

A bibliometric review of takaful literature

Ashraf Khan^c, M. Kabir Hassan^{a,*}, Andrea Paltrinieri^d, Alberto Dreassi^b,
Salman Bahoo^{d,e}

^a University of New Orleans, USA

^b University of Trieste, Italy

^c Institute of Business Administration Karachi, Pakistan

^d University of Udine, Italy

^e University of Agder, Norway

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ABSTRACT

Takaful: (Islamic Insurance) achieved only recently a significant volume of academic research, despite its importance in addressing the insurance needs of Islamic societies and economies. We provide a thorough analysis of existing contributions on *Takaful* through a meta-literature methodology encompassing both a bibliometric (quantitative) and content (qualitative) analysis. By reviewing 69 articles, we aim at providing a rigorous background for the Islamic finance industry, its societies and economies, academic research and policymakers. We identify and review three leading research streams on *Takaful*: its overview, growth paths and models; governance mechanisms; products/services and customer perception. We also identify the leading academic institutions, countries, journals, as well as authors, co-authorship networks and their position within these streams. Finally, we derive and summarize 16 leading future research questions.

1. Introduction

The concept of insurance is well-rooted in Islamic economic systems, with the aim of promoting welfare and solidarity among all segments of society, through shared responsibility and cooperation. *Takaful* is an alternative way of providing insurance services, compliant to *Shariah* principles, implying the absence of excessive uncertainty, gambling features and interest flows.

Over the last three decades, Islamic finance has grown exponentially, reaching total assets of \$2.05 trillion in 2017. *Takaful* (Islamic insurance) is an important yet under-investigated segment of Islamic finance, despite its total contribution of USD 26.1 billion in 2016 (IFSB, 2018). A recent survey (Pew Research, 2017) shows that Muslims are 24% of the world population, or as high as 1.8 billion people. With a significant projected population growth and recent regulatory and public awareness reforms, *Takaful* operators have the potential to become major players in the global insurance industry. Currently they are expected to reach total assets of \$40 billion with a compound average growth rate (CAGR) of 13% by 2023 (IFSB, 2018; IMARC, 2018).

In this regard, the role of corporate governance is among the most relevant issues in *Takaful*, due to the presence of different multi-layer systems. The relationship between policyholders and *Takaful* operators potentially increases agency issues, due to significant information asymmetries. Among other frequently described challenges there are its peculiar solvency position, the lack of an effective dedicated reinsurance market, the lack of human resources with specific expertise and skills, its different approach to investments and

* Corresponding author.

E-mail addresses: ashrafkhan@iba.edu.pk (A. Khan), mhassan@uno.edu (M.K. Hassan), andrea.paltrinieri@uniud.it (A. Paltrinieri), adreassi@units.it (A. Dreassi), bahoo.salman@spes.uniud.it (S. Bahoo).

the role played by *sukuk* markets. Academic research on *Takaful* is limited if compared to other topics in finance, relatively recent but quickly growing (Fig. 1).

The aim of this paper is to conduct a thorough bibliometric review, discussing the main aspects of *Takaful* literature and providing directions for future theoretical and empirical research. We adopt a bibliometric meta-analysis, with data visualization techniques coupled with content analysis (Alon, Anderson, Munim, & Ho, 2018). So far, only one study specifically analyses the existing literature on *Takaful* (Sadeghi, 2010) through a traditional review, focusing on the evolution and growth of the *Takaful* market, the nature of *Takaful* and the comparison with conventional insurance.

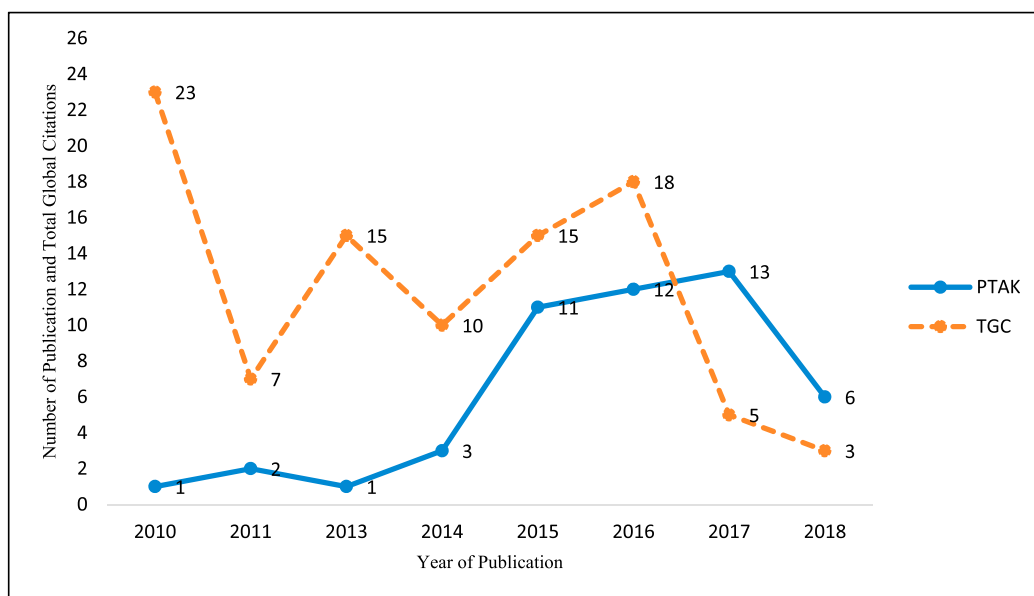
Our meta-literature review is different in the following ways. Firstly, we analyze 69 articles up to early 2020, through a novel qualitative approach (bibliometric citation analysis and content analysis). Secondly, we apply citation, co-citation, co-authorship and cartography analysis through HistCite and VOSviewer software. Thirdly, we examine two extensive datasets: 49 articles from ISI Web of Knowledge (ISI WOK) published over the period 1950–2018 (for the bibliometric analysis) and additional 20 influential articles published until early 2020 (for the content analysis).

This study has multiple findings. Firstly, we present the influential aspects of *Takaful* literature in terms of countries, institutions, authors, top journals, articles and topics. Secondly, we identify the most relevant research streams: (1) *Takaful* overview, growth and models; (2) governance mechanisms; (3) *Takaful* products/services and customer perception. Then, we discuss each stream after representing it through a cartographic analysis, including co-authorship networks. Finally, the meta-literature review allows us to identify leading questions for future research on this topic.

The remainder of this paper is structured as follows. Section 2 reviews our methodological approach. Section 3 presents the main results of the co-citation and content analyses, including the leading research streams. Section 4 presents suggestions in the literature for future research and, finally, Section 5 concludes our paper.

2. Methods

In social sciences, methodologies such as the bibliometric analysis (quantitative) and the content analysis (qualitative) are becoming increasingly used by scholars. By contrast, they are still in their infancy in finance (Helbing, 2018; Zamore, Ohene Djan, Alon, & Hobdari, 2018). In this study, we perform a meta-literature review that consists of both a bibliometric analysis and a content analysis of 69 articles up to early 2020 on *Takaful*. The structure of our methodological process is summarized in Fig. 2 and illustrated in the following paragraphs.



Note: This figure presents the summary of our sample of *Takaful* papers across time, in terms of both the total number of published articles (PTAK) and the total global number of citations (TGC).

Fig. 1. Number of publications and total global citations on *Takaful*.

Note: This figure presents the summary of our sample of *Takaful* papers across time, in terms of both the total number of published articles (PTAK) and the total global number of citations (TGC).

2.1. Sample selection process

We adopt the research protocol in meta-literature analysis proposed by [Apriliyanti and Alon \(2017\)](#) by following three steps in the selection of investigated research papers.

Firstly, we collect papers and citation data from the ISI – Web of Knowledge database, a source of high-quality research with citations dating back to 1950. We limit our selection to year-end 2018 to limit a potential bias arising from few citations for more recent papers.

Then, we select the keywords able to analyze and discriminate papers within our sample. The most effective terms, with decreasing ability in identifying papers potentially material for our sample, are: “Takaful”, “Islamic insurance”, “Insurance and Islamic finance”, “Islamic mutual insurance”, “Islamic cooperative insurance”. This search yields 81 articles, with the first paper being published in 2010.

The final step is represented by a cursory examination of each paper, conducted independently by two researchers, to confirm or reject its relevance within the field of *Takaful* research. Inclusion or exclusion is contingent on an explicit coverage of the topic within the contribution ([Zott, Amit, & Massa, 2011](#)). Altogether, the final sample built through these steps consists of 49 articles, published from 2010 to 2018.

2.2. Meta-literature review

The meta-literature review consists of both a bibliometric (quantitative) and a content (qualitative) analysis. [Price \(1965\)](#) introduces the bibliometric analysis to identify relationships between articles based on citations ([Kim & McMillan, 2008](#)). [Downe-Wamboldt, 2017](#), p. 314 provides the definition of the content analysis: “a research method that provides a systematic and objective means to make valid inferences from verbal, visual, or written data in order to describe and quantify specific phenomena”.

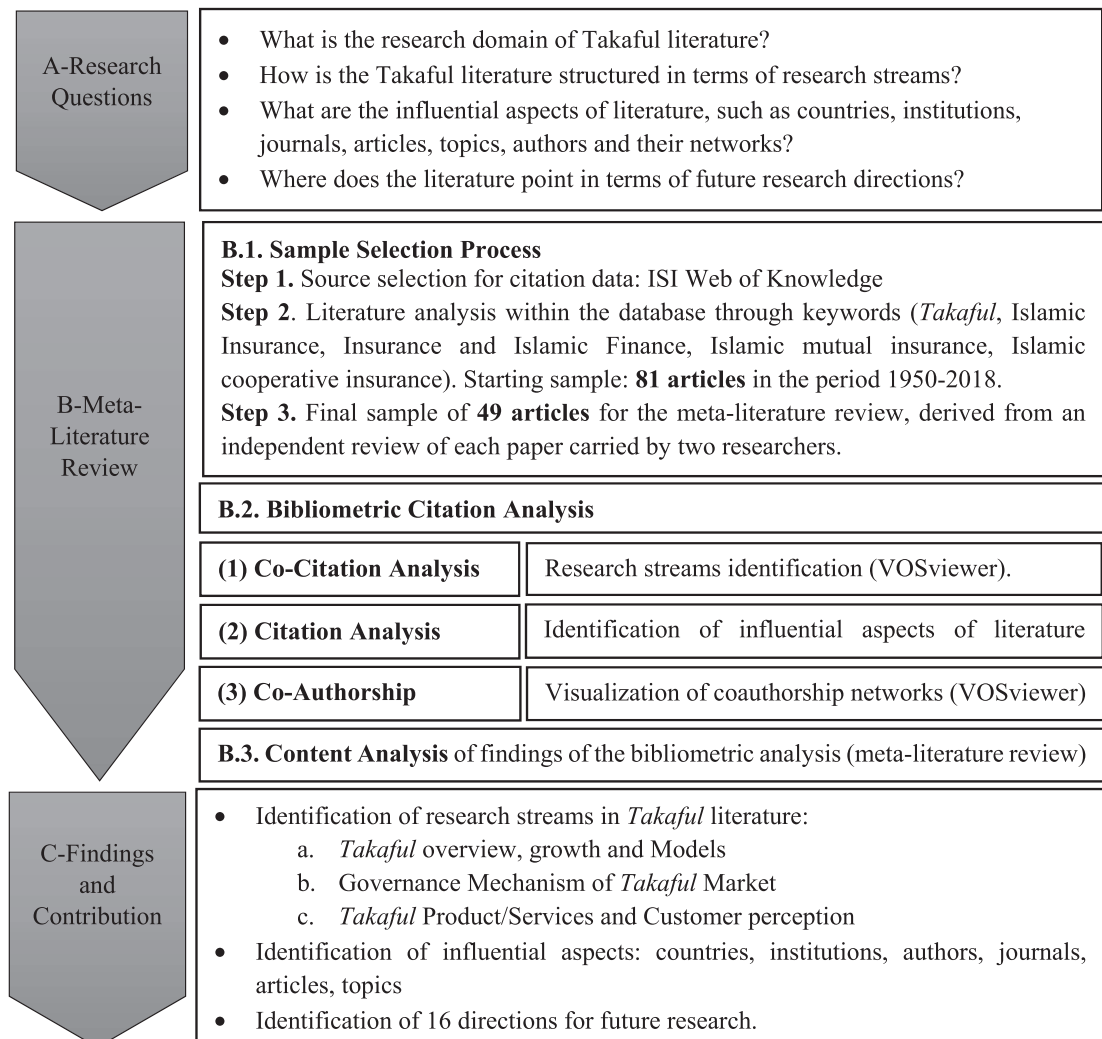


Fig. 2. Methodology.

Table 1

Key papers and databases.

Author/s Name	Year	Name Article	Name of Journal	Database	Nature of Paper
Abdul Kader et al.	2010	The Cost Efficiency of Takaful Insurance Companies	The Geneva Papers on Risk and Insurance - Issues and Practice	World Islamic Insurance Directory	Empirical
Siala	2013	Religious influences on consumers' high-involvement purchasing decisions	Journal of Services Marketing	Questioner Based Data	Empirical
Md Husin et al.	2016c	The roles of mass media, word of mouth and subjective norm in family takaful purchase intention	Journal of Islamic Marketing	Questioner Based Data	Empirical
Md Husin and Ab Rahman	2016a	Do Muslims intend to participate in Islamic insurance? Analysis from theory of planned behavior	Journal of Islamic Accounting and Business Research	Questioner Based Data	Empirical
Naifar	2014	Credit Default Sharing Instead of Credit Default Swaps: Toward a More Sustainable Financial System	Journal of Economic Issues		Theoretical
Masud	2011	Takaful: An innovative approach to insurance and Islamic Finance	University of Pennsylvania Journal of International Law		Theoretical
Abdul Kader et al.	2014	Cost efficiency and board composition under different takaful insurance business models	International Review of Financial Analysis	World Islamic Insurance Directory	Empirical
Md Husin and Ab Rahman	2016b	Predicting intention to participate in family takaful scheme using decomposed theory of planned behavior	International Journal of Social Economics	Questioner Based Data	Empirical
Sherif and Hussnain	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	Annual reports of Takaful	Empirical
Boulanouar and Alqahtani	2016	IPO underpricing in the insurance industry and the effect of Sharia compliance: Evidence from Saudi Arabian market	International Journal of Islamic and Middle Eastern Finance and Management	DataStream, Thomson Banker and the Saudi Stock Exchange	Empirical
Noor and Abd Rahman	2016	Cooperative Takaful for Non-Banking Financial Institutions: Islamization of SOCSO in the case of Malaysia	Intellectual Discourse		Theoretical
Ustaoglu	2015	Public Awareness, Understanding and Attitudes towards Interest-free Insurance (Takaful) Services Evaluation by Education Level: Survey Based on Empirical Analysis for Turkey	Journal of Asian and African Studies	Questioner Based Data	Empirical
Karbhari et al.	2018	Governance mechanisms and efficiency: Evidence from an alternative insurance (Takaful) market	Journal of International Financial Markets, Institutions and Money	World Islamic Insurance Directories	Empirical
Akhter et al.	2017	A comparison of Islamic and conventional insurance demand: Worldwide evidence during the Global Financial Crisis	Research in International Business and Finance	Swiss Re Sigma Reports, World Takaful Conference and Ernst & Young Takaful Reports and WDI.	Empirical
Mokhtar et al.	2017	Corporate demand for general takaful in Malaysia	ISRA International Journal of Islamic Finance	Questioner Based Data	Empirical
Al-Amri	2015	Takaful insurance efficiency in the GCC countries	Humanomics	World Islamic Insurance Directory	Empirical
Khan	2015	Optimal incentives for takaful (Islamic insurance) operators	Journal of Economic Behavior & Organization		Theoretical
Abdul Wahab et al.	2007	Islamic Takaful: Business Models, Shariah Concerns, and Proposed Solutions	Thunderbird International Business Review		Theoretical
Abu Kasim	2012	Disclosure of Shariah compliance by Malaysian takaful companies	Journal of Islamic Accounting and Business Research	Annual Reports	Theoretical
Akther and Hussain	2012	Takaful standards and customer perceptions affecting takaful practices in Pakistan: a survey	International Journal of Islamic and Middle Eastern Finance and Management	Questioner Based Data	Empirical
Alshammari et al.	2019	The impact of competition on cost efficiency of insurance and takaful sectors: Evidence from GCC markets based on the Stochastic Frontier Analysis	Research in International Business and Finance	DataStream and annual reports	Empirical
Alshammari et al.	2018	A comparative study of the historical and current development of the GCC insurance and takaful industry	Journal of Islamic Marketing	Annual Reports	Empirical
Asafa and Smith	2019	Consumer Protection in Takaful, Kuala Lumpur, Malaysia	Islamic Financial Services Board		Theoretical
Ayub	2007	Takaful: An Alternative to Conventional Insurance. In: Understanding Islamic Finance	Book chapter from the book Understanding Islamic Finance John Wiley and Sons Ltd		Theoretical

(continued on next page)

Table 1 (continued)

Author/s Name	Year	Name Article	Name of Journal	Database	Nature of Paper
Baharin and Isa	2013	The Efficiency of Life Insurance and Family Takaful in Malaysia: Relative Efficiency Using the Stochastic Cost Frontier Analysis	AIP Conference Proceedings	Annual Reports	Empirical
Billah	1998	Islamic Insurance: Its Origins and Development	Arab Law Quarterly		Theoretical
Coolen-Maturi	2013	Islamic insurance (takaful): demand and supply in the UK	International Journal of Islamic and Middle Eastern Finance and Management		Theoretical
Gustina and Abdullah	2012	Analysis of Demand for Family Takaful and Life Insurance: A Comparative Study in Malaysia	Journal of Islamic Economics, Banking and Finance	Annual Reports	Empirical
Kamil and Nor	2014	Factors influencing the choice of Takaful over conventional insurance: the case of Malaysia	Journal of Islamic Finance	Interviews of takaful operators	Theoretical
Kwon	2007	Islamic Principle and Takaful Insurance: Re-evaluation	Journal of Insurance Regulation		Theoretical
Matsawali	2012	A Study on Takaful and Conventional Insurance Preferences: The Case of Brunei	International Journal of Business and Social Science	Questioner Based Data	Empirical
Maysami and Kwon	1999	An analysis of Islamic Takaful insurance; A cooperative insurance mechanism.	Journal of Insurance Regulation		Theoretical
Maysamia and Williams	2006	Evidence on the relationship between Takaful insurance and fundamental perception of Islamic principles	Applied Financial Economics Letters		Theoretical
Redzuan et al.	2009	Economic Determinants of Family Takaful Consumption: Evidence From Malaysia	International Review of Business Research Papers	Central Bank ofMalaysia	Empirical
Sherif and Shaairi	2013	Determinants of demand on family Takaful in Malaysia	Journal of Islamic Accounting and Business Research	Central Bank ofMalaysia, International Financial Statistics (IFS)	Empirical
Yazid et al.	2012	Determinants of Family Takaful (Islamic Life Insurance) Demand: A Conceptual Framework for a Malaysian Study	International Journal of Business and Management		Theoretical
Alshammari et al.	2019	The impact of oil prices and the financial market on cost efficiency in the insurance and Takaful sectors: Evidence from a stochastic frontier analysis	Economic Systems	DataStream database and Annual reports	Empirical
Ali et al.	2019	Consumer acceptance toward takaful in Pakistan: An application of diffusion of innovation theory	International Journal of Emerging Markets	Questioner Based Data	Empirical
Abdul Shukor	2020	Trust in takaful agents: antecedents and consequences	Journal of Islamic Accounting and Business Research	Questioner Based Data	Empirical
Kazaure	2019	Extending the theory of planned behavior to explain the role of awareness in accepting Islamic health insurance (takaful) by microenterprises in northwestern Nigeria	Journal of Islamic Accounting and Business Research	Questioner Based Data	Empirical

Within this methodological framework, we apply the following four directions to our meta-literature analysis on *Takaful*: (1) a bibliometric co-citation analysis; (2) a bibliometric citation analysis, (3) a bibliometric co-authorship analysis, and (4) a content analysis. Consistently with [Van Eck and Waltman \(2014\)](#), we use HistCite and VOSviewer software to perform the bibliometric analysis.

The prominent variables in the bibliometric analysis follow the [HistCite - Glossary \(2018\)](#): (1) Total number of publications on *Takaful* in the literature (P_{TAK}) in ISI – Web of Knowledge database; (2) Total global citations (TGC), representing the number of citations received by each article within ISI – Web of Knowledge; (3) Total local citations (TLC), representing the number of citations received by each article by other contributions in our sample; (4) Average global citations per year (TGC/t); (5) Average local citations per year (TLC/t). To calculate TGC/t and TLC/t , we divide TGC and TLC by the number of years covered in our sample (2010–2018). For example, [Abdul Kader, Adams, and Hardwick \(2010\)](#) is cited 22 times by other articles in ISI – Web of Knowledge (TGC) and 7 times by other papers in our sample (TLC).

As a first step, the bibliometric co-citation analysis is carried through VOSviewer and allows us to identify three leading research streams, as in [Alon et al. \(2018\)](#). The concept of co-citation refers to the frequency with which two articles are cited together and, therefore, implies a strong connection between them ([Small, 1999](#); [Zupic & Cater, 2015](#)). In the second stage, we identify influential aspects of the literature in terms of bibliometric citation through HistCite. We classify contributions in terms of institutions ([Table 2](#)), countries ([Table 3](#)), journals ([Table 4](#)), authors ([Table 5](#) and [Fig. 4](#)) and articles ([Table 6](#)). This process is conducted consistently with [Øyna and Alon \(2018\)](#) and [Iddy and Alon \(2019\)](#). In the third stage, we present the authorship network in the literature on *Takaful* through a bibliometric co-authorship citation analysis (see [Table 4](#) and [Fig. 4](#)) by using VOSviewer ([Piette & Ross, 1992](#)).

Finally, we couple bibliometric analysis with content analysis, following a more traditional approach of literature review ([Bahoo, Saeed, Iqbal, & Nawaz, 2018](#); [Gaur & Kumar, 2018](#)). We content analyzed 69 articles: the 49 articles used for the bibliometric analysis, plus 20 influential articles collected from journals with an ABS ranking of at least two stars in three categories (finance, business and economics) and published in 2019 and early 2020. The purpose, together with avoiding underrepresentation of more recent contributions, is to derive leading questions in the literature for future research on *Takaful*.

3. Results of co-citation analysis: identification and review of *takaful* research streams

We identify citation mapping by using VOSviewer and following Iddy and Alon (2019). VOSviewer provides a visual representation of networks of articles that is based on co-citations, and clusters them into leading research streams identified by different colors.

Our results reveal that the *Takaful* literature is mainly organized in three clusters (Fig. 3). To label these streams, we content analyze each paper. The resulting identification leads to the following denomination: (1) *Takaful* overview, growth, and models; (2) Governance mechanisms of *Takaful*; (3) *Takaful* products/services and customer perception.

In the following paragraphs we review the main contents of the *Takaful* literature as emerging from these three research streams. Table 1 presents the list of the main papers included in these streams. Early literature is theoretical and encompasses the development of *Takaful*, its models and the comparison with conventional insurance (Ayub, 2007, pp. 417–430; Abdul; Billah, 1998; Khan, 2015; Abdul Wahab, Lewis, & Hassan, 2007). This may be the result of a scarcity in data to build empirical contributions.

As the data availability grows and *Takaful* spreads globally, we observe a quick increase of empirical literature, based on both primary and secondary data. These studies mainly focus on efficiency and corporate governance structures (Alshammari, Alhabshi, & Saiti, 2019; Karbhari, Muye, Hassan, & Elnahass, 2018; Abdul Kader, Adams, Hardwick, & Kwon, 2014, 2010), customers' perceptions (Akther & Hussain, 2012; Swartz & Coetzer, 2010), corporate demand (Akhter, Pappas, & Khan, 2017; Coolen-Maturi, 2013; Gustina & Abdullah, 2012; Mokhtar, Abdul Aziz, & Hilal, 2017) and customer preferences between *Takaful* and conventional insurance (Kamil & Nor, 2014; Matsawali et al., 2012).

3.1. Review of research streams: *Takaful* overview, growth, and models

The leading research stream in terms of numerosity within our literature sample is represented by the description of *Takaful*, the analysis of its business models and its growth paths.

Frequently, papers discuss the role of insurance within Islamic finance as a form of mutual aid, since it does not comply with *Shariah* principles, on one hand, but is also not entirely excluded since actions taken in order to reduce losses are legitimate (Maysami & Kwon, 1999; Al-Amri, 2015; Maysami and Williams, 2006). However, it requires fully shared responsibility across participants and discourages wealth maximization processes (Baharin and Isa, 2013; Masud, 2011).

The vast majority of the literature recalls that, for this reason, conventional insurance violates the principles of *gharar* (uncertainty is managed asymmetrically), *maisir/qimar* (gambling and speculation when gains of one party are contingent on losses of the other), *riba* (interest-bearing exposures) (Alshammari et al., 2019; Akhter et al., 2017; Coolen-Maturi, 2013; Abdul Wahab et al., 2007; Ayub, 2007, pp. 417–430).

Defining *Takaful* is frequently discussed by the literature (Ayub, 2007, pp. 417–430; Billah, 1998). Its etymology is linked to the Arabic word “*kaf*”, meaning guaranteeing, securing, and taking care of one’s needs. While the simplest form of *Takaful* is very close to mutuality across participants in a risk-pooling mechanism, the first juridical definition is found in the Malaysian *Takaful* Act (1984): “A scheme based on brotherhood, solidarity and mutual assistance which provides for mutual financial aid and assistance to the participants in case of need whereby the participants mutually agree to contribute for that purpose”.

More recently, AAOIFI (2015) defines it as: “A process of agreement among a group of persons to handle the injuries resulting from specific risks to which all of them are vulnerable. A process, thus initiated, involves payment of contributions as donations, and leads to the establishment of an insurance fund that enjoys the status of a legal entity and has independent financial liability”.

The contractual nature of *Takaful* involves two Islamic concepts: *tabarru*, that means voluntary donation or contribution (Abdul Wahab et al., 2007) and *waqf*, which refers to endowment and retention of property or wealth for a specific purpose (Ayub, 2007, pp. 417–430). Contracts are also typically separated between family (life) and general (property/casualty or non-life) *Takaful* (Ayub, 2007, pp. 417–430). Alkhan & Hassan (2020a; 2020b) analyzes the difference between different *takaful* models and the agency relationships among the *takaful* operators and policyholder using Bahrain as a country study.

The definition also includes discussion of business models that provide *Takaful* products and services. The risk-pooling process is

Table 2
Ranking of influential institutions and citation metrics on *Takaful*.

	Institute	P _{TAK}	% P _{TAK} of total	TLC	TGC
1	International Islamic University Malaysia	12	24.5	1	5
2	University of Malaya	9	18.4	3	14
3	International Shariah Research Academy for Islamic Finance	3	6.1	0	0
4	Universiti Putra Malaysia	3	6.1	0	1
5	Bournemouth University	2	4.1	8	25
6	COMSATS Inst Information Technology	2	4.1	0	0
7	La Trobe University	2	4.1	0	0
8	University of Bath	2	4.1	1	3
9	Universiti Brunei Darussalam	2	4.1	0	0
10	University of Technology Malaysia	2	4.1	3	11

Note: this table presents the breakdown of the leading contributions in our sample of *Takaful* papers by the reference institution, as well as their bibliographic metrics: the number of publications (PTAK) and its relative weight (%PTAK of total), total local citations (TLC) and total global citations (TGC).

Table 3Ranking of influential countries and citation metrics on *Takaful*.

	Country	P _{TAK}	% P _{TAK} of total	TLC	TGC
1	Malaysia	31	63.3	4	20
2	UK	6	12.2	8	39
3	Nigeria	4	8.2	0	1
4	Pakistan	4	8.2	0	0
5	Saudi Arabia	4	8.2	0	5
6	Turkey	3	6.1	1	1
7	Australia	2	4.1	0	0
8	Brunei	2	4.1	0	0
9	USA	2	4.1	1	7

Note: this table presents the breakdown of the leading contributions in our sample of *Takaful* papers by the reference country, as well as their bibliographic metrics: the number of publications (PTAK) and its relative weight (%PTAK of total), total local citations (TLC) and total global citations (TGC).

Table 4

Ranking of productive and influential journals.

Sorted by number of articles published					
	Journal	P _{TAK}	% P _{TAK} of total	TLC/t	TGC/t
1	ISRA-LJIF	4	8.2	0	0
2	JIABR	4	8.2	0.33	1.67
3	IJIMEFM	3	6.1	0	0.83
4	HU	2	4.1	0	0
5	ID	2	4.1	0.33	0.33
6	IJEAS	2	4.1	0	0
7	JIM	2	4.1	0.67	2
8	MEJM	2	4.1	0	0
9	AJBM	1	2	0	0
10	AS	1	2	0	0
Sorted by global citations per year					
	Journal	P _{TAK}	% P _{TAK} of total	TLC/t	TGC/t
1	GPRIP	1	2	0.78	2.44
2	JSM	1	2	0	2.17
3	JIM	2	4.1	0.67	2
4	JIABR	4	8.2	0.33	1.67
5	IJIMEFM	3	6.1	0	0.83
6	JOE	1	2	0	0.8
7	QRIFM	1	2	0	0.75
8	IJSE	1	2	0	0.67
9	IRFA	1	2	0.2	0.6
10	IJEMA	1	2	0	0.5

Note: the table represents the top 10 journals based on number of articles published (PTAK) and average number of global or local citations per year (TGC/t and TLC/t, respectively). Full details on individual journals are provided in [Appendix A1](#).

managed by a *Takaful* Operator (TO), entitled to charge fees or commissions for its services. Despite several variations across countries, most references point towards the *mudarabah* and the *wakalah* models ([Abdul Kader et al., 2014](#); [Masud, 2011](#); [Abdul Wahab et al., 2007](#)).

Mudarabah is a partnership-based contract where one party provides capital and the second participates with skills, at a pre-determined sharing ratio (f.i. 60-40% or 50-50%) ([Ibrahim and Ali, 2015](#); [Ayub, 2007](#), pp. 417–430; [Abdul Wahab et al., 2007](#))). [Fig. 4](#) presents this mechanism.

Wakalah resembles a conventional principal-agent contract, where the TO acts as agent on behalf of policyholders, receiving a pre-defined fee/commission for the managing effort ([Abdul Wahab et al., 2007](#); [Swartz & Coetzer, 2010](#)). [Fig. 5](#) illustrates this model.

The growth and performance of the *Takaful* industry are also frequently discussed within this stream, as the first examples date back to 1979 in Sudan and Saudi Arabia ([Alshammari, Alhabshi, & Saiti, 2018](#); [Lewis, 2015](#)). The most recent cross-country data ([IFSB, 2018](#)) shows an increasing pace of growth (12.5% globally, or around 26 billion USD in 2016, with *Takaful* operators growing from 100 to 150 to 330 in just a decade). However, the *Takaful* industry is highly concentrated: Saudi Arabia (38%), Iran (34%), Malaysia (7%) and UAE (6%) represent 86% of the global market. Compared to the usual growth pattern shown by conventional insurance, that sees non-life (marine) risks covered first and life insurance later, general *Takaful* dominates in GCC (93%) and MENA (non-GCC, 86%), while family *Takaful* leads in South East Asia-Pacific (74%) and South Asia (58%).

Finally, a growing number of theoretical and especially empirical papers deals with the comparison between *Takaful* and conventional insurance ([Masud, 2011](#); [Sadeghi, 2010](#); [Kwon, 2007](#)). [Masud \(2011\)](#) identifies five specific fundamentals of *Takaful*: (1) mutuality and risk-sharing ([Kwon, 2007](#); [Maysami and Williams, 2006](#); [Billah, 1998](#)); (2) ownership of funds remains with the participant; (3) the elimination of uncertainty (*gharar*); (4) the role of *mudharabah* profit sharing or *wakalah* fees in defining profitability;

Table 5

Ranking of influential authors and co-authorship networks.

Ranking of Top Authors	Name of Author	Institution	% P _{TAK} of total	P _{CIB}	TLC	TGC
1	Mike Adams	University of Swansea, UK	2	4.1	8	25
2	Philip Hardwick	University of Bournemouth, UK	2	4.1	8	25
3	Hale Abdul Kader	University of Nottingham, UK	2	4.1	8	25
4	Asmak Ab. Rahman	University of Malaya	4	8.2	3	13
5	Maizaitulaidawati Md Husin	University of Technology Malaysia	4	8.2	3	13
6	Haytham Siala	Roehampton University, London, UK	1	2	0	13
7	Noriszura Ismail	The National University of Malaysia	2	4.1	2	7
8	Hania Masud	University of Pennsylvania, Philadelphia, United States	1	2	0	4
9	Nader Naifar	Al-Imam Muhammad Ibn Saud Islamic University	1	2	0	4

Co-Authorship Networks

Co-Authorship Network in Streams: A = Red, B = Green, C=Blue	Author	Institution
A	Zulkornain Yusop	Universiti Putra Malaysia
A	Alias Radam	Universiti Putra Malaysia
A	Rubayah Yakob	The National University of Malaysia
A	Noriszura Ismail	The National University of Malaysia
B	Ahmad Hidayat Buang	University of Malaya
B	Wan Marhaini Wan Ahmad	University of Malaya
B	Asmak Ab. Rahman	University of Malaya
C	Aziz, Shahab	Universiti Teknologi Malaysia
C	Hussin, Nazimah	Universiti Teknologi Malaysia
C	Maizaitulaidawati Md Husin	University of Technology Malaysia

Note: The table shows the list of the 9 most influential authors publishing on *Takaful* based on total global citations (TGC) and co-authorship networks. Metrics include the relative weight of the number of publications (PTAK), total local (TLC) and global citations (TGC). These top 9 authors published 39% of articles in our sample. The details of authors who formulate a network in Fig. 6 are presented through the notation “A, B, C”, where A refers to *Takaful* overview, growth and models (Blue, above), B to Governance mechanism of *Takaful* (Red, above), C to *Takaful* Products/Services and Customer perception (Green, above).

(5) limitations to eligible investments.

3.2. Review of research streams: Governance mechanism of *Takaful* market

The role of corporate governance (CG) appears crucial in *Takaful*, as documented by our second research stream. Within the context of business models, the relationship between policyholders and *Takaful* operators renders agency issues more complex, since the former do not have any role in contracts’ design. In the same direction, [Asafa and Smith \(2019\)](#) identify the issues and challenges faced by policyholders with reference to asymmetric information and in assessing prices and quality of products. Furthermore, they suggest that part of current practices may diverge from the required structure of Islamic insurance and, through maximization of own benefits, they may convey reputational damage to the *Takaful* market.

Takaful operators have a multi-layer governance structure. In addition to the traditional Board of Directors (BODs), the *Shariah* Supervisory Board (SSB), along with a *Shariah* Auditing Committee, monitor and approve operations assuring compliance to Islamic principles. This role also involves guidance to the management on governance, product design and enforcement of contracts: in case of violation, the whole transaction is turned to charity and kept separated from other activities.

CG in *Takaful* is the focus of few studies. [Karbhari et al. \(2018\)](#) study the impact of CG on efficiency in *Takaful* for 21 countries, finding several managerial and operational inefficiencies. More specifically, they report that CEO/chair duality significantly improves both technical and scale efficiencies, while the SSB has a positive impact only on scale efficiency. Surprisingly, the impact of audit committees remains insignificant across all efficiency level. [Abdul Kader et al. \(2014:2010\)](#) report similar results but find no impact of the SSB on efficiency.

[Alshammari et al. \(2019\)](#) test the quiet life hypothesis, while studying the impact of competition on the comparative cost efficiency of conventional insurance and *Takaful* in GCC countries. The quiet life hypothesis suggests that managers in a less competitive market may not use their full efforts to maximize the profitability of the firm and enjoy a “quiet life”. Authors posit that competition has a positive relationship with cost efficiency in the GCC insurance market, including *Takaful*. However, the results vary across business models, with a negative relationship of the competition-efficiency nexus for conventional insurance and positive for *Takaful*.

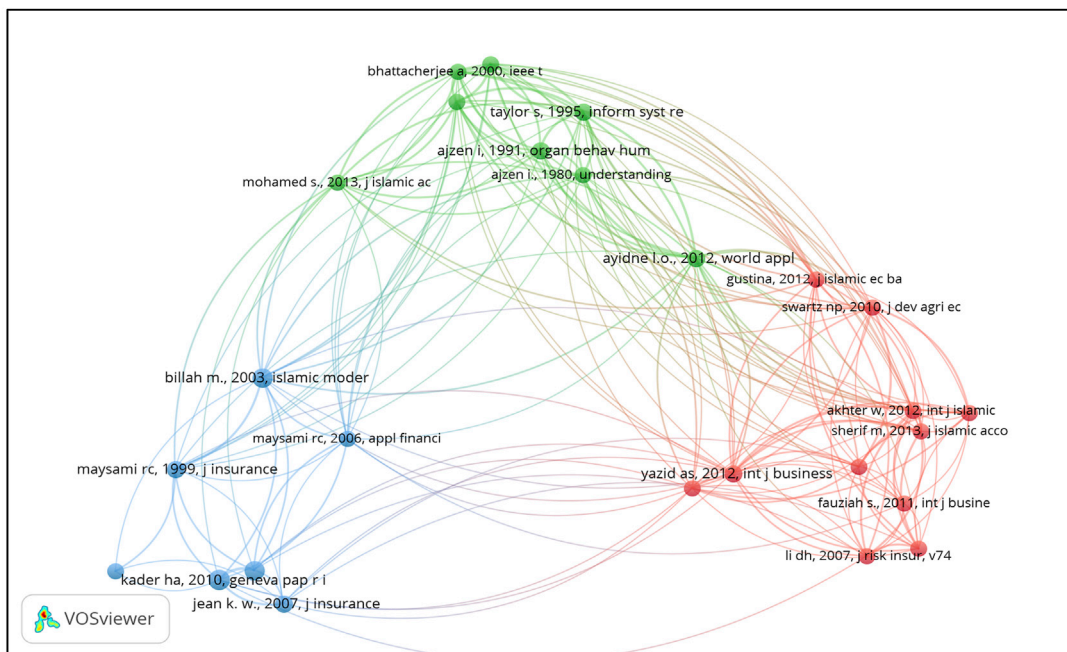
Transparency in financial disclosures also plays a vital role in strengthening CG, since it reduces information asymmetry towards stakeholders ([Armstrong, Guay, Mehran, & Weber, 2016](#)) and increases their confidence towards firms’ operations. In a similar context, [Akther and Hussain \(2012\)](#) identify the lack of transparency in reporting standards and internal control for *Takaful* in Pakistan. Similarly, [Abu Kasim \(2012\)](#) finds the SSB disclosure to be fully in conformity with supervisor’s guidelines; however, it seems that instead of following the essence of disclosure practices, it is driven by a simple compliance to rules. Moreover, the role of SSB is also constrained in Malaysian *Takaful*: being hired part-time, they do not participate to every stage of product development. This is also further evidenced by [Boulanouar and Alqahtani \(2016\)](#), who do not find any effect of *Shariah* compliance on the underpricing of *Takaful*, which is probably due to underwriters not considering the *Shariah* status of *Takaful* firms.

Table 6

List of influential articles.

Sorted by TLC/t					
	Author(s) and Year	Journal	TLC	TLC/t	TGC
2	Abdul Kader et al. (2010)	GPRIP	7	0.78	22
3	Md Husin et al. (2016)	JSM	2	0.67	6
3	Noor and Abd Rahman (2016)	ID	1	0.33	1
4	Husin and Rahman (2016)	JIAB	1	0.33	5
5	Ustaoglu M (2014)	JAFS	1	0.25	3
Sorted by TGC/t					
	Author(s) and Year	Journal	TGC	TGC/t	TLC
1	Abdul Kader et al. (2010)	GPRIP	22	2.44	7
2	Siala (2013)	JSM	13	2.17	0
3	Md Husin et al. (2016)	JSM	6	2.0	2
4	Husin and Rahma (2016)	JIAB	5	1.67	1
5	Naifar (2014)	JEI	4	0.8	0

Note: This table represents the 5 most influential and trending articles/topics based on total yearly local (TLC/t) and global citations (TGC/t). The full details of journals are given in [Appendix A](#).



Note: this figure presents the result of the research streams identification process, labeled through the content analysis. Each point represents one contribution (author, year and journal) and links represent citation patterns. The three main streams are *Takaful* overview, growth and models (in Blue), Governance mechanism of *Takaful* (in Red), *Takaful* Products/Services and Customer perception (in Green).

Fig. 3. Research streams on *Takaful* identified through the co-citation analysis.

Note: this figure presents the result of the research streams identification process, labeled through the content analysis. Each point represents one contribution (author, year and journal) and links represent citation patterns. The three main streams are *Takaful* overview, growth and models (in Blue), Governance mechanism of *Takaful* (in Red), *Takaful* Products/Services and Customer perception (in Green). (For interpretation of the reference to colour in this figure legend, the reader is referred to the web version of this article).

Albeit *Takaful* and conventional insurance share some features, the former is more prone to agency problems due to more complexity in product design and in contractual relationships. Khan (2015) proposes a modified agency theory in the context of *Takaful*, arguing that if incentives should include surplus-sharing, this might not be optimal for *mudharabah* models. Furthermore, a *wakalah* hybrid model is suggested, since it encourages the *Takaful* operator to increase the pool of funds and reduces the risk for the policyholder. Moreover, Kallamu and Saat (2015) empirically support the agency theory by finding that an independent auditing committee enhances the profitability of *Takaful* firms, while the dual role of directors in auditing and nomination committees reduce it. They also argue that an

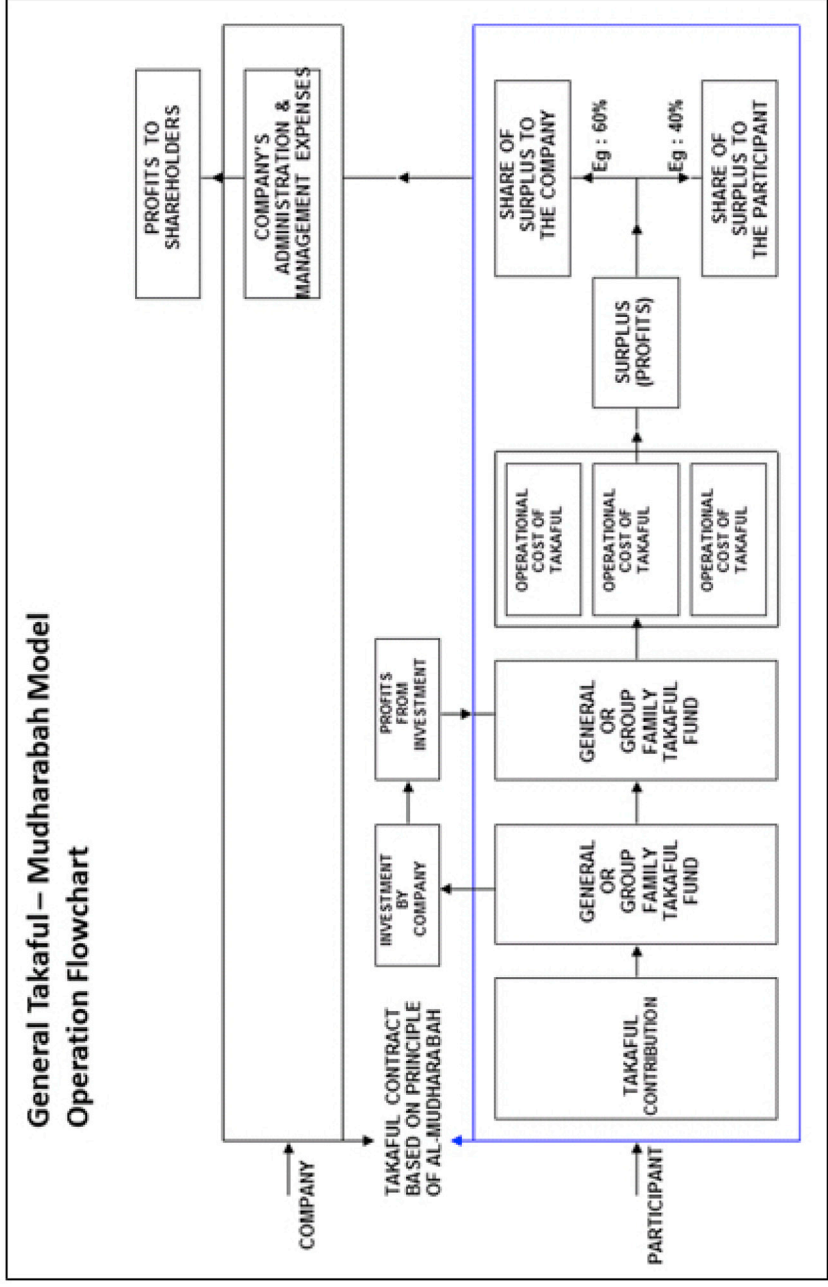


Fig. 4. Mudharabah model adapted from Abdul Wahab et al., 2007.

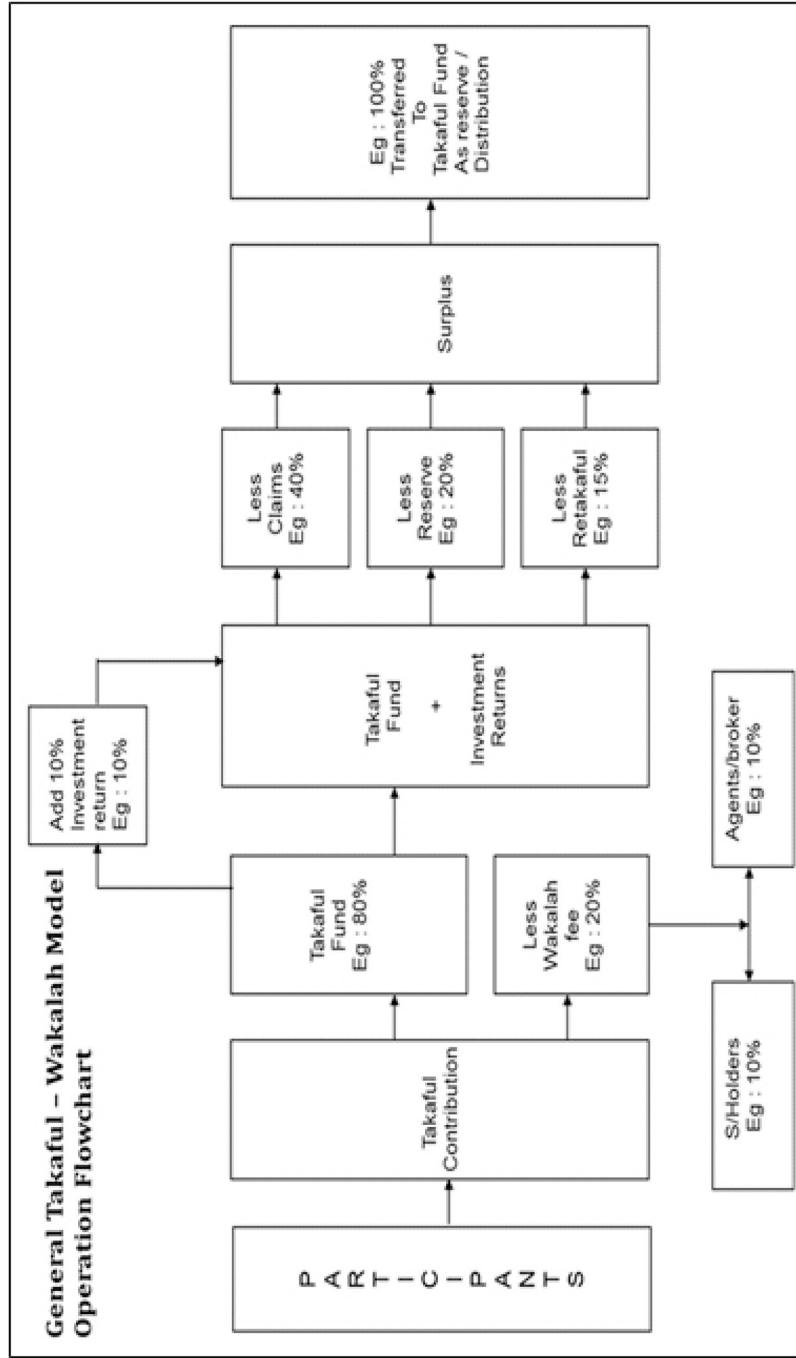


Fig. 5. Wakalah model adapted from Abdul Wahab et al., 2007.

independent director efficiently monitors management and restricts a potential opportunistic behavior.

3.3. Review of research streams: *Takaful* product/services and customer perception

This stream of literature studies products and services offered by *Takaful*, focusing on customers' perceptions (Akther & Hussain, 2012; Swartz & Coetzer, 2010), corporate demand (Akhter et al., 2017; Coolen-Maturi, 2013; Gustina & Abdullah, 2012; Mokhtar et al., 2017), customer preferences among *Takaful* and conventional insurance (Kamil & Nor, 2014; Matsawali et al., 2012) and economic determinants (Redzuan, Abdul Rahman, & Aidid, 2009; Sherif & Shaairi, 2013; Yazid, Arifin, Hussin, & Daud, 2012). Notwithstanding its growth, *Takaful* still shows very low penetration levels if compared to conventional insurance, also in more developed Muslim countries. The literature often suggests that this may be linked to the lack of customers awareness.

Maysami and Williams (2006) argue that a large segment of the Muslim population surprisingly ignores *Takaful*, requiring significant investments in awareness campaigns. Furthermore, Muslims with more conservative beliefs are reluctant towards *Takaful*, not being entirely assured about its compliance with *Shariah* requirements. Akther and Hussain (2012) conduct a survey on customers' loyalty and perception in Pakistan, concluding that 91% of respondents do not know *Takaful*.

The knowledge and communication skills of *Takaful* agents also determine the adoption of *Takaful* (Abdul Shukor, 2020). Furthermore, complexity of *Takaful* products discourages the adoption of *Takaful* in Pakistan (Ali, Raza, Pua, & Amin, 2019). Swartz and Coetzer (2010), with similar findings, also emphasize on launching awareness programs for both customers but also for agents and similar market players.

Gustina and Abdullah (2012) analyze the determinants for the demand of family *Takaful* and life insurance in the Malaysian market for the period of 1990–2009, finding that religion, education, savings and GDP per capita are the main drivers. They argue that a higher acceptance rate of family *Takaful* over life insurance is associated to the religious and cultural background of the overall insurance market and channeling of pooled funds towards ethical and socially responsible directions.

The demand for corporate *Takaful* is relatively low in Malaysia: despite a fundamental awareness, the value proposition, the product offer and the efficiency of services outperform *Shariah* compliance (Mokhtar et al., 2017). A positive association between knowledge of *Takaful* and adoption in Malaysia from both agents and customers is found by Kamil and Nor (2014). However, Matsawali et al. (2012) report that people in Brunei, despite their lack of *Takaful* knowledge, still prefer it. With the same motive, Coolen-Maturi, 2013 suggests to offer *Takaful* through the banking channel in the UK market, arguing that people are willing to buy provided that they are offered better or similar benefits with competitive prices.

We identify another sub-stream within this literature, focused on the acceptance and adoption of *Takaful* from the perspective of the Theory of Planned Behavior (TPB). Extending the theory of reasoned actions, it predicts the intention of behavioral engagement towards a specific action at a specific time and place (Ajzen, 1991). The preliminary studies of Md Husin and Ab Rahman (2016a;2016b; 2016c) find variations in the individual intention to participate in family *Takaful*. Individual intentions can be explained by awareness, knowledge, perceived behavioral control, attitude and exposure to *Takaful* practices (Kazaure, 2019; Siala, 2013; Ustaoglu, 2014).

Akhter et al. (2017) identify two main drivers of *Takaful* demand: the economic and demographic dynamics of a country. Economics factors include inflation, GDP, savings rate, inflation, and income, while demographic variables encompass education quality (including religion), health and urbanization. Authors empirically document that GDP per capita is negatively associated with both *Takaful* and conventional insurance, although the former showed more resilience during the recent financial crises. Moreover, the level of education has a significantly positive impact on *Takaful* only. Redzuan et al. (2009) show similar findings, in particular a negative impact of long term interest rates and composite stock indexes. Recently, Alshammari et al. (2019) investigate the impact of oil prices and financial markets on the efficiency of conventional and Islamic insurance. They find that financial markets have negative (positive) impact on the efficiency of conventional insurance (*Takaful*), however, no clear relationship is observed between oil prices and efficiency within the context of both insurance business models.

Similarly, Sherif and Shaairi (2013:2017) demonstrate that higher income, Islamic banking development, dependency ratios and education increase the demand for *Takaful*. An increase in income renders *Takaful* more accessible; however, it might be indifferent if wealth allows to absorb risks within individual financial portfolios. These findings are consistent with those of Yazid et al. (2012).

3.4. Citation analysis: influential aspects of the *Takaful* literature

After identifying and discussing the leading research streams, we employ a bibliometric methodology to assess the features of the most influential literature. By using HistCite, we focus on the following variables: countries, institutions, authors, journals, articles, and co-authorship networks.

We identify the most influential countries and institutions based on the number of published papers (P_{TAK}), accordingly to Kim and McMillan (2008). Tables 2 and 3 show that research on *Takaful* is not limited to Muslim countries and includes the USA, Australia, and the UK. Nonetheless, the top three institutions are the International Islamic University Malaysia, the University of Malaya, and the International Shariah Research Academy for Islamic Finance, respectively.

We also present the list of leading journals, both in terms of number of published papers (P_{TAK}) and their influence, measured by the yearly number of global citations (TGC/t), as in Fetscherin and Heinrich (2015). Results are provided in Table 4. Our results show that leading finance and economics journals are not yet attentive on this particular field.

Moreover, we identify influential authors and co-authorship networks. Again, we base our ranking on the number of global citations (TGC), as in Kim and McMillan (2008). Leading authors published 39% of the papers in our sample, as shown in Table 5. Further, co-authorship networks (Liu, Bollen, Nelson, & Van De Sompel, 2005; Piette & Ross, 1992) are graphically presented in Fig. 6. The

identification of the top influential authors and their networks is essential for the growth of this field, as a reference for policymakers, regulators, supervisors, and prospective researchers.

Finally, we present in Table 6 the most influential articles, ranked by the number of their local and global citations (TLC/t and TGC/t), consistently with Apriliyanti and Alon (2017). The main focus of these studies is to investigate the efficiency of *Takaful* firms (Abdul Kader et al., 2010), the determinants of customer intentions towards purchasing *Takaful* (Md Husin, Ismail, & Ab Rahman, 2016c; Md Husin & Ab Rahman, 2016a; Md; Ustaoglu, 2014) and *Takaful* for non-banking financial institutions (Noor & Abd Rahman, 2016).

4. Future research directions

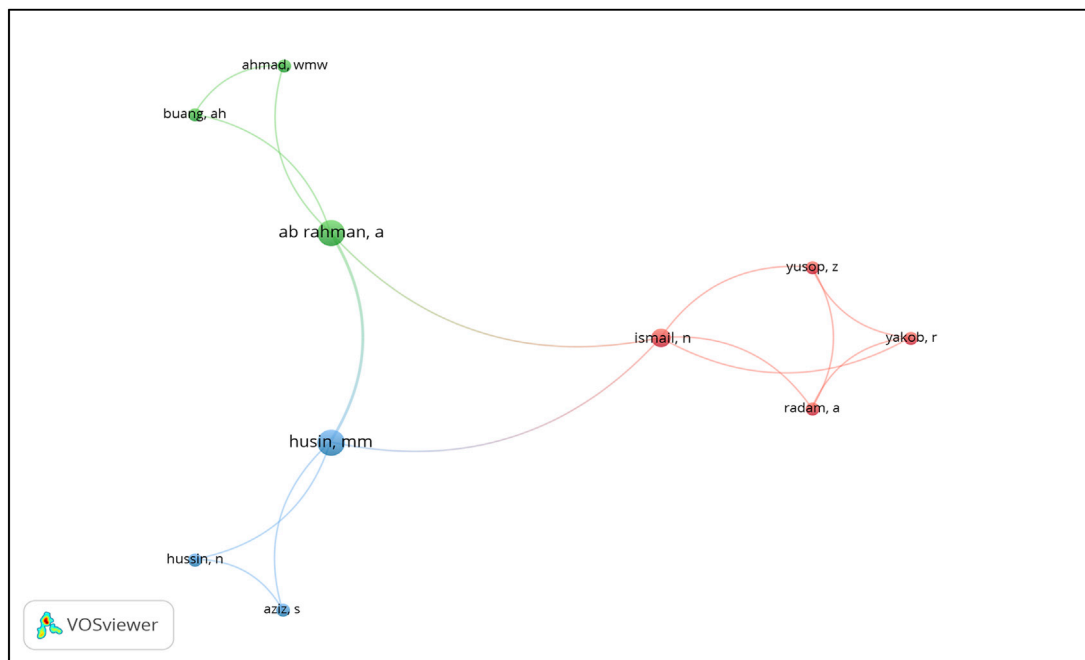
The bibliometric review of the literature, complemented by content analysis, allows us to identify several suggestions for future research (Table 7) and to discuss their width and breadth.

Above all, we identify a frequent call towards the role of the SSB in promoting the development of Islamic finance. The utmost challenge in this direction is represented by potential discrepancies in the interpretation of Islamic principles across jurisdictions and its effects on *Takaful* (on the distribution of the surplus sharing). Future studies may encompass the design of a coherent and standardized supervisory and regulatory framework.

Another important issue is represented by the presence of underdeveloped capital and money markets and limitations on investments: despite *sukuk* show tremendous growth they are still seen as a limitation for the *Takaful* market. Since conventional insurance has more freedom to build investment portfolios, eventually subject to risk-based or other capital requirements, future research may explore the role of *sukuk* within *Takaful*, as well as the availability of other sources of admissible investments.

The literature on corporate governance in *Takaful* is mostly theoretical, with empirical studies showing inconclusive results (Abdul Kader et al., 2014; Karbhari et al., 2018). These studies investigate whether the SSB improves the performance of *Takaful* firms. However, it is not clear whether this additional layer of CG has any impact. Therefore, future studies may encompass the structure of the SSB and investigate if the SSB improves the efficiency and profitability of *Takaful* operators in comparison with conventional insurers.

The role of the SSB is also crucial in determining the risk-taking behavior of Islamic financial institutions (IFIs). Several studies investigate the impact of SSB on performance and risk-taking of Islamic banks (Mollah & Zaman, 2015; Safiullah & Shamsuddin, 2018),



Note: this figure presents the result of the co-authorship identification process, distinguished by research stream. Each point represents one author and links represent co-authorships. The three main streams are *Takaful* overview, growth and models (in Blue), Governance mechanism of *Takaful* (in Red), *Takaful* Products/Services and Customer perception (in Green).

Fig. 6. Co-authorship Network on *Takaful* and research streams.

Note: this figure presents the result of the co-authorship identification process, distinguished by research stream. Each point represents one author and links represent co-authorships. The three main streams are *Takaful* overview, growth and models (in Blue), Governance mechanism of *Takaful* (in Red), *Takaful* Products/Services and Customer perception (in Green). (For interpretation of the reference to colour in this figure legend, the reader is referred to the web version of this article).

Table 7

Future research questions

Research Stream		Future Research Questions	References
<i>Takaful</i> overview, growth and Models	1	What are the similarities/differences in the interpretation of Shariah laws with respect to different school of thoughts and jurisdictions?	Abdul Wahab et al., 2007; Ayub, 2007
	2	What are the steps required to have standardized Shariah supervision and regulatory framework for <i>Takaful</i> industry?	Authors' review
	3	Development of financial products for the <i>Takaful</i> market.	Authors' review
	4	How do <i>Takaful</i> firms invest their financial resources?	Authors' review
	5	Do <i>Takaful</i> activities spur economic growth?	(Lee & Chang, 2016).
	6	Does institutional environment matter in shaping the beneficial mechanism of risk sharing in the <i>Takaful</i> industry and its impact on economic growth?	
Governance Mechanism of <i>Takaful</i> Market	7	Does SSB improve the efficiency of <i>Takaful</i> firms as compared to conventional insurance?	Karbhari et al. (2018)
	8	What is the impact of SSB and CG on the profitability of <i>Takaful</i> ?	Authors' review
	9	There are plenty of studies investigating the impact of SSB on performance and risk-taking behavior of Islamic banking, but further detailed studies are required to study the impact of CG/SSB on risk-taking behavior of <i>Takaful</i> industry.	Authors' review
	10	What is the impact of national culture on the stability and risk-taking behavior of <i>Takaful</i> firms?	Gaganis et al. (2019)
	11	Does CG/SSB mediate the impact of national culture on the stability and risk-taking behavior of <i>Takaful</i> firms?	Authors' review
	12	Khan (2015) proposed a modified version of agency theory with respect to the contractual nature of <i>Takaful</i> products but no study has been conducted to test this theory.	Khan (2015)
<i>Takaful</i> Product/Services and Customer perception	13	Most studies on demand for <i>Takaful</i> products and its determinants are restricted to a country or a city in a specific country. Future studies are required with larger samples investigating cross-country variations in demand for <i>Takaful</i> products and services.	Sherif & Hussnain, 2017; Md Husin & Ab Rahman, 2016a
	14	What are the implications of different marketing and behavioral theories for the <i>Takaful</i> industry?	Authors' review
	15	Are <i>Takaful</i> customers really faith driven?	
	16	What is the role of financial and religious literacy on the preference of <i>Takaful</i> over conventional insurance?	Lin et al. (2017)

Note: This table presents the main directions for future research as explicitly suggested by reviewed papers and identified through content analysis, or as derived from reviewing the relevant literature on the specific research stream by our meta-literature review (identified as "authors' review").

but further studies are required for *Takaful* schemes.

Gaganis, Hasan, Papadimitri, and Tasiou (2019) argue that insurance is a culture-specific product, that should be evaluated and designed on the basis of cultural norms and patterns. This matters for *Takaful* as well, beyond religion itself and extending to country-specific cultural norms. Future research might consider focusing on the impact of national culture on the stability and performance of *Takaful* and could also help in designing the favourable conditions for its effectiveness and further growth.

Recently, Khan (2015) proposed a modified version of agency theory for *Takaful* but no study provided an empirical test. With the main argument involving a required surplus sharing to incentivize *Takaful* operators, it might not be optimal for *mudarabah* models if compared to *wakalah* hybrid modes. Empirical research is then called within this stream.

A significant body of research reports the association between insurance, economic growth and stability. *Takaful* is expected to produce similar results, but empirically assessing the role played in achieving stable economic growth is also a promising research field.

Similarly, the institutional environment (political, legal and economic) mediates the role of financial development on economic growth (Lee & Chang, 2016). Moreover, although the nature of *Takaful* and insurance is different, in most countries the two are within the same regulatory frameworks. Thus, the role of the institutional environment in shaping the risk-sharing mechanism of *Takaful* and its impact on economic growth calls for new studies.

Most of the current literature on the determinants for the *Takaful* demand is limited to one country, or even smaller geographical areas (one city), potentially bearing biases in their conclusions. Therefore, larger samples are needed to test cross-country variations, for the benefit of the industry, its reference economies, and regulators. Additionally, the effectiveness and design of customer awareness programs are still open to an empirical assessment.

Financial literacy plays a crucial role in the decision-making process of purchasing a financial product (Lin, Hsiao, & Yeh, 2017). This is more evident in the case of *Takaful*, being driven by religious concerns. Thus, future studies are required in order to consider the impact of financial and religious literacy on the demand for *Takaful* products.

5. Conclusions and limitations

This paper presents all major aspects of academic research on *Takaful* through a meta-literature review on 69 papers for the period 1950–2020: 49 articles from ISI WOK, plus 20 additional and more recent contributions. We apply the following techniques to assess the Islamic insurance literature: a bibliometric citation and co-citation analysis, a co-authorship analysis, a cartographic analysis, and a content analysis.

Our results reveal the influential aspects of *Takaful* literature such as countries, authors, institutions, articles, and citation networks. Furthermore, we identify three main research streams: (1) *Takaful* overview, growth, and models, (2) governance mechanisms of *Takaful*, (3) *Takaful* products/services and customer perception. Lastly, this study presents the future research agenda for *Takaful* resulting from our content analysis. All suggestions for future research share a similar background and provides relevant policy implications.

The role played by insurance in fostering economic growth is well known and it is reasonable to expect a similar effect for *Takaful*. However, there are currently limitations to its development that need investigation. Firstly, the interpretation of *Shariah* principles and cultural differences produce diversity in governance, products, and regulation versus a generalized call for greater standardization. Secondly, the *Shariah* board may play a role in terms of performance, efficiency and risk-taking that has not been scrutinized in depth yet for *Takaful*. Thirdly, growth is affected by the lack of consumers' awareness, whereas marketing and behavioral implications have not been analyzed in ways able to build strong evidence of best practices. Finally, some results in the literature are extremely limited in geographical scope and need to be tested empirically for robustness over larger samples.

This study is also subject to some limitations. The meta-literature methodology assumes that citations are the only measure of paper quality: therefore, we may have missed high-quality papers that currently received no citations. Additionally, our database is limited by the availability of contributions in ISI WOK. To limit these two potential biases, we include a content analysis extended to recent papers published in highly ranked journals, regardless of their citation scores and to the best of our knowledge. The choice of not including other sources, such as Google Scholar, is due to the different implied level of data quality.

Author contribution

All authors contributed equally.

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Declaration of competing interest

There is no competing interest.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.iref.2020.05.013>.

Appendix-A

Table A1

Information on journals included in our sample of *Takaful* literature

Name of journals	Code	Name of journals	Code
Geneva papers on risk and insurance-issues and practice	GPRIP	Journal of economic issues	JEI
Journal of Islamic marketing	JIM	Isra international journal of Islamic finance	ISRA-IJIF
Intellectual discourse	ID	Journal of Islamic accounting and business research	JIABR
Journal of Islamic accounting and business research	JIAB	International journal of Islamic and middle eastern finance and management	IJIMEFM
Journal of Asian and African studies	JAFS	Humanomics	HU
International review of financial analysis	IRFA	Intellectual discourse	ID
University of Pennsylvania journal of international law	UPJIL	Journal of services marketing	JSM
Journal of services marketing	JSM	Journal of Islamic accounting and business research	JIABR
International journal of ethics and systems	IJEAS	International review of financial analysis	IRFA
Journal of Islamic marketing	JIM	International journal of economics management and accounting	IJEMA
Middle east journal of management	MEJM	International journal of social economics	IJSE
African journal of business management	AJBM	Qualitative research in financial markets	QRIFM
Al-Shajarah	AS	Journal of economic issues	JOE

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