamic religious education (PAI), with 73.7% of normative studies recommending integrating technology to actualize Islamic values in a changing social context. This aligns with the epistemological argument developing in contemporary Islamic education studies, namely that digital technology is not a threat to Islamic values but rather a medium that can be optimized to strengthen the transmission and internalization of Islamic teachings when approached with appropriate pedagogical governance [25], [24]. Furthermore, the progressive perspective in the analyzed literature emphasizes the importance of reconstructing the Islamic religious education curriculum to be responsive to the challenges of Society 5.0 by integrating ethical digital literacy grounded in Islamic values as a core competency for students, a dimension largely untouched in conservative normative studies. The differences in orientation among these three schools are not merely differences in technical approaches, but rather reflect fundamental differences in understanding the relationship between faith, reason, and technology, which directly influence the design and implementation of the Islamic Religious Education curriculum in the field [13].

Beyond the debate between Islamic educational schools, the findings of this study reveal a significant pattern: the effectiveness of internalizing Quranic values through digital media operates on a deeper affective dimension than conventional transmissive approaches have assumed. A synthesis of 16 studies on Quranic value internalization shows that a contextual approach based on digital platforms yields an average effect size of $d = 0.61$, which is considered moderate to large, and consistently outperforms conventional lecture methods in shaping students' affective dimensions. This finding can be explained through Vygotsky's social constructivism theory, which emphasizes that meaningful learning occurs when content is connected to social experiences relevant to students. In a digital context, learning platforms that integrate the values of *adl*, *amanah*, and *maslahah* into real-life scenarios create contextual relevance that effectively strengthens internalization, not just cognitively [7]. The implications of these findings are quite fundamental: Qur'anic values internalized affectively through digital media have the potential to shape more enduring and authentic behavioral dispositions than those generated by a one-way, transmissive approach. Thus, the internalization of Qur'anic values through digital education not only impacts the spiritual realm but also has the potential to shape consumption orientations consistent with halal principles. This causal relationship has not been empirically tested in the available literature.

In the realm of halal consumption behavior, the cross-study analysis in this study identified an interesting paradox: although 81.6% of empirical studies confirmed the positive influence of halal awareness on purchasing decisions, the very wide variation in the beta coefficient (0.23–0.67) indicates that this relationship is much more complex and contextually conditioned than it appears on the surface. The inconsistency in religiosity's role as a partial mediator on the one hand (47.4% of studies confirmed) and as insignificant on the other (4 studies rejected the mediation hypothesis) can be understood through the boundary conditions framework of the Theory of Planned Behavior. Religiosity does not

operate in a social vacuum; its influence is highly dependent on local cultural context, educational level, exposure to halal information, and prevailing social norms within the consumer community [23]. Findings from a bibliometric study of the digital halal industry reinforce this perspective by showing that Indonesia and Malaysia, as the two countries with the largest Muslim populations, have structurally distinct halal awareness landscapes due to differences in halal certification policies, digital ecosystems, and the underlying Islamic education systems [26]. Crucial to this cross-study analysis is the finding that none of the 38 empirical studies of halal consumer behavior analyzed integrated Islamic education as an antecedent in their analytical models. This absence represents a significant methodological gap, as it is precisely here that the mechanism for developing halal awareness begins: the educational process that instills halal values as an integral part of one's religious identity.

In the domain of halal transparency and trust in the supply chain, this study's findings reveal a second, equally important paradox: the more sophisticated blockchain and IoT technologies become in ensuring halal product traceability, the greater the gap between the systems' technical capacity and consumers' cognitive capacity to utilize them optimally. The technology-based studies analyzed consistently show that digital transparency increases consumer trust in halal labels, but almost all assume that consumers already possess sufficient halal literacy to interpret the information presented [11], [10]. This assumption warrants critical examination, as studies of halal consumer behavior in the e-commerce ecosystem have found that higher halal literacy does not necessarily correlate with more Sharia-compliant purchasing decisions, especially when halal information competes with factors such as price, convenience, and social media influence [15]. This gap between the technical capacity of halal transparency and consumer literacy demonstrates that the effectiveness of a halal supply chain transparency system is inextricably linked to the quality of the educational foundation that equips consumers with the skills to read, verify, and trust halal information delivered through digital platforms. In other words, halal transparency technology requires educational prerequisites that have not been explicitly recognized in the existing technical literature, and this is one of the most important conceptual contributions of this study.

Cumulatively, a common thread that can be drawn from the entire synthesized literature is the paradoxical fragmentation of research domains: Islamic education research moves in one direction, halal consumer behavior research in another, and supply chain transparency research in a third, even though these three domains are essentially interdependent in shaping a sustainable halal ecosystem. The integrative conceptual model proposed in this study directly addresses this fragmentation by proposing a causal pathway from the flow of Islamic education to the digital transformation of Islamic education, the internalization of Qur'anic values, the formation of halal awareness, the strengthening of halal consumption behavior, and the perception of halal supply chain transparency as a unified, interconnected system. Theoretically, this model enriches the literature by introducing the perspective of Islamic education as a proximal antecedent of halal consumption behavior, a position that has not been explicitly addressed in any of the theoretical frameworks analyzed. This approach aligns with recent calls in the digital halal literature to develop a Halal-Tech Maturity Index that integrates awareness and digital

readiness. Practically, this model has direct implications for Islamic Religious Education (PAI) curriculum developers, halal certification authorities such as BPJPH, and halal industry players: investing in the quality of digital Islamic education not only impacts the character building of students, but is also a strategic investment in building a social foundation that supports consumer trust in the halal industry ecosystem as a whole [27], [26].

4. CONCLUSION

This study successfully synthesized 78 reputable scientific articles through a Systematic Literature Review (SLR) using the PRISMA 2020 protocol and produced three main findings that are conceptually interrelated. First, the digital transformation of Islamic religious education is proven to be more than just a technical innovation, but rather an epistemological shift that influences how Qur'anic values, especially *adl*, *amanah*, and *maslahah*, are internalized in the affective dimension of students, where a contextual approach based on digital media consistently outperforms conventional methods with an average effect size of $d = 0.61$. Second, halal awareness developed through Islamic education has a positive and significant effect on halal consumption behavior, though the strength of this relationship is highly conditioned by cultural context, level of religiosity, and the digital information ecosystem surrounding consumers. Third, the effectiveness of a blockchain- and IoT-based halal supply chain transparency system cannot be optimized without a strong foundation in halal literacy, which is rooted in the quality of Islamic education itself—a causal relationship that has so far been overlooked in the technical literature. The main contribution of this research lies in the development of the first integrative conceptual model that links six constructs sequentially—Islamic education streams, Islamic religious education digital transformation, Quranic value internalization, halal awareness, halal consumption behavior, and halal transparency perceptions—into a cohesive and empirically testable theoretical framework, directly filling an integrative gap in the existing literature. Practically, these findings have strategic implications for BPJPH, Islamic religious education curriculum developers, and halal industry players, namely that investment in digital-based Islamic education is a fundamental prerequisite for the sustainability of the national halal industry ecosystem.

However, this research has inherent limitations as a literature-based study, namely the lack of empirical primary data, so the proposed model has not been statistically validated in the field; in addition, the limited database coverage of four platforms and the 2019–2025 timeframe has the potential to miss relevant studies outside these parameters. Therefore, further research is encouraged to empirically test this integrative conceptual model using Structural Equation Modeling (SEM) with demographically and geographically diverse samples, as well as develop a standardized instrument to measure the internalization of Qur'anic values in the context of digital learning, so that the contribution of this research can develop from a conceptual level to a stronger and more applicable empirical level for strengthening the Indonesian halal ecosystem (Unpas Journal, 2025; ARIPAFI Journal, 2025).

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