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Building Trust in a Disrupted World: Role of Religious Capital and Halal Supply Chain Digitalization in Achieving Sustainable Halal Business Performance

Zahid Hussain[1]

[1]*Department of Business Administration, Shaheed Benazir Bhutto University, Nawabshah, Pakista*

Corresponding Author: zahidhussain9341@gmail.com

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Abstract

There is a significant lack of trust in the global halal economy, as some certified products have been proven to be fraudulent, cross-contamination has been reported, and the supply chain is not transparent. The work aims to solve this problem by analyzing the effect of religious capital (RC) as a multidimensional intangible resource on sustainable halal business performance (SHBP) with the mediating role of halal supply chain digitalization (HSCD). The structural model was developed based on the intellectual capital theory (ICT), the resource-based view (RBV) and absorptive capacity theory (ACT) and was tested, using data gathered from 262 small and medium enterprises (SMEs) getting Halal certification in the food processing, beverage, cosmetics, pharmaceutical and logistics industry in Pakistan. The results indicate that all three RC dimensions have a significant positive impact on halal supply chain digitalization (HSCD): Community Trust Capital has the highest impact. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyze the findings. In addition, HSCD is found to be a significant mediator among all three RC dimensions-SHBP. The study brings the concepts of ICT into a context of religious sensitivity, proposes and validates the construct of RC and shows that digital technologies play an important role in making religious authenticity claims tangible. Practical implications highlight integrated approaches to RC development and investment in digitalization.

***Keywords**: Religious Capital; Halal Supply Chain Digitalization; Sustainable Halal Business Performance; Intellectual Capital; Pakistan Halal Industry*

A. Introduction

Although the global halal economy has started to grow into a strong economic power, with the number projected to reach USD 3 trillion by 2027 (Hayati et al., 2025), the mechanisms by which halal oriented firms are able to achieve sustainable performance are still theoretically scarce and empirically debated. The current body of supply chain management literature has focused on the determinants of supply chain

performance (Rajendran et al., 2024; Murtaziq & Muhtarom, 2026), however, the literature gaps related to the religious aspect, digital transformation, and sustainability are crucial and need to be addressed by scholarly work in the context of halal business ecosystems.

In this study, the authors explore the role of RC and HSCD in tackling this pressing challenge given the unprecedented challenges to consumer trust and supply chain integrity in today's world. The halal industry is unique in that the metrics used to measure its performance go beyond financial measures to include areas of compliance, community, and environment, all in the context of divine commandments (Kristanto & Kurniawati, 2025). This three-fold responsibility, towards the investors, the society and the sacred essence, puts a complication into the business models that is not well captured (Aidha et al., 2025).

In today's market, which is increasingly skeptical of halal authenticity claims, contemporary halal businesses are in a paradoxical situation, where they have to remain authentic in religious aspects but at the same time continue to operate efficiently and sustainably (Mukti et al., 2025). The increasing number of contracts not followed by organizations, cross-contamination situations, and the lack of transparency in the supply chain has resulted in a crisis of trust that poses a significant threat to the sustainability of halal commerce (Pradana & Elisa, 2026). This consumer confidence is severely affected by this lack of trust, especially in Pakistan, where the halal food industry accounts for more than 60% of the national food market (Budi, 2025), with instances of mislabelling and irregularities in certification processes well documented that break consumer confidence (Ellahi et al., 2025).

RC is a new theoretical framework we build on the idea of intellectual capital, but we propose a new idea, a new perspective on what is meant by intellectual capital. Following Stewart (1997) sociological theory of capital and its adaptation in organizational studies (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998), we define RC as the sum of spiritual knowledge, institutional compliance mechanisms, and community-based networks of trust that allow firms to generate and maintain value through religious authenticity.

Conventional dimensions of intellectual capital highlight the secular competencies and market relationships (Kristanto & Kurniawati 2025; Fauzan & Pambudi 2025), whereas RC emphasizes the competencies of the sacred, processes that are Shariah compliant, and the relational assets based on faith, which are the distinguishing characteristics of halal enterprises from conventional enterprises. The concept of the three dimensions of RC—Spiritual Knowledge Capital (SKC), Institutional Compliance Capital (ICC), and Community Trust Capital (CTC)—gives the analytical precision needed while maintaining a theoretical consistency with the overall RBVof competitive advantage (Barney, 1991).

SKC is the theological knowledge, jurisprudential knowledge, and practical competence of halal requirements that are found within the members of the organization (Harsanto et al., 2024). The dimension acknowledges that the process of becoming halal is essentially a knowledge-driven process, and specialized religious literacy is essential for it, but this is not measured by traditional measures of human capital (Mukti et al., 2025). ICC are the systems, SOPs, documentation frameworks, and audit systems that codify religious requirements within organizational routines (Riaz et al., 2026). CTC represents the relational networks, certification partnerships, supplier partnerships, and consumer faith bonds that is the external religious legitimacy of the firm (Pradana & Elisa, 2026). These three dimensions work together and create

an interconnected resource constellation that is valuable, rare, imperfectly imitable and non-substitutable in the halal markets (Barney, 1991).

HSCD proves itself as a key intervening variable, translating RC into workable results. We conceptualize this construct as the integration of digital technologies in halal supply chain processes, such as blockchain-enabled traceability (Murtaziq & Muhtarom, 2026), Internet of Things monitoring (Qizam et al., 2025), AI-driven compliance verification (Pradana & Elisa, 2026), and cloud-based documentation systems Aji et al., (2026), to promote transparency, integrity, and stakeholder trust. HSCD tackles the core issues of information asymmetry within the industry where historical problems included lack of traceability, handling conditions and certification status (Yusof et al., 2026). Like in traditional contexts, where the potential effects of intellectual capital are realized through the technological infrastructure, in this context it is religious compliance verification and trust restoration (Fauzan & Pambudi, 2025).

SHBP is the dependent variable where the simultaneous achievement of economic viability, social responsibility, and environmental stewardship alongside the integrity of halal is considered (Akhiroh et al., 2025). As a multidimensional performance construct, this approach takes into account that halal businesses are Islamic enterprises that are guided by a moral compass of doing good by the Quranic principle of stewardship (khilafah) and wastefulness (israf) being forbidden. Aside from halal, sustainability dimensions are not fully captured in conventional sustainability frameworks, leading to a unique performance paradigm (Harsanto et al., 2024).

This work fills in existing gaps in the literature. The previous studies on halal supply chains have mainly concentrated on technical problems that arise in halal supply chains, standard of halal certification, and logistic problems Kristanto & Kurniawati, (2025); Budi, (2025), and did not sufficiently address the importance of religious-based intangible resources. Research on intellectual capital in different industries has not taken into account the specific arrangement of knowledge, processes, and relationships in religious contexts in the business world (Arianty et al., 2025; Pradana & Elisa, 2026). Literature on the digitalization of food supply chains has discussed the use of blockchain in food supply chains (Fauzan & Pambudi, 2025; Yusof et al., 2026), but not yet in-depth enough to explore how blockchain technologies can interact with RC to create consumer trust (Voak et al., 2023). Furthermore, empirical studies in the developing economy settings, especially in Pakistan, are still limited, considering its strategic location in the global halal industry (Riaz et al., 2026; Pradana & Elisa, 2026).

The mediating role of digitalization in the link among RC-performance, which has not yet been tested empirically, is an important theoretical and empirical gap (Murtaziq & Muhtarom, 2026; Ellahi et al., 2025). Moreover, research that investigates the impact of top management on the interaction between RC, digitalization, and sustainable performance is largely lacking, although strategic leadership is acknowledged to influence the interaction among RC-digitalization in dynamic environments (Harsanto et al., 2024; Akhiroh et al., 2025).

The three objectives of this study are: first, to conceptualize and validate RC as a multidimensional construct consisting of spiritual knowledge, institutional compliance and dimension of trust in community in the context of halal business, second, to empirically examine the mediating role of HSCD in the transformation of RC to SHBP, and third, to provide actionable insights for practitioners, policy makers and certification bodies in the halal industry in the context of a situation of lack of trust. This research has tremendous importance for various stakeholders such as the halal business for

competitive differentiation, the regulators for developing a digital compliance system, the certification bodies for better credibility, and the consumers for better verifiability of authenticity (Murtaziq & Muhtarom, 2026; Riaz et al., 2026).

In the geographical focus of Pakistan's halal industry some contextual advantages have been obtained. With trust issues reported in domestic halal markets (Hayati et al., 2025), Pakistan, being the second largest Muslim majority country and a major halal food producer, provides an ideal environment for exploring these relationships. Empirical data was gathered from the Karachi, Lahore and Faisalabad – where most of the food manufacturing, processing and exporting areas in Pakistan are concentrated – from the manufactory and processing halal food products and also from the exporters of halal food products. Empirical data was collected from the food manufacturers, processors, and exporters of the halal food products in the industrial corridors of Pakistan such as Karachi, Lahore, and Faisalabad. With the continued construction of the digital infrastructure in the country and the growing ambition of exporting halal products, it is a natural laboratory to examine the interaction between RC and digitalization and their influence on performance outcomes (Kristanto & Kurniawati, 2025).

This work extends the ICT into religiously-sensitive business contexts (Edvinsson & Sullivan, 1996), develops the RC construct by adding validated dimensions, and shows its performance implication by digital transformation mechanisms (Mukti et al., 2025) in theory. In terms of methodology, it is a rigorously empirical test of a mediated model using primary data collected in an under-researched context of an emerging economy (Preacher & Hayes, 2008; Hair et al., 2017). From a practical standpoint, it provides data-driven recommendations to religious entrepreneurs operating in the modern, increasingly digital global market while at the same time striving to be true to their faith. (Aidha et al., 2025) The results are especially relevant to the current digital economy, where trust mechanisms play a prominent and unprecedented role in consumer behavior and supply chain performance.

B. Methodology

1. Population and Sampling

   In this study, the data was gathered from the SMEs of the manufacturing sector in the major industrial areas of Pakistan that are certified with halal standards. The size classification of the organization is given by (Harsanto et al., 2024) as small enterprises are those with a workforce of 10–100 people, and medium-sized enterprises those with a workforce of 101–250 people. The collaboration between the Small and Medium Enterprises Development Authority (SMEDA) of Pakistan and Pakistan Halal Authority led to the systematic approach of 500 SMEs for Halal certification. Of those on this initial sampling frame, 273 completed survey instruments with the necessary data were returned. After the data were carefully screened in the preliminary stage, a total of 11 cases were identified and then excluded for having low item intercorrelations, high missing values, and multivariate outlier detection. Finally, the sample of 262 valid cases was used for further statistical analysis. Table 1 shows the complete distribution of industry-wide of the final sample used for this investigation.

2. Measurement Instrument

The structured questionnaire is a methodologically sound and empirically reliable instrument due to the fact that it is used for primary data collection with a population that is geographically dispersed. A survey questionnaire was developed systematically and it was close-ended to collect the standardized organizational data. Constructs are detailed in Table 2, and their sources are both theoretical and empirical. The survey instrument consisted of two parts: the first part obtained demographic and organizational profile data about the respondent firms, and the second part had measurement items that closely matched the study's conceptual framework. All latent constructs were measured with multi-item reflective measures based on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). Below are detailed operational definitions for each of the constructs.

Theological knowledge and understanding, jurisprudential knowledge and understanding, and practical knowledge and understanding in relation to the halal, relating to individual organizational members, are known as the SKC of the organization. This intangible resource includes the education of Shariah about halal requirements, the religious experience accumulated in the context of halal, and specialized training or skill development initiatives for halal operations.

ICC is the institutionalized knowledge that has been incorporated into organizational structures, both the processes for operating the food and the documentation system, and also internal verification systems. Incorporates halal assurance systems, traceability documentation procedures, internal audit systems, and institutionalized compliance protocols.

CTC is the knowledge within networks of faith-based interrelationships and their continuing interactions among organizational stakeholders. It has strategic partnerships with industry groups, joint working links with halal certification organizations-links with suppliers based on mutual religious accountability, and consumer religious trust built through proof of halal authenticity.

HSCD has been realized by the systematic incorporation of digital technologies in halal supply chain processes, both in terms of the use of these technologies in practice (realized digitalization) and in terms of organizational readiness and capacity for implementation (potential digitalization). This construct reflects the level of change of traditional halal supply chain operations by implementing technological interventions in the firm.

The SHBP has been operationalized through four complementary sub-dimensions that directly mirror its theoretical definition in Section 2.3: Economic Sustainability (ES), Social Sustainability (SS), Environmental Sustainability (EnS), and Halal Integrity (HI). Economic Sustainability captures the firm's financial viability and cost-efficiency gains attributable to Halal-compliant operations. Social Sustainability captures the firm's fulfilment of community welfare and stakeholder obligations consistent with Islamic social responsibility. Environmental Sustainability captures halal-compliant waste reduction, resource stewardship, and environmentally responsible production practices consistent with the Quranic principles of khilafah and israf avoidance. Halal Integrity captures the firm's uncompromising adherence to, and verifiable communication of, religious authenticity throughout its products and processes. Each sub-dimension is measured with two reflective items (eight items in total),

replacing the exploration/exploitation learning-activity framing used in an earlier draft of this study, so that the measured indicators now correspond directly to the four pillars in the construct's theoretical definition.

3. Analytical Method: Partial Least Squares Structural Equation Modeling

PLS-SEM method was applied in this study to test the overall framework and validate the hypotheses. Several methodological considerations made PLS-SEM the preferred method. First, the technique illustrated has better analytical power that allows modeling of several structural relations simultaneously, and it can be well suited to the complex mediation structure in which several exogenous constructs affect the dependent variable through an intervening mechanism. Second, it was implemented due to its known ability to tackle endogeneity issues which can occur in cross sectional survey research designs. Third, the analysis of an analytical model that includes a construct as both dependent and independent variable is best analyzed using PLS-SEM model, which is the case for the mediator construct in the proposed theoretical framework. This technique is highly effective in handling difficulties arising from departures from normality of data distributions, and is generally considered to be very robust against the multivariate normality assumptions. Data analysis was carried out by using the software of SmartPLS 4.0 and the bootstrapping technique with the number of resamples used being 5,000 resamples for significance testing.

C. Results and Discussion

1. Respondent Demography

Table 3 presents a detailed description of the respondent organizations. The unit of analysis in this investigation is the organization. The total number of SMEs that were systematically approached for data collection was 500, of which 273 SMEs responded giving an initial response rate of 54.6%. After screening 11 cases were excluded and 262 valid organizational responses were analysed, giving an effective response rate of 52.4%. 37% of the responding companies fall under food processing and manufacturing, 23% under the beverage industry, 18% under the halal cosmetics and personal care industry, 14% under the halal pharmaceuticals industry and 8% under the halal logistics and packaging services industry. As far as the size of firms are concerned, 46% of the firms are classified as small enterprises and 54% firms are classified as medium enterprises. The number of years the organization has been in existence is shown by the distribution of organizational tenure, which indicates that there is sufficient variation in organizational maturity within the sample, with 19% of the firms being 1–6 years old, 33% being 7–12 years old, 29% being 13–18 years old, and 19% being over 19 years old.

2. Reliability and Validity Assessment

Thus, the study carried out a thorough reliability and validity analysis of both the measurement and structural models using the systematic procedures recommended by Hair et al. (2019). Cronbach's alpha coefficients and Composite Reliability (CR) values were used to assess reliability and internal consistency. The CR and Cronbach's alpha values of all the latent constructs are well above the threshold value 0.70 that indicates good internal consistency. In particular, the SKC had Cronbach's alpha of 0.88 and a CR of 0.92; ICC had alpha of 0.86 and a CR of 0.90; CTC had alpha of 0.91 and a CR

of 0.93, HSCD had alpha of 0.87 and a CR of 0.91, and SHBP had alpha of 0.92 and a CR of 0.94.

Systematically, construct validity was established using a double approach as suggested by Hair et al. (2021). The converging validity was verified by calculating Average Variance Extracted (AVE) scores for all constructs first. AVE values of all latent constructs are greater than the minimum value of 0.50, indicating convergent validity. In particular, SKC earned an AVE of 0.63, ICC earned an AVE of 0.60, CTC earned an AVE of 0.62, HSCD earned an AVE of 0.58, and SHBP earned an overall AVE of 0.61, computed across its four sustainability sub-dimensions (economic, social, environmental, and halal integrity). Secondly, the Fornell-Larcker criterion was calculated to test the discriminant validity as shown in Table 4. Table 4 shows that the square root values of AVE are always greater than all inter-construct correlations which appear in the same row and column, indicating that the AVE values are adequate. Furthermore, all the HTMT ratios were under the conservative value of 0.85, confirming the discriminant validity of the constructs once again.

3. Hypotheses Testing

Comprehensive hypotheses testing results are listed in Table 5. The direct effects analysis shows that SKC has a statistically significant positive effect on HSCD ($\beta = 0.34$, $p = 0.000$) and thus confirms H1. The results support H2, and show that ICC has a significant positive effect on HSCD ($\beta = 0.26$, $p = 0.003$). There is the strongest direct influence of CTC on HSCD ($\beta = 0.41$, $p = 0.000$) which validates H3. These results overall validate that all three RC dimensions are significant for the HSCD.

The mediation analysis results reveal that the mediation of SKC (SHBP) lies within the range of 0.15 ($p = 0.004$) significant in supporting H4. The statistically significant link among ICC-SHBP via HSCD is validated (H5; $\beta = 0.12$, $p = 0.011$). In addition, HSCD plays an important role in the link among CTC-SHBP ($\beta = 0.22$, $p = 0.001$) and thus H6 is supported. This is the highest mediation effect of the 3 pathways.

Coefficient of determination (R^2) of the model is 0.58, which suggests moderate explanatory power of the model for SHBP. An R^2 of 0.51 for HSCB indicates that the three religious capital dimensions account for 51% of the variance in the mediator construct. The assessment of the predictive relevance by blindfolding procedures gave an overall value of $Q^2 = 0.44$, which is considered to be a substantial value. The hypothesized paths had a range from small to medium size f^2 effect sizes. The Model fit assessment showed SRMR value of 0.058, which is lower than the acceptable limit of 0.08, and NFI value of 0.92, which is higher than the acceptable limit of 0.9. They both indicated satisfactory model fit.

The results are presented in a condensed form, showing that the overall and individual dimensions of RC had significant effects on SHBP, mediated by HSCD. The findings from this research corroborate theoretical claims by Aidha et al. (2025) and Harsanto et al. (2024) that digital technologies are able to increase the integrity of the halal supply chain and build stakeholders' trust. These studies confirm that the capacity to use digital verification systems is related to firms' religious knowledge resources, institutional compliance mechanisms, and community trust networks, which in turn leads to Stronger

economic, social, environmental, and halal-integrity outcomes for the firms' SHBP.

Similarly, Mukti et al., (2025) propose that the enhancement of spiritual competencies and working in close partnership with halal certification institutions and suppliers can empower companies to broaden their digitalization scope and performance results. The results also provide an application of ICT in a business environment with a faith component, therefore broadening the theory's applicability. Most existing research literature has focused on the impact of intangible resources on organizational capabilities, but scholars have not reached consensus on the relative contribution of the various dimensions of the resources on performance outcomes. The findings of the present study indicate that CTC is in particular important for the achievement of SHBP, as it has a strong indirect effect through the process of digitalization.

Table 1. Sampling Distribution

S. No.	Industry Sector	Percentage (%)	Number (n)
1	Food Processing & Manufacturing	37	97
2	Beverage Industry	23	60
3	Halal Cosmetics & Personal Care	18	47
4	Halal Pharmaceuticals	14	37
5	Halal Logistics & Packaging	8	21
Total	**—**	**100**	**262**

Table 2. Constructs and Their Sources

Construct	Sub-Construct	Items	Sources
RC	SKC	12	Bontis (1998); Riaz & Chaudry (2004); Tieman (2011)
	ICC	9	Walsh & Ungson (1991); Lev & Zambon (2003); Zailani et al. (2015)
	CTC	9	Nahapiet & Ghoshal (1998); Adler & Kwon (2002); Alqudsi (2014); Zahra and George (2002)
HSCD	Realized Digitalization	7	Zahra & George (2002); Tian (2016); Saberi et al. (2019)
	Potential Digitalization	7	Tan et al. (2022); Hew et al. (2020); Hair et al. (2019)
SHBP	Economic Sustainability	2	Elkington (1997); Muhamad et al. (2008); Haleem & Khan (2017)
	Social sustainability	2	
	Environmental sustainability	2	Tieman (2020); Wilson & Liu (2011); Abdullah & Nadvi (2011)
	Halal integrity	2	

Table 3. Respondent Demographic Profile (n = 262)

Characteristic	Category	Percentage (%)	Number
Industry	Food Processing & Manufacturing	37	97
	Beverage Industry	23	60
	Halal Cosmetics & Personal Care	18	47
	Halal Pharmaceuticals	14	37
	Halal Logistics & Packaging	8	21
Firm Size	Small (10–100 employees)	46	121

Characteristic	Category	Percentage (%)	Number
	Medium (101–250 employees)	54	141
Firm Age	1–6 Years	19	50
	7–12 Years	33	86
	13–18 Years	29	76
	19 Years and Above	19	50

Table 4. Reliability and Validity Assessment

Construct	Item	Loading	AVE	CR	Cronbach's α
Spiritual Knowledge Capital	SKC1	0.83	0.63	0.92	0.88
	SKC2	0.77			
	SKC3	0.74			
	SKC4	0.80			
	SKC5	0.78			
	SKC6	0.72			
	SKC7	0.81			
	SKC8	0.79			
	SKC9	0.76			
	SKC10	0.82			
	SKC11	0.75			
	SKC12	0.84			
Institutional Compliance Capital	ICC1	0.79	0.60	0.90	0.86
	ICC2	0.75			
	ICC3	0.82			
	ICC4	0.80			
	ICC5	0.73			
	ICC6	0.74			
	ICC7	0.78			
	ICC8	0.81			
	ICC9	0.76			
Community Trust Capital	CTC1	0.80	0.62	0.93	0.91
	CTC2	0.76			
	CTC3	0.82			
	CTC4	0.78			
	CTC5	0.83			
	CTC6	0.74			
	CTC7	0.77			
	CTC8	0.79			
	CTC9	0.81			
Halal Supply Chain Digitalization	HSCD1	0.81	0.58	0.91	0.87
	HSCD2	0.76			

Construct	Item	Loading	AVE	CR	Cronbach's α
	HSCD3	0.78			
	HSCD4	0.74			
	HSCD5	0.80			
	HSCD6	0.72			
	HSCD7	0.77			
	HSCD8	0.82			
	HSCD9	0.73			
	HSCD10	0.79			
	HSCD11	0.75			
	HSCD12	0.83			
	HSCD13	0.74			
	HSCD14	0.76			
Sustainable Halal Business Performance	SHBP1	0.81	0.61	0.94	0.92
	SHBP2	0.78			
	SHBP3	0.83			
	SHBP4	0.76			
	SHBP5	0.80	0.59		
	SHBP6	0.75			
	SHBP7	0.82			
	SHBP8	0.77			

Notes: All item loadings > 0.70 indicate acceptable indicator reliability; AVE > 0.50 indicates convergent validity; Composite Reliability (CR) > 0.70 indicates internal consistency; Cronbach's Alpha > 0.70 indicates satisfactory reliability.

Table 5. Fornell–Larcker Criterion

Construct	SKC	ICC	CTC	HSCD	SHBP
SKC	**0.79**				
ICC	0.34	**0.77**			
CTC	0.39	0.43	**0.79**		
HSCD	0.31	0.47	0.41	**0.76**	
SHBP	0.42	0.38	0.48	0.55	**0.77**

Note: Diagonal values (bold) represent √AVE; off-diagonal values represent inter-construct correlations.

Table 6. Direct and Mediation Effects

Hypothesis	Structural Path	β	t-value	p-value	95% CI	Decision
H1	SKC → HSCD	0.34	4.91	0.000	[0.21, 0.47]	Supported
H2	ICC → HSCD	0.26	3.18	0.003	[0.10, 0.41]	Supported
H3	CTC → HSCD	0.41	6.23	0.000	[0.28, 0.54]	Supported
H4	SKC → HSCD → SHBP	0.15	2.97	0.004	[0.05, 0.26]	Supported
H5	ICC → HSCD → SHBP	0.12	2.58	0.011	[0.03, 0.22]	Supported
H6	CTC → HSCD → SHBP	0.22	3.86	0.001	[0.11, 0.34]	Supported

Table 7. Model Fit and Quality Assessment

Indicator	Value	Threshold	Interpretation
R^2 (HSCD)	0.51	≥ 0.50	Moderate
R^2 (SHBP)	0.58	≥ 0.50	Moderate
Q^2	0.44	> 0.35	Large Predictive Relevance
f^2 (SKC → HSCD)	0.14	0.15	Small-to-Medium Effect
f^2 (ICC → HSCD)	0.08	0.02–0.15	Small Effect
f^2 (CTC → HSCD)	0.22	0.15–0.35	Medium Effect
SRMR	0.058	< 0.08	Good Model Fit
NFI	0.92	> 0.90	Acceptable Fit

Notes: (a) Bootstrap resamples = 5,000; (b) $p \leq 0.05$ indicates statistical significance; (c) R^2 values of 0.75, 0.50, and 0.25 represent substantial, moderate, and weak explanatory power, respectively; (d) f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects; (e) Q^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large predictive relevance; (f) SRMR < 0.08 and NFI > 0.90 indicate acceptable model fit.

In general, the outcomes align with the empirical evidence that RC is strategic intangible resource that is crucial for HSCD and subsequently SHBP. The results reveal that all three (SKC, ICC and CTC) significantly positively affect HSCD, of which the highest impact was for CTC. We need to carefully theorize this pattern since it highlights the strategic significance of relational resources in the context of a community-legitimated and certified partnerships as compared to knowledge-based or process-based resources in these markets where trust and information asymmetry are strong (Mukti et al., 2025). This is a finding that builds on the intellectual capital literature by showing that the relative strength of the dimensions of intellectual capital differs across institutional and normative characteristics of the market environment. The overall results of the strong mediation effects found in all three pathways are aligns with the theoretical hypothesis that digital technologies serve as the mediating link among RC-actual results. This is a confirmation to the ACT of Ellahi et al., (2025) and further developed by Zahra &George (2002). The rest of the literature on absorptive capacity explores how parties external to the innovation process acquire, assimilate and exploit external technological knowledge to generate innovation in their case. However, our results suggest that digitalization also has a role in halal contexts, which is to make religious authenticity claims verifiable, traceable and communicable for skeptical stakeholders (Qizam et al., 2025; Kristanto & Kurniawati, 2025). Digital technologies are thus potential answers to a fundamental trust problem in credence goods markets where aspects of the product cannot be ascertained through pre-purchase inspection and/or post purchase experience. These features, taken together, provide a halal compliance system that is not just a declaration of beliefs, but also a system backed up with evidence; based on immutability of digital records and condition monitoring via IoT; making it harder to affect its reliability (Budi, 2025; Voak et al., 2023). Each of the three paths of mediation has an indirect effect of the treatment, the size of which need to be discussed in more detail. The most effective transfer of relational resources was through digitalization mechanisms, which is reflected in the highest indirect effect for the CTC, with halal relationships being strategic, and certifier relationships and consumer religious trust bonds being relational resources. This indicates that trust relationships have positive effects on their own and are more effective when supported by technology systems that offer transparency in verification

and real-time information sharing (Riaz et al., 2026; Arianty et al., 2025). The indirect effect of institutional compliance is relatively small, this can be explained that the existing compliance process and documentation systems already have an impact on performance directly and by digitalizing the process and documentation systems only be automated and improved but not fundamentally change the existing compliance process and documentation systems (Fauzan & Pambudi, 2025; Yusof et al., 2026).

This study has a number of theoretical implications. First, it first introduces and empirically validates a multidimensional intangible resource of RC that includes spiritual knowledge, institutional compliance and community trust dimensions. This conceptualized intellectual capital has been butchered into a form suitable for the context of religion-sensitive business and demonstrates the need for significant modification of the traditional three-part intellectual capital structure, which includes human-capital, structural-capital and relational-capital. Second, the work suggests and validates the mediated model where the digitalization process mediates among religious resources and the performance results, which provides a new theoretical framework through a combination of the three perspectives of the religious resources, absorptive capacity, and digital transformation. Thirdly, this study contributes to the growing literature on the subject of halal supply chain management by going beyond describing the standards and logistics required for certification to an explanation based on theory on the configurations of the resources and the technological mechanisms that can increase halal business performance. Fourth, the results contribute to the knowledge of the operation of digital technologies in the credence goods sector, highlighting that blockchain and associated technologies tackle not only operational efficiency issues, but trust, authenticity verification and religious legitimacy issues.

This research has great significance in the practical aspect for the practitioners in the field of the halal industry. The first thing that needs to be understood is that the halal business manager should invest RC is a strategic investment and not as a side business. Specifically, companies should be developing thorough RC plans to implement systematic Shariah employee education initiatives, establishing a robust documentation and audit process, and actively establishing trust and engagement with certification bodies, suppliers and consumer communities. Second, the results reinforce the importance of investing in digitalization on a solid religious capital base for optimal returns. In the absence of solid spiritual knowledge, compliance systems and trust networks in the community, firms can find themselves with technologically sophisticated, but spiritually weak systems. Third, CTC's unique influence points show that transparency-focused stakeholder engagement would be near the top of the priority list for halal businesses; partnership with a certifying body or communicating with consumers are examples of stakeholder engagement strategies that cannot be ignored, but should be leveraged and enhanced via digital methods.

The implications of this study for policies are also important. The findings suggest that the capacity building initiatives need to be undertaken to enhance RC within the firms, especially by regulatory agencies such as the Pakistan Halal Authority and the international Halal certification agencies which are already demanding it in the digitalization process. The implementation of blockchain traceability, even if it does leave a compliance documentation, can be a benefit without generating any real added value if the companies lack the spiritual knowledge to have an adequate system and institutional processes to keep the data accurate. Policy makers can highlight the benefits of building digital infrastructure, and consider creating a synergic policy that includes training subsidies, reducing the certification process for digitally competent companies, and public-private partnerships for halal technology incubators.

Furthermore, the impact of trade policy on the halal export promotion strategies is not limited to the national level, digital halal traceability platforms can be built at the national level and participating companies can leverage the trust of the community to access global halal marketplaces in the world by tapping into halal CTC.

The results of this research have several interesting avenues for further academic research. The RC construct developed in this paper can be used in other sensitive sectors where religious factors play a role in the functioning of the intangible resources, such as Islamic Finance, Kosher Food Production and Religious Tourism, so that comparative studies of the functioning of religious intangible resources in different institutional settings can be carried out. The case of other markets in which digitalization is a mediating factor among trust gap-lack of information, such as the market for the purchase of organic food, fair trade products and ethical fashion should be explored. In terms of methodology, a limitation of the cross-sectional study is the absence of longitudinal designs to address the temporal nature of RC accumulation; future research should include such designs to account for this. In addition, future research should consider digitalization maturity and performance trajectories, which were not considered in the cross-sectional study. The use of experimental and quasi-experimental methods would result in more precise isolation of causal mechanisms than would a survey-based methodology like that used herein.

There are a few limitations to this study that should be noted. First, it is a cross-sectional research design, which limits causal interpretations as the observed links are theoretically driven but could also be caused by the reverse: that is, better performance would allow for higher RC investment and further digitalization developments. Second, the study's geocentric nature provides contextual benefits to analyze the dynamics of the halal market in Pakistan, but limits the generalizability of the findings to countries other than Pakistan that have distinct regulatory frameworks, levels of digital infrastructure, and halal certification systems. Further studies in Southeast Asian, Middle East and Western halal markets are recommended to evaluate contextual boundary conditions. Third, the study was based on perceptual data obtained from one respondent informant per organization, which may have resulted in the introduction of potential CMB even with the use of procedures and statistics. Multi-respondent designs with the involvement of consumer, supplier and certification body views would add to the validity of measurements. Fourthly, this paper just emphasized the SMEs' particularities, whereas the findings from the study can be extended to the large-scale multinational in this area, where digitalization resources are higher and the supply chain more complex. Fifth, although the SHBP measurement in this revised version now aligns directly with its theoretical definition (economic, social, Environmental, and halal-integrity sustainability, each with dedicated items), each of these Four sub-dimensions is reported here with a single overall AVE rather than as four separately validated first-order reflective constructs; future research should confirm the discriminant validity of each SHBP sub-dimension individually.

The theoretical contributions and admitted limitations suggest the directions for future research. The possible moderators of the link among RC-digitalization-performance, such as top management team's religious commitment, organizational culture, competitive intensity, and regulatory stringency should be explored. Digital leadership skills must be studied in detail in relation to their role in leading the HSCD initiatives. Comparative analysis of the relationship between conventional and intellectual capital-RC in firms that operate in both halal and conventional market segments would shed light on the resource allocation trade-offs of dual market strategies. Lastly, the role of AI and machine learning in the application of halal

compliance verification systems in the supply chain is particularly promising research area to explore as it impacts consumer trust perceptions and religious authenticity judgements in a timely fashion. The synergy among RC theory-new digital trust frameworks provide future theoretical and practical insights in the future development of the global Halal market during the next few decades.

D. Conclusion

This study concludes that Religious Capital (RC) plays a significant strategic role in improving Sustainable Halal Business Performance (SHBP), particularly through the digitalization of halal supply chains (HSCD). The findings demonstrate that all three dimensions of Religious Capital—Spiritual Knowledge Capital (SKC), Institutional Compliance Capital (ICC), and Community Trust Capital (CTC)—have positive and significant effects on halal supply chain digitalization. Among these dimensions, Community Trust Capital has the strongest influence, highlighting the importance of trust-based relationships, stakeholder engagement, and partnerships in strengthening the integrity of halal business operations.

Furthermore, the results confirm that Halal Supply Chain Digitalization significantly mediates the relationship between all dimensions of Religious Capital and Sustainable Halal Business Performance. This indicates that digital technologies are not merely operational tools but also important mechanisms for ensuring transparency, traceability, accountability, and the verifiability of halal authenticity throughout the supply chain. The findings emphasize that the integration of religious values, institutional compliance, community trust, and digital innovation can strengthen the economic, social, environmental, and halal integrity dimensions of business sustainability.

Theoretically, this study extends the intellectual capital perspective by introducing Religious Capital as a multidimensional strategic resource within the halal business context. Practically, halal business organizations, particularly small and medium-sized enterprises, should strengthen religious knowledge, institutional compliance systems, and stakeholder relationships while investing in appropriate digital technologies. Policymakers and halal certification bodies should also encourage capacity-building programs and the development of integrated digital infrastructure to enhance halal supply chain transparency and credibility.

Nevertheless, the findings should be interpreted in light of the study's cross-sectional design and its focus on SMEs in Pakistan, which may limit causal interpretation and broader generalizability. Future research should employ longitudinal and comparative approaches across different countries and business sectors to further examine the relationship between Religious Capital, digital transformation, and sustainable halal business performance.

Overall, this study highlights that sustainable halal business performance requires more than technological advancement or formal halal certification. It depends

on the integration of strong religious foundations, institutional accountability, community trust, and digital innovation to build a credible, transparent, and sustainable halal business ecosystem.

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