



# Discussion on Islamic Insurance Technology (InsurTech)

Muhammad Syafii Antonio<sup>1</sup>

<sup>1</sup>Tazkia University, Indonesia

The development of digital technology has brought significant transformation in the financial industry, including Islamic insurance (takaful). The integration of technologies such as blockchain, artificial intelligence, and fintech in Islamic insurance—known as Islamic Insurance Technology (InsurTech)—offers opportunities to improve operational efficiency, transparency, Sharia compliance, and financial inclusion. This study aims to map global research trends related to Islamic Insurance Technology through a bibliometric approach and meta-analysis of 39 Scopus indexed journal publications. The analysis was conducted using the VOSviewer software to identify collaboration patterns, keyword clusters, and research development directions. The results of the study show that there are three main clusters, namely (1) Blockchain Technology for Islamic Insurance, (2) Digital Islamic Health Insurance, and (3) Maqashid-Based Islamic Insurance. These findings indicate that technology not only serves as an instrument of efficiency, but also as a means to reinforce the ethical values, justice, and goals of maqasid al-shariah in Islamic insurance. This research contributes to providing a conceptual map of the development of Islamic InsurTech and identifying research opportunities and future policy implications.

## OPEN ACCESS

ISSN 3031-9102 (Online)

\*Correspondence:  
Muhammad Syafii Antonio  
[antonioislam@gmail.com](mailto:antonioislam@gmail.com)

Received: 17 October 2024  
Accepted: 21 December 2024  
Published: 31 December 2024

Citation:  
(2024) Discussion on Islamic Insurance Technology (InsurTech).  
Islamic Finance and Technology.  
2.2.

. Open access under Creative Commons Attribution-NonCommercial 4.0 International License (CC-BY-NC)  
©Author(s)



**Keywords:** Islamic Insurance Technology; Takaful; InsurTech; FinTech

## INTRODUCTION

The Islamic insurance industry (takaful) is one of the important pillars in the Islamic financial system which is based on the principles of cooperation (ta'awun), justice, and mutual risk. Unlike conventional insurance, takaful is designed to avoid the elements of *riba*, *gharar*, and *maysir*, thus placing the ethical aspects and Sharia compliance as the main foundation. However, the takaful industry also faces various structural challenges, such as relatively high operational costs, slow claims processing, limited market penetration, and low levels of financial literacy and inclusion in some Muslim countries. The intersection between fintech and Islamic insurance—often referred to as *Islamic insurtech*—has received growing scholarly attention. Islamic insurtech encompasses the application of digital financial technologies, such as artificial intelligence (AI), blockchain, and big data analytics, within Sharia-compliant insurance operations (Iskandar Mirza et al., 2024).

In recent years, rapid advances in digital technology have driven the emergence of the concept of Insurance Technology (InsurTech), which integrates digital innovation into insurance business processes. In the context of Islamic finance, this phenomenon evolved into Islamic Insurance Technology or Takaful FinTech, which combines cutting-edge technology with Sharia principles. Technologies such as blockchain, artificial intelligence, big data, and mobile-based digital platforms are believed to be able to improve the efficiency of risk management, transaction transparency, and the speed and accuracy of claims services in Islamic insurance.

Although the literature on Islamic FinTech is growing quite rapidly, studies that systematically map the development of Islamic Insurance Technology research are still relatively limited. Some research focuses on the technical aspects of technology adoption, while the ethical dimensions, *maqasid al-shariah*, and public policy implications are often analyzed separately. Therefore, a study is needed that is able to provide a comprehensive overview of the knowledge structure, research trends, and development direction of Islamic InsurTech globally.

Based on this background, this study aims to (1) map research trends and clusters related to Islamic Insurance Technology, (2) identify the main themes that develop in the literature, and (3) analyze the conceptual implications and future direction of research. By using a bibliometric and meta-analysis approach to Scopus indexed publications, this research

is expected to make theoretical and practical contributions to academics, takaful industry practitioners, and policymakers.

## LITERATURE REVIEW

Islamic insurance, widely known as Takaful, is a Sharia-compliant risk management system based on mutual cooperation (ta'awun) and shared responsibility among participants. Unlike conventional insurance, Takaful strictly avoids *riba* (interest), *gharar* (excessive uncertainty), and *maysir* (gambling), which are prohibited under Islamic law (Hussin et al., 2024). Contributions made by participants are pooled into a collective fund, from which claims are paid, reflecting ethical values of solidarity and mutual assistance. Despite its ethical appeal, the global penetration of Takaful remains relatively low compared to conventional insurance. Scholars argue that structural inefficiencies, limited outreach, and operational rigidity have constrained its growth, thereby motivating the integration of digital technologies to enhance competitiveness and sustainability (Ahmad et al., 2024).

Digital transformation has become a strategic imperative for Takaful operators seeking to improve efficiency and customer engagement. The literature highlights that digital platforms enable online policy issuance, automated underwriting, and real-time claims processing, significantly reducing administrative costs and service delays (Hemed et al., 2021). Ahmad et al. (2024) emphasize that technological adoption allows Takaful operators to overcome traditional distribution challenges, particularly dependence on agents and physical branches. Digital channels also facilitate market expansion by reaching younger and technologically literate consumers, especially in Muslim-majority countries with high mobile penetration rates.

The intersection between fintech and Islamic insurance—often referred to as Islamic insurtech—has received growing scholarly attention. Islamic insurtech encompasses the application of digital financial technologies. Elomari (2023) argues that fintech solutions enhance transparency and accessibility in Takaful, which aligns closely with Sharia principles of fairness and accountability. The use of automated systems also minimizes human error and potential disputes, reinforcing trust among participants.

Artificial intelligence and big data analytics are increasingly used to optimize underwriting, pricing, and claims management in Takaful operations. AI-driven models enable predictive risk assessment and fraud

detection, while big data facilitates personalized Takaful products based on behavioral and demographic patterns (Muradova, 2024). Hemed et al. (2021) note that these technologies enhance operational efficiency and allow Takaful operators to offer competitive pricing without compromising Sharia compliance. However, scholars also caution that algorithmic decision-making must be carefully governed to ensure transparency and ethical alignment with Islamic values.

Blockchain technology has emerged as one of the most promising innovations in Islamic insurance. Its decentralized and immutable ledger system enhances transparency, accountability, and auditability—key governance requirements in Takaful operations (Radwan et al., 2020). Several studies highlight the application of blockchain-based smart contracts for automated claims settlement. In such systems, claims are executed automatically once predefined conditions are met, reducing processing time and operational costs (Ibrahim et al., 2024). Qazi and Husin (2025) further emphasize that blockchain adoption can significantly reduce fraud and improve regulatory compliance, particularly in emerging Takaful markets.

Despite its potential, the adoption of Islamic insurance technology faces several challenges. Takaful operators must comply with both financial regulations and Sharia governance frameworks, which can complicate the implementation of innovative technologies (Iskandar Mirza et al., 2024). Additionally, organizational resistance, limited technological readiness, and lack of skilled human capital remain significant barriers to digital transformation (Ahmad et al., 2024). Customer trust also plays a crucial role, as participants seek assurance that digital Takaful solutions remain fully Sharia-compliant (Elomari, 2023).

Digital Takaful platforms are widely recognized as tools for enhancing financial inclusion. By leveraging mobile technology, Takaful operators can reach underserved populations and offer affordable, accessible insurance solutions (Muradova, 2024). Zada et al. (2022) argue that digitalization and blockchain adoption contribute to a more inclusive Islamic financial ecosystem by reducing entry barriers and improving service delivery. This is particularly relevant in developing economies, where insurance penetration remains low.

## METHOD

In this study, various scientific journal publications related to the theme of "Islamic Insurance Technology" around the world were used as data sources. Data was collected by searching for journal publications indexed by the Scopus database using the keyword "Islamic Insurance Technology". After that, scientific articles or journals relevant to the research theme will be selected based on the publication data that has been collected. There are 39 journal articles published under the research theme "Islamic Insurance Technology". The development of publication trends related to the research topic is analyzed using the VOSviewer software, which can generate bibliometric maps and allow for more detailed analysis (Antonio et al., 2021).

In order to build a map, VOSviewer uses the abbreviation VOS which refers to Visualizing Similarity. In previous studies, VOS mapping techniques have been used to obtain bibliometric visualizations which are then analyzed. Furthermore, VOSviewer is able to create and display an author's journal map based on co-citation data or a keyword map based on shared incident data (Napitupulu et al., 2024; Rusydiana et al., 2021). Therefore, in this study, an analysis of journal maps related to "Islamic Insurance Technology" will be carried out, including author maps, and keywords which will then be analyzed for research paths that can be carried out in the future through clusters on *keyword mapping*.

This study uses a descriptive qualitative approach with meta-analysis and a descriptive statistical literature study based on 39 journal publications that discuss the theme "Islamic Insurance Technology". Meta-analysis is a method that integrates previous research related to a specific topic to evaluate the results of existing studies. Furthermore, the qualitative method used in this study is also referred to as a constructive method, where the data collected in the research process will be constructed into a theme that is easier to understand and meaningful. The sampling technique used in this study is the purposive non-probability sampling method, which aims to meet certain information according to the desired research objectives.

## RESULT AND DISCUSSION

The image below describes the keyword trends that appear in the research on the theme "Islamic Insurance Technology" and the larger form is the most

widely used word in journal publications with the

theme "*Islamic Insurance Technology*".

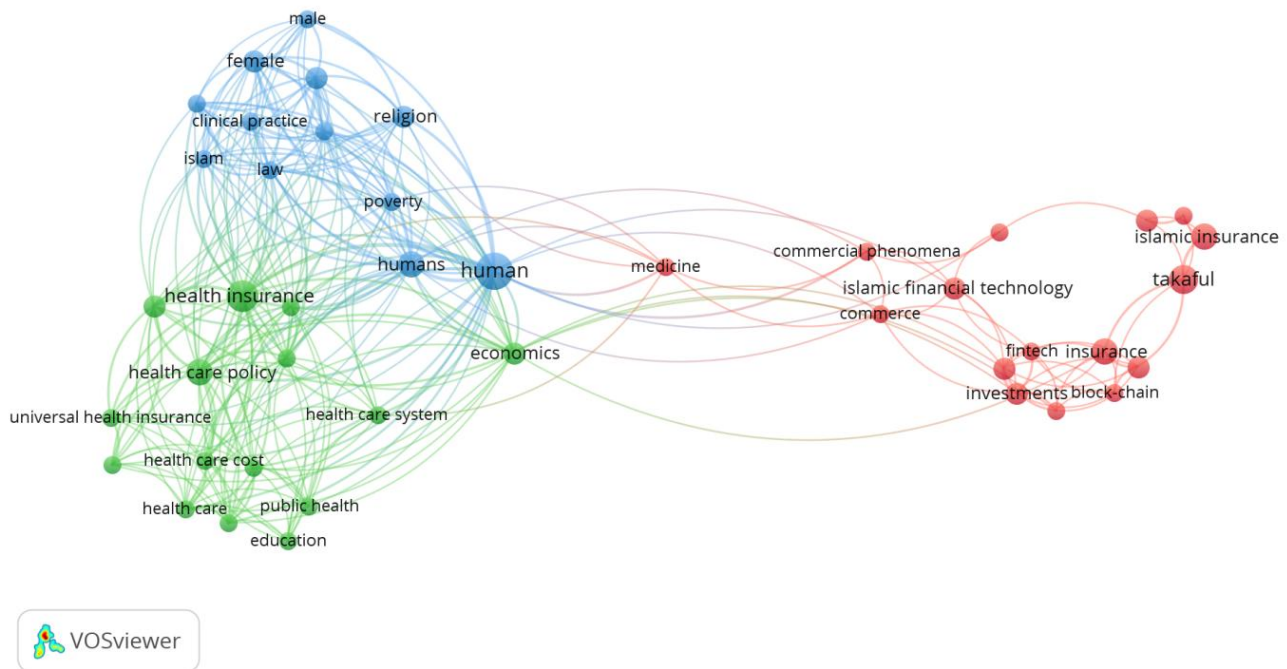


Figure 1. Research path on Islamic insurtech

As for the mapping, the keywords that appear the most in the publication "*Islamic Insurance Technology*" include humans, humans, health insurance, insurance, takaful, which are then divided into 3 clusters, as follows:

**Cluster 1: Blockchain Technology for Islamic Insurance**

This cluster contains 16 keyword items, namely block-chain, blockchain, commerce, commercial phenomena, ethical technology, fintech, insurance, investments, islamic finance, islamic finances, islamic financial technology, islamic fintech, islamic insurance, medicine, shariah compliance, takaful. This cluster emphasizes the role of digital technology, especially blockchain and fintech, in driving the transformation of Islamic insurance to be more transparent, efficient, and in accordance with Sharia principles. The use of blockchain technology allows for the recording of unmanipulated transactions and the implementation of smart contracts in takaful schemes, thereby reducing information asymmetry and increasing trust between participants. The integration of this technology also strengthens Sharia compliance through contract automation and fair risk distribution, while addressing ethical challenges in Islamic financial management.

Thus, this cluster shows that technology is not only a tool for efficiency but also a means to strengthen moral values in Islamic insurance.

A number of studies relevant to this topic include research from [Ridwan et al \(2020\)](#) explaining that takaful is increasingly being considered. Islamic insurance provides mutual assistance and protection. However, different models do not always make the business efficient, where one of the obstacles is to limit operational costs and have efficient limits. This research reveals that Blockchain technology can help reduce fraud, improve timeliness of action for customers, enable faster and more efficient claims management, and improve risk management.

[Ibrahim et al \(2024\)](#) explained that the revolution in takaful technology has had an impact on the way innovations in the takaful industry emerge. The majority of takaful administrators will maintain their competitive advantage by incorporating new innovations into their strategies and delivering them through traditional and innovative methods. Takaful operators can remain competitive by implementing this technology as a new innovation in the claims management process. Additionally, the use of an immutable and decentralized ledger can help reduce fraud among takaful operators.

Abdeen et al (2019) offer cutting-edge Blockchain technology and focus on providing a Takaful system that strictly follows Islamic law that underlies the risk mitigation system. In addition, his research also confirms that all Takaful transactions through Blockchain provide trust and transparency to the communities involved in the process. Meskini & Aboulaich (2020) proposed a smart insurance model using blockchain technology, also combining Fintech with Takaful, which is ethical insurance built on the basis of cooperation and solidarity.

Yıldırım & Şahin (2018) explained that blockchain is a trustless technology that offers a high level of transparency, so at first it seemed unsuitable for the trust-based insurance sector. However, international insurers have begun to adopt this technology because of its potential to improve process efficiency, accuracy of premium determination, and risk management. The use of smart contracts allows for faster and more transparent claims processing, thereby improving the transaction experience and customer trust.

### Cluster 2 : Digital Islamic Health Insurance

This cluster has 15 keyword items, namely economics, education, health care, health care cost, health care delivery, health care policy, health care quality, health care reform, health care system, health insurance, health policy, medical education, public health, universal health insurance, world health organization. This cluster focuses on the application of Islamic insurance technology in the context of health systems, public policy, and health service reform. Research from Alwehaibi et al (2025) analyzed the impact of digital innovations on health insurance operations in Saudi Arabia, focusing on how e-health tools affect Population Health Management (PHM) and the provision of home care services, revealing that PHM (Public Health Management) spending, home care insurance, digital maturity, and eHealth implementation are all positive and significant factors affecting insurance company efficiency.

Islamic insurance technology simplifies healthcare systems by embedding FinTech into Takaful operations, such as claims management, risk assessment, and database handling, which improves operational efficiency in departments dealing with health and life insurance. In the JKN program in Islamic hospitals in Indonesia, a digital verification system with AI detects fraud in claims, improving

accuracy, transparency, and accountability to maintain national health coverage (Gunadi et al., 2024).

In terms of public policy, for example in OIC countries there is increasing support for the adoption of Takaful technology through regulatory frameworks, such as calls for a dedicated Takaful regulator separate from the central bank in Saudi Arabia to accelerate the integration of FinTech in health insurance. The policy addresses low penetration by incentivizing youth-focused products and centralizing data through cloud services, aligned with the broader goals of financial inclusion and Sharia compliance. In Indonesia, ministerial regulations on fraud prevention (e.g., Permenkes No. 16/2019) allow the use of digital tools in Sharia hospitals, supporting the sustainability of JKN amid increasing demand for healthcare services (Mustakim et al., 2023; Altwijry et al., 2023; Gunadi et al., 2024).

Reforms leveraging Takaful technology for fraud reduction and fair access, as seen on blockchain for secure claims and AI for real-time detection, have the potential to reduce losses from 3-10% of spending while rewarding healthy behaviors through incentives (Islam et al., 2025). The hybrid Takaful model in Malaysia targets mental health coverage for low-income groups, bridging financial barriers and integrating them into a universal scheme (Khairi et al., 2020). Overall, these innovations are driving resilient reforms by combining Sharia ethics with technology, although challenges such as regulatory silos and data privacy remain, necessitating policy evolution (Khairi et al., 2020; Al-Quayed et al., 2023; Mali et al., 2024; Islam et al., 2025).

### Cluster 3 : Maqashid-Based Islamic Insurance

This cluster contains 12 keyword items, namely clinical practice, female, human, humans, infertility, infertility therapy, islam, law, male, muslim, poverty, religion. This cluster highlights the ethical, Islamic law, and social dimensions of technology-based Islamic insurance development. The main focus of this cluster is human protection (hifz al-nafs), family welfare, and poverty alleviation through fair and inclusive insurance schemes. The maqasid al-shariah approach serves as a normative foundation for addressing sensitive issues such as reproductive health, gender, and vulnerable groups in Muslim societies.

Technology-based Islamic insurance, or FinTech Takaful, thrives through digital innovations such as AI, blockchain, and mobile platforms while instilling Sharia principles of mutual cooperation

(ta'awun), justice, and avoiding riba (interest), gharar (uncertainty), and maysir (gambling). These developments balance technological efficiency with ethical imperatives, fostering trust and inclusion in Muslim communities (Elomari et al., 2023; Rifas et al., 2023).

The ethical foundation prioritizes maqasid al-Shariah (the purpose of Islamic law), emphasizing the preservation of faith, life, reason, heredity, and wealth, which guides FinTech applications to ensure social justice and well-being rather than maximizing profits. Takaful technology promotes transparency through blockchain for claims, reduces fraud and aligns with Islamic virtues such as amanah (trust), while personalized AI-based products enhance customer-centric ethics. Corporate social responsibility (CSR) disclosures in Takaful companies show a strong focus on customers but lag behind in environmental sustainability, urging the integration of SDGs with Sharia for holistic ethical impact (Elomari et al., 2023; Widya & Syafi'i, 2023; Shamsudheen et al., 2024; Hanafi et al., 2025; Jafar & Zafar, 2025).

Furthermore, socially, Takaful technology promotes inclusion for the unbanked population through mobile platforms. This technology fosters loyalty through relational marketing that emphasizes Islamic ethics, financial ties, and structural ties, as Saudi studies show that reliability and assurance shape a positive corporate image (Osman et al., 2022). CSR in Takaful, including the integration of zakat, supports community resilience, although gaps in Sharia-specific disclosures highlight the need for technology-enhanced reporting to strengthen social performance (Jafar & Zafar, 2025).

Based on the results of bibliometric mapping using VOSviewer, this study identifies three main clusters that reflect the focus and dynamics of Islamic Insurance Technology research globally. The three clusters show that technological development in Islamic insurance is not monolithic, but multidimensional, including technological aspects, public health, and ethical and social values based on maqasid al-shariah.

The first cluster highlights the central role of blockchain technology and fintech in the transformation of the Islamic insurance industry. The main focus of this cluster is to increase transparency, operational efficiency, and strengthen Sharia compliance through the use of distributed ledger technology and smart contracts. Blockchain allows for the recording of transactions that cannot be

manipulated, thereby reducing the risk of fraud and information asymmetry between participants and takaful operators.

The literature in this cluster confirms that blockchain can speed up the claims process, improve the accuracy of premium calculations, and improve risk management. In addition, the automation of Sharia-based contracts through smart contracts strengthens the principles of fairness and trust in takaful. Thus, technology not only serves as a tool of efficiency, but also as a mechanism for strengthening moral and ethical values in Islamic finance.

The second cluster focuses on the application of Islamic insurance technology in the context of health insurance and public policy. The main themes in this cluster include health system reform, financing efficiency, fraud prevention, and improving the quality of health services through digitalization. The integration of e-health, AI, and digital verification systems in Islamic health insurance has been proven to improve operational efficiency and accountability in claims management.

In the context of Muslim countries, Takaful technology plays an important role in supporting universal health coverage and health policy reform. Regulations that support the adoption of FinTech, cloud-based data centralization, and the use of AI for fraud detection are key factors for the success of the digital transformation of Islamic health insurance. However, challenges related to data privacy, regulatory fragmentation, and infrastructure readiness remain crucial issues that require the attention of policymakers.

The third cluster emphasizes the ethical, social, and legal dimensions of Islam in the development of Islamic Insurance Technology. The maqasid al-shariah approach is the main normative framework in ensuring that technological innovation remains oriented towards human protection, family welfare, and poverty alleviation. Takaful technologies in this cluster are positioned as instruments to expand financial inclusion, protect vulnerable groups, and strengthen corporate social responsibility.

The use of digital technology in maqasid-based takaful shows great potential in increasing public trust, participant loyalty, and social performance of the Islamic insurance industry. However, the findings also show that there is a gap in the disclosure of sustainability and environmental aspects, so that the integration between maqasid al-shariah and the sustainable development goals (SDGs) becomes an important research and policy agenda in the future.

## CONCLUSION

This study provides a comprehensive overview of the development and knowledge structure of Islamic Insurance Technology through a bibliometric approach and meta-analysis of Scopus indexed publications. The results of the study identified three main clusters—Blockchain Technology for Islamic Insurance, Digital Islamic Health Insurance, and Maqashid-Based Islamic Insurance—that reflect the main direction and focus of global research in this area.

The findings of the study show that Islamic InsurTech is evolving not only as a technological solution for operational efficiency, but also as a means to strengthen Sharia compliance, ethical values, and maqasid al-shariah goals. Technologies such as blockchain and AI have the potential to increase transparency, reduce fraud, and expand financial inclusion and social protection in Muslim society.

Practically, the results of this study can be a reference for takaful operators and policymakers in designing sustainable and value-based digital transformation strategies. Academically, this research opens up opportunities for further research, especially related to the integration of Islamic InsurTech with public policy, maqasid-based social impact measurement, and the development of a regulatory framework that is adaptive to technological innovation. Thus, Islamic Insurance Technology is expected to become an important pillar in the development of a fair, inclusive, and sustainable Islamic financial system.

## REFERENCES

- Abdeen, M., Salman, J., Khan, S., & Ali, T. (2019). Employing Takaful islamic banking through state of the art blockchain: a case study. *International Journal of Advanced Computer Science and Applications*, 10(12).
- Ahmad, Z., Mokal, M. N., & Rahman, M. (2024). Takaful industry in the era of technological advancement. *Jeksyah: Islamic Economics Journal*, 4(1), 45–60. <https://doi.org/10.24252/jeksyah.v4i1.726>
- Al-Quayed, F., Humayun, M., & Tahir, S. (2023, August). Towards a secure technology-driven architecture for smart health insurance systems: An empirical study. In *Healthcare* (Vol. 11, No. 16, p. 2257). MDPI. <https://doi.org/10.3390/healthcare11162257>
- Altwijry, O., Mohammed, M. O., & Alshammari, A. A. (2023). Financial Technology and Islamic Insurance: The Saudi Context. *Scientific Journal of King Faisal University, Humanities & Management Sciences*, 24(2).
- Alwehaibi, S. A., Sadraoui, T., & Sallam, M. A. (2025). Evaluating the Impact of Digital Innovation on Improving the Efficiency of Health Insurance Services in the Kingdom of Saudi Arabia. *Journal of Cultural Analysis and Social Change*, 1930-1941. <https://doi.org/10.64753/jcasc.v10i2.1891>
- Antonio, M. S., Rusydiana, A. S., Purwoko, D., Khatimah, H., & Puspita, A. T. (2021). Islamic library: History, classification, and waqf role. *Library Philosophy and Practice*, 2021, 1-17.
- Elomari, R. (2023). The role of Fintech in promoting the Takaful model of Islamic insurance. *Am J Financ Technol Innov*, 1(1), 15-23. <https://doi.org/10.54536/ajfti.v1i1.2098>
- Gunadi, P., Hasan, S., Arda, I. N., Rahayu, E. D., & Andika, Z. (2024). Implementation of Digital Verification System for Fraud Prevention in the JKN Program (Case Study of Jakarta Sharia Hospital). *Science and Applied Economics Business Research Media*, 2(4), 1-8. <https://doi.org/10.71312/mrbest.v2i4.208>
- Hanafi, A. G., Abd Rahman, B. H., & Subri, N. I. (2025). Determinants of Fintech Adoption among Family Takaful Agents: A TAM-Based Secondary Data Analysis. *International Journal of Research and Innovation in Social Science (IJRISS)*, 9(11). <https://dx.doi.org/10.47772/IJRISS.2025.91100126>
- Hemed, H. A., Alamoudi, A. A. A., Al Qassim, A. A. A., & Qasem, B. M. S. (2021). The potential use of FinTech developments in takaful. *International Journal of Management and Applied Research*, 8(2), 109–121. <https://doi.org/10.18646/2056.82.21-007>
- Hussin, M. Y. M., Ab Rahman, A., Wan Ahmad, W. M., Ratnasari, R. T., & Ismail, Z. (2024). Takaful as an Islamic alternative to conventional insurance: A thematic and bibliometric review. *International Journal of Religion*, 5(10), 1–18. <https://doi.org/10.33182/ijor.v5i10.6032>
- Ibrahim, N. I., Muhamat, A. A., Karim, N. A. K. A., & Jaafar, M. N. (2024). Potentials of blockchain for claim management of Islamic insurance (takaful) operators in Malaysia. *Environment-*

- Behaviour Proceedings Journal, 9(SI19), 13-19. <https://doi.org/10.21834/e-bpj.v9iSI19.5757>
- Iskandar Mirza, A. A., Muhamed, N. A., & Kamarubahrin, A. F. (2024). Islamic insurtech conceptual framework: A proposal. *Ihtifaz: Journal of Islamic Economics, Finance, and Banking*, 7(1), 1–15. <https://journal2.uad.ac.id/index.php/ijiefb/article/view/2919>
- Islam, M. M., Ahmed, M., Palit, R., Shahriar Rahman, M., & Islam, S. (2025). Fraud Detection in Privacy Preserving Health Insurance System Using Blockchain Technology. *Engineering Reports*, 7(8), e70315. <https://doi.org/10.1002/eng2.70315>
- Jafar, A., & Zafar, M. B. (2025). Corporate social responsibility disclosure in the Takaful sector. *International Journal of Ethics and Systems*. <https://doi.org/10.1108/IJOES-11-2024-0367>
- Khairi, K. F., Laili, N. H., & Sabri, H. (2020). Bridging Financial Barrier: A Development Of Hybrid Takaful Model Towards Quality Mental Health Care Services In Malaysia. *International Journal of Academic Research in Business and Social Sciences*. <https://doi.org/10.6007/IJARBSS/v10-i10/8278>
- Mali, M., Pophale, V., Gulalkari, S., Deshpande, T., & Chougale, P. (2024, October). IPFS-Blockchain Technology for Health Insurance Fraud Prevention and Wellness Incentives. In 2024 IEEE International Conference on Blockchain and Distributed Systems Security (ICBDS) (pp. 1-7). IEEE. <https://doi.org/10.1109/ICBDS61829.2024.10837188>
- Meskini, F. Z., & Aboulaich, R. (2020, June). A new cooperative insurance based on blockchain technology: Six simulations To evaluate The model. In 2020 International Conference on Intelligent Systems and Computer Vision (ISCV) (pp. 1-7). IEEE. <https://doi.org/10.1109/ISCV49265.2020.9204170>
- Muradova, D. A. (2024). The impact of digital financial technologies on Islamic insurance and other financial institutions: Opportunities and challenges. *Journal of Artificial Intelligence and Digital Economy*, 1(6), 1–12. <https://home.nuraylin.org/artikel/5995>
- Mustakim, M., Mohd Zameri, S. N. S., Ngabdullah, S. K., bin Mohammad Hatta, M. F., & Jaafar, M. N. (2023). 4Youth takaful in Islamic insurance industry: technology and lifestyles. *Jistem Journal of Information Systems and Technology Management*. <https://doi.org/10.35631/jistm,833012>.
- Napitupulu, R. M., Sukmana, R., Rusydiana, A. S., Cahyani, U. E., & Wibawa, B. M. (2024). The nexus between halal industry and Islamic green finance: A bibliometric analysis. *Journal of Islamic Marketing*, 15(10), 2508-2527.
- Osman, I., Abdur Rehman, M., Mohy Ul Din, S., Shams, G., & Aziz, K. (2022). Let's get acquainted: an empirical study on takaful customer-service provider relationships from Saudi Arabian perspectives. *Journal of Islamic Marketing*, 13(11), 2209-2231. <https://doi.org/10.1108/JIMA-06-2020-0175>
- Qazi, M. A., & Husin, M. B. M. (2025). Blockchain revolutionising insurance and takaful sector: Possibilities, challenges, and policy roadmap for Pakistan. *Journal of Research, Innovation and Technologies*, 4(2), 225–244. [https://www.acadlore.com/article/JORIT/2025\\_4\\_2](https://www.acadlore.com/article/JORIT/2025_4_2)
- Radwan, M., Calandra, D., Koumbarakis, P., & Lanzara, F. (2020). Takaful industry and Blockchain: challenges and opportunities for costs' reduction in Islamic insurance companies. *European Journal of Islamic Finance*, 2020, 1-6. <https://dx.doi.org/10.13135/2421-2172/4926>
- Rifas, A. H., Ab Rahman, A. ., & Buang, A. H. (2023). Appraising the Universal Concepts of Insurance and Takaful: Similarities and Differences. *UMRAN - Journal of Islamic and Civilizational Studies*, 10(1), 1–15. <https://doi.org/10.11113/umran2023.10n1.571>
- Rusydiana, A. S., Aswad, M., Pratomo, W. A., Hendrayanti, E., & Sanrego, Y. D. (2021). Halal tourism indicators: a bibliometric study. *Library Philosophy and Practice (e-journal)*, 5738.
- Shamsudheen, S. V., Mohamad, S., Muneeza, A., & Mahomed, Z. (2024). Ethical discourse of ethical (Islamic) finance: a systematic literature review (1988–2022) and the way forward. *Journal of Islamic Accounting and Business*

Research. <https://doi.org/10.1108/JIABR-11-2022-0315>

- Widya, W., & Syafi'i, A. (2023). Application of Islamic Business Ethics in the Fintech Industry: an Analysis of the Foundation of Sharia Maqashid. *American Journal of Economic and Management Business (AJEMB)*, 2(12).
- Yıldırım, İ., & Şahin, E. E. (2018). Insurance Technologies (Insurtech): Blockchain and Its Possible Impact on Turkish Insurance Sector. *Journal of International Management Educational and Economics Perspectives*, 6(3), 13-22.
- Zada, N., Shakil, M. H., & Khan, M. A. (2022). FinTech, digitalization, and blockchain in Islamic finance: A retrospective investigation. *FinTech*, 1(4), 421–436. <https://doi.org/10.3390/fintech1040029>