

Strategic Positioning of Artificial Intelligence in Takaful: A SWOT Based Analysis within a Shariah Governance Framework

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Abstract

Artificial Intelligence (AI) adoption in the insurance industry has gained increasing attention for its potential to enhance operational efficiency, risk assessment, and customer services. However, existing studies primarily focus on conventional insurance and technical applications, leaving the strategic readiness of takaful institutions and the implications for shari'ah governance underexplored. This study aims to examine the strategic positioning of AI in the takaful industry within a Shari'ah governance framework. The study employs a mixed analytical approach, integrating systematic literature review, document analysis, SWOT analysis with IFAS-EFAS weighting, and the IE Matrix to assess internal and external strategic factors. The findings reveal IFAS and EFAS scores of 2.85 and 2.92, placing the industry in Cell V of the IE Matrix, indicating a stability-oriented strategy focused on consolidation and controlled innovation. AI adoption offers significant potential to enhance operational efficiency, governance transparency, and risk management, but remains constrained by infrastructure, limited AI-Shari'ah expertise, regulatory uncertainty, and ethical concerns. From a shari'ah governance perspective, stronger ethical oversight and compliance frameworks are required to ensure alignment with Islamic principles. This study contributes by integrating strategic management and maqasid al-shari'ah perspectives to support sustainable digital transformation in takaful.

Keywords: Artificial Intelligence; Islamic Finance; SWOT; strategy

1. INTRODUCTION

The rapid advancement of information technology over the past few decades has positioned artificial intelligence (AI) as one of the most transformative innovations across multiple industries. AI defined as a technology capable of emulating human cognitive processes such as learning, reasoning, decision-making, and pattern recognition has created significant opportunities for automation, operational efficiency, and analytical precision (Rifky et al., 2024; Yogaswara, 2019). In the financial industry, AI has increasingly



been associated with accelerated processes, improved risk assessment, and personalized customer services (Sarea et al., 2021). These developments have also extended to the Islamic insurance (takaful) sector, which faces growing pressure to undergo digital transformation in order to remain competitive and institutionally relevant. However, despite the potential benefits offered by AI, its adoption within takaful institutions raises unresolved tensions between technological efficiency and shari'ah governance. Unlike conventional insurance, takaful operations must comply with Islamic legal and ethical principles, including the prohibition of *riba*, *garār*, and *maisir*, while simultaneously ensuring transparency, accountability, and fairness in the management of *tabarru'* funds (Sundari et al., 2024).

In this context, AI is often viewed as a tool capable of strengthening governance quality and operational effectiveness (Marpaung & Aslami, 2025), yet concerns regarding algorithmic bias, ethical accountability, regulatory ambiguity, and compatibility with *maqāṣid al-shari'ah* remain insufficiently addressed (Ashraf, 2023; Rahmadhani et al., 2024; Salma et al., 2023). Consequently, the integration of AI into takaful cannot be understood solely as a technological transition, but also as a governance and institutional challenge.

Existing scholarship has primarily focused on the operational applications of AI within the insurance industry. Prior studies demonstrate that AI can improve underwriting efficiency through rapid and data-driven risk analysis (Jaiswal, 2023; Kumar, 2024), streamline claims management through automation, image recognition, and machine learning technologies (Johnson et al., 2023), and enhance transparency through the integration of blockchain and smart contracts (Ibrahim et al., 2024; Rafaheh, 2024). Other studies also highlight the role of AI-powered chatbots and virtual assistants in improving customer service quality and supporting financial literacy (Sarea et al., 2021; Yahya et al., 2024a). Within the takaful context, these technological developments are often associated with the potential to reduce inefficiencies, minimize subjective bias in underwriting, and improve Shari'ah compliance through more transparent operational mechanisms (Arsyad et al., 2025). Nevertheless, despite these optimistic claims, much of the existing literature remains concentrated on technical and operational dimensions, with limited analytical attention given to broader institutional and strategic implications.

More importantly, current studies remain fragmented and insufficiently address the strategic readiness of takaful institutions in adopting AI. Most existing research focuses either on conventional insurance or on other Islamic financial sectors such as banking and fintech, leaving the distinctive institutional characteristics of takaful including *tabarru'* fund governance, shari'ah contracts,

and shari'ah supervisory mechanisms relatively underexplored (Johnson et al., 2023; Sundari et al., 2024; Yusuf, 2021). In addition, previous studies have rarely examined how internal institutional capabilities interact with external technological and regulatory pressures in shaping AI adoption. As a result, the governance implications of AI implementation within takaful institutions remain insufficiently understood. Existing literature also lacks a comprehensive strategic framework capable of systematically evaluating strengths, weaknesses, opportunities, and threats associated with AI adoption in Islamic insurance (Puyt et al., 2020). This gap is significant because the successful implementation of AI in takaful depends not only on technological capacity but also on institutional readiness, ethical safeguards, and alignment with shari'ah principles.

Therefore, this study aims to develop a strategic mapping of AI adoption in the takaful industry using a SWOT framework within a shari'ah governance perspective. Specifically, the study evaluates internal strengths and weaknesses related to operational capability, technological infrastructure, and human resource readiness, alongside external opportunities and threats arising from digital transformation, regulatory developments, ethical concerns, and competitive market pressures. By integrating SWOT analysis with IFAS-EFAS and IE Matrix assessment, this study seeks to determine the strategic position of AI adoption in Islamic insurance and formulate appropriate strategic directions.

The novelty of this study lies in three main aspects. First, it integrates technological analysis with shari'ah governance and maqasid al- shari'ah considerations, thereby extending the discussion beyond operational efficiency toward ethical and institutional dimensions. Second, it applies SWOT analysis supported by IFAS-EFAS strategic assessment to provide a more systematic evaluation of institutional readiness (Mohammed et al., 2021; Enceng et al., 2025). Third, the study focuses specifically on the takaful sector, which remains relatively underrepresented in the literature on AI adoption in Islamic finance. Through this approach, the study contributes theoretically to the growing discourse on AI governance in Islamic financial institutions and practically provides strategic insights for policymakers, regulators, and takaful practitioners in managing digital transformation in a shari'ah compliant manner (Ashfaq & Zada, 2020).

2. METHODS

To achieve comprehensive and analytically robust research outcomes, this study employs an integrated methodological approach combining qualitative and quantitative analyses within a SWOT based framework. The qualitative

component is used to systematically identify internal and external strategic factors, while the quantitative component operationalizes these factors through weighting, scoring, and strategic positioning using the Internal Factor Analysis Summary (IFAS), External Factor Analysis Summary (EFAS), and the Internal-External (IE) Matrix.

Data Sources and Collection Techniques

This study is based on secondary data sources, including peer-reviewed academic literature, industry reports, and prior empirical studies related to artificial intelligence (AI) and Islamic insurance (takaful). These sources provide the analytical foundation for identifying strategic factors influencing AI adoption. Data collection is conducted through a systematic literature review and document analysis, enabling the integration of dispersed knowledge into a coherent analytical framework. This approach ensures that the identified factors reflect both theoretical developments and practical industry dynamics (Mohammed et al., 2021; Puyt et al., 2020).

To enhance methodological transparency, the literature selection process followed predefined inclusion and exclusion criteria. The inclusion criteria comprised: (1) publications discussing AI applications in financial services, insurance, or Islamic finance; (2) studies addressing strategic, operational, ethical, or Shari'ah-related implications of AI adoption; (3) peer-reviewed journal articles, conference papers, institutional reports, and industry publications published between 2018 and 2025; and (4) publications written in English. Exclusion criteria included duplicated studies, non-scholarly opinion articles, and publications lacking substantial discussion on AI implementation or Islamic insurance relevance.

Identification of SWOT Factors

SWOT analysis is employed as a structured and widely recognized tool for identifying strengths, weaknesses, opportunities, and threats relevant to AI implementation. This method facilitates a comparative evaluation of internal capabilities and external environmental conditions, thereby supporting strategic assessment and decision-making (Mohammed et al., 2021). The identification of SWOT factors is conducted through an in-depth literature synthesis, followed by analytical interpretation by the researcher to ensure contextual alignment with the specific characteristics of takaful operations and shari'ah governance. This interpretive step is critical to bridge fragmented findings in the literature and construct a unified strategic perspective.

To improve analytical rigor, the identification process was conducted in three stages. First, relevant statements, findings, and strategic issues related to AI

adoption were extracted from the selected literature. Second, these extracted issues were coded and categorized into internal factors (strengths and weaknesses) and external factors (opportunities and threats). Third, overlapping and conceptually redundant factors were consolidated through thematic interpretation to produce a final set of SWOT variables representing the strategic landscape of AI adoption in takaful institutions. The operationalization of SWOT variables was guided by explicit analytical definitions. Strengths refer to internal organizational capabilities that facilitate AI adoption, while weaknesses denote internal limitations that hinder implementation. Opportunities represent favorable external developments supporting AI integration, whereas threats refer to external risks, uncertainties, or regulatory challenges potentially constraining adoption.

Weighting and Rating Procedures (IFAS–EFAS)

The quantitative stage is operationalized through the IFAS and EFAS matrices. Each identified factor is assigned a weight ranging from 0.0 to 1.0, reflecting its relative importance, with the total weight in each matrix normalized to 1. The weighting process follows an analytical weighting approach, in which the researcher systematically evaluates the prominence, frequency, and strategic significance of each factor across the reviewed literature.

The weighting process was further strengthened through a structured analytical assessment based on three indicators: frequency of occurrence in the reviewed literature, strategic relevance to takaful institutional performance, and potential impact on long-term AI implementation. Factors consistently emphasized across authoritative sources and possessing broader strategic implications received proportionally higher weights.

Each factor is then assigned a rating to represent its current condition or impact. Strengths and opportunities are rated on a scale of 1 to 5, where higher values indicate stronger influence or more favorable conditions. Conversely, weaknesses and threats are rated using a reverse scale, where lower values indicate more critical constraints. To improve consistency and replicability, the rating criteria were explicitly standardized. Ratings of 1–2 indicate low influence or unfavorable conditions, rating 3 indicates moderate influence, and ratings of 4–5 indicate high strategic significance or favorable conditions. For weaknesses and threats, lower ratings reflect more severe constraints or risks affecting AI implementation. The weighted score is obtained by multiplying the assigned weight by the corresponding rating. The aggregate IFAS and EFAS scores represent the overall internal capability and external strategic environment of AI adoption in the Islamic insurance sector.

Strategic Positioning using IE Matrix

The total IFAS and EFAS scores are subsequently mapped into the IE Matrix to determine the strategic position of AI adoption. The IE Matrix consists of nine cells, each corresponding to distinct strategic orientations, ranging from growth and expansion to stability and retrenchment. This positioning provides a structured and interpretable basis for identifying appropriate strategic responses.

Strategy Formulation through SWOT Matrix

Based on the IE Matrix positioning, a SWOT matrix is constructed to generate strategic alternatives by systematically matching internal and external factors (SO, WO, ST, and WT strategies). This stage aims to formulate actionable strategies that leverage strengths and opportunities while addressing weaknesses and mitigating threats, ensuring alignment with both technological capabilities and Shari'ah principles.

Validity and Reliability

To ensure analytical rigor, this study applies content validity through literature triangulation, where multiple authoritative sources are used to verify the relevance, consistency, and completeness of identified SWOT factors. Construct validity is maintained by grounding the analytical framework in established theories of strategic management and Islamic finance. Furthermore, methodological validity was strengthened through source triangulation across academic studies, industry reports, and regulatory publications to minimize single-source bias. Analytical consistency was also maintained by applying identical coding, categorization, weighting, and scoring procedures across all identified factors.

Given that the weighting and rating processes are based on structured analytical judgment rather than survey-based measurement, conventional statistical reliability tests (e.g., Cronbach's Alpha) are not applicable. Instead, reliability is ensured through procedural transparency, internal consistency, and replicability, whereby all steps of factor identification, weighting, and scoring are explicitly defined and systematically applied. This approach aligns with established practices in strategic analysis studies that rely on secondary data and expert-informed interpretation.

Methodological Justification

The selection of a SWOT based integrated approach is methodologically justified by its ability to combine qualitative depth with quantitative rigor. SWOT

analysis provides a holistic framework for identifying strategic factors, while IFAS-EFAS and the IE Matrix enable structured measurement and strategic positioning. This combination is particularly suitable for the context of Islamic insurance, where technological adoption must be evaluated not only in terms of operational efficiency but also in relation to Shari'ah governance, ethical considerations, and institutional complexity.

A key limitation of this study lies in the reliance on researcher-based analytical judgment in assigning weights and ratings within the IFAS-EFAS framework. While this approach enables an integrative and theoretically grounded analysis, it inherently introduces a degree of subjectivity. Nevertheless, this limitation is mitigated through systematic procedures, transparent criteria, and extensive literature triangulation. Future research is therefore encouraged to complement this approach with empirical validation methods, such as expert surveys or Delphi techniques, to enhance the robustness and generalizability of the findings.

Graph 1. IE SWOT Matrix

		Internal Factors		
		High (3,0-4,0)	Medium (2,0-2,99)	Low (1,0-1,99)
External Factors	High (3,0-4,0)	I Growth: Concentration through Vertical Integration	II Growth: Concentration through Horizontal Integration	III Retrechment: Turn-round Strategy
	Medium (2,0-2,99)	IV Stability	V Growth: Concentration through Horizontal Integration or Stability Profit Strategy	VI Retrechment: Divestment Strategy
	Low (1,0-1,99)	VII Growth Concentric Diversification	VIII Growth: Conglomerate Diversification	IX Liquidation

Source: Pratiwi & Sudiarta (2019)

3. RESULTS AND FINDINGS ANALYSIS

Strengths and Weaknesses

In recent years, advancements in Artificial Intelligence (AI) have driven significant transformations across various industrial sectors, including finance and insurance. AI offers a wide range of advantages from process automation to enhanced data-driven analysis which collectively improve operational efficiency and service quality. In the Islamic insurance (takaful) sector, AI also has the potential to strengthen compliance with Islamic principles by reducing elements of *garar* (uncertainty) and *maysir* (speculation) through the use of smart contracts and data based risk assessment. However, despite these strengths, the application of AI in sharia-compliant insurance faces several inherent weaknesses. Underdeveloped regulatory frameworks, limited human capital capable of integrating both AI and Islamic finance, and concerns regarding data standards and transparency remain key issues that require careful consideration in its development.

Table 1. Identification of Internal Factors

Strengths	Weaknesses
Enhances operational efficiency through automated underwriting and claims processing.	Lack of standardized, clean, and integrated datasets, which undermines AI performance.
Provides high-precision big data analytics for risk prediction and for maintaining the sustainability of tabarru' funds.	Challenges in ensuring sharia compliance, as AI-generated decisions still require supervision by sharia authorities.
Enables blockchain-based smart contracts that strengthen transparency and reduce elements of gharar and maysir.	Limited availability of human resources with combined expertise in AI and Islamic finance.
Improves customer service through 24/7 chatbots and virtual assistants.	Insufficient technological infrastructure, especially among small and medium-sized sharia insurance providers.
Significantly reduces claims processing time from weeks to hours.	

Source: Processed Data (2026)

The table above provides a comprehensive overview of the strengths and weaknesses associated with the utilization of Artificial Intelligence (AI) within the sharia insurance industry. The findings indicate that AI is not only relevant but also has the potential to become a key driver of systemic transformation in the sector, particularly in addressing the growing demand for efficiency, transparency, and digital innovation (Aldoseri et al., 2024). Nonetheless, the integration of AI in Islamic finance requires a cautious and context-sensitive approach due to the structural challenges and normative values that must be preserved.

From the perspective of strengths, AI offers numerous strategic advantages. One of the most significant is its capacity to enhance operational efficiency and automate complex procedures. For instance, in underwriting, AI can evaluate customer risk profiles rapidly and accurately by processing thousands of variables in real time (Jaiswal, 2023). Similarly, in claims management, AI can reduce processing times from weeks to mere hours by minimizing human intervention and administrative errors (Qazi & Husin, 2024). Equally important is AI's ability to analyze big data with high precision. Through machine-learning-based predictive analytics, AI can assist sharia insurance providers in anticipating potential losses before they occur (Jaiswal, 2023). This capability is particularly valuable in ensuring the sustainability of tabarru' funds and preventing deficits that may compromise the principles of fairness and mutual cooperation central to Islamic insurance. In terms of sharia compliance, technologies such as blockchain-enabled smart contracts introduce new opportunities to ensure that transactions adhere to transparency, clarity, and non-speculative principles. Automated and tamper-proof contracts significantly reduce the potential for gharar and maysir (Qazi & Husin, 2024). Moreover, AI can facilitate faster and more systematic sharia reporting and auditing processes. Furthermore, customer service also benefits substantially from AI. Chatbots and virtual assistants allow policyholders to obtain information, file claims, or check policy status at any time without needing to wait in queues (Yahya et al., 2024b). This improvement not only enhances customer satisfaction but also helps companies maintain competitiveness in an increasingly digital market.

However, several weaknesses warrant consideration. One of the most critical issues is the lack of standardized data within the sharia insurance system. AI performs optimally when supported by large, clean, and integrated datasets. Unfortunately, the current data landscape in sharia insurance is fragmented, non-integrated, and often poorly documented, which can impede AI performance. Additionally, ensuring sharia compliance presents unique challenges. Despite AI's sophistication, human oversight particularly from sharia authorities remains

essential to ensure that AI-generated decisions adhere to Islamic values (Siddique & Butt, 2025). This is especially important given that no existing AI system is capable of independently interpreting the complexities of maqasid al-shariah.

Human resource limitations also represent a strategic constraint. Combining expertise in AI with knowledge of Islamic finance is highly demanding, as both domains require deep technical and conceptual understanding. The scarcity of talent capable of bridging these two fields often results in limited or suboptimal AI implementation (Rachid & Houda, 2024). Furthermore, technological infrastructure readiness is a major concern. Effective AI deployment requires advanced infrastructure such as cloud computing and blockchain systems, yet many sharia insurance providers particularly small and medium-sized ones lack the financial and technical capacity to adopt such technologies.

Considering these strengths and weaknesses, the implementation of AI within the sharia insurance industry must be guided by a well-calibrated strategy. Cross-sector collaboration involving technology developers, academics, Islamic finance practitioners, and regulators is essential to ensure that AI driven digital innovation evolves into an inclusive, adaptive, and sharia compliant solution.

Opportunities and Challenges

In addition to its internal strengths and weaknesses, the application of Artificial Intelligence (AI) in Islamic insurance (takaful) is also confronted with a range of external opportunities and threats that may influence the success of digital transformation in this sector. By carefully understanding these external dynamics, Islamic insurance institutions can formulate adaptive strategies to maximize the benefits of AI while simultaneously mitigating the emerging risks. On the one hand, advances in digital technologies and the expanding global Islamic finance ecosystem provide strategic opportunities for takaful operators to grow and develop in a more inclusive manner. AI can serve as a key enabler in expanding service outreach, enhancing operational efficiency, and creating business models that align with the needs of today's digital generation. Collaboration between AI and blockchain technology, increasingly innovation-friendly regulations, and the growing interest in Islamic fintech are among the main drivers of digital transformation in this industry.

Nevertheless, these opportunities also come with significant challenges and threats that cannot be overlooked. Issues such as data privacy, algorithmic ethics, dependence on foreign technology providers, and resistance from certain

stakeholders toward the adoption of new technologies represent external factors that may inhibit the integration of AI into the Islamic insurance ecosystem. In addition, competition with conventional insurance companies which have adopted AI on a much larger scale requires Islamic insurers to innovate rapidly while ensuring adherence to Sharia principles.

Table 2. Identification of External Factors

Opportunities	Threats
• Expands Islamic financial inclusion through digitalization and Islamic fintech growth.	• Ethical risks including algorithmic bias, data privacy concerns, and governance gaps.
• Supports the use of blockchain-based solutions that enhance Sharia compliance and widen access for underserved communities.	• Public and academic skepticism toward AI due to perceived incompatibility with Islamic norms and low digital literacy.
• Supported by emerging regulatory frameworks in the Middle East and Southeast Asia that encourage fintech innovation.	• Potential resistance from stakeholders unfamiliar with or distrustful of AI-driven systems.
• Enables new business models such as pay-as-you-go and usage-based insurance.	• Regulatory challenges in ensuring that AI-driven fintech innovations remain within Sharia boundaries.
• Strengthens fraud detection and operational efficiency through advanced data analytics.	• Dependence on global technology platforms that may not fully align with Sharia principles, complicating regulatory oversight.

Source: Processed Data (2026)

Based on the table above, it can be concluded that the application of Artificial Intelligence (AI) within the Islamic insurance industry presents a blend of strategic opportunities and potential threats. From the opportunity perspective, AI emerges as a powerful instrument to enhance Islamic financial inclusion, particularly through the digitalization and expansion of Islamic fintech. This includes leveraging various fintech innovations like blockchain, which can provide Sharia-compliant solutions and broaden access to previously marginalized communities often excluded from formal financial systems due to geographical or infrastructural barriers (Putri & Hanif, 2024). Moreover, AI's synergy with blockchain facilitates the implementation of smart contracts, which align closely with Islamic finance principles by ensuring transparency and minimizing uncertainty (*garār*). Such technological innovations are gaining

traction in countries across the Middle East and Southeast Asia, supported by regulatory frameworks addressing fintech innovation (Karangara et al., 2024; Kouam, 2024).

In addition to regulatory support, the incorporation of AI can potentially lead to novel business models within the Islamic insurance sector, such as pay-as-you-go and usage-based insurance, particularly in vehicle coverage (Kouam, 2024). AI's capability to analyze data and identify anomalous claims offers significant benefits, reducing instances of fraud and enhancing operational efficiencies (Sánchez et al., 2021). As competition intensifies from conventional insurance providers that have adopted AI at a more advanced pace, the Islamic insurance industry must adapt to the evolving consumer behaviors and preferences fueled by such technological innovations (Nguyen et al., 2022).

Nevertheless, these opportunities are counterbalanced by several threats and challenges that must be navigated carefully. There are notable segments within the public and academic spheres that harbor skepticism towards AI, viewing it as potentially incompatible with Islamic norms, especially in contexts lacking sufficient digital literacy and understanding (Ali et al., 2019; Priyana et al., 2024). Additionally, reliance on global technology platforms that might not fully adhere to Sharia compliance poses significant hurdles, complicating the regulatory landscape essential for fostering innovation in Islamic fintech (Clements, 2020). Ethical considerations surrounding AI, such as potential biases in algorithms and the implications for privacy, further underscore the need for robust governance frameworks to guide technology deployment in alignment with Islamic values (Cao et al., 2020; Gitobu & Ogetonto, 2024).

As the Islamic insurance industry forges ahead in its technological journey, it must cultivate a dual focus on maximizing the benefits offered by AI while also addressing the inherent risks and societal objections that accompany such transformation. This balance is vital for not only ensuring compliance with Islamic principles but also for achieving broader financial inclusivity and sustainability in an increasingly digital financial landscape. The successful implementation of AI in the Islamic insurance sector depends heavily on strategies that can optimize existing opportunities while proactively managing and mitigating associated risks. Synergy among technological development, regulatory readiness, and a strong commitment to Sharia principles is essential for positioning AI as a catalyst for the growth of the Islamic insurance industry in the digital era.

Positioning and Strategy

This section provides an integrated assessment of the internal and external strategic factors influencing the adoption of Artificial Intelligence (AI) in the Islamic insurance (takaful) industry by systematically evaluating strengths, weaknesses, opportunities, and threats through the Internal Factor Analysis Summary (IFAS) and the External Factor Analysis Summary (EFAS) to determine the strategic position of AI-driven Islamic insurance within the competitive and regulatory landscape of the digital era. The IFAS outlines internal conditions that shape organizational readiness including technological capacity, human resources, and Sharia governance mechanisms while the EFAS captures broader environmental dynamics such as technological advancements, market potential, regulatory evolution, and emerging risks. The combined results are then used to plot a strategic coordinate on the IE SWOT Matrix, thereby identifying the most appropriate strategic orientation and serving as the basis for developing targeted strategies that leverage strengths, address weaknesses, capitalize on opportunities, and mitigate external threats.

Table 3: Analysis of Strengths and Weaknesses

No	Internal Factor Analysis Summary (IFAS)	Weight	Rating	Score
Strengths (S)				
1	Efficiency and Process Automation	0.13	5	0.63
2	Enhanced Accuracy of Risk Prediction	0.10	5	0.50
3	Improved Transparency and Sharia Compliance	0.13	5	0.63
4	Improved Customer Service	0.10	5	0.50
5	Reduction of Operational Costs	0.10	5	0.50
Total of Score (S)		0.55		2.75
Weaknesses (W)				
1	Limited Standardized Data in Islamic Insurance	0.13	1	0.13
2	Concerns Over Sharia Compliance	0.13	1	0.13
3	Shortage of Experts in AI and Islamic Finance	0.10	2	0.20
4	Dependence on Technological Infrastructure	0.10	2	0.20
Total of Score (W)		0.45		0.65
Overall Total		1.00		3.40

Source: Processed Data (2026)

Table 4. Analysis of Strengths and Weaknesses

No.	External Factor Analysis Summary (EFAS)	Weight	Rating	Score
Opportunities (O)				
1	Enhanced Islamic Financial Inclusion	0.09	4	0.37
2	Collaboration with Blockchain Technology	0.09	4	0.37
3	Regulatory Support and Innovation in Islamic Fintech	0.12	5	0.58
4	Adoption of New Business Models	0.09	4	0.37
5	Improved Security and Fraud Detection	0.09	4	0.37
Total of Score (O)		0.49		2.07
Threats (T)				
1	Ethical and Data Privacy Risks	0.12	2	0.23
2	Competition with Conventional Insurance	0.09	2	0.19
3	Resistance from Policyholders and Religious Scholars	0.09	2	0.19
4	Regulatory Uncertainty	0.12	1	0.12
5	Dependence on Global Technology Providers	0.09	2	0.19
Total of Score (T)		0.51		0.91
Overall Total		1.00		2.98

Source: Processed Data (2026)

Based on the internal (strengths and weaknesses) and external (opportunities and threats) factor analyses presented in Tables 3 and 4, a coordinate point can be plotted on the SWOT Quadrant Model (Graph 2).

Graph 2. IE SWOT Matrix Coordinat

External Factors	Internal Factors		
	High (3,0-4,0)	Medium (2,0-2,99)	Low (1,0-1,99)
	I	II	III
	High (3,0-4,0) Growth: Concentration through Vertical Integration	Growth: Concentration through Horizontal Integration	Retrechment: Turn-round Strategy

Medium (2,0-2,99)	IV Stability	V Growth: Concentration through Horizontal Integration or Stability Profit Strategy	VI Retrenchment: Divestment Strategy
		VIII Growth: Conglomerate Diversification	IX Liquidation
Low (1,0-1,99)	VII Growth Concentric Diversification		

Source: Processed Data (2026)

4. DISCUSSION

The strategic position of AI adoption in the development of Islamic insurance viewed from its strengths, weaknesses, opportunities, and threats lies in the High Medium coordinate (3.40 : 2.98), corresponding to Cell IV (Graph 9). This positioning indicates that a stability strategy is most appropriate. In this context, the strategy reflects a sector that is internally strong and faces substantial external opportunities, yet continues to encounter several structural challenges that must be mitigated. Therefore, the recommended approach is not aggressive expansion, but rather strengthening foundational capabilities, sustaining current performance, and building medium-term capacity to support sustainable growth.

In this sense, stability does not imply stagnation; rather, it represents an adaptive strategy that enables the Islamic insurance industry to leverage its internal strengths effectively while addressing external challenges through cautious and measured steps. One of the primary strengths of AI in Islamic insurance is its ability to enhance efficiency and automate various operational processes, including underwriting, claims processing, and risk analysis. These processes can be executed more rapidly, with higher precision, and with fewer human errors. This creates substantial time and cost efficiencies that are crucial for maintaining competitiveness, especially against conventional insurance firms that have adopted AI much earlier.

Beyond efficiency, AI also improves the accuracy of risk prediction through machine learning and big data analytics. For the Islamic insurance sector, this capability is essential for optimizing the management of the *tabarru'* fund and avoiding speculative practices prohibited in Sharia. At the same time, the integration of AI with blockchain technology through smart contracts offers

opportunities to improve transparency and compliance with Sharia principles by reducing elements of *garār* (uncertainty) and *maysir* (speculation). These strengths demonstrate that AI is not merely an efficiency-enhancing tool but also a strategic instrument for strengthening Sharia governance.

However, the stability strategy must also account for key internal weaknesses and external challenges. One major challenge is the limited availability of standardized, high-quality data in the Islamic insurance industry, which is essential for optimal AI performance. Additionally, concerns among stakeholders and Sharia authorities about the validity of AI-generated decisions particularly where algorithmic processes lack transparency pose significant barriers. Dependence on technological infrastructure that is unevenly developed across the industry further complicates implementation.

Within a stability-oriented framework, the recommended approach is organizational consolidation and capability enhancement. Islamic insurance providers should gradually strengthen their technological capacity while building a more structured data ecosystem and developing strategic collaborations with local technology providers. Such collaborations not only reduce dependence on global technologies that may not align with Sharia principles but also accelerate context-specific innovation. Moreover, stabilization efforts must include enhancing AI-enabled customer service systems that are both human-centered and Sharia-compliant, such as chatbots and virtual assistants designed to respond quickly while embodying Islamic communication values. This can help build public trust and create a unique value proposition that differentiates Islamic insurance from its conventional counterparts.

Externally, the stability strategy should capitalize on available opportunities in a calculated manner. For instance, the growing regulatory support for Islamic fintech in the Middle East and Southeast Asia can serve as an entry point for cross-border collaborations and market expansion in digital Islamic insurance. However, such initiatives must align with evolving local and international regulatory frameworks, necessitating flexibility in technological policy implementation. Furthermore, the stability strategy has an educational dimension: enhancing public literacy and trust in the use of AI in Islamic insurance is crucial for the success of digital transformation. Open dialogue with religious scholars, regulators, and communities is essential to ensure that technological adoption is not met with resistance but is embraced as part of contemporary *ijtihad* in Islamic economics. Thus, a stability strategy is not only realistic but also strategically sound for maintaining continuity, strengthening competitiveness, and ensuring that AI driven transformation in Islamic insurance develops in an inclusive, ethical, and sharia consistent manner.

Table 5. Stability Strategy

No.	Stability Strategy	Implementation Steps	Strategic Objective
1	Optimization of AI-Based Internal Processes	Leveraging AI for the automation of underwriting, claims handling, and risk analysis.	To maintain operational consistency and cost efficiency while improving service quality without requiring aggressive expansion.
2	Strengthening Data Infrastructure and Standardization	Developing an internal data system that is compatible with AI and gradually adopting technologies such as cloud computing and blockchain.	To address data and infrastructure limitations and ensure the stable operation of AI-driven processes.
3	Sharpening the Focus on Sharia-Compliant Niche Markets	Targeting unbanked and underserved segments through Sharia-compliant digital AI services.	To capitalize on opportunities for Islamic financial inclusion through a specialized approach without directly competing with major conventional insurance providers.
4	Enhancing Customer Service through AI	Developing responsive chatbots and virtual assistants aligned with Islamic values (ethical, honest, and courteous).	To improve customer satisfaction through stable, personalized, and Sharia-compliant services.
5	Collaboration with Regulators and Sharia Scholars	Engaging Sharia authorities in the validation of algorithms and the design of AI-based products.	To ensure Sharia compliance and build public trust in the use of technology within the Islamic insurance sector.
6	Mitigation of Ethical and Privacy Risks	Implementing strong AI ethics principles and data privacy policies, including security audits	To prevent ethical breaches, bias, and data leakage that could damage the reputation of Islamic insurance

			and data transparency and hinder public acceptance of AI technologies.
7	Strategic Alliances with Local Technology Players	Collaborating with local startups or technology firms that understand Sharia principles.	To reduce dependence on foreign technologies and ensure the adoption of AI solutions that are better aligned with the characteristics of the Islamic finance industry and its communities.

Source: Processed Data (2026)

5. CONCLUSION

Based on the SWOT analysis, the integration of Artificial Intelligence (AI) in the Islamic insurance (takaful) industry has strong potential to drive systemic transformation, particularly in improving efficiency, transparency, and service quality. Internally, AI strengthens automated underwriting and claims processing, enhances risk prediction through big data analytics, and supports Shari’ah compliance via blockchain based smart contracts resulting in faster, more accurate, and competitive services. However, key weaknesses persist. Limited data standardization and integration hinder optimal AI performance. AI also cannot independently interpret the ethical and epistemological dimensions of maqasid al-shari’ah, requiring continuous Shari’ah supervision. Additional constraints include shortages of experts proficient in both AI and Islamic finance and limited technological infrastructure, especially among smaller takaful operators. Thus, AI adoption must be gradual, structured, and collaborative. Externally, AI creates opportunities through digitalization, Islamic fintech growth, supportive regulations, and innovative business models such as usage-based insurance. It can enhance financial inclusion, reduce gharār, and improve fraud detection and sustainability. Yet threats remain, including public skepticism, ethical and governance risks, regulatory uncertainty, dependence on global technology providers, and competition from advanced conventional insurers. Sustainable AI adoption therefore requires strong Shari’ah governance, adaptive regulation, human capital investment, and cross-sector collaboration to align innovation with Islamic values and long-term industry resilience.

Implications, Limitations, and Directions for Future Research

The findings of this study provide several theoretical, practical, and policy implications for the advancement of AI integration in the Islamic insurance (takaful) industry. Theoretically, the results underscore the importance of developing an analytical framework that integrates technological innovation with Sharia governance. Given that AI cannot independently interpret maqāsid al-sharī'ah, the interaction between algorithmic decision-making and Islamic ethical constraints represents a distinct and emerging research domain within Islamic finance. Practically, the study highlights the need for Islamic insurance institutions to prioritize internal capacity building before moving toward more sophisticated AI-driven applications. This includes strengthening data infrastructure, improving data standardization and integration, enhancing human capital with dual expertise in AI and Islamic finance, and reinforcing Sharia governance mechanisms to ensure continuous oversight of AI-generated outcomes. These steps are essential to address the weaknesses identified in the SWOT analysis and to ensure gradual, responsible, and Sharia-compliant AI adoption. From a policy standpoint, the findings indicate the necessity of developing adaptive regulatory frameworks capable of balancing innovation with risk mitigation. Regulatory attention is especially needed in areas such as data privacy, algorithmic transparency, blockchain-based smart contracts, and the Sharia alignment of emerging AI-enabled financial technologies. Collaboration among regulators, Sharia scholars, technologists, and industry practitioners is crucial to address public concerns, overcome digital literacy barriers, and guide responsible AI implementation in the Islamic insurance ecosystem.

This study has several limitations that must be considered when interpreting the results. First, the research relies primarily on a qualitative SWOT analysis, which does not quantify the magnitude of AI's impact on operational efficiency, customer satisfaction, or financial performance within Islamic insurance institutions. Second, the analysis is based on conceptual discussions and secondary data rather than empirical fieldwork, which limits the generalizability of the findings—especially across jurisdictions that vary in technological readiness and regulatory maturity. Third, limitations related to Sharia compliance in AI applications remain significant. As AI systems cannot yet interpret the deeper epistemological dimensions of Islamic legal principles, the discussion in this study may not reflect future advancements in AI interpretability, explainability, or the development of Sharia-based algorithmic frameworks. Finally, due to the rapid evolution of AI technologies and global

regulatory landscapes, some insights may become outdated as new innovations, risks, or compliance models continue to emerge.

In light of these limitations, several avenues for future research are recommended. First, empirical studies such as case studies, econometric analyses, or experimental designs are needed to quantitatively assess the operational, financial, and customer experience impacts of AI adoption in Islamic insurance. Second, future research should explore the development of Sharia-informed AI architectures or machine learning models capable of embedding Islamic ethical principles directly into their decision-making processes, thereby reducing the dependence on constant manual supervision by Sharia authorities. Third, comparative analyses across multiple countries could provide valuable insights into how differences in regulatory environments, digital infrastructure, cultural attitudes, and levels of digital literacy influence the success of AI driven takaful initiatives. Fourth, further research is needed on consumer trust, perceptions of fairness, and acceptance of AI enabled Islamic financial services, as these sociocultural factors play a pivotal role in shaping adoption outcomes. Lastly, interdisciplinary research combining Islamic finance, computer science, data ethics, and legal studies is essential for building comprehensive governance frameworks capable of addressing algorithmic bias, privacy concerns, infrastructural disparities, and Sharia compliance in future AI systems.

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Khaerul Aqbar, Azwar, Abur Hamid Usman, Hassan Shakeel Shah: conceptualization; methodology; formal analysis; investigation; writing original draft preparation; writing review and editing; supervision; and validation. All authors contributed to the development of the research ideas, the formulation of the research objectives, data interpretation, manuscript preparation, and approved the final version of the manuscript.

CONFLICT OF INTERESTS:

The authors declare that there are no known conflicts of interest associated with this publication. The authors also confirm that no financial or commercial relationships existed that could have influenced the research reported in this manuscript.

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