Advanced International Journal of Business, Entrepreneurship and SME's
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

ADVANCED INTERNATIONAL JOURNAL OF BUSINESS, ENTREPRENEURSHIP AND SMES (AIJBES)
www.gaexcellence.com/aijbes

SYSTEMATIC LITERATURE REVIEW OF RISK FACTORS AFFECTING TAKAFUL PRICING: A PRISMA-BASED APPROACH

Asrulsani Muhammad Syakir[1]*, Awang Chek Mohd Zaki[2], Ismail Isma Liana[3]

[1]Department of Actuarial Science, Universiti Teknologi MARA (UiTM), Malaysia
syakirasrulsani@uitm.edu.my
https://orcid.org/0009-0003-4725-434X

[2]Universiti Teknologi MARA (UiTM), Malaysia
mohdz220@uitm.edu.my
https://orcid.org/0000-0003-4271-053X

[3]Universiti Teknologi MARA (UiTM), Malaysia
ismal246@uitm.edu.my
https://orcid.org/0009-0007-4854-505X

*Corresponding Author

Article Info:

Article history:
Received date: 28.01.2026
Revised date: 16.02.2026
Accepted date: 16.03.2026
Published date: 30.03.2026

To cite this document:

Syakir, A. S., Zaki, A. C. M., Liana, I. I. (2026). Systematic Literature Review of Risk Factors Affecting Takaful Pricing: A Prisma-Based Approach. *Advanced International Journal of Business Entrepreneurship and SMEs, 8* (27), 318-337.

Abstract:

Takaful, or Islamic insurance, is an alternative to conventional insurance and an integral part of Islamic finance. It is founded on the principles of mutual risk-sharing and cooperative contribution. Takaful pricing plays a critical role in ensuring sustainability, fairness, and Shariah compliance within Islamic insurance systems. Takaful differs from conventional insurance in several key components, including pricing. Pricing within Takaful and conventional insurance differs, posing a complex, strategically significant challenge for operators regarding the risk factors that affect pricing. Nonetheless, this study aims to identify and synthesise the key risk factors affecting Takaful pricing through a systematic literature review approach. A systematic literature review was conducted based on the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) statement 2020. This approach was conducted by the researcher across various databases, including Scopus, Web of Science, ScienceDirect, and Google Scholar. In this study, a systematic literature review was conducted based on the articles published from 2000 to 2025. A total of 562 articles were found, and 51 articles were selected based on the inclusion criteria. As a result of this approach, four major determinants identified as risk factors affecting Takaful pricing were found that are demographic, financial, operational, and macroeconomic. Demographic factors, such as age, gender, marital status, education, and income, that affect mortality will influence the pricing. Financial factors such as investment returns, solvency ratio, and adequacy play a critical role in

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

pricing sustainability. Operational factors, such as claims ratio, expense ratio, underwriting, and digitalisation, play a critical role in pricing margin. Macroeconomic factors, such as inflation, GDP, unemployment rate, and exchange rate, play an indirect role in pricing. The study proposes an integrated conceptual framework to guide actuaries, regulators, and Takaful operators in developing sustainable pricing strategies.

DOI:10.35631/AIJBES.827021

Keywords:

Demographic, Financial, Macroeconomic, Operational, Pricing, PRISMA, Systematic Review, Takaful

Introduction

Life is embedded in risks beyond expected outcomes in the contemporary world. People are exposed to risks of death, illness, and destruction of assets on their own or through their assets. However, people are increasingly aware of the need to protect their lives, health, and assets from future risks by taking preventive measures. Despite making a proper attempt to minimise risks, some are inevitable. However, one must ensure that the risk is minimised by having adequate awareness of the importance of implementing security measures to mitigate risks in life. Such securities are referred to as “insurance”. Insurance or conventional insurance is essential for safeguarding individuals, households, and institutions from financial losses arising from uncertain events, thereby fostering economic stability and social welfare. By aggregating risks and dispersing losses among participants, the conventional insurance system diminishes financial vulnerability and enables long-term planning. A fundamental prerequisite for the effectiveness and sustainability of any conventional insurance system is precise risk-based pricing, which ensures fairness among policyholders, maintains insurers' financial solvency, and promotes efficient market operation. However, there is another type of security used by people to mitigate risk that serves the same purpose as Insurance, and that is Takaful.

Takaful is an Islamic insurance alternative to conventional insurance that is based on the principles of cooperation, shared responsibility, and risk-sharing. The word "Takaful" is derived from the Arabic word "Kafalah," which means guaranteeing one another. It is a collective venture aimed at mutual support and cooperation, in line with the principles of Shariah law (Billah, 2020). In this Takaful system, the participants make contributions in the form of tabarru’, which is then invested by the Takaful operator through Shariah-compliant contracts such as wakālah, muamalah, and istithlāk. Conventional insurance and Takaful fundamentally differ in their underlying principles, contractual frameworks, and risk management approaches. Regarding pricing strategies, conventional insurance primarily relies

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337
on risk transfer as its basis for valuation, whereas Takaful's pricing methodology is fundamentally based on risk sharing.

Both Takaful and conventional insurance pricing are influenced by a broad array of risk factors, including demographic, financial, operational, and macroeconomic. However, academic research on the determinants of Takaful pricing remains fragmented and employs diverse methodological approaches. Additionally, in terms of pricing within the Takaful model, compared to the conventional approach to providing similar life risk protections, the emphasis is on fairness, transparency, and mutual respect (Olorogun & Othman, 2021). However, in the Takaful model, the contributions provided in the form of “tabarru'" must also consider the adequacy of the members' contributions to cover the risks incurred, without disregarding the provisions of Shariah law. (Olorogun & Othman, 2020). Of course, in calculating the risks associated with the Takaful system's proposed premiums for potential members, various extrinsic and intrinsic factors must also be considered. According to researchers, the premium rates for the Takaful model's contributions must be based on studied demographic factors, organisational structures, dynamics, and broader economic parameters (Masood et al., 2021). Unlike conventional insurance, where the involved firms act simply in their capacity as "insurer" in the business setup, in the Takaful operation, the firms act either in the capacity of the "agent" together with the "entrepreneur". Thus, in the Takaful pricing, risks include not only actuarial parameters but also demographic, organisational, dynamic, and broader economic factors. Although previous studies have examined individual determinants of Takaful pricing, the literature remains fragmented and lacks an integrated synthesis of the major risk factors affecting contribution determination. Existing research often focuses on isolated aspects such as demographic or financial variables without systematically examining their combined influence within a comprehensive framework. Moreover, the interaction between demographic, financial, operational, and macroeconomic risks within the context of Shariah-compliant insurance pricing remains insufficiently synthesised. Therefore, a structured synthesis of these determinants is required to clarify how different risk dimensions collectively influence Takaful pricing. This study conducts a systematic literature review to identify and analyse risk factors affecting Takaful pricing using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method. By synthesizing existing research, the review aims to provide key pricing determinants, highlight research gaps, and provide insights for actuaries, Takaful operators, and regulators to support sustainable and equitable Takaful pricing practices.

Literature Review

This chapter reviews previous studies, research, and scholars' opinions on Takaful pricing and the risk factors affecting it, including demographic, financial, operational, and macroeconomic factors.

Takaful Pricing

Takaful pricing involves calculating fair contribution rates for participants, considering the risks incurred and the costs of administration in accordance with Shariah principles. There are two theoretical frameworks applicable to Takaful pricing. These frameworks are the actuarial fairness and Shariah theoretical frameworks. Actuarial fairness is the rule that demands contribution rates in line with the likelihood of incurring losses. Shariah compliance on its part requires all operations to forbear from any form related to Riba (interest), Gharar (excessive uncertainty), and Maysir (gambling). This means that the Takaful pricing process is more

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

susceptible to external factors than the conventional insurance pricing process. Traditional actuarial methods, such as mortality tables, loss ratios, and expense allowances, are modified in line with the mutual approach to sharing risks in the Takaful model. Additionally, in the Takaful model, various models, such as the Wakalah (Agency) model and the Mudharabah (profit-sharing) model, influence the pricing process. Models in the Takaful system determine the percentage payable by the operator (insurer) and are used to calculate the premium. According to the Wakalah model, the operator imposes an administration fee on the contributions from the members. Meanwhile, in the profit-sharing model (Mudharabah), the sharing of profits in an investment made by the operator is between the members. However, the fee for administration in the Wakalah model combines the profits earned from the investment (Billah, 2012 & 2023). Additionally, rather than the conventional approach to pricing insurance premiums in Takaful business operations, the issue of justice in terms of Adl (justice) must also be taken into consideration. Overcharging premiums contradicts the cooperative nature of the business, while undercharging premiums poses risks of insolvency.

Demographic Factors

Demographic factors are among the most extensively researched factors that play a crucial role in the contribution rate in Takaful. These factors include age, gender, marital status, educational level, and health status, all of which act as significant risk factors in determining the mortality and morbidity risk in assessing the contribution rate in health and family Takaful (Soualhi & Djafri, 2021). The mortality risk can be viewed in the context of uncertain participant deaths over a given duration and the uncertainty in the distribution of the related mortality claims in family Takaful. The morbidity risk can be viewed in the context of disease intensity, especially in health and long-term care Takaful. In fact, the intensity and likelihood of disease and morbidity, especially in healthcare and long-term care, have become significant factors in the actuarial contribution process, hence the need and significance of actuarial studies by different researchers, such as those conducted by Soualhi & Djafri (2021) and Billah (2023). The primary factor and determinant in mortality and morbidity risk and their intensity in actuarial studies is the age factor, whereby the risk, intensity, and likelihood are higher among older members. The actuarial contribution rate in the United States and other countries has adequately reflected the intensity in the contribution rate, whereby the contribution rate in the actuarial studies and participation and contribution levels rise with increased mortality and morbidity intensity, especially in older people, hence lower contribution levels in the actuarial contribution process, whereby the risk in the younger individuals, among others, tends to be lower, and the contribution rates among others, among men and women, tends to be high in men compared to the extent and likelihood in the actuarial contribution process, whereby the risk in men tends to rise. The risk of health issues, among others, tends to increase over longer durations among female members. In the actuarial studies in Malaysia and other South African countries, the contribution to family coverage tends to be high among the male gender. The factors and variables in the actuarial contribution process include the impact on the family, among others, whereby the contribution in the actuarial process tends to be high among couples. In actuarial studies in Malaysia, couples in the actuarial contribution process tend to be predominantly male, among others. Moreover, the factors that play an essential role in the actuarial contribution process include the factors and variables in the likelihood, risk, and intensity in the actuarial studies, whereby the factors and variables in the likelihood, risk, and intensity in the actuarial contribution process and the contribution rate in the actuarial contribution process, whereby the factors and variables in the actuarial studies, the extent, and

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337
likelihood in the actuarial contribution process and the contribution rate, among others, in the actuarial contribution process.

Financial Factors

The financial factors influencing Takaful rates stem from the investment and sharing processes inherent in Shariah-based models. Variability in investment returns directly affects the viability of the Takaful fund, as these returns are used to cover liabilities and boost the participant's surplus (Rofika & Meylianingrum, 2024). Also, investment returns directly influence Takaful rates because the net earnings of Shariah-based investment pools offset member contributions (Soualhi, 2016; Alhabshi, 2021). The mudharabah model allows improved investment results to be translated into lower contribution rates or increased surplus sharing. On the other hand, the imminent danger of diminishing returns may be due to the inadequacy of contributions along with the overdependency on high-risk and Shariah-incompatible investment instruments. Investment performance also directly impacts Takaful rates since the net income from Shariah-compliant investment pools offsets members' contributions (Soualhi, 2016; Alhabshi, 2021). In the mudharabah model, better investment performance is reflected in lower contribution rates or higher surplus sharing. Another major financial factor is lapse risk, where members end their premium payments before the maturity date of the policy. High lapse rates may create a threat to cash flow forecasts and the time value of expected future liabilities (Berdin et al., 2017; Pavlović, 2021; Manteigas & António, 2024). The interlinking of lapse rates with economic conditions complicates the matter further and shows the importance of allowing dynamism in the lapse rate assumptions in financial models. Also, discount rates and estimated claim liabilities are factors that have significant effects on the actuarial valuation of long-term Takaful contracts (Ogungbene et al., 2025). The secondary factors include obligation variability like zakat, reTakaful premiums, and setting aside reserves.

Operational Factors

Operational risks include internal operations, governance, and management of Takaful institutions. Recently, there has been increased acknowledgment that operational efficiency serves as a significant determinant in assessing the appropriateness of Takaful pricing. These risks relate to underwriting, claims, and governance with respect to Shariah compliance errors (Al-Amri, 2020). More recent academic deliberations also point out model risks and issues with data quality in the actuarial computations. Inaccurate information related to claim frequency and participant demographics could lead to unhindered risks in Takaful pricing (Crevecoeur et al., 2023; Solontio & Hidayanto, 2024). In addition, it is common to see limited available actuarial information in new markets for Takaful, and this situation frequently leads to pricing based on conventional insurance industry norms. Digitalisation, automation, and advancements in data analytics have significantly influenced these areas. As such, technological capabilities and human resources are considered very important in maintaining operational viability and pricing accuracy (Sukmaningrum et al., 2022; Ahmad et al., 2023; Hassan et al., 2023). Empirical evidence is noted for indicating that those Takaful operators that support advanced technological platforms and actuarial models manage a better scenario of decreased operational cost coupled with improved pricing (Hassani, 2020; Brauer, 2024). In addition, Shariah governance frameworks, comprising of the approval process by the Shariah board and the efficiency of internal audit functions, indirectly reinforce operational stability and member confidence. It acts as an important factor that affects the pricing viability (Hassan et al., 2021; Sueb et al., 2022; Bashir et al., 2023). Of late, increased technological

improvements in digitisation and InsurTech are starting to affect operational viability through technology-enabled risk analysis and member-specific pricing (Stoeckli et al., 2018; Hassan et al., 2023). However, many Takaful entities still face structural challenges that lead to higher administrative costs and contribution rates.

Macroeconomic Factors

The macroeconomic conditions in a region have a systematic effect on the Takaful pricing process with regard to investment returns, income level, and frequency of claims. It is important to note that a rise in medical and replacement costs due to a rise in medical inflation increases the expected levels of claims (Kaunain & NazAkhtar, 2016; Abdeljawad, 2020; Rofika & Meylianingrum, 2024; Qubbaja, 2025). Medical and replacement cost increases can be attributed to a rise in medical prices due to medical inflation, thereby leading to an increase in the cost of replacement due to an escalation in prices of other goods and services. A rise in medical costs increases the possibility of an increase in total costs due to an increase in the cost of medical treatment and, eventually, an increase in the cost of replacement due to an increase in prices of other goods and services due to medical inflation. The effects of contribution income, because of economic growth rates and employment levels, on the rates of contribution and affordability will be impacted by economic downturns, leading to a reduction in income levels, especially disposable income, due to which people will be forced to opt for a downgrade of Takaful cover rather than abandoning it altogether due to economic requirements versus Takaful protection. Due to economic downturns, contribution defaults will increase, leading to a reduction in the solvency level of the fund due to contribution income levels being indirectly impacted because of economic downturns, leading to a rise in contribution default levels due to economic downturns rather than increased contribution levels due to economic growth rates and employment levels. Low economic growth rates have an impact on investment returns due to low investment levels, leading to investment income levels being indirectly impacted due to economic growth rates and employment levels because a rise in economic growth rates and employment levels will increase investment income due to an increase in investment levels rather than a low investment income level due to low economic growth rates and employment levels. As a potential factor with regard to investment income, interest rates indirectly impact the economy with regard to investment income levels due to the Islamic Shariah principles being fully followed in the field of Takaful with regard to contribution income levels because Shariah principles do not recognize interest rates due to which a rise in interest rates will be indirectly impacted rather than a rise in investment income levels due.

Methodology

This study adopts a systematic literature review guided by the PRISMA 2020 framework (Page et al., 2021) to identify, evaluate, and synthesise existing research on factors influencing Takaful pricing. The systematic review approach ensures methodological transparency and reproducibility while enabling the integration of empirical and theoretical findings across multiple disciplines, including Islamic finance, actuarial science, and risk management. Systematic reviews synthesise existing evidence by applying structured search strategies, explicit inclusion criteria, and rigorous evaluation of prior studies (Nunn & Chang, 2020; Park et al., 2022). This approach allows researchers to integrate findings across multiple studies to generate comprehensive insights and identify research gaps within a particular domain (Pollock & Berge, 2018).

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

Systematic Review

A systematic literature review uses standard analysis tools to systematically analyze secondary data (Nunn & Chang, 2020; Park et al., 2022). As a form of evidence synthesis, this approach develops a research question, which can be broad in scope and detail, and then extracts and synthesizes relevant data related to that question. Additionally, this approach is considered the most reliable source of evidence for developing scientific practices, providing a conclusive overview of available primary research related to a specific question (Satnarine, 2023). According to Satnarine (2023), systematic literature reviews can be defined as a form of secondary research, or 'research on research,' that includes existing research relevant to a systematic overview of current research works. This approach can be utilized for guideline synthesis and is often an essential method for researchers to examine the current state of research within their field of interest. While the healthcare industry is the most common sector for systematic review applications, other fields can also benefit from their potential. The main goal of this review is to present evidence within a specific research area by identifying primary works related to the topic, critically reviewing these works, and then synthesizing their results to provide conclusive evidence (Yannascoli et al., 2013; Pollock & Berge, 2018). They state that the reviews can integrate information from multiple studies to produce a new, comprehensive conclusion that combines different types of evidence for interpretation and analysis. However, some researchers have developed well-structured systematic reviews following eight steps: 1) formulate the research questions; 2) define inclusion and exclusion criteria; 3) develop a search strategy and locate studies; 4) select studies; 5) extract data; 6) assess study quality; 7) analyze and interpret results; and 8) disseminate findings. The schematic diagram is shown below;

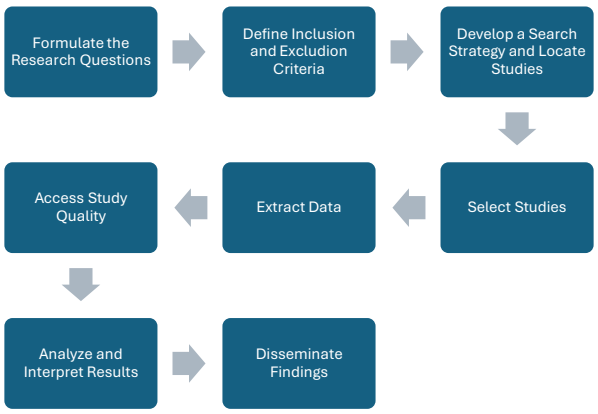

Figure 1: PRISMA Flow Diagram

Research Questions

A systematic review design was adopted to consolidate existing knowledge and identify patterns, trends, and gaps in the literature concerning risk determinants of Takaful pricing. This approach is particularly suited for emerging fields such as Islamic actuarial science, where empirical studies are dispersed across multiple disciplines, including finance, risk management, and Islamic economics. We established several specific research questions to understand the primary purpose of this study. The research questions for this study are: What are the most significant risk factors affecting the Takaful pricing of Takaful? How have

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337
previous researchers measured and modelled Takaful pricing risks? Moreover, what are the research gaps and future directions in this domain?

Inclusion and Exclusion

After the research questions were developed, the next phase in the systematic review process is defining the inclusion and exclusion search criteria. To find research that can solve the research problem, researchers must determine which studies are eligible for inclusion and exclusion in the search. It is essential for the reviewer to thoroughly understand the inclusion and exclusion criteria to achieve a more effective search outcome in the next step. Although the requirements may be revised as the systematic review progresses, specific criteria are essential for gathering the research standards that will be used to assess the research objective. The eligibility criteria determine which studies will be included and which will be excluded from the systematic review data, ensuring both rigour and acceptability for the review. The criteria for including and excluding studies constitute the operational definition of the problem. In a systematic review, the guidelines for what to include and exclude are crucial in determining the scope of the review. These criteria help decide which studies are relevant to the research question and will be included in the review, and which ones will not be included as they are not relevant or for some other reason. This step ensures that the review is thorough, fair, and repeatable.

Search Strategy

A search approach was then designed and implemented. A structured and comprehensive literature search was conducted using Scopus, Web of Science, Emerald Insight, and ScienceDirect, the four major academic search engines, in conjunction with the use of Google Scholar, to search and include peer-reviewed journal articles and high-quality conference papers, in the hope of arriving at the totality of risk factors affecting the price of Takaful from the predetermined elements. Simultaneous searches were also conducted using the repository systems of other major Islamic finance think tanks, namely INCEIF, IRTI, and the Knowledge Repository Bank Negara Malaysia. The search range spanned from January 2000 to May 2025, in an effort to capture the latest trends in the field of Takaful, as developments in the field would have kept pace with advancements in technology, regulations, and the economic environment. The search utilised keywords and Boolean logic to ensure that it was comprehensive and included all available pertinent studies. The primary search string was the following:

("Takaful pricing" OR "Islamic insurance pricing") AND ("determinants" OR "factors" OR "influences") AND ("demographic" OR "financial" OR "operational" OR "macroeconomic")

In an effort to make the scope and comprehensiveness of the search even more exhaustive, the search approach also included the search and review of the citation lists in all available studies that were discovered in the search process.

Screening and Selection Process

Using the list compiled, an electronic search in the database platform earlier mentioned was done to identify studies which had met the stipulated criteria. This was done through close scrutiny of the studies identified from the database. Among the different database platforms

Advanced International Journal of Business, Entrepreneurship and SME's
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

available, the most relevant studies in relation to the questions being raised were identified. These studies particularly involved primary sources with regard to risk factors that influence the cost of conventional insurance and Takaful.

The search yielded 447 records. After eliminating duplicates, there were 350 studies remaining. The process moved forward to the screening of title and abstract in relation to the inclusion criteria, and results of this action further narrowed the studies down to 109 that fulfilled the stipulated inclusions and exclusions. The process continued with the screening of studies in relation to the inclusion and exclusion criteria, and a final sample of 51 studies was obtained. The updated PRISMA flow diagram of 2020 was utilized for the process in order to provide insight into the various stages and flow.

Table 1: Screening and Selection Results

Stage	Description	Number of Studies
Identification	Records identified through database searching	447
Screening	Records screened after duplicates removed	350
Eligibility	Full-text articles assessed for eligibility	109
Inclusion	Studies included in the qualitative synthesis	51

Data Extraction

Next, proceed with data extraction from all selected research papers and studies. At this stage, data extraction is beneficial in identifying the most relevant risk factors that affect Takaful pricing later in the review process. The extraction process involves several steps, including removing duplicate studies from databases and irrelevant studies that do not align with the targeted research objectives. The data extraction is conducted on each previously gathered study and summarised as a tabulation of the most relevant factors. For each included study, data were systematically extracted using a standardised template encompassing:

1. Author(s), year, and publication source
2. Study type (empirical, theoretical, or review)
3. Geographical focus and Takaful model (Mudharabah or Wakalah)
4. Key risk factors examined
5. Methodological approach (actuarial model, simulation, regression, etc.)
6. Main findings and implications

A thematic synthesis approach was employed to integrate findings across studies. Risk factors were categorised into four principal dimensions: demographic, financial, operational, and macroeconomic. Patterns, interrelationships, and research gaps were identified through qualitative coding and comparative analysis.

Assessing Quality of Selection

Next, we assess the selected studies for quality. At this stage, the assessment is done by using the Preferred Items for Systematic Review and Meta-Analysis (PRISMA) method. PRISMA is the most efficient method to overcome quality differences between studies that could lead to misunderstandings and misinterpretations by reviewers (Selçuk, 2019). Selçuk (2019) stated

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

that PRISMA is a method to efficiently scan all the selected published papers or studies to identify the most accurate answer to the research questions and objectives.

Analysing Result

After assessing the quality of each study, the results and outcomes are interpreted and analysed accordingly. Initially, after the quality assessment of the study has been made, the outcome needs to be appropriately analysed to ensure that the quality of the study aligns with its research objectives and questions. It is to ensure that the research question and objectives of the systematic review are achieved accordingly.

Disseminate Findings

Upon completing the analysis, the results are examined within the framework of the two distinct assessments to identify any important details or conclusions that may be derived from both. This is significant because both analysis and interpretation can yield valuable insights into how various similarities can be compared with analogous factors identified by different authors. After analysing and interpreting the results, findings are disseminated by identifying authors with similar results or discussing related factors.

Findings

The paper first gives an introduction to the studies, then describes the arrangement of research findings in terms of themes, risk factors, and their impact on the Takaful pricing process. As explained, the review includes a total of 51 studies. The studies range in terms of publication dates, with the earliest publication in 2005 and the latest in 2025, reflecting an escalating interest in the field among researchers, albeit related to the development and growing popularity and performance of the Takaful industry. In terms of geographic distribution, most studies related to Southeast Asia, and specifically Malaysia, where the Takaful industry exhibits extensive development and structures, were initially focused on and then supplemented with studies related to the GCC region. Some studies have adopted broader perspectives. In the thematic domain, risk factors can be explicitly classified and include variables such as age, gender, health status, and occupation. Table 1 below provides insight into the listed risk factors, with references provided in the text.

Table 1: Summary of Factors Influencing Takaful Pricing

Category	Example	Example
Demographic	age, gender, marital status, education, income	Demographic heterogeneity influences the contribution
Financial	investment returns, solvency ratio, adequacy	Financial stability and Shariah-compliant portfolio performance shape pricing sustainability
Operational	claims ratio, expense ratio, underwriting, digitalisation	Efficiency in claims and administration has a direct impact on pricing margins
Macroeconomic	inflation, GDP, unemployment rate, exchange rate	Macroeconomic volatility alters affordability and the cost of claims

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

Demographic Risk Factors

Research has revealed that mortality and morbidity risks, specifically, are the strongest determinants in Takaful pricing. Such studies include those by Andirasdini & Suryaningsih in 2023 and Attar & Hachloufi in their 2022 work, which stressed the significant impact of mortality experience on the expected claims risk ratio in family Takaful plans. The risk of morbidity, which includes illness, hospitalisation, and disability, is considered influential in Takaful medical and long-term care plans, especially for the ageing population. Life tables, morbidity incidence matrices, and probabilities of transition into disability typically contain the risks. These risks require proper estimation to avoid underpricing, which can lead to the exhaustion of funds, and overpricing, resulting in the company becoming uncompetitive in the marketplace. Some studies recommend the use of experience assumptions and stochastic mortality models, such as the Lee-Carter model and the Cairns-Blake-Dowd model. Furthermore, other secondary demographical factors include age, gender, family structure, and educational attainment. The age factor was generally supported across all studies. Younger members are determined to contribute lower tabarru' because they have lower risks against mortality (Wulandari et al., 2023). However, gender risk differentials and adjustments have appeared, although Takaful companies usually refrain from discriminating based on gender factors in favour of equality and equity among Shariah-compliant models (Cahyadi et al., 2024; Siregar et al., 2024). Male members, in general, have higher mortality risks and shorter claim durations, compared with female members who have higher lifetime probabilities and exposure risks against morbidity.

Financial Risk Factors

Financial risk factors came in the second grouping, referring to the volatility of investment returns, the lapse process, and surplus distribution models. The returns on investment constitute an essential factor in the sustainability of the Takaful fund. Saeed, in the 2019 study, and other researchers in the field, such as those in the 2020 paper by Puspita et al., have asserted that lower and uncertain returns on investment make it difficult for Takaful operators to maintain constant contributions and remain financially healthy. In Takaful systems, through wakalah, mudharabah, and their combination, the outcomes and performance on the invested side have an immediate impact on the members' contribution fund and the Takaful fee incomes. In these systems, such as the mudharabah model, better performance enables increased surplus distribution, resulting in reduced contributions, even lowering them, and a more equitable distribution of surplus. Variations in the rate of profits and returns on sukuk portfolios can cause misalignments between liabilities and asset funds, hence the need for actuarial repricing in terms of assumptions. Lapse risk, which refers to the cessation of contributions made by Takaful members, was identified as the third critical risk. The risk of high lapses could misalign the risks in the pool, leading to lower accumulation in the Takaful funds and resulting in mis-estimation of the claims liabilities. Various studies over the years have supported the link between the lapse process and macroeconomic variables, including inflation and product characteristics.

Operational Risk Factors

Operational risks are now also gaining increased recognition in the arena of Takaful underwriting, and they play an important role in ensuring the accuracy and certainty of Takaful premium pricing. The sources of such risks include the underwriting process, claim handling

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

systems, and governance and Shariah compliance frameworks in Takaful businesses (Mustafa & Ab Rahman, 2018; Al-Amri, 2020). The Takaful company employing data-informed underwriting has stable premium pricing compared to the one using the conventional approach (Mahohoho et al., 2024; Wu et al., 2024). The actuarial work highlights the importance of model quality and governance in the risk process. Inadequate capture, inconsistencies in the codes, and a lack of actuarial knowledge and skills may impair experience analyses and, hence, the contribution rates. Inadequate Shariah audit and compliance frameworks may contain risks, some of which may indirectly influence contribution structures, leading to increased operational costs. Higher Shariah governance quality positively affects sustainable contribution structures and members' confidence (Hassan et al., 2023). The reviewed literature has also cited the increased performance and reduced variability in contributions that result from operational efficiencies. The application of InsurTech and actuarial automation has been cited as a solution that could minimise cost ratios and maximise accuracy.

Macroeconomic Risk Factors

The macroeconomic scenario plays an influential and indirect role in the pricing of Takaful. From the aspects that seem most evident, there is increased medical, claim, and administrative expenditure as a result of inflation, a factor that has gained much cause for alarm. Inflation heightens the stress on future contributions, and thus actuarial adjustments to retain adequate contributions become of utmost importance, according to the perspective proffered by Khan and Azmi 2021. Inflation decreases the purchasing power of contributions and payments for claims, making repricing a necessary point, as seen from the perspective proffered by Abdullah and Othman 2020. Similarly, volatility in interest rates along with economic growth affects the yield on investment and cost of contributions in Takaful. Economic development increases purchasing power and the participation rate, thus improving risk diversification, as argued by Haron et al. in 2021. Secondly, in case of an economic downturn, members are more likely to withdraw from Takaful and hence diminish the scope of the fund. Volatility in exchange rates exposes Takaful companies that have a worldwide portfolio of investments to risks that may lead to asset and liability mismatch. The use of advanced actuarial models, economic scenario simulation, and stress testing in Takaful cannot be overemphasized; hence, the need to test the sensitivity of contribution costs.

Overall, the reviewed studies indicate that Takaful pricing is not determined by a single dimension but by the interaction of actuarial risk, financial performance, and institutional governance structures. Demographic risks directly influence expected claim probabilities, whereas financial and macroeconomic factors affect the sustainability of the contribution pool. Operational governance and Shariah compliance further shape pricing accuracy and transparency within the Takaful framework.

Discussions

This systematic review confirms that Takaful pricing is a multidimensional construct influenced by demographic, financial, operational, and macroeconomic contexts; these dimensions interact dynamically, often amplifying one another.

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume: 8 Issue: 27 (March 2026) PP. 318-337

Demographic Risk Factors

Demographic risk factors have consistently been the most well-researched of the determinants of the rates of contributions in the Takaful model. Age and gender have been consistently highlighted as key demographic factors in the mortality and morbidity risks, in keeping with the conventional actuarial approach. Young members have been found to pay lower rates of tabarru‘ due to lower probabilities of claims, whereas older members have been found to have a greater likelihood of facing risks related to mortality, morbidity, and long-term care. However, the influence of demographic factors in the Takaful model can be said to have been specially modified by the influence of the associated socio-religious factors. Family sizes and responsibilities have been found to have a strong influence on the insurance needs of individuals, especially in the Muslim community. Further, the levels of education and income have been found to have a strong influence on the participation in the Takaful model, owing to their effect on the overall risk consciousness and the likelihood of retention of the members. It can be said that the diversity of demographic factors influences not only the likelihood of claims but also the stability of participation, and hence it becomes a critical factor in the development of sustainable rates of contributions in the Takaful model.

Financial Risk Factors

The second most impactful factor on Takaful Pricing is financial risk factors. Financial risk factors are said to have a major impact on Takaful Pricing in terms of investment returns, solvency requirements, and lapse risk. Variability in investment returns from Shariah-compliant instruments has a direct relationship with Takaful risk funds and stability in terms of sustainable levels of contribution. Changes in investment returns in Takaful Pricing models such as Mudharabah and Wakalah have a direct relationship with surplus allocation and compensating operators. Lapse risk adds to financial risk factors in terms of financial uncertainty, which in turn has a direct relationship with cash flows and risk pool composition. Therefore, it can be said with reference to the literature provided above that financial risk factors are not limited to Takaful balance sheet risk factors; on the contrary, financial risk factors are a part of Takaful pricing itself.

Operational Risk Factors

Operational risk factors are increasingly being acknowledged as significant internal factors affecting the accuracy as well as equity of pricing in Takaful. Inefficiencies in underwriting, data, claims, governance, as well as human factors, are some of the factors affecting model risk, which is characterized by volatility in costs, as well as inefficiencies, which all participants are obliged to pay. Substandard underwriting procedures, as well as a lack of data on conventional Takaful, have resulted in conventional insurance being used as an alternative, which increases estimation error. Inefficiencies in claims as well as initiatives aimed at curbing fraud have resulted in an increase in costs, as well as loadings. Governance as well as Shariah compliance risk factors affect pricing by incorporating operational risk, as well as increasing costs associated with resolving issues. On the other hand, operational risk factors, as well as operational inefficiencies, affect pricing by decreasing stability as well as increasing costs. The basis of risk-sharing is based on equity, as opposed to conventional insurance, where costs are borne by shareholders. Operational risk factors, therefore, pose an ethical issue, as costs are shared by all. Operational risk factors, as well as inefficiencies, affect pricing and stability as they influence costs. Operational risk factors, therefore, affect pricing, as they influence costs,

as well as stability. Operational risk factors, as well as inefficiencies, affect pricing, as they influence costs, as well as stability. Operational risk factors, as well as inefficiencies, affect pricing, as they influence costs, as well as stability.

Macroeconomic Risk Factors

The macroeconomic risk factors provide the context for Takaful pricing and offer a holistic overview of the global economic environment. Inflationary trends, especially medical inflation, have an impact on claims and increase replacement costs, thus creating direct pressure on contribution rates. Economic downturns lead to lower consumer spending and higher defaults, thus reducing the risk pool and requiring price corrections for firms to remain viable. Volatility in exchange rates affects the performance of foreign Shariah-compliant investments, thus increasing financial risks. Although Takaful products do not use interest-based instruments, changes in benchmark interest rates have an impact on asset values and opportunity costs. The pricing models need to consider the systemic risks that are created by these macroeconomic factors through scenario analysis and stress testing.

Conclusion

This systematic literature review, based on the PRISMA guidelines, provides an extensive and well-integrated perspective on the role and importance of various factors, ranging from demographic, financial, and operational issues to macroeconomic factors, in both the process and the impact of Takaful pricing. Multiple areas come together to provide a comprehensive platform for developing Iklal-compliant data-driven Takaful pricing models. This work integrates 51 studies on empirical and conceptual knowledge over the last 25 years, forming a useful reference point for enhancing the Takaful Industry in terms of transparency and robustness. The field requires further model developments that identify the ethical imperative in actuarial science to advance the use of Takaful in sustainable finance.

Advanced International Journal of Business, Entrepreneurship and SME's
EISSN: 2682-8545
AIJBES
Volume: 8 Issue: 27 (March 2026) PP. 318-337

Acknowledgements: The authors would like to express their sincere gratitude to Universiti Teknologi MARA (UiTM) for providing the necessary resources and support throughout this research. Special appreciation is extended to colleagues and peers who contributed valuable insights and constructive feedback, which greatly enhanced the quality of this paper.

Funding Statement: No Funding

Conflict of Interest Statement: The authors declare that there is no conflict of interest regarding the publication of this paper. All authors have contributed to this work and approved the final version of the manuscript for submission to the Advanced International Journal of Business, Entrepreneurship and SMEs (AIJBES).

Ethics Statement: This study did not involve any human participants, animals, or sensitive data requiring ethical approval. The authors confirm that the research was conducted in accordance with accepted academic integrity and ethical publishing standards.

Author Contribution Statement: All authors contributed significantly to the development of this manuscript. All authors were responsible for the conceptualization, methodology, and overall supervision of the study. All authors handled data collection, analysis, and interpretation of results. All authors contributed to the literature review, drafting, and critical revision of the manuscript. All authors read and approved the final version of the manuscript prior to submission.

References

Abdeljawad, I., Dwaikat, L. M., & Oweidat, G. A. I. (2020). The Determinants of Profitability of Insurance Companies in Palestine. An-Najah University Journal for Research - B (Humanities), 36(2). https://doi.org/https://dx.doi.org/10.2139/ssrn.3533345

Ahmad, Z., Mokal, M. N., & Rahman, M. M. (2023). Takaful Industry in the Era of Technological Advancement. JEKSYAH Islamic Economics Journal, 3(02), 56–69. https://doi.org/10.54045/jeksyah.v3i02.726

Al-Amri, K., David Cummins, J., & Weiss, M. A. (2020). Economies of Scope, Organizational Form, and Insolvency Risk: Evidence from the Takaful Industry. Journal of International Financial Markets, Institutions and Money, 70(3), 1–50. https://doi.org/10.1016/j.intfin.2020.101259

Alhabshi, S. M. (2021). Takāful Risk Fund and Surplus Management: Analytics for Social Equity? Turkish Journal of Islamic Economics, 8(Special Issue), 401–421. https://doi.org/10.26414/a2375

Alshadadi, M. A., & Deshmukh, P. v. (2021). Determinants of the Profitability of Insurance Companies in Saudi Arabia. Saudi Journal of Economics and Finance, 5(11), 476–481. https://doi.org/10.36348/sjef.2021.v05i11.005

Andrès, H., Boumezoued, A., & Jourdain, B. (2023). Signature-Based Validation Of Real-World Economic Scenarios. https://doi.org/https://doi.org/10.48550/arXiv.2208.07251

Ansari, Y., & Bansal, R. (2025). The Impact of Demographic Factors on Risk Tolerance. A Case Study of Saudi Arabia. Journal of Information Systems Engineering and Management, 10(23), 498–524. https://doi.org/10.52783/jisem.v10i23s.3742

Andirasdini, I. G., & Suryaningsih, R. (2023). Simulasi Pergerakan Dana Tabarru Produk Asuransi Jiwa Unit Link Syariah. Indonesian Journal of Applied Mathematics, 3(1), 6–14. https://doi.org/10.35472/indojam.v3i1.1261

Asinya, F. A., & Joel, U. W. (2018). Impact of Inflation on Insurance Claims in Nigeria: An Ardl Bounds F-Test Approach. IOSR Journal of Economics and Finance, 9(6), 43–53. https://doi.org/10.9790/5933-0906014353

Attar, A., & Hachloufi, M. (2022). Actuarial Model for Takaful Contributions Via Optimal ReTakaful. Journal of Islamic Accounting and Business Research, 13(5), 778–790. https://doi.org/10.1108/JIABR-11-2020-0339

Balbás, A., Balbás, B., Balbás, R., & Heras, A. (2022). Actuarial Pricing with Financial Methods. Scandinavian Actuarial Journal, 2023(5), 450–476. https://doi.org/10.1080/03461238.2022.2111529

Bashir, M. S., Edris, M. M. A. M., & Muslichah, M. (2023). Does Shari'ah supervisory board characteristics affect Islamic banks' financial performance? Evidence from Saudi Arabia. Corporate Board: Role, Duties and Composition, 19(2), 15–25. https://doi.org/10.22495/cbv19i2art2

Berdin, E., Gründl, H., & Kubitza, C. (2017). Rising Interest Rates, Lapse Risk, and the Stability of Life Insurers (29; 17). https://doi.org/10.2139/ssrn.3009848

Billah, M. M. (2023). Actuarial Valuation (Pricing) of Takaful Products. A Malaysian Experience. Journal of Islamic Finance, 12(2), 149.

Billah, M. M. (2020). Islamic Insurance Products. Exploring Takaful Principles, Instruments and Structures. Palgrave Macmillan Cham. https://doi.org/https://doi.org/10.1007/978-3-030-17681-5

Brauer, A. (2024). Enhancing Actuarial Non-Life Pricing Models via Transformers. European Actuarial Journal, 14, 991–1012. https://doi.org/https://doi.org/10.1007/s13385-024-00388-2

Cahyadi, V., Azizah, N., & Soleh, A. Z. (2024). Interval Estimation of Tabarru Fund for Sharia Life Insurance Using Cost of Insurance Calculations. Jurnal Matematika, Statistika Dan Komputasi, 20(3), 568–579. https://doi.org/10.20956/j.v20i3.32822

Caporale, G. M., Cerrato, M., & Zhang, X. (2017). Analysing The Determinants of Insolvency Risk for General Insurance Firms in the UK. Journal of Banking and Finance, 84, 107–122. https://doi.org/10.1016/j.jbankfin.2017.07.011

Crevecoeur, J., Antonio, K., Desmedt, S., & Masquelein, A. (2023). Bridging the Gap Between Pricing and Reserving with an Occurrence and Development Model for Non-Life Insurance Claims. ASTIN Bulletin, 53(2), 185–212. https://doi.org/10.1017/asb.2023.14

De Souza, F. C. (2020). Mortality Dynamics and the Statutory Retirement Age Proposal: An Actuarial View. Revista Contabilidade e Financas, 31(82), 163–179. https://doi.org/10.1590/1808-057x201908250

Salleh, F., & Afthanorhan, A. (2018). Demographic Factors of Family Takaful Demand: A Literature Review. International Journal of Academic Research in Business and Social Sciences, 8(12), 613–621. https://doi.org/10.6007/ijarbss/v8-i12/5060

Ghassan, H. B., & Krichene, N. (2024). Theoretical and Analytical Approach of Financial Stability: Islamic Perspective. Turkish Journal of Islamic Economics, 12(1), 140–175. https://doi.org/10.26414/a4148

Haron, R., Radzali, N. E., & Nomran, N. M. (2021). The Impact of Shariah Board on the Performance of Islamic Banks and the Relevance of Shariah Committee (BNM) New Ruling on the Restructuring of Islamic Financing Facility during the Pandemic Crisis. Turkish Journal of Islamic Economics (TUJISE), 8(Special Issue), 423–443. https://doi.org/10.26414/a2396

Hassan, H. A., & Abbas, S. K. (2020). Factors Influencing the Investors' Intention to Adopt Takaful (Islamic Insurance) Products: A Survey of Pakistan. Journal of Islamic Marketing, 11(1), 1–13. https://doi.org/10.1108/JIMA-03-2018-0064

Hassan, M. S., Islam, M. A., Yusof, M. F., & Nasir, H. (2023). Users' Fintech Services Acceptance: A Cross-Sectional Study on Malaysian Insurance & Takaful Industry. Heliyon, 9(11), 1–15. https://doi.org/10.1016/j.heliyon.2023.e21130

Hassani, H., Unger, S., & Beneki, C. (2020). Big Data and Actuarial Science. Big Data and Cognitive Computing, 4(40), 1–29. https://doi.org/10.3390/bdcc4040040

Kaunain, F., & NazAkhtar, S. (2016). Economic Determinant of Family Takaful: Evidence from Pakistan. Acta Islamica, 4(2), 7–41. https://doi.org/10.12816/0037640

Kelly, M., & Nielson, N. (2006). Age as a Variable in Insurance Pricing and Risk Classification. Geneva Papers on Risk and Insurance: Issues and Practice, 31(2), 212–232. https://doi.org/https://doi.org/10.1057/palgrave.gpp.2510082

Islamic Financial Services Board. (2024). Islamic Financial Services Industry Stability Report. www.ifsb.org

Manteigas, C., & António, N. (2024). Understanding and Predicting Lapses in Mortgage Life Insurance Using a Machine Learning Approach. Expert Systems with Applications, 255, 1–21. https://doi.org/10.1016/j.eswa.2024.124753

Mahohoho, B., Chimedza, C., Matarise, F., & Munyira, S. (2024). Artificial Intelligence-Based Automated Actuarial Pricing and Underwriting Model for the General Insurance Sector. Open Journal of Statistics, 14(03), 294–340. https://doi.org/10.4236/ojs.2024.143014

Mahsyar, N. M., & Aslan, H. (2023). Determinants of Family Takaful in Asean. Evidence from Business Unit Sharô'Óh and Full-Fledged Operations. Hamdard Islamicus, 46(3), 73–89. https://doi.org/https://doi.org/10.57144/hi.v46i3.875

Masood, O., Javaria, K., & Ali Shah, S. A. (2018). Consumption of Family Takaful affected by Microeconomic Factors: A Case Study of Islamic insurance Takaful in Pakistan. European Journal of Islamic Finance, 9(9). https://doi.org/https://doi.org/10.13135/2421-2172/2115

Mohd Damit, M. R., & Mohammed, R. @ U. (2024). Descriptive Study of Demographic Factors and Takaful Subscription in Kota Kinabalu Sabah Based on The Theory of Planned Behaviour. International Student Conference on Business, Education, Economics, Accounting, and Management (ISC-BEAM), 1(1), 706–723. https://doi.org/https://doi.org/10.21009/ISC-BEAM.011.50

Mustafa, A., & Ab Rahman, A. (2018). The Islamic Perspective on the Underwriting of Health Takaful Products: A Study of Selected Takaful Operators in Malaysia. In New Developments in Islamic Economics: Examples from Southeast Asia (pp. 135–150). Emerald Group Publishing Ltd. https://doi.org/https://doi.org/10.1108/9781787562837

Nebolsina, E. (2020). The Impact of Demographic Burden on Insurance Density. SAGE Open, 10(4). https://doi.org/10.1177/2158244020983024

Nordin, Z., Syed Mohamad, S. F., & Raza Rizvi, S. A. (2024). Economic and Socio-Demographic Factors that Affect Takaful Demand in Malaysia. Semarak International

Journal of Entrepreneurship, Economics and Business Development, 1(1), 21–33. https://doi.org/ttps://doi.org/10.37934/sijeebd.1.1.2133b

Nouman, M., Hashim, M., Trifan, V. A., Spinu, A. E., Siddiqi, M. F., & Khan, F. U. (2022). Interest Rate Volatility and Financing of Islamic Banks. PLoS ONE, 17(7 July). https://doi.org/10.1371/journal.pone.0268906

Ogungbenle, G. M., Sirisena, W., & Chukwunenye, U. (2025). Analytical Representation Technique of Modelling Present Value Function and the Application to Life Table Functions under the Framework of Chebyshev Polynomial. International Journal of Social Statistics, 2(1), 30–57. https://doi.org/10.31357/ijss.v2i01.8277

Olorogun, L., & Othman, J. (2021). Exploring Ethical Dimensions of Islamic Insurance. Implications for Market Acceptance in Malaysia. Journal of Business and Economic Options, 4(1), 25–31.

Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., Mcdonald, S., … Mckenzie, J. E. (2021). PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. BMJ, 372. https://doi.org/10.1136/bmj.n160

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020: Statement an Updated Guideline for Reporting Systematic Reviews. BMJ, 372(71), 1–9. https://doi.org/10.1136/bmj.n71

Park, H. Y., Suh, C. H., Woo, S., Kim, P. H., & Kim, K. W. (2022). Quality Reporting of Systematic Review and Meta-Analysis According to PRISMA 2020 Guidelines: Results from Recently Published Papers in the Korean Journal of Radiology. Korean Journal of Radiology, 23(3), 355–369. https://doi.org/10.3348/kjr.2021.0808

Pavlović, B. R. (2021). Partial Internal Model Under the Solvency II for the Life Insurance Lapse Risk. Tokovi Osiguranja, 37(4), 39–80. https://doi.org/10.5937/tokosig2102039p

Pollock, A., & Berge, E. (2018). How to do a systematic review. International Journal of Stroke, 13(2), 138–156. https://doi.org/10.1177/1747493017743796

Puspita, D., Kolkiewicz, A., & Tan, K. S. (2020). Discrete Time Ruin Probability for Takaful (Islamic Insurance) with Investment and Qard-Hasan (Benevolent Loan) Activities. Journal of Risk and Financial Management, 13(9), 1–24. https://doi.org/10.3390/jrfm13090211

Qubbaja, A. (2025). Determinants of Palestine Takaful Insurance Companies Profitability. Millah: Journal of Religious Studies, 24(1), 459–490. https://doi.org/10.20885/millah.vol24.iss1.art13

Rofika, H., & Meylianingrum, K. (2024). Factors that Influence the Profits of Takaful Companies in Indonesia and Malaysia. Journal of Islamic Economics and Finance Studies, 5(1), 99–116. https://doi.org/10.47700/jiefes.v5i1.7436

Saputra, J., Kusairi, S., & Sanusi, N. A. (2017). Modeling the Premium and Contract Properties of Family Takāful (Islamic Life Insurance). Journal of King Abdulaziz University: Islamic Economics, 30(2), 135–157. https://doi.org/https://doi.org/10.4197/ISLEC.30-2.12

Satnarine, T. (2023). Systematic Review Methodology: Conducting High-Quality Reviews and Understanding Their Significance in Evidence-Based Practice. Journal for International Medical Graduate, 6(5). https://doi.org/10.56570/jimgs.v2i1.76

Saeed, M. (2019). Effect of Takaful Models on Performance of Takaful Operators. Empirical Economic Review, 2(2), 53–80. https://doi.org/10.29145/eer/22/020104

Sherif, M., & Ahmed, S. (2017). Family Takaful in Developing Countries: The Case of Middle East and North Africa (MENA). International Journal of Islamic and Middle Eastern Finance and Management, 10(3), 371–399. https://doi.org/10.1108/IMEFM-01-2016-0016

Siregar, R. K., Lubis, F. A., & Atika. (2024). Analysis of Sharia Life Insurance Contribution Using Makeham's Mortality Law with the Cost Of Insurance Method at Pt Sun Life Medan. E-Jurnal Apresiasi Ekonomi, 12(3), 523–531. https://doi.org/10.31846/jae.v12i3.839

Solontio, C., & Hidayanto, A. N. (2024). Case Study of Claim Data and Participant Data in Indonesian Insurance Companies. Indonesian Journal of Social Technology, 5(12), 6060–6068. https://doi.org/https://doi.org/10.59141/jist.v5i12.7043

Soualhi, Y. (2016). Surplus Distribution in Current Takāful Operations: A Critical Sharīah Perspective. Arab Law Quarterly, 30(3), 224–244. https://doi.org/10.1163/15730255-12341323

Soualhi, Y., & Djafri, F. (2019). Pricing of Family Takāful Products: A Sharīʿah Perspective.

Soualhi, Y., & Djafri, F. (2021). Sharīʿah Framework for Pricing Family Takāful Products. Intellectual Discourse, 29(1), 89–116. https://doi.org/https://doi.org/10.31436/id.v29i1.1760

Stoeckli, E., Dremel, C., & Uebernickel, F. (2018). Exploring Characteristics and Transformational Capabilities of Insurtech Innovations to Understand Insurance Value Creation in a Digital World. Electronic Markets, 28(3), 287–305. https://doi.org/10.1007/s12525-018-0304-7

Sueb, M., Prasojo, M., Syarifah, L., & Putra, R. N. A. (2022). The Effect of Shariah Board Characteristics, Risk-Taking, and Maqasid Shariah on an Islamic Bank's Performance. Banks and Bank Systems, 17(3), 89–101. https://doi.org/10.21511/bbs.17(3).2022.08

Sukmaningrum, P. S., Hendratmi, A., Rusmita, S. A., & Abdul Shukor, S. (2022). Productivity analysis of family Takaful in Indonesia and Malaysia: Malmquist productivity index approach. Journal of Islamic Accounting and Business Research, 13(4), 649–665. https://doi.org/10.1108/JIABR-03-2021-0097

Wan Daud, W. N., Ariffin, N. M., Zainol, F. A., Salleh, F., & Noekman, E. (2019). A Comparative Analysis on Takaful Acts between Malaysia and Indonesia. Proceedings of the 1st Aceh Global Conference (AGC, 2018), 739–743. https://doi.org/https://doi.org/10.2991/agc-18.2019.111

Wiegers, W. A. (2004). A Study into the Use of Gender as a Rating Factor in Automobile Insurance in Nova Scotia. In The University of Toronto Law Journal (Vol. 39, Issue 2). https://doi.org/https://doi.org/10.2307/825737

Wofuma, G., Namono, R., Munobe, W., & Isiagi, E. (2024). Determinants for the Uptake of Takaful Insurance in Uganda: An Exploratory Mixed Approach. Journal of Islamic Accounting and Business Research. https://doi.org/10.1108/JIABR-07-2023-0222

Wu, X., Zhao, Y., Song, W., & Luo, H. (2024). Property Risk Assessment and Dynamic Premium Pricing Based On ARIMA. Highlights in Business Economics and Management, 33, 349–358. https://doi.org/10.54097/2zq1mz74

Wulandari, F. S., Fauziah, I., & Fitriyati, N. (2023). Tabarru' Fund Sharia Insurance Using The 2019 Mortality Table, Mortality Law and Cost of Insurance Method. Mathline: Jurnal Matematika Dan Pendidikan Matematika, 8(4), 1437–1448. https://doi.org/http://doi.org/10.31943/mathline.v8i4.542

Yakob, R., B.A.M, H.-S., & Badrul Hisham, N. H. (2019). Demographic Analysis Towards the Understanding of Education Takaful (Islamic Insurance) Plan. Malaysian Journal of Society and Space, 15(4), 92–105. https://doi.org/10.17576/geo-2019-1504-07

Yannascoli, S. M., Schenker, M. L., Carey, J. L., Ahn, J., & Baldwin, K. D. (2013). How to Write a Systematic Review: A Step-by-Step Guide. University of Pennsylvania Orthopaedic Journal, 23. http://www.crd.york.ac.uk/

Yu, W., Wang, F., Sang, Q., Wang, Q., Gao, Y., Huang, Y., Yu, X., Xiao, J., Zhu, H., & Cui, C. (2020). Construction and Analysis of Actuarial Model of the Influence of Personal Tax Deferred Commercial Pension Insurance on Personal Pension Wealth in China. Mathematics, 8(12), 1–23. https://doi.org/10.3390/math8122124

Završnik, B. (2021). Factors Influencing Insurance for Young People. Journal of Engineering Management and Competitiveness (JEMC), 11(1), 42–50. https://doi.org/10.5937/jemc2101042.