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The Structure of Islamic Economics and Finance Research

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Centre d'Études et de Recherche en Gestion
cergam
d'Aix-Marseille



The Structure of Islamic Economics and Finance Research

A comprehensive structuring of the literature in Islamic economics and finance in a bias-free statistical learning approach



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IAE RENNES
École Universitaire
de Management

1st INTERNATIONAL BANKING AND FINANCE RESEARCH CONFERENCE

ENCG Agadir, IBN ZOHR UNIVERSITY
Agadir, Morocco. October, 9-10, 2019

Ghلامallah. E, Alexakis. C, Dowling. M & Piepenbrink. A



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1- STUDY RESEARCHERS



Ezzedine GHLAMALLAH, is a **French Phd student in management sciences**.



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Associate Professor, Finance & Accounting Academic Area, Rennes School of Business.



Michael DOWLING, is an **Irish academic in management sciences**.



Associate Professor, Finance & Accounting Academic Area, Rennes School of Business. Director of Doctoral Programmes, Rennes School of Business.

Anke PIEPENBRINK, is a **German academic in management sciences**.



Associate Professor, Strategy & Innovation Academic Area, Rennes School of Business. Head of Strategy & Innovation Academic Area, Rennes School of Business.



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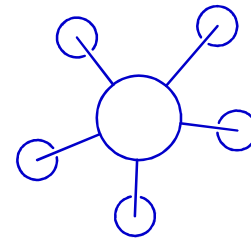


2- INTRODUCTION

Islamic Finance Industry Outlook*



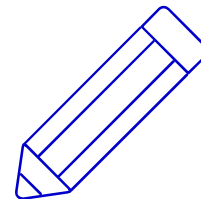
**45 COUNTRIES
WITH SPECIFIC
REGULATIONS**



**1 389 ISLAMIC
FINANCIAL
INSTITUTIONS**



**2 438 \$ bn
ISLAMIC
FINANCE
ASSETS**



**688
EDUCATION
BODIES**



*Thomson Reuters state of the global Islamic economy report 2018/19

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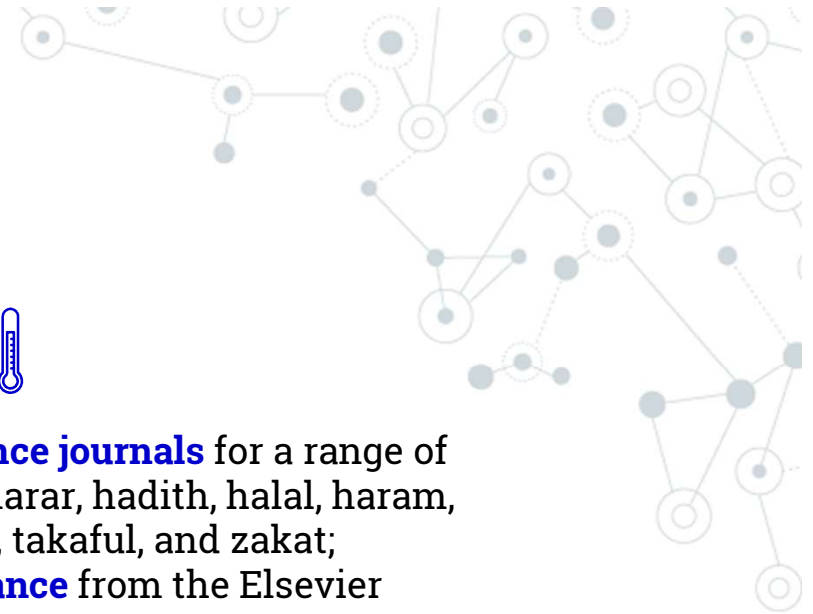
2- INTRODUCTION

Aims of the Paper

- To **provide a comprehensive structure of the literature** through a consideration of all relevant research on Islamic economics and finance for the period 1979 to 2018;
- To **deliver a clear structure for ongoing research agendas** in Islamic economics and finance as well as a framework for understanding research development in this area;
- To **organize a large and growing literature**;
- To **extract the key topics** into which the Islamic economics and finance literature can be categorized;
- To **enable** researchers in Islamic economics and finance **to understand the entire composition of the literature**;
- To **identify the core research** within each topic.

Methodology

- A **probabilistic machine learning approach to categorize 1495 articles with the textual analysis machine learning technique called Latent Dirichlet Allocation (LDA) topic modelling** that allows statistical learning of the connection between research articles as well as their shared topics;
- The **most widely accepted technique for topic modeling**;
- A study based **based on identified research related to Islamic economics and finance from the Elsevier Scopus database**.



2- INTRODUCTION

Methodology: Corpus & Pre-processing



- **Searching within only economics, econometrics, and finance journals** for a range of possible Islamic economics and finance terms: Islamic, gharar, hadith, halal, haram, ijara, maysir, mudarabah, musharaka, shariah, riba, sukuk, takaful, and zakat;
- **Identifying research related to Islamic economics and finance** from the Elsevier Scopus database;
- **Retrieving 1,495 articles in our search which covers the period 1979-2018**, and the abstracts are obtained for each article. These abstracts form the documents for the LDA analysis;
- **Using the R packages tm and quantda** for pre-processing;
- **Atomizing first each abstract** into a collection of individual words, the words are then converted to lowercase and digits and punctuation removed;
- **Removing 'stopwords'** - words such as 'and', 'or', 'I', that provide no topic relevant information;
- **Applying Porter's stemming algorithm** to reduce words to their stem;
- **Using Term Frequency-Inverse Document Frequency (TF-IDF) term removal.**



2- INTRODUCTION

Methodology: Topic Identification

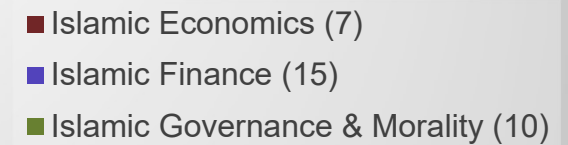
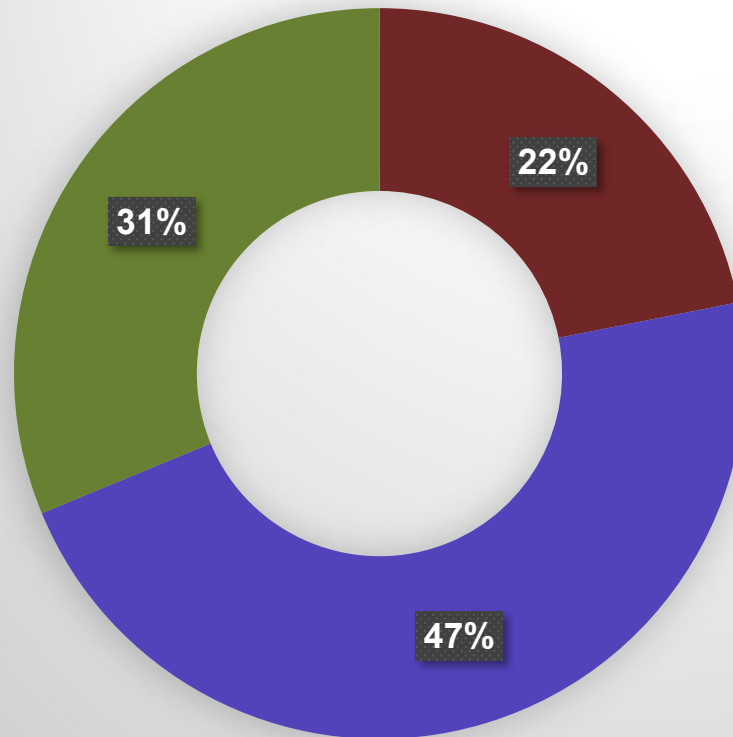


The Islamic economics and finance literature can be well-described by 11 combined labels, covering economic, finance, and morality issues.

- **Getting a large Document-Term-Matrix (DTM)** which consists of columns of all abstracts and rows of all words;
- **Using the R package** topicmodels on the DTM to run the topic extraction;
- **Setting the number of topics to be extracted** at either 21, 24, 27, 30, 33, or 36;
- **Setting 10 different random starting points** among the documents for each topic extraction;
- **Running 60 different topic models** (six different number of topics extracted multiplied by 10 random seeds);
- **Inspecting the Krippendorff's α** which is provided by our testing to find the set of topic distributions that are most distinct, for our corpus, **this results in 36 topics** being initially **identified as the best distribution of topics** across the corpus;
- **Modeling the words that best describe each topic**. As is standard, we normally use the top ten words for a topic and seek to use these words to label the topic;
- **Inspecting the top-matched abstracts** for a topic to further understand the nature of that topic identified as being outside the remit of this paper;
- **Remaining 32 topics**;
- **Proceeding to topic reduction results in the 11 combined labels** that make up the analysis of the remainder of the paper;
- **Discussing the 11 combined labels in three broad sections covering the overall categories of Islamic economics, Islamic finance, and governance and morality.**

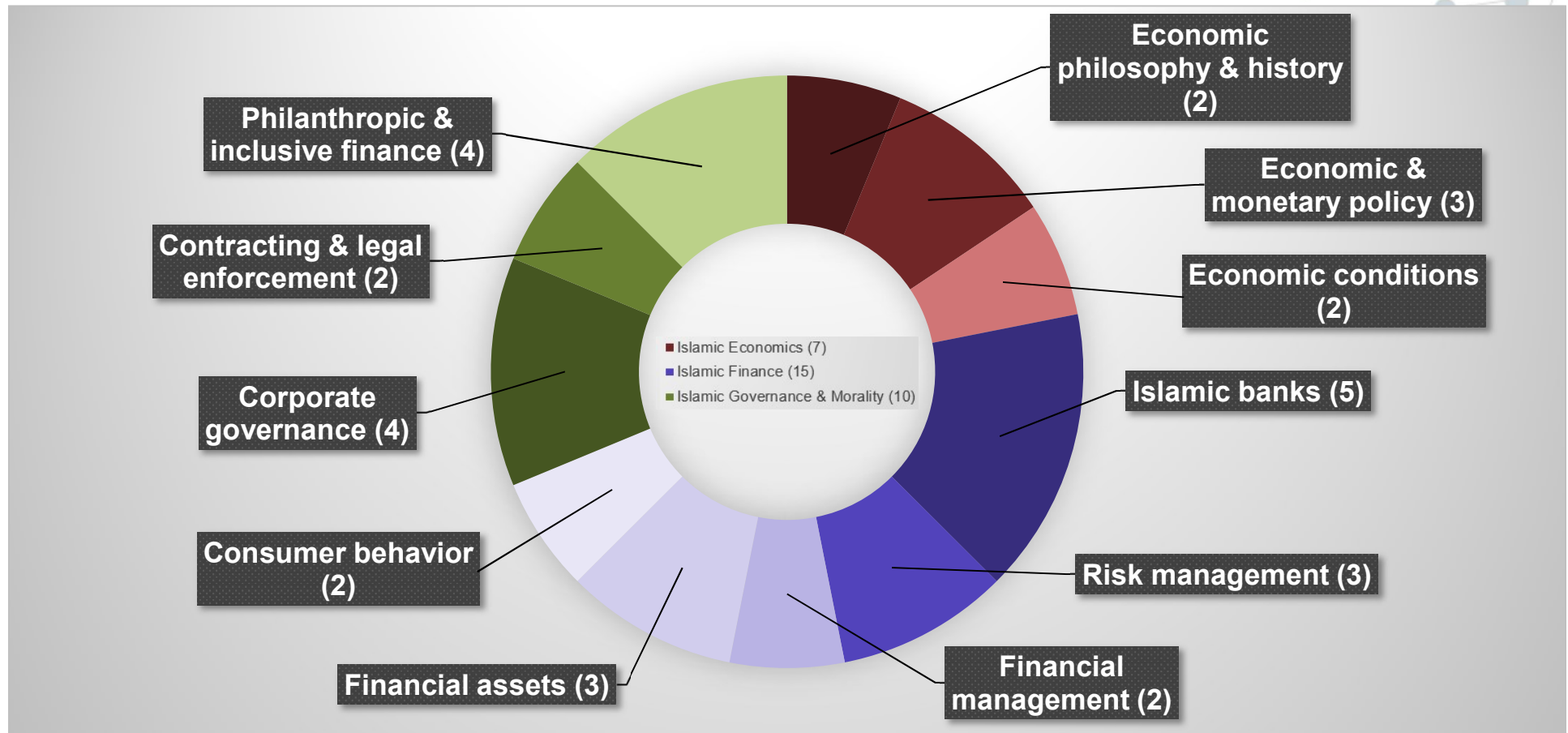
3- TOPIC MODELING APPROACH

Structure of Islamic Economics & Finance Research



3- TOPIC MODELING APPROACH

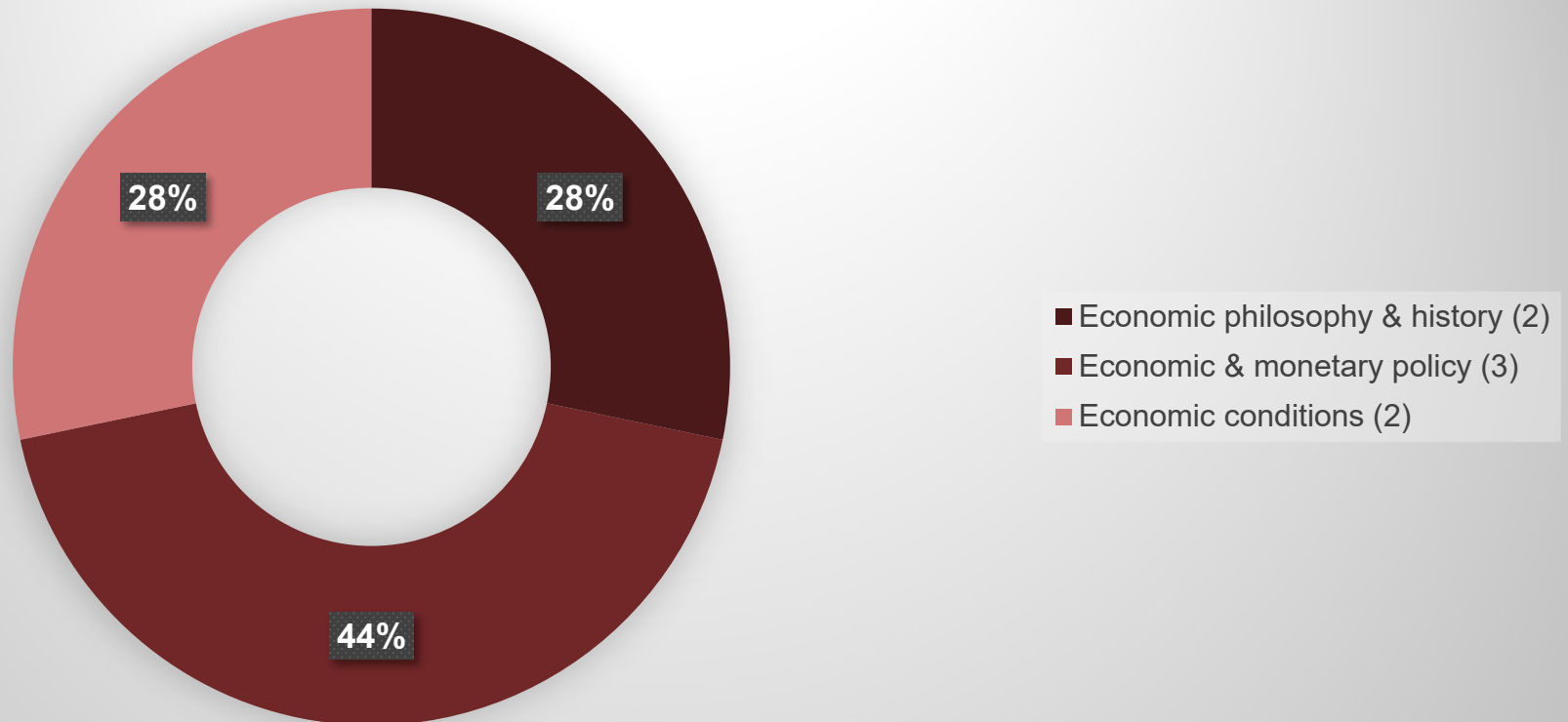
Key Combined Labels of Islamic Economics & Finance Research



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The Structure of Islamic Economics and Finance Research

4- TOPICS IN ISLAMIC ECONOMICS

Structure of Topics & Combined Labels in Islamic Economics



4- TOPICS IN ISLAMIC ECONOMICS



Topic	Combined label	Initial topic	Top matched words	Top matched paper
1	Economic philosophy & history	Islamic economics & epistemology	Monetary, ethic, real, money, moral, uniti, channel, transmiss, epistemology, learn	Choudhury, Masudul Alam. "Islamic Economics and Finance- A Fiasco." <i>Middle East Business and Economic Review</i> 20, no. 1 (2008): 38.
		History of Islamic economics	Instrument, pakistan, tool, paradigm, interestfre, john, western, debat, son	Khan, H. (2018). Islamic economics and a third fundamental theorem of welfare economics. <i>The World Economy</i> , 41(3), 723-737.
2	Economic & monetary policy	Political economy	Saudi, arabia, trade, polit, iran, oil, regim, energi, horizon, wavelet	Jaelani, A., Firdaus, S., & Jumena, J. (2017). Renewable Energy Policy in Indonesia: The Qur'anic Scientific Signals in Islamic Economics Perspective. <i>International Journal of Energy Economics and Policy</i> , 7(4).
		Gold & monetary policy	Foreign, price, gold, domest, exchang, hedg, currenc, money, inflat, suppli	Bayram, K., Abdullah, A., & Meera, A. K. (2018). Identifying the optimal level of gold as a reserve asset using Black-Litterman model: The case for Malaysia, Turkey, KSA and Pakistan. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 11(3), 334-356.
		Deposits & monetary policy	Deposit, shock, depositor, correl, monetari, dual, disciplin, india, malaysian, vector	Yusof, R. M., Al Wosabi, M., Majid, A., & Shabri, M. (2009). Monetary Policy Shocks and Islamic Banks' Deposits in a Dual Banking System: Empirical Evidence from Malaysia and Bahrain. <i>Journal of Economic Cooperation & Development</i> , 30(2).
3	Economic conditions	Islamic finance & economic growth	Growth, oic, enterpris, integr, gdp, run, uae, presenc, resourc	Hachicha, N., & Ben Amar, A. (2015). Does Islamic bank financing contribute to economic growth? The Malaysian case. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 8(3), 349-368.
		Economic policies & financial stability	Crisi, sharia, crise, turkey, question, subprim, answer, restrict, particip, rule	Leander, A. (1996). "'Robin Hood' politics? Turkey missing the chance to adopt a new model in the 1990s". <i>Review of International Political Economy</i> , Vol. 3 Issue: 1: pp.132-163.

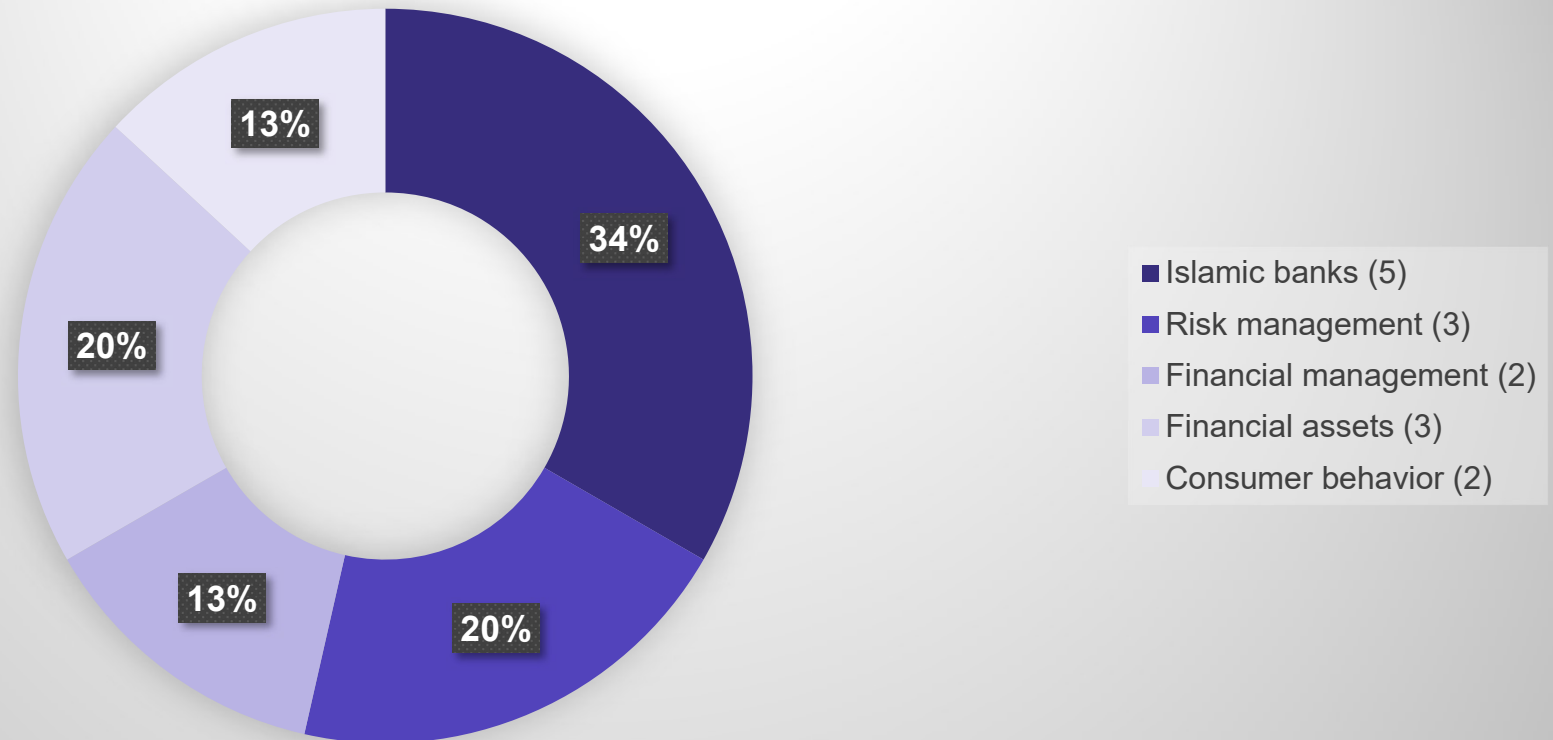
Table of topics labelled as Islamic economics as determined based on extraction of topics from an overall database of 1,495 articles that match Islamic economics and finance terms in Scopus. 'Top matched words' are the stemmed words that best describe the topic, 'Initial label' is the initial label assigned to a topic by the study researchers, and 'Combined label' is the label assigned to a set of initial topics by the study researchers.

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The Structure of Islamic Economics and Finance Research



5- TOPICS IN ISLAMIC FINANCE

Structure of Topics & Combined Labels in Islamic Finance



5- TOPICS IN ISLAMIC FINANCE

Topic	Combined label	Initial topic	Top matched words	Top matched paper
1	Islamic banks	Islamic banking efficiency	Effici, scale, technic, cost, revenu, dea, stage, frontier, ineffici, foreign	Ahmad, S., & Rahim Abdul Rahman, A. (2012). The efficiency of Islamic and conventional commercial banks in Malaysia. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 5(3), 241-263.
		Islamic banking Competitiveness	Region, indonesia, mena, competit, middl, east, north, asia, africa, loan	Ibrahim, M. (2015). A comparative study of financial performance between conventional and Islamic banking in United Arab Emirates. <i>International Journal of Economics and Financial Issues</i> , 5(4), 868-874.
		Islamic banking profitability	Profit, ib, gcc, margin, ratio, cost, cbs, roa, roe, banks	Yahya, A. T., Akhtar, A., & Tabash, M. I. (2017). The impact of political instability, macroeconomic and bank-specific factors on the profitability of Islamic banks: an empirical evidence. <i>Investment Management and Financial Innovations</i> , 14(4), 30-39.
		Impact of bank rates	Rate, causal, lend, optim, granger, pls, behavior, cointegr, decreas, function	Ismal, R., & Haryati, R. (2013). The optimal and decreasing growth rate of the Islamic banking industry. <i>Qualitative Research in Financial Markets</i> , 5(3), 229-243.
		Islamic debt & lending	Debt, tax, cost, matur, earli, wealth, psia, sharehold, compani, holder	Abdul Khir, M. F. (2016). Bilateral rebate (ibra'mutabadal) in Islamic banking operation: a critical appraisal. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 9(3), 435-452.
2	Risk management	Risk management practice	Risk, liquid, credit, ratio, exposur, stabil, basel, risktak, crisi, securit	Abu Hussain, H., & Al-Ajmi, J. (2012). Risk management practices of conventional and Islamic banks in Bahrain. <i>The Journal of Risk Finance</i> , 13(3), 215-239.
		Risk management & financial stability	Credit, stabil, ratio, shariah, zscore, small, predict, incom, versus, uae	Abdou, H. A., Alam, S. T., & Mulkeen, J. (2014). Would credit scoring work for Islamic finance? A neural network approach. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 7(1), 112-125.
		Loan default & credit risk	Loan, default, arab, borrow, probabl, unit, lend, qard, hasan	Abdullah, M. (2015). Analysing the moral aspect of qard: a shariah perspective. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 8(2), 171-184.

Table of topics labelled as Islamic finance as determined based on extraction of topics from an overall database of 1,495 articles that match Islamic economics and finance terms in Scopus. 'Top matched words' are the stemmed words that best describe the topic, 'Initial label' is the initial label assigned to a topic by the study researchers, and 'Combined label' is the label assigned to a set of initial topics by the study researchers.

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5- TOPICS IN ISLAMIC FINANCE

Topic	Combined label	Initial topic	Top matched words	Top matched paper
3	Financial management	Financial decision-making	Firm, decis, leverag, dividend, unit, state, agenc, commerci, success, exchang	Naz, I., Shah, S. M. A., & Kutan, A. M. (2017). Do managers of sharia-compliant firms have distinctive financial styles? <i>Journal of International Financial Markets, Institutions and Money</i> , 46, 174-187.
		Financial reporting & accounting	Account, standard, dimens, audit, aaoifi, weight, ethic, item, instrument, statement	Gupta, N. (2015). Differences in accounting treatment of Ijarah: a case study of UAE Islamic banks. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 8(3), 369-379.
4	Financial assets	Islamic stock market	Stock, index, volatil, portfolio, equiti, investor, dow, jone, us, price	Chiadmi, M. S., & Ghaiti, F. (2014). Modeling Volatility of Islamic Stock Indexes: Empirical Evidence and Comparative Analysis. <i>DLSU Business & Economics Review</i> , 24(1).
		Sukuk	Sukuk, bond, issuer, investor, issuanc, firm, debt, yield, secur, reaction	Ahmed, H., Hassan, M. K., & Rayfield, B. (2018). When and why firms issue sukuk? <i>Managerial Finance</i> , 44(6), 774-786.
		Islamic mutual funds	Fund, portfolio, investor, equiti, mutual, diversif, risk, strategi, benchmark, imf	Marzuki, A., & Worthington, A. (2015). Comparative performance-related fund flows for Malaysian Islamic and conventional equity funds. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 8(3), 380-394.
5	Consumer behavior	Consumer satisfaction & service quality	Custom, servic, qualiti, percept, pakistan, awar, criteria, decis, satisfact, religi	Abdul Rehman, A., & Masood, O. (2012). Why do customers patronize Islamic banks? A case study of Pakistan. <i>Qualitative Research in Financial Markets</i> , 4(2/3), 130-141.
		Consumer product acceptance	Consum, motiv, accept, attitud, innov, religi, maqasid, home, communiti, perceiv	Amin, H., Rahim Abdul Rahman, A., & Abdul Razak, D. (2014). Consumer acceptance of Islamic home financing. <i>International Journal of Housing Markets and Analysis</i> , 7(3), 307-332.

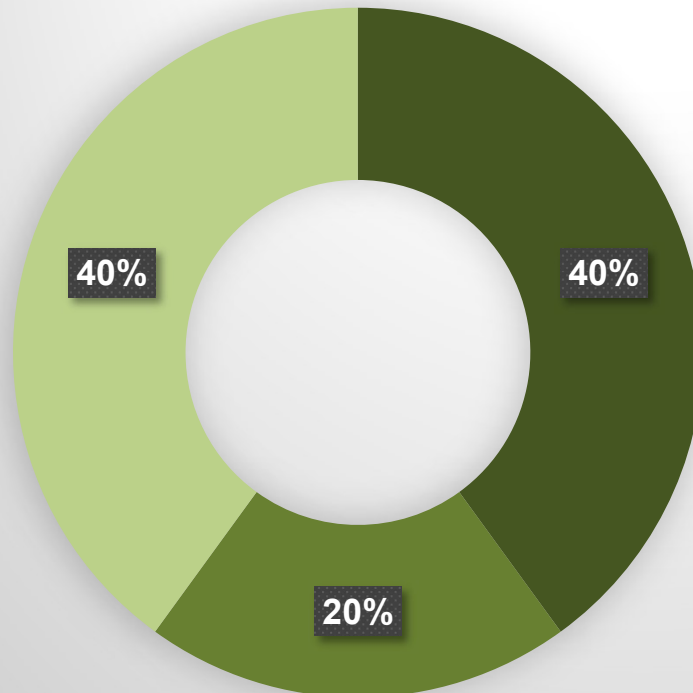
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6- TOPICS IN ISLAMIC GOVERNANCE & MORALITY



Structure of Topics & Combined Labels in Islamic Governance & Morality



- Corporate governance (4)
- Contracting & legal enforcement (2)
- Philanthropic & inclusive finance (4)



6- TOPICS IN ISLAMIC GOVERNANCE & MORALITY



Topic	Combined label	Initial topic	Top matched words	Top matched paper
1	Corporate governance	Corporate Social Responsibility	Disclosur, csr, corpor, loss, earn, provis, loan, uae, index, distress	Hassan, A., & Syafri Harahap, S. (2010). Exploring corporate social responsibility disclosure: the case of Islamic banks. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 3(3), 203-227.
		Corporate governance	Govern, board, compani, corpor, independ, supervisor, member, list, ssb, cg	Kallamu, B. S., & Saat, N. A. M. (2015). Audit committee attributes and firm performance: evidence from Malaysian finance companies. <i>Asian Review of Accounting</i> , 23(3), 206-231.
		Corporate Shari'ah compliance	Sharia, ah, ifi, complianc, compliant, shari'a, scholar, audit, screen, fatwa	Ullah, S., Harwood, I. A., & Jamali, D. (2018). 'Fatwa repositioning': the hidden struggle for Shari'a compliance within Islamic financial institutions. <i>Journal of Business Ethics</i> , 149(4), 895-917.
		Corporate Shari'ah influence	Shariah, compliant, complianc, screen, card, law, scholar, sbs, window	Kasi, U., & Muhammad, J. (2018). Design, qualification and Shariah governance of stock screening methodologies in selected Gulf Cooperation Council (GCC) countries in comparison with the United States. <i>Qualitative Research in Financial Markets</i> , 10(2), 189-209.
2	Contracting & legal enforcement	Islamic contracts	Contract, musharakah, profit, hous, partnership, equiti, sale, mudarabah, home, gharar	Aboulaich, R., & Yachou, N (2018). "Agent based modelling and simulation for home financing. Application in netlogo platform". <i>Journal of Applied Economic Sciences</i> , 13(3), 769-786.
		Shari'ah law dispute & resolution	Law, legal, shari'ah, contract, disput, rule, ibf, court, parti, resolut	Trakic, A. (2013). The adjudication of Shari'ah issues in Islamic financial contracts: Is Malaysian Islamic finance litigation a solution? <i>Humanomics</i> , 29(4), 260-275.
3	Philanthropic & inclusive finance	Waqf	Waqf, cash, land, properti, smes, fund, halal, enterpris, micro, govern	Ibrahim, S. S. B., Noor, A. H. B. M., Shariff, S. B. M., & Rusli, N. A. B. M. (2016). Analysis of corporate waqf model in Malaysia: An instrument towards Muslim's economic development. <i>International Journal of Applied Business and Economic Research</i> , 14(5), 2931-2944.
		Microfinance	Microfin, bangladesh, sustain, poverti, poor, agricultur, rural, mfi, allevi, incom	Obaidullah, M. (2015). Enhancing food security with Islamic microfinance: insights from some recent experiments. <i>Agricultural Finance Review</i> , 75(2), 142-168.
		Zakat & financial inclusion	Zakat, fund, scheme, save, client, inclus, microfin, plan, poor, pension	Shaikh, S. A., Ismail, M. A., Ismail, A. G., Shahimi, S., & Mohd. Shafiai, M. H. (2017). Towards an integrative framework for understanding Muslim consumption behaviour. <i>Humanomics</i> , 33(2), 133-149.
		Takaful	Insur, taka, uk, particip, alloc, llc, premium	Olorogun, L. A. (2015). A proposed contribution model for general Islamic insurance industry. <i>International Journal of Islamic and Middle Eastern Finance and Management</i> , 8(1), 114-131.

Table of topics labelled as Islamic governance and morality as determined based on extraction of topics from an overall database of 1,495 articles that match Islamic economics and finance terms in Scopus. 'Top matched words' are the stemmed words that best describe the topic, 'Initial label' is the initial label assigned to a topic by the study researchers, and 'Combined label' is the label assigned to a set of initial topics by the study researchers.

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7- ORIGINALITY, FINDINGS & LIMITS

Originality

- A **novel approach** for the purpose of structuring research articles (Latent Dirichlet Allocation topic modeling);
- Topic modeling is widely applied in the computer sciences to identify topics in large corpus of documents, but **has only been applied in a limited manner in business disciplines**;
- A **Structuration of a much wider literature** than is feasible in a manual review of the literature;
- The **first study to apply topic modeling** to systematically identify the key topics of research **within the discipline of Islamic economics and finance**.



7- ORIGINALITY, FINDINGS & LIMITS

Findings



- The **structure of Islamic economics and finance research is largely grounded in a discussion of developing country economic issues** driven by most Muslim majority countries being classified as developing economies;
- Literature is concentrated on Muslim affairs, **the debt crisis, interest cancellation, climatical changes are not mentioned** even if these issues are worldwide concerns;
- The development of Islamic economics which lags significantly behind the development of Islamic finance. In much the same way as capitalist economics underpins conventional finance, **there is a need for stronger focus on the development of Islamic economics**;
- Topics are focused on **solutions to practical issues**.

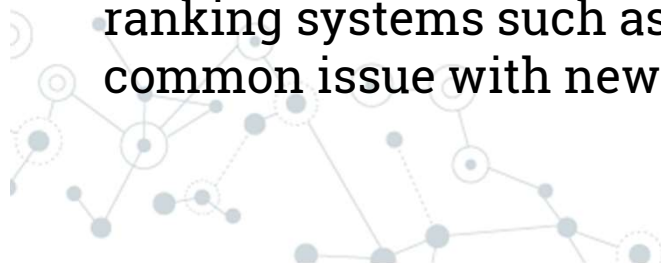


7- ORIGINALITY, FINDINGS & LIMITS

Findings



- Significant **lack of data** to support empirical studies;
- It is necessary **to have more empirical studies on the performance of Islamic equity investments**;
- Main group of topics is **Islamic Finance** and main topic in overall study is **Islamic banking**;
- Main topic in Islamic economics is **economic & monetary policy**;
- Main topic in Islamic finance is **Islamic banks**;
- Main topics in Islamic governance & morality are **corporate governance and philanthropic and inclusive finance**;
- Majority of publications are in journals that have either a **very low journal rank or no journal rank** when compared to popular journal ranking systems such as the UK Academic Journal Guide, this is a common issue with newly developed research areas.





7- ORIGINALITY, FINDINGS & LIMITS

Limits

- Only 1495 English articles in Scopus have been extracted and investigated, it would be interesting to use the same technic to **incorporate other databases and languages like Arabic and French;**
- This research provides a "*frozen*" view of the structure of Islamic economics and finance research, in order to analyze the progression of Islamic economics and finance research, **it is necessary to perform it very often to monitor its evolution.**



Thanks!

Any questions?



You can write us @:

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