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SOCIAL FINANCE, SUSTAINABLE DEVELOPMENT GOALS AND GREEN ECONOMY: ISLAMIC FINANCE POSSIBLE CONTRIBUTION TO EUROPEAN'S RENAISSANCE

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To my family that always supports me and my dreams

and

To my doctoral group that taught me the value and the strength of being part of a team.

It doesn’t matter how slow you go, as long as you don’t stop
(Confucius)

Success is not final, failure is not fatal: it is the courage to continue that counts
(Sir Winston Churchill)

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ABSTRACT

Islamic finance is a financial system based on Islamic principles included on the Sharia law, based on the principles of Quran, Sunnah and secondary laws. It has a strong social footing and helps creating shared value within society and is confirming year by year its higher impact on world's economy.

The potential of Islamic finance, under different aspects, seems to be very relevant, also due to the emerging need of a more ethical and well-regulated finance and from the extent to comply with Agenda 2030.

For these reasons, it appeared interesting to evaluate (a) if Islamic finance can be academically defined as Social finance (b) if it has proven link with SDGs and (c) what are the possible opportunities of deployment of Islamic finance for green economy in Europe.

It emerged that social finance, sustainable development goals and green economy might be the ingredients of the possible contribution of Islamic finance to European's Renaissance.

This research analyzes, through three standalone papers, the possible answers to that questions, trying to succeed in the purpose of systematically analyze the literature on the field and to formulate a conceptual model that may suggest a possible way of practical application of Islamic tools in a non-Muslim environment.

KEYWORDS

Islamic finance, social finance, bibliometric analysis, SDGs, green economy, Green Sukuk

1. INTRODUCTION AND BACKGROUND TO THE GENERAL TOPIC AREA

Islamic finance is a financial system based on Islamic principles included on the Sharia law, based on the principles of Quran, Sunnah and secondary laws. It has a strong social footing and helps creating shared value within society and is confirming year by year its higher impact on world's economy, particularly as an instrument of alternative finance (Pollard e Samers 2007). In fact, it promotes social utility projects and demonstrated its proven efficiency during the crisis of conventional/mainstream finance.

In particular, in the last 40 years, it has progressively developed as an independent financial subject in the world's financial scenario and, since last decade, it has seen a consistent spread and enhancement in quality, products and diffusion not only in typical Muslim markets but also in the conventional finance markets. This dynamism has been seen also in the academic debate, even though emerges the need of stronger and wider efforts along with the need of a higher harmonization regarding legal and financial aspects.

For the purpose of that research, the most interesting data regarding the dimension of this market come from the analysis of some macro information. In particular, Muslim populations, according to Pew Center's Research data[1], is nowadays 24,9% of world's population with 1.9 billion people. By the end of 2030 it will be 26.5% with 2.2 billion people, in 2040 it will be 28.1% with 2.5 billion people and in 2050 it will be 29.7% with 2.7 billion people. From an economical point of view, according to Collins (2007), the potential to raise capital from Islamic countries is large and the liquidity that Islamic finance brings into the mainstream should not be underestimated (Gabbani 2012), particularly looking at the population numbers and growth rate. Furthermore, according to the ICD-REFINITIV - Islamic Finance Development Report 2020, the Islamic finance industry saw double-digit

[1] http://globalreligiousfutures.org

growth of 14% in 2019 to a total US$2.88 trillion in assets and expects a growth, by 2024, to a total US$3.69 trillion in assets

In this context appeared interesting to evaluate if Islamic finance can be defined as Social finance and if it has proven link with SDGs and what are the possible opportunities of deployment of Islamic finance for green economy in Europe. These questions come from the preliminary observation that the potential of Islamic finance, under different aspects, seems to be very relevant, also due to the emerging need of a more ethical and well-regulated finance and from the extent to comply with Agenda 2030.

In particular, it will be suggested a concept model to underline the possible role of Green Sukuk al-Ijarah in this European "green renaissance" that seems also supported from the fact that Sukuks already have a 19% share in the Islamic Finance Asset distribution in the world in 2019 with 538 billion $. This means that the possible growth of this instrument could be very high by 2024 looking at the global growth rate of Islamic finance as a whole. Meanwhile, it is registered a general increase on the interest on Green and Socially Responsible Investments (SRI) that could be useful in meeting UN's SDGs and in addressing the European Green Deal goals both from institutional and non-institutional actors.

From an academic point of view, no other researches on that topics have already been done and there are gaps of knowledge on the specific field. So, in order to fill these gaps, the research has been conducted through the use of two bibliometric analysis and a systematic literature review with the suggestion of a possible conceptual model to deploy Islamic finance tools in European context.

The first paper, "*Islamic finance as social finance. A bibliometric analysis from 2000 to 2021*", analyzes, through a bibliometric analysis (Aria e Cuccurullo 2017a), the literature on the field of social finance and Islamic finance, in order to demonstrate whether, from an academic point of view, Islamic finance could be defined as social finance and if there is literature on the specific field. What has been found is that there are some papers that already dealt with this topic with a qualitative approach and that no papers had approached it with a quantitative one.

Accordingly, the second paper "*Islamic finance and sustainable development goals. A bibliometric analysis from 2000 to 2021*" analyzes, with the same method (Aria e Cuccurullo 2017a), the literature in the field of Islamic finance and Sustainable Development Goals, in order to clarify the state of the art on the contribution that Islamic finance has in the SDGs' field. It emerged that there is a connection between these two entities that, even though provenly underestimated and undeveloped, is trying to find its way and shows encouraging results and a high social impact. Moreover, in this case there are academics that analyzed the relation between Islamic finance and Sustainable Development Goals but no researches had been conducted with a bibliometric method.

Finally, the third paper "*Islamic finance for green economy in Europe. A literature review and a concept model*" shows, with a systematic literature review and the presentation of a conceptual model, the possible practical outputs of the deployment of Islamic green finance for a more sustainable and green development in Europe. It emerged that the access barriers in terms of legal framework and overall instrument harmonization seem to be not so simple to overcome, according to the existent literature, but the suggested conceptual model could help in addressing the issue. Furthermore, it is observed that the possible wide opportunities that could come from a spread introduction of this system seem to justify academic and institutional efforts to increase its participation to public utility infrastructures and green projects.

In conclusion, this research aims at shading the light on possible gaps on the literature and suggesting a conceptual model that will hopefully be applied from stakeholders in the future. The hope is to enhance the academic discussion on the field of Islamic finance and the interest from public and private stakeholders towards this alternative finance that has an enormous and unexpressed potential. Particularly looking at the challenges of the post-pandemic era that will create an unprecedent occasion of growth, with a lot of efforts on health and environment deployed from countries all over the world, Islamic finance can play a fundamental role in mobilizing huge capitals and sustaining green revolution.

2. FIRST PAPER

ISLAMIC FINANCE AS SOCIAL FINANCE. A BIBLIOMETRIC ANALYSIS FROM 2000 TO 2021

Abstract

The main purpose of this research is to map the academic contribution of social finance to the discussion in the field of Islamic finance.

An analysis of 788 contributions published in international academic journals, books review and chapters, editorial material and proceedings papers has been done using the bibliometric method.

The findings show that there are a number of journals that have had a higher production on the topic with an impact on research and, furthermore, it emerges that the works of the most relevant authors are made with qualitative methods that have been the most used to demonstrate the link between Islamic finance and social finance. The analysis also shows that the relation between Islamic finance and social finance is linked, among the others, to the words PERFORMANCE, IMPACT RISK, OWNERSHIP, CORPORATE SOCIAL-RESPONSIBILITY, MANAGEMENT, BEHAVIOR and EFFICIENCY, demonstrating that there is also a link with Sustainable Development Goals (SDGs). It has also been observed the keyword evolution through the years which proved a dramatic increase on the academic attention to the topic particularly in the last five years.

Research limitations/implications – The paper's main limitation is due to the adoption of the bibliometric method because the databases include only part of the scientific papers and not all world's sources. However, WOS database, the one adopted for the research, is the world's most complete index even though it is not complete at all. On the other hand, to have a wider landscape of knowledge on the field of research, they have been considered all kind of sources: papers published in international and academic journals, books chapters and reviews, editorial materials and proceedings papers. The implications for academics, institutions, banks, enterprises and customers seem to be very relevant because it is assumed that a lot of work on the field must be done to strengthen the practical relation between Islamic finance and social finance.

Originality/value – This research highlights the increasing relation, from an academic point of view, between Islamic finance and social finance has increased in the last 21 years, especially in the last 5. According to the literature, social finance is a relevant aspect in the present academic discussion on Islamic finance. For these reasons, to map the researches that have been done in this field, the study analyzes the relationship between Islamic finance and social finance.

Keywords Bibliometrics analysis, Islamic finance, social finance

2.1. Introduction

Islamic finance has emerged in the last decades as an instrument of alternative finance (Pollard e Samers 2007). Before 1980, literature and interest on this field were quite scarce, but in the recent years, however, Islamic finance is considered as one of the most interesting vehicles of a financial change with hypothetical unlimited outputs in the real economy (Ferro 2005; Belouafi e Chachi 2014; Masiukiewicz 2017; Nawaz et al. 2019; Hajjar 2019). As highlighted in previous studies, in this sector there are still gaps in our knowledge of whether and how Islamic finance will grow(Hassan e Aliyu 2018; Hassan, Aliyu, e Hussain 2019). In particular, it has been observed a growing interest on the social aspects of Islamic finance (World Bank e Islamic Development Bank Group 2017; P. P. Biancone e Radwan 2018a; Cattelan 2018). To enrich the knowledge on the relation between Islamic finance and social finance, this research analyzes the literature evolution from 2000 until 2021 in order to fill a gap of knowledge in the specific field.

In order to face social and economic challenges, particularly after 2008 and COVID-19 crisis, it seems necessary to have a deeper knowledge of all the possible instruments which can be a real alternative for sustainable growth and wealth balance. In that sense, the social attitude of the Islamic financial movement is relevant (Haji-Othman, Latib, e Ahmad 2020; Faturohman et al. 2021).
Performance (64), impact (39) and risk (39), as it emerges from the research, are the most relevant keywords in the considered documents, confirming the assumption that in the relation between Islamic finance and social finance, all the parties have an interest on the performances of their activities with an eye on their impact and on the related risks.

The research mainly focuses on the relation of Islamic finance as social finance using a bibliometric approach and taking into account years from 2000 to 2021. This range of years has been chosen to evaluate the most recent and relevant contribution on the field. 788 documents published in international and academic journals, editorial materials, reviews and proceedings papers had been analyzed in their characteristics, citation patterns and content.

According to Zupic e Čater (2015), there is a number of possible questions that could be answered by different bibliometric methods. According to that indications, in this paper it has been conducted a Citation analysis and a Co-word analysis (Fig. 1).

Fig. 1 Research Questions Answered by Different Bibliometric Methods

Citation analysis
Which authors most influenced the research in a journal?
Which journals and disciplines had the most impact on a research stream?
What is the "balance of trade" between journals/disciplines?
Who are the experts in a given research field?
What is the recommended "reading list" for a specific area?

Co-citation analysis
What is the intellectual structure of literature X?
Who are the central, peripheral, or bridging researchers in this field?
How has the diffusion of the concept through research literature taken place?
What is the structure of the scientific community in a particular field?
How has the structure of this field developed over time?

Bibliographical coupling
What is the intellectual structure of recent/emerging literature?
How does the intellectual structure of the research stream reflect the richness of the theoretical approaches?
How has the intellectual structure of small niche X developed through time?

Co-author analysis
Are authors from different disciplinary backgrounds working together on a new research field, or do they remain within disciplinary boundaries?
Which factors determine co-authorship?
What is the effect of collaboration on the impact?
Are co-authored articles more cited?
Do more prolific authors collaborate more frequently?
Are internationally co-authored papers more cited?
What is the social structure of the field?

Co-word analysis
What are the dynamics of the conceptual structure of a field?
Uncover the conceptual building blocks of a literature.
What are the topics associated with a particular line of research?
Track the evolution of concept X.

Source: Extract from "Bibliometric Methods in Management and Organization" (Zupic e Čater 2015)

Furthermore, this paper aims also (a) to demonstrate the relation in literature between Islamic finance and social finance, (b) to crystallize the contents of the most relevant academic studies and (c) to analyze the evolution of the perception of the social aspect of Islamic finance in literature.

In order to map the studies that have been done regarding the relation between Islamic finance and social finance among the last 21 years, the paper explores how research has been done.

To explore the contents of this relationship in the academic contribution and also to pinpoint the main streams of the academic research, the research is held as follows:

(i) literature analysis;

(ii) detection of the most relevant articles;

(iii) keywords analysis.

The following section will present the methodology and will include a review of the state of the art in the literature regarding relation between Islamic finance and social finance. The third section will analyze the results and findings and the last section will outline the implications and conclusions.

This bibliometric analysis obtains the following objectives:

(a) Provides bibliometric information on 788 scientific studies extracted from WOS database;

(b) Uses the bibliometric R-package and Biblioshiny to obtain and record the quantitative data of different selected articles;

(c) Uses variables such as main information, source growth, annual scientific production, most relevant sources, top 20 authors and top 20 Universities cited to identify the publication pattern;

(d) Uses citations analysis and country production map to understand the network of this research stream;

(e) Studies the keyword co-occurrency network to evaluate the most relevant topics on the field of study.

2.1.1. Background

Starting from the assumption that Islamic finance is a declination of ethical finance for its link with Islam as a religion, it seemed interesting to deepen the research on the link between Islamic finance and social finance from a quantitative point of view, analyzing the specific literature on the theme.

Islamic finance operates on the basis of Islamic principles, which have a strong social footing, with the target to create shared value within society. These principles can be found in Quran, in the Sunnah and in secondary laws which altogether form Sharia. So, Sharia governs all financial and business services in Muslim countries and all the financial tools related to Islamic finance that spread in non-Muslim countries in the last 30 years. This spread in non-Muslim countries could be driven, in the future, by the Islamic finance attitude towards social finance which is, as an instance, one of the new economic challenges for mainstream finance through the creation of a more inclusive and sustainable financial framework for global growth and wellness.

Furthermore, in order to understand the strong relation between Islamic finance and Social finance, it must be taken under consideration the very old link existing between Islam and economy. In fact, according to Thompson (2007), "*the number of words borrowed from contemporaneous commercial usage that appear in the Qur'ân* (Torrey 1892)*, along with the various hadîth devoted to economic principles, reflect the ubiquitous role of commerce in the earliest stages of Islam's development, leaving "no doubt that the believers were engaged in, indeed preoccupied with, trade (Crone 2005)*" and also "*Islam grew out of a highly conducive trading environment, where economic concerns were central in the minds of the first converts*." Following that assumptions, Islamic finance seem to be the perfect environment for social finance due to the link between Islam, ethics and economy.

Moreover, according to Mohamad (2014), there is a direct link between SRI (Social Responsible Investments)[2] and Islamic investments due to the fact that they are "*regarded as SRI since it applies an ethical screening process that excludes certain industries*" (BINMAHFOUZ 2012).

Finally, Islamic finance could be seen as a declination of social finance also

[2] Ethical Investment Research Service (EIRIS, http://www.eiris.org/) defines a green or ethical SRI fund as a fund where the choice of investment is influenced by one or more social, environmental or another ethical criterion.

due to its compliance with the Sustainable Development Goals (SDGs) developed by the UN which recognize and ratify the key social, economic and environmental issues of our society. SDGs, as a matter of fact, must be used from all private and public actors as the basis for developing the public implementation (Farneti et al. 2019).

However, literature in the field appears to be very limited (Littlewood e Holt 2018), so an important academic discourse with a focus on these themes is highly recommended to achieve relevant advances in the achievement of global goals and in the attainment of the criteria of 2030 Agenda for Sustainable Development.

2.2. Methodology

2.2.1 Method

The research was carried out as a bibliometric analysis. This method allows researchers to determine necessary information about the literature about a specific research topic (Zupic e Čater 2015), including, among the others, (1) type of documents, (2) annual scientific production, (3) scientific sources, (4) source growth, (5) author's keywords, (8) topic dendrogram, (9) articles' citations and (10) country's production. Verbeek, Debackere, Luwel, & Zimmermann (2002), define bibliometric analysis as follows: *"Bibliometrics is the statistical analysis of scholarly communication through publications"*. To perform a rigorous bibliometric and network analysis (e.g., citation and citation analysis) with the aim of tracing the knowledge structure of this topic, all sources have been used.

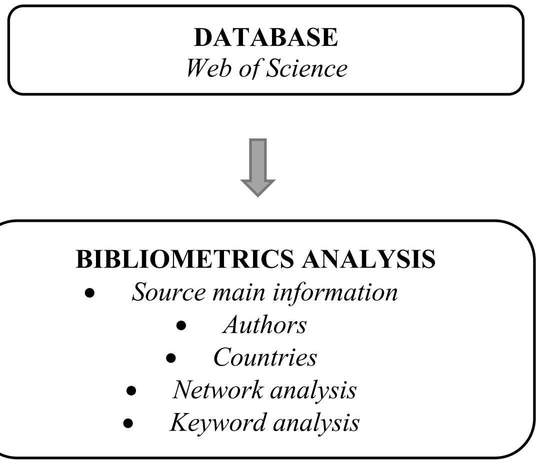
For this reason, the meta-search engine Web of Science-WOS was deployed to access the most important academic databases which contain the widest variety of key articles for scientific analysis (Okoli e Schabram 2010; Webster e Watson 2002).

The bibliometric tool for network analysis has proved useful to target consolidated and emerging areas of research (Aria e Cuccurullo 2017b) and also to give contribution towards integrating these elements in literature (Secinaro, Brescia, Calandra, e Biancone 2020).

The keywords used to perform the bibliometric study were “Islamic finance and social finance”. Consequently, the research’s results were pooled into a one list through the creation of a .bib file for the Data Analysis which has been performed with R-Studio. Biblioshiny tool was used for the creation of conceptual maps of the Data Analysis. Software R-Studio has been chosen to do the statistical analyses since it has been considered useful to perform science mapping analysis (Aria e Cuccurullo 2017b).

The above-mentioned process is represented in Fig. 2 below.

Fig. 2 - Methodology framework



Source: personal elaboration

2.2.2. Paper’s identification

Seven hundred and eighty-eight (788) contributions have been identified in the WOS database based on the research criteria.

For this extent, they have been included articles dealing within all areas of knowledge including also non peer reviewed ones. In order to answer the research question and to limit the research to a more recent but even wider period, documents published from 2000 to 2021 (February 2021) have been selected. The selected language of publication was English since it is the most dominant language in social sciences articles (Hamel 2007).

Standard bibliometric methods allow the aggregation and process of data of articles over a period of time which includes of more years (Heradio, Perez-Morago, et al. 2016; W. Li e Zhao 2015b; Ma et al. 2016b; Rey-Martí, Ribeiro-Soriano, e Palacios-Marqués 2016b).

2.3. Results and findings

2.3.1 Publication pattern

Main information, source growth, annual scientific production, most relevant sources, top 20 authors and top 20 Universities cited had been analyzed to identify the publication pattern.

In Tab. I we can find the main information regarding the 788 articles included in the research.

Tab. I - Main information

Description	**Results**
MAIN INFORMATION ABOUT DATA	
Timespan	2000:2021
Sources (Journals, Books, etc)	344
Documents	788
Average years from publication	4,04
Average citations per documents	7,838
Average citations per year per doc	1,799
References	29452
DOCUMENT TYPES	
article	528
article; book chapter	24
article; early access	36
article; proceedings paper	5
book review	4
editorial material	2
editorial material; early access	1

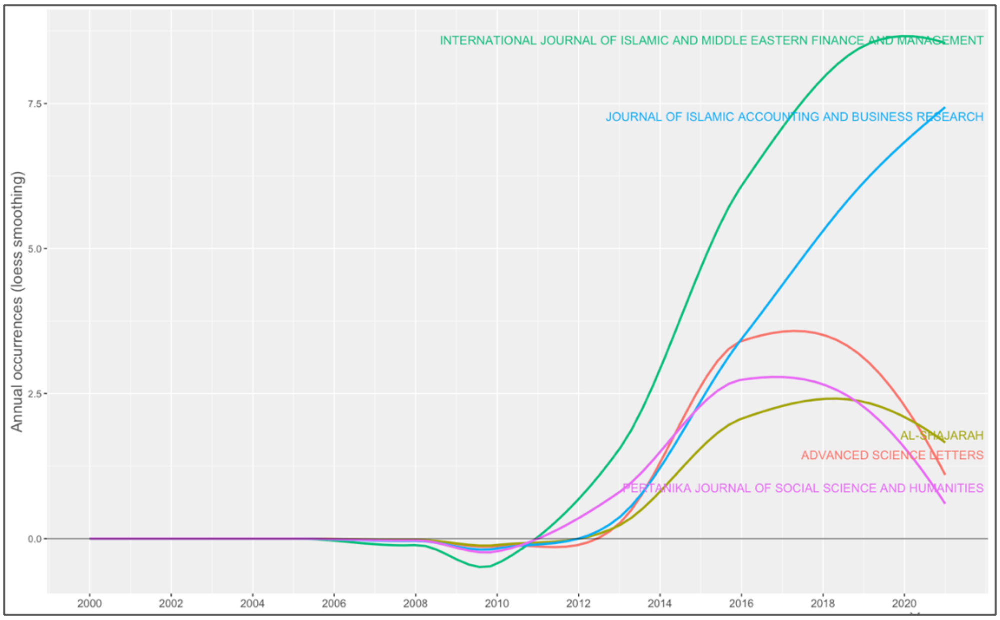
proceedings paper	174
review	12
review; early access	2
DOCUMENT CONTENTS	
Keywords Plus (ID)	1072
Author's Keywords (DE)	2431
AUTHORS	
Authors	4772
Author Appearances	10548
Authors of single-authored documents	147
Authors of multi-authored documents	4625
AUTHORS COLLABORATION	
Single-authored documents	168
Documents per Author	0,165
Authors per Document	6,06
Co-Authors per Documents	13,4
Collaboration Index	7,46

Source: personal elaboration

As it could be observed, articles (528) and proceeding papers (174) are the most relevant type of documents followed by early accesses (36) and book chapters (24). On average, most articles were the result of the work of multiple authors considering that only 168 documents, out of 788, were single-authored. Finally, the Collaboration Index which implies the total number of authors of multi-authored articles/total number of multi-authored articles, has a value of 7,46.

During the analyzed period (2000-2021), the publications on the theme heavily increased from 2012. The most relevant scientific production refers to two journals: International Journal of Islamic and Middle Eastern Finance and Management and Journal of Islamic Accounting and Business Research (Fig. 3).

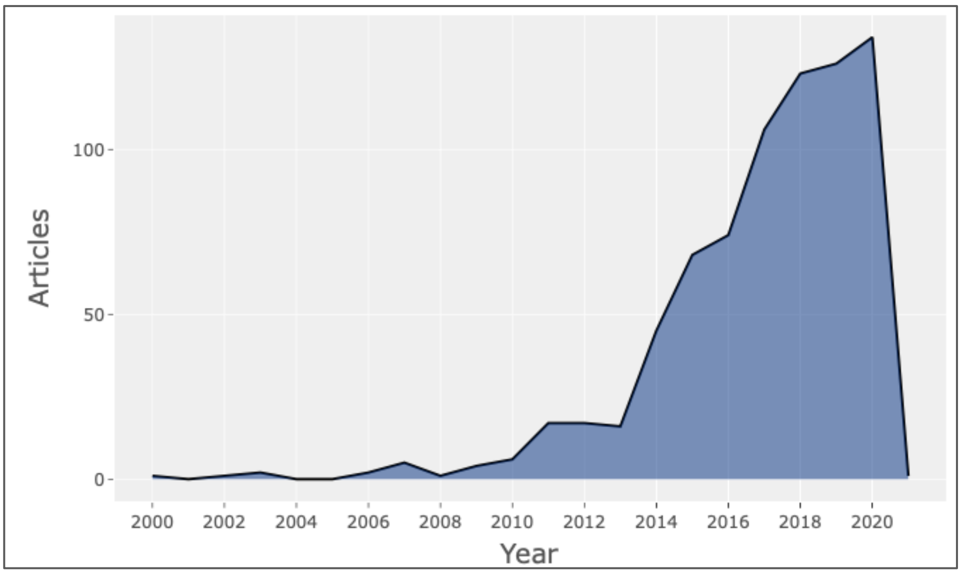
Fig. 3 - Source growth



Source: personal elaboration from Biblioshiny

Annual scientific production has increased consistently from 2008 with a maximum peak in 2020 (2021 has just started) (Fig. 4). The results confirm that this field of research is continuously evolving and the future horizons are increasingly broad.

Fig. 4 - Annual scientific production



Source: personal elaboration from Biblioshiny

Observing the top 20 journals that published the analyzed articles, only eleven reach a relevant number of publications (Tab. II), which together (253) represent more than one-third of the entire sample. Looking at the table below, it can be assumed that the observed journals are mainly related to Islamic finance issues and not generally to Social studies.

Tab. II - Top 20 most relevant sources

Sources	**Articles**
International journal of Islamic and Middle Eastern finance and management	64
Journal of Islamic accounting and business research	43
Advanced science letters	24
Journal of Islamic marketing	21
Pertanika journal of social science and humanities	19
Al-shajarah	17
Humanomics	16
Isra international journal of Islamic finance	16
International journal of social economics	12
Journal of Asian finance economics and business	11
Intellectual discourse	10
Managerial finance	9
Journal of business ethics	8
Lancet	8
Research in international business and finance	8
International journal of finance & economics	7
Pacific-basin finance journal	7
Sustainability	7
Emerging markets finance and trade	6
Ilc 2017 - 9th Uum International Legal Conference	6

Source: personal elaboration

The sample is composed by 4772 authors. The authors with highest impact so far have been: HAJ-MIRZAIAN A (17) (medical researches), HASSAN MK (17) (expert in Islamic finance), GUPTA R (14) (medical researches), KASSIM S (14) (medical researches), SAMY AM (13) (medical researches), ABDULLAH A (expert in Islamic finance) (Tab. III). Looking at the affiliation of the authors at the time of publication emerges that the most represented Universities are those on Tab.

IV.

Most of the papers are the result of a group-work while only 168 had been the result of the work of a single author.

Tab. III - Top 20 authors

Authors	Articles
Haj-Mirzaian A	17
Hassan Mk	17
Gupta R	14
Kassim S	14
Samy Am	13
Abdullah A	12
Fischer F	12
Hendrie D	12
Jonas Jb	12
Jozwiak Jj	12
Murray Cjl	12
Rawaf Dl	12
Singh Ja	12
Aremu O	11
Behzadifar M	11
Bijani A	11
De Neve Jw	11
Fukumoto T	11
Hay Si	11
Majeed A	11

Source: personal elaboration

Tab. IV - top 20 Universities for Scientific Production

Affiliations	Articles
Univ Tehran Med Sci	260
Int Islamic Univ Malaysia	169
Kermanshah Univ Med Sci	154
Islamic Azad Univ	129
Univ Washington	120
Iran Univ Med Sci	118
Mazandaran Univ Med Sci	91
Harvard Univ	85
Univ Teknol Mara	82

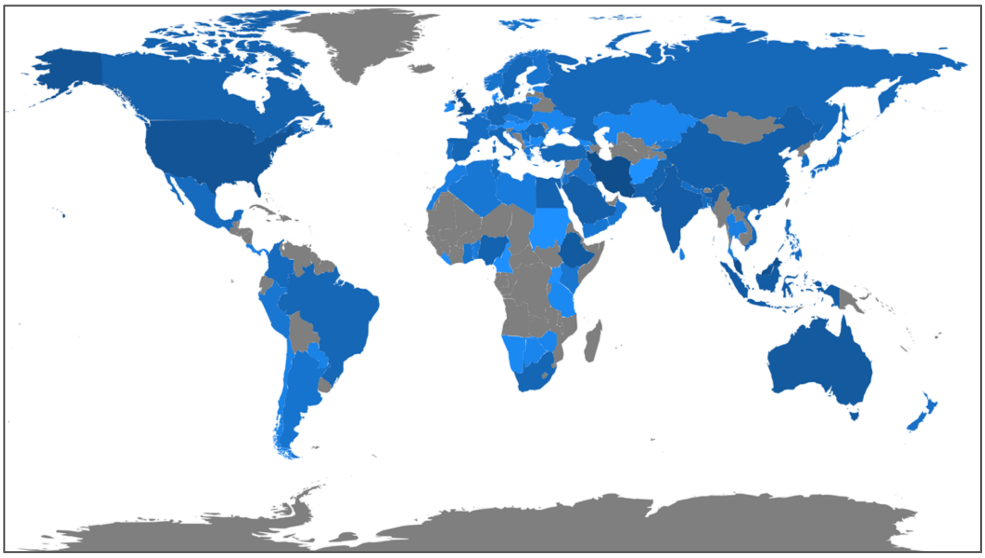
Shahid Beheshti Univ Med Sci	81
Mekelle Univ	76
Tabriz Univ Med Sci	71
Univ Malaya	70
Babol Univ Med Sci	66
Univ Porto	64
Univ Oxford	63
Univ Utara Malaysia	60
Carol Davila Univ Med And Pharm	56
Imperial Coll London	55
Univ Melbourne	54

Source: personal elaboration

2.3.2 Citation analysis

Fig. 5 and Tab. V display the Country Production with Iran which tops the list (1257), the only one with more than 1000 citations, followed by Malaysia (952), USA (616), UK (383), Australia (355) and Ethiopia (304). This is due to the presence on that countries of a lot of scholars interested on the themes and demonstrates a remarkable development in the topic both in Muslim and non - Muslim countries even for different reasons. In fact, on the one hand, in Muslim countries islamic finance is one of the most spread financial system since it complies with Saria law, so there is a certain academical discussion on this field and on recent times also in the field of social finance as a tool for growth and sustainable development. On the other hand, in USA, UK and Australia, Islamic finance is seen as an alternative financial tool with wide chances of growth (Rammal e Zurbruegg 2016; Belouafi e Chachi 2014). Finally, Fig. 5 shows a generalized worldwide interest on the topic of research.

Fig. 5 - Country production



Source: personal elaboration

Tab. V - Top 20 Country production

Region	**Freq**
Iran	1257
Malaysia	952
Usa	616
Uk	383
Australia	355
Ethiopia	304
Indonesia	249
India	217
Saudi Arabia	194
China	177
Canada	136
Pakistan	130
Nigeria	113
Egypt	106
Brazil	87
Germany	83
South Africa	81
Italy	78
Spain	75
Turkey	72

Source: personal elaboration

Table VI represents the ranking of the top 20 articles per number of citations from other articles. This shows that the articles with more total citations and total citation per year are three papers edited in The Lancet. In particular, The Lancet has 3 papers in the Top-cited documents list and there are not journals with more than one citation in the list of most cited documents. The 5 most cited sources are:

- Lancet (2902),
- Abacus (152),
- Journal of Money Credit Bank (148),
- Emerging Market Review (126),
- Responsibility policy (1733).

However, observing the topic of all the journals and the contents of the articles, it must be underlined that, due to the wide settings of the initial research, it has been found that top-cited documents has been published on medical and engineering journals such as The Lancet, International Journal of Fuzzy Systems, Applied Thermal Engineering, International Journal of Intelligent Systems Volume and Nature. This result could be explained due to the presence of contributions of Islamic Scholars affiliated to Islamic Academical Institutions.

On the other hand, for what concerns the articles referrable to scientific journals of social and economic sector, it is possible to see that the highest number of references has been received by an article published in 2006 (Maali, Casson, e Napier 2006); this has been the most-cited article to date. Four articles, one done in 2011 (Hayat e Kraeussl 2011), one in 2014 (Al-Khazali, Lean, e Samet 2014), and two from 2018 (Kim, Yu, e Hassan 2018; Hassan e Aliyu 2018) have significant number of total citations per year and the overall ranking obtained in the top cited documents is probably due to the fact that they are more recent and consequently received, in proportion with the total time of circulation, a less number of total citations. This indicates that the papers provide high-quality information on issues related to Islamic finance and social finance. According to the results, it is not possible to identify a leading journal with a higher number of published articles inserted in the Top-cited documents list.

Tab. VI - Top-cited documents

#	Authors, Titles and Sources	Total Citations	TC per Year
1	(James et al. 2018) *Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017*. The Lancet - Volume 392, Issue 10159, 10–16 November 2018, Pages 1789-1858	1437	359,25
2	(Stanaway et al. 2018) *Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017*. The Lancet - Volume 392, Issue 10159, 10–16 November 2018, Pages 1923-1994	844	211
3	(Kyu et al. 2018) *Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017*. The Lancet - Volume 392, Issue 10159, 10–16 November 2018, Pages 1859-1922	553	138,25
4	(Maali, Casson, e Napier 2006) *Social Reporting by Islamic Banks*. Abacus 2006	152	9,5
5	(Aggarwal e Yousef 2000) *Islamic Banks and Investment Financing*. Journal of Money, Credit and Banking, Vol. 32, No. 1 (Feb., 2000), pp. 93-120 (28 pages)	148	6,7273
6	(Hayat e Kraeussl 2011) *Risk and return characteristics of Islamic equity funds*. Emerging Markets Review - Volume 12, Issue 2, June 2011, Pages 189-203	126	11,4545
7	(Al-Khazali, Lean, e Samet 2014) *Do Islamic stock indexes outperform conventional stock indexes? A stochastic dominance approach*. Pacific-Basin Finance Journal - Volume 28, June 2014, Pages 29-46	108	13,5

8	(H. Liu et al. 2018) *Adaptive Controller Design for a Class of Uncertain Fractional-Order Nonlinear Systems: An Adaptive Fuzzy Approach*. International Journal of Fuzzy Systems volume 20, pages366–379(2018)	105	26,25
9	(Pollard e Samers 2007) *Islamic banking and finance and postcolonial political economy: decentring economic geography*. Transactions of the Institute of British Geographers 32 313–30 (2007)	99	6,6
10	(Maurer 2002) *Anthropological and accounting knowledge in Islamic banking and finance: rethinking critical accounts*. Journal of the Royal Anthropological Institute Volume8, Issue4 - December 2002 - Pages 645-667	69	3,45
11	(Chang et al. 2019) *Measuring population ageing: an analysis of the Global Burden of Disease Study 2017*. *The Lancet Public Health* Volume 4, Issue 3, March 2019, Pages e159-e167	68	22,6667
12	(Kim, Yu, e Hassan 2018) *Financial inclusion and economic growth in OIC countries*. Research in International Business and Finance - Volume 43, January 2018, Pages 1-14	45	11,25
13	(Kamla e Rammal 2013) *Social reporting by Islamic banks: does social justice matter?* Accounting, Auditing & Accountability Journal - Vol. 26 No. 6, pp. 911-945	43	4,7778
14	(Hassan e Aliyu 2018) *A contemporary survey of islamic banking literature*. Journal of Financial Stability - Volume 34, February 2018, Pages 12-43	42	10,5
15	(Rethel 2011) *Whose legitimacy? Islamic finance and the global financial order*. Review of International Political Economy - Volume 18, 2011 - Issue 1: Legitimacy and Global Governance Pages 75-98	39	3,5455
16	(Tian et al. 2019) *Risk-based stochastic scheduling of energy hub system in the presence of heating network and thermal energy management*. Applied Thermal Engineering - Volume 159, August 2019, 113825	37	12,3333

17	(P. Liu e Liu 2018) *Some q-Rung Orthopai Fuzzy Bonferroni Mean Operators and Their Application to Multi-Attribute Group Decision Making,* International Journal of Intelligent Systems Volume 33, Issue2 - February 2018 - Pages 315-347	36	9
18	(Burstein et al. 2019) - *Mapping 123 million neonatal, infant and child deaths between 2000 and 2017.* Nature volume 574, pages353–358 (2019)	35	11,6667
19	(Masud et al. 2017) *Adaptation barriers and strategies towards climate change: Challenges in the agricultural sector.* Journal of Cleaner Production - Volume 156, 10 July 2017, Pages 698-706	35	7
20	(Belal, Abdelsalam, e Nizamee 2015) - *Ethical Reporting in Islami Bank Bangladesh Limited (1983–2010).* Journal of Business Ethics volume 129, pages 769–784 (2015)	33	4,7143

Source: personal elaboration

Topics analyzed from the considered articles are quite various, so for the purpose of this research, we will have a deepen look at the five most cited papers in the field of interest. The most relevant document is the one of Maali et al. (2006) in which the authors observe that "*Islam stresses the concept of social responsibility. The term 'brotherhood' (Akhowa) is widely used in Islamic societies. All Muslims are considered to be brothers and should take care of each other, and no cheating or exploitation is allowed, whatever the reasons. Muslims are supposed to take care of others in society—the prophet Mohammed said: 'the Muslims in their mercy towards each other are like a body, if a single part of it complains the other parts would be affected' (Sahih Al-Bukhari—Ali, 1961). The prohibition of Riba (usury), the requirement to pay Zakah and the provision of Quard Hassan (interest-free loans) are clear examples of the Islamic emphasis on social justice. Islam also stresses that people should be dealt with justly: 'God commands justice, the doing of good' (Qur'an, 16:90). In this context, justice refers to being fair with everyone. Muslims are prohibited from engaging in any activity that includes any kind of exploitation, or leads to injustice or harm to anyone. As Ahmad (1995, p.*

82) notes, 'Justice forms the core of the Quranic injunctions'. For Islamic businesses, the requirement to deal justly encompasses all dealings with employees, customers and all members of the society in which these businesses operate." and also "*For pious Muslims, following the requirements of Sharia is central to life. In an Islamic context, the main objective of corporate reporting is to allow Islamic enterprises to show their compliance with Sharia* (Baydoun e Willett 1997)." Furthermore, the conclusions are very interesting: "*the empirical findings suggest that social issues are not of major concern for most Islamic banks. This may in part reflect the fact that most Islamic banks operate in less developed economies where social concerns, especially as regards issues such as the environment, may be given less importance* (Belal 2000). *However, Muslims in the countries where Islamic banks operate are likely to have a high expectation of the banks' social role. This has been recognized by the management of some Islamic banks, such as Jordan Islamic Bank,11 and this bank provides a broader range of social disclosures compared to most other Islamic banks*". (Aggarwal e Yousef 2000) examines the relationship between Islamic banking and investments stating that: "*although Islamic banks are or should be based on the profit-and-loss sharing principle, given the economic environment in which they operate, using only this type of financing may not be possible. Moral hazard problems suggest the need for some sort of debtlike instrument. The use of markup contracts is a rational response to informational problems. Thus, we feel the informational environment will be a more important determinant of the evolution of banking and growth in Muslim countries than will attempt to impose financial systems based on specific religious principles*".

Hayat e Kraeussl (2011) analyze the performance of Islamic equity fund (IEFs) over the period 2000-2009. An important implication of the research is that "*Muslim investors might improve their performance by investing in index tracking funds or ETFs* (Islamic exchange traded funds) *rather than to invest in individual IEFs*", in fact, "*it seems that IEF managers have a long way to go, before offering Muslims an investment proposition that is attractive in terms of risk and return*."

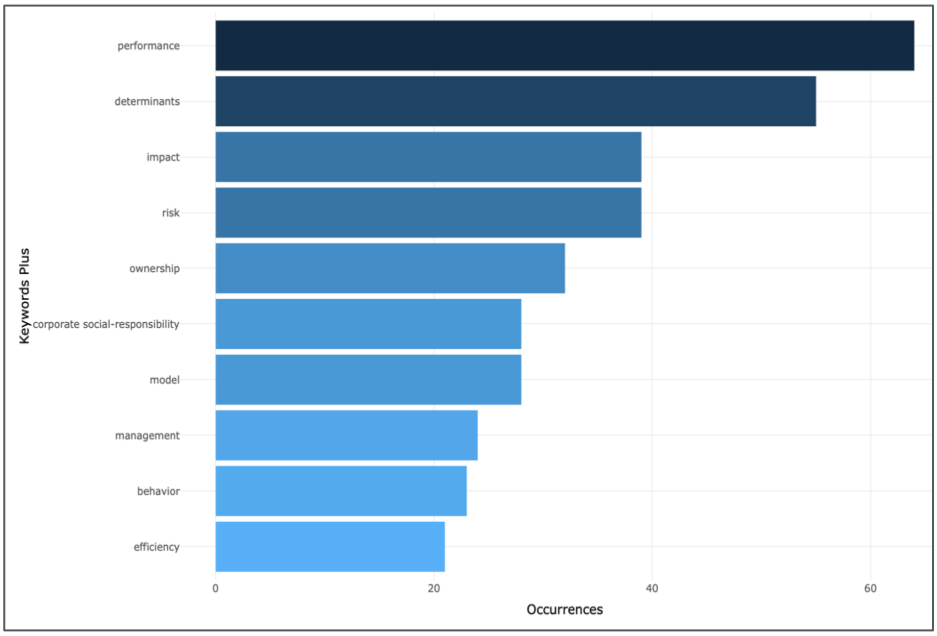
Finally, Al-Khazali, Lean, e Samet (2014) examine, through stochastic dominance (SD) analysis, that "*whether Islamic stock indexes outperform conventional stock indexes by comparing nine Dow Jones Islamic indexes to their Dow Jones conventional counterparts: Asia Pacific, Canadian, Developed Country, Emerging Markets, European, Global, Japanese, UK, and US indexes. the concept of embeddedness in economic geography*."; as a result of the analysis is stated that "*Islamic investing performs better than conventional investing during meltdown economy*".

2.3.3 Keyword co-occurrences network

Every article must contain keywords which represent the research fields that have been analysed in the articles. The purpose of the co-occurrence analysis is to design the conceptual structure of a frame of reference using a network of co-occurrence words to map and group the terms extracted from the keywords into a bibliographic collection (Alessandra et al. 2021). The following Fig. 6 gives details to find out what are the fields of research that have been associate to social enterprises research. The figure evidences that scholars combine their scientific production with a relevant number of keywords and shows how the central role of PERFORMANCE, IMPACT and RISK. The world DETERMINANT could be difficultly contextualized without considering the specific framework in which it had been used in the articles.

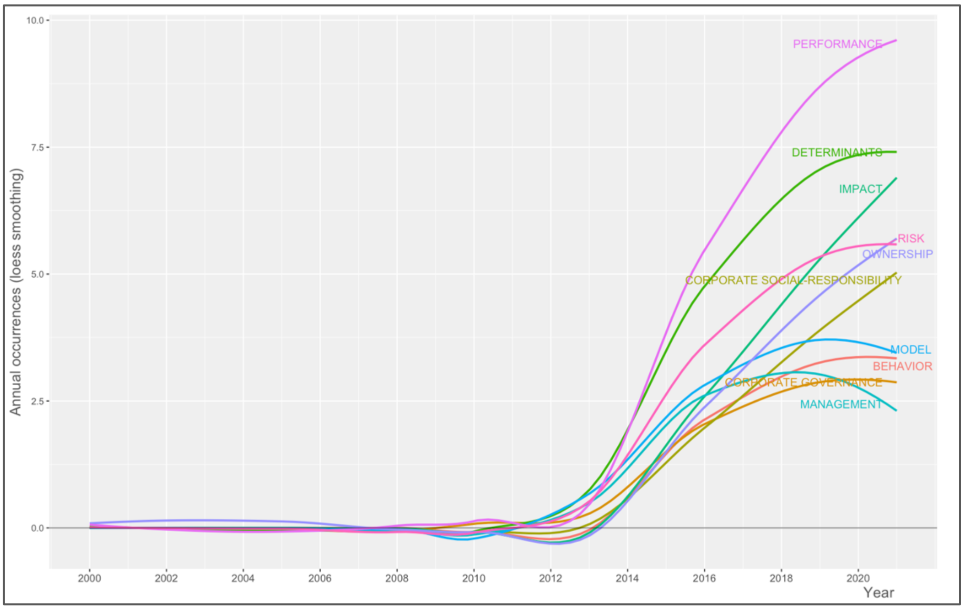
Furthermore, the most relevant keywords are OWNERSHIP, CORPORATE SOCIAL-RESPONSIBILITY, MODEL, MANAGEMENT, BEHAVIOR AND EFFICIENCY.

Fig. 6 - Most relevant words



Source: personal elaboration

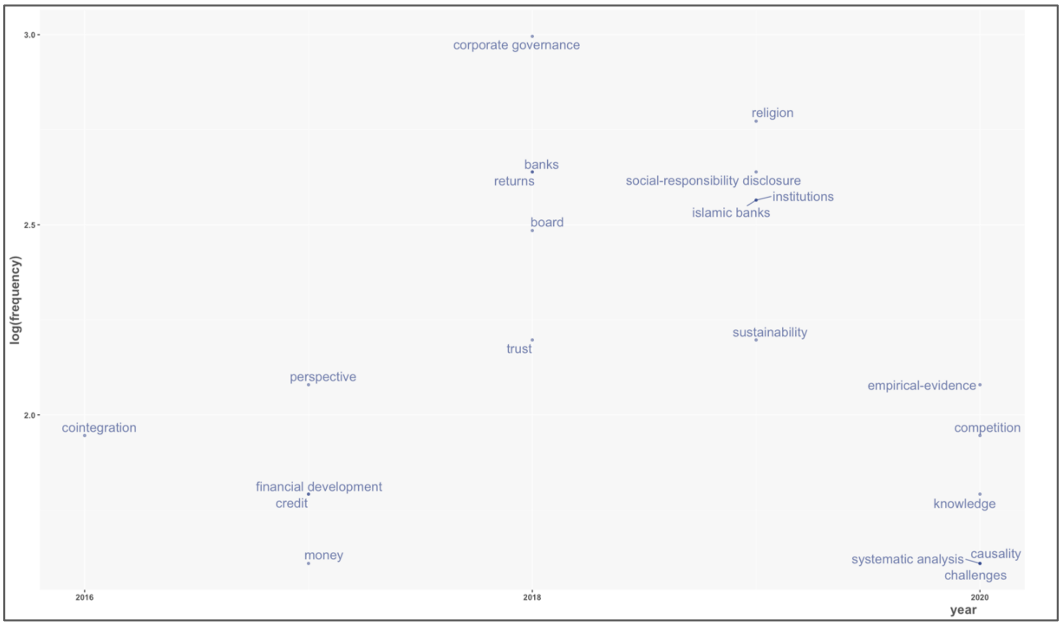
Fig. 7 - Annual occurrences of most cited words



Source: personal elaboration

The figure above shows the noticeable spread of the annual occurrences of the top cited words within the last 21 years. At the same time in Fig. 8 and Tab. VII below, clarify the trending topics between 2016 and 2020, the years with the most relevant production.

Fig. 8: Trend topics per year



Source: personal elaboration

Tab. VII Trend topics per year

Words	freq	year
Corporate Governance	20	2018
Religion	16	2019
Banks	14	2018
Returns	14	2018
Social-Responsibility Disclosure	14	2019
Institutions	13	2019
Islamic Banks	13	2019
Board	12	2018
Trust	9	2018
Sustainability	9	2019
Empirical-Evidence	8	2020
Perspective	8	2017
Competition	7	2020
Cointegration	7	2016
Knowledge	6	2020
Credit	6	2017
Financial Development	6	2017
Causality	5	2020

Challenges	5	2020
Systematic Analysis	5	2020
Money	5	2017

Source: personal elaboration

As it can be observed looking at Tab. VII, the top-3 relevant trend topics are related to Corporate Governance (20), Religion (16) and Banks (14). The most relevant contributions are analyzed below.

Corporate governance is analyzed by Fatemian e Rezaei (2018) with a particular focus on Iranian multinational and domestic companies listed in Teheran's stock exchange. Hassan e Aliyu (2018) analyze Islamic banks' performance and their impacts on social well-being, reviewing contemporary empirical studies of Islamic banks between 1983 and 2017. Nurim (2018) underlines the important role of local wisdom (Islamic Sharia in Indonesia) value to encourage the optimal financial company performance. The results show that local value has significant positive effect to financial performance and that corporate governance score insignificant different between the members of Jakarta Islamic Index and Non-Jakarta Islamic Index. The study contributes to the implementation of corporate governance practice, because it observes that the local wisdom value can become the social enforcement for management to behave ethically. Zainuldin, Lui, e Yii (2018) in their research find that *"Islamic ethical system embedded in the Islamic banks business activities shapes Islamic banks into organizations that place higher ethical considerations than conventional banks. Therefore, Islamic banks are likely to have less severe agency problems relative to their conventional counterparts."* Haridan, Hassan, e Karbhari (2018) find that the compliance review process is inadequately undertaken within SBs (Sharia boards) that are still excessively reliant on internal officers implying that there is a possible independence compromission. In particular, there are concerns about the value and effectiveness of SBs. The authors suggest that *"This lack of confidence in the social aspect of Islamic banks need to be addressed with further improvement on the corporate governance"*. H.-A. N. Al-Malkawi e Pillai (2018) in their paper observe *"conventional corporate governance (CG) mechanisms into the Islamic banking* *framework in order to evaluate their impact on Islamic banks (IBs) financial performance (IBFP) within the Gulf Cooperation Council (GCC) context".* Ajili e Bouri (2018) analyze *"the role of Shariah Board (SB) that is considered as a typical corporate governance mechanism for the Islamic banking system because it takes the responsibilities of assuring the compliance of transactions and operations with Islamic rules and principles. In that paper the author measures the SB quality and examines its moderating effect on the relationship between financial performance and accounting disclosure quality".* Barom (2018) examines *"three major routes to normative justification of social responsibility: the objectives of Sharia (Maqaṣid al-Sharia), principles of Islamic moral economy (axioms of justice and beneficence) and micro-foundational assumptions (characteristics of homo Islamicus and the notion of falāḥ)".* Nor, Nawawi, e Salin (2018) analyze the relation between efficient audit and positive investments. They observed that a company with strong governance structure will likely make better investment decision. In fact, *"Managers under strong governance are prevented from taking an aggressive investment risk approach that may result in overinvestment. In addition, the company will carefully plan to have an adequate capital so that a good opportunity investment will not being passed due to insufficient financing that will result underinvestment".* Bizri, Jardali, e Bizri (2018) investigate the role of non-economic factors on the financing decisions of family firms in the Middle East. *"The findings imply that financing decisions which involve religious beliefs are directly influenced by the decision maker's personal attitude, which, in turn, is significantly influenced by familial and social pressures".* Nomran, Haron, e Hassan (2018) analyze *"the Malaysian declination of the Islamic financial rule that oblige Islamic banks (IBs) to stay Sharia compliant to enhance their customer loyalty and obtain a competitive edge. Given the performance of Sharia supervisory board (SSB) continues to be a matter of concern especially for IBs across countries that have a different regulatory environment, the authors examine the effects of SSB characteristics on IBs' performance in Malaysia being a country that applies the most extreme intervention of regulatory agencies (pro-active model)".*

Religion becomes part of the academic discussion in that field, in particular with Fan et al. (2019) that provide credit risk analysis with cross country evidence from microfinance institutions (MFIs) that are Sharia-compliant and their comparisons with non-Sharia-compliant MFIs. They find that, compared with non-Sharia-compliant conventional MFIs, Sharia-compliant Islamic MFIs have less credit risk but are less profitable and financially sustainable, have better poverty outreach, and are less likely to `mission drift'. The study highlights the differences in religiosity and security design between these two institutions and helps practitioners and policy makers to improve the understanding of the difference between conventional and Islamic MFIs. Boubakri et al. (2019), on the other hand, explore the stock liquidity of Islamic banks (IBs) matching conventional banks (CBs) in emerging economies, finding *"that IBs have higher stock liquidity than CBs, suggesting that investors prefer IBs' stocks and neglect what they consider to be "sin stocks" (i.e., CBs' stocks), which do not conform to their religious beliefs."* They also assumed that *"faith-driven investors tend to value more norm-conforming stocks (i.e., IBs) during times of distress and uncertainty, and in weaker regulatory environments."*

Majeed (2019) in his study analytically *"explore and empirically test the relationship of social capital with economic performance of the Muslim world using Islamic perspectives and an inclusive development approach."* With these premises, it is explained that social capital is an important cause of economic performance in the Muslim world.

Finally, Alazzani, Wan-Hussin, e Jones (2019) analyze *"the state of the art of the researches devoted to answering the question of whether the religious beliefs of the upper echelons of management and gender diversity have any impacts on the communication of corporate social responsibility (CSR) information in the marketplace."* The aim of the study is to fill the literature gap and to find an answer to two main questions *"does the CEO religion affect a firm's CSR behaviour?"* and *"do the women on the boards influence CSR reporting?"*.

Banks are examined from W. Mansour e Bhatti (2018) under *the new paradigm of Islamic corporate governance (ICG) in an emerging area of Islamic finance. The authors argue that ICG is no longer expected to play the traditional* *supervisory and regulatory role within Islamic financial institutions*. In this sense, ICG must be seen under a *"multi-faceted, new paradigm for the purpose of improving the stakeholders' interests and reaching the best business practices of the Islamic finance industry to cater investors' need and the social well-being of the homeless and disadvantaged communities"*. According to Al-Jarhi (2018), *Islamic finance industry is composed of products with claim of Islamicity but questionable on their Sharia credentials*. This in a context in which the industry is increasingly exposed to cynicism and decline in popular interest, facts these that need to be addressed and that require actions to change the actual route. Hassan e Aliyu (2018) argue that Islamic banking system is performing below its conventional counterpart. Isa et al. (2018) observe that *"Malaysian banks are sufficiently provisioned for the regional financial integration under the ASEAN Capital Markets Forum (ACMF) by the end of 2015, where several initiates have been initiated, including the harmonization of standards to encourage greater intra-regional investment flows and transactions and continued provisions of the much-needed funds by the region's private sectors"*.

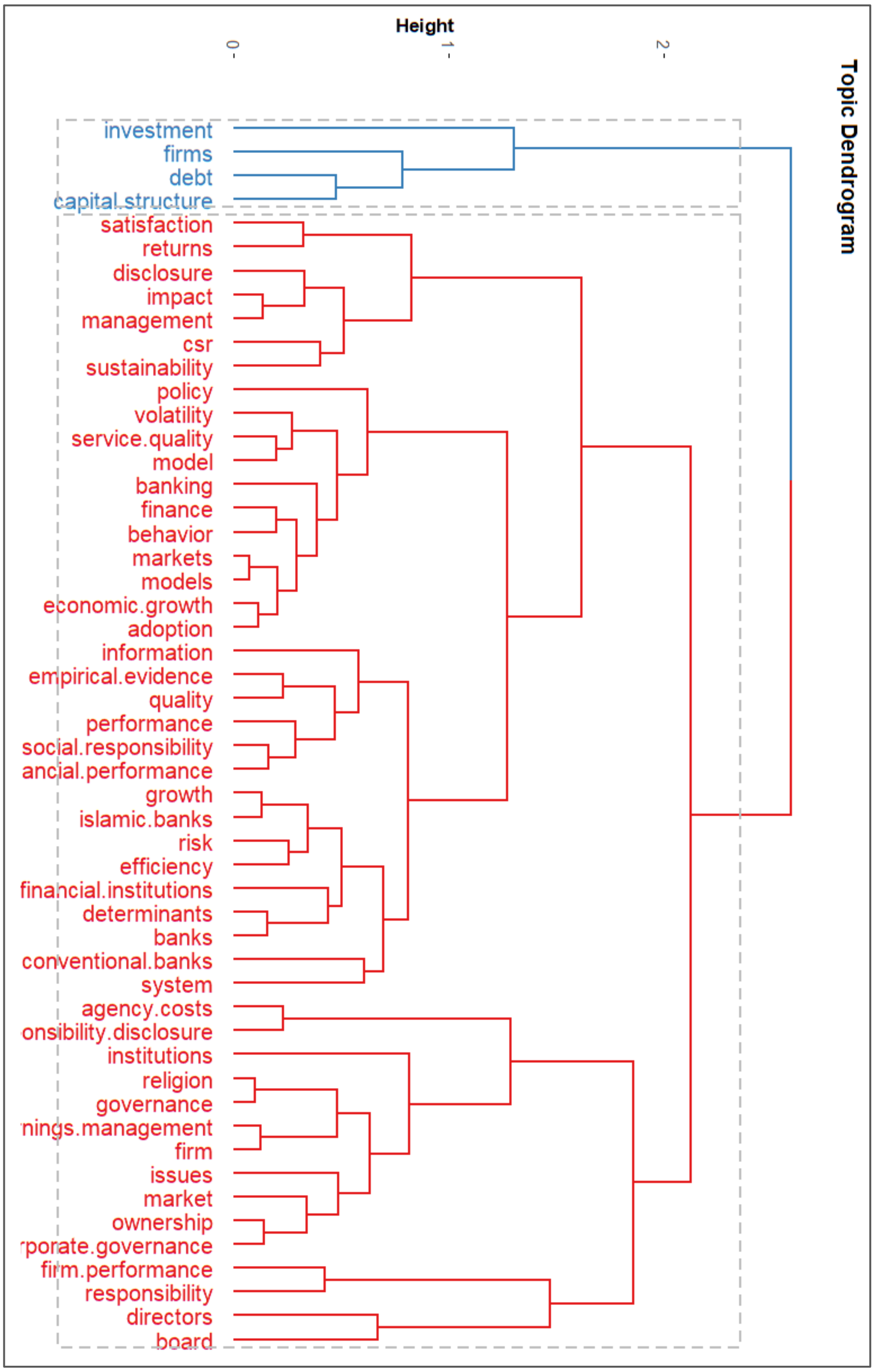
H.-A. Al-Malkawi e Javaid (2018) investigate *"the impact of corporate social responsibility (CSR) on corporate financial performance (CFP) using Zakat as a measure for CSR."* In this study it is revealed that *"there is a strong positive relationship between CSR (Zakat) and CFP which suggests that Zakat contributes positively to both firm's profitability and value and can be considered as a win-win strategy to maximize returns and improve performance while considering the society as a whole."* Sarhan e Ntim (2018) suggest that greater efforts must be done towards pursuing reforms in MENA countries that seek to improve national governance quality, economic environment and positive religious practices.

Isa e Rashid (2018) observe that Islamic banks in Malaysia during a period of *"distressed financial conditions were less discouraged to increase their regulatory capital funds to share risks. Intuitively, they were more encouraged to engage in risk-shifting behavior. Also, the risk-shifting behavior was found to have a significantly high potential in foreign-owned Islamic banks than in domestic Islamic banks"*. These observations imply that *"Islamic banks can continue to play* *their role in promoting inclusive growth, reducing inequality and accelerating poverty reduction.".*

Furthermore, the topic dendrogram (Fig. 9) identifies five macro variables dominant in the field and used as keywords by authors. They are represented in hierarchical order and the relationship between the keywords generated by hierarchical clustering is represented too. The cut in the figure and the vertical lines facilitate an investigation and interpretation of the different clusters. According to (Andrews 2003), Fig. 9 does not intend to find the perfect level of associations between clusters, but it aims to estimate the approximate number clusters in order to facilitate further discussion on the field of research.

Concerning the existing link between social finance and Islamic finance, the convergence is divided into two main strands. The first strand focuses on investments, debt, capital structure and firms, implying that there is a strong link with the bank and investment level, and the second strand focuses on aspects such as impact, management, corporate social responsibility (CSR), quality, social responsibility, growth and religion and still with the banking side with themes such as banking, finance, risk, markets, financial institution, agency cost, board, directors and efficiency.

Fig. 9. Topic dendrogram



Source: personal elaboration

2.4. Discussion and conclusions

2.4.1 Literature contribution

To develop a sustainable international growth, in recent years mainstream finance and Islamic finance are moving their interests toward social issues. Social responsibility, as a matter of fact, represents a relevant part of the academical debate. For this reason, it has been considered that a bibliometric analysis of the relationship between Islamic finance and social finance could have been the right starting point for further systematic studies of this fast-growing area of finance.

As a matter of fact, Islamic finance, due to its adherence to the Shaaria and Quran's principles, has its own set of ethical and social characteristics, that have to be analyzed also from an academical point of view.

Islamic finance, in fact, is based upon 10 main rules which are strongly linked to social responsibility in financial environment (Schoon 2015):

- Avoid riba;
- Avoid gharar;
- Trade honestly and fairly;
- Full disclosure;
- Avoid misrepresentation;
- Do not interfere in a transaction that is (being) concluded;
- Avoid haram (forbidden) items;
- No hoarding;
- Open markets;
- Do not take advantage of a seller's helplessness.

These principles, in fact, are similar to those that can be found in the mainstream Social Responsible Investing (SRI) market and in some western financial regulations such as the UK's Treating Customer Fairly (TCF). The main difference between Islamic and main stream social principles is that Islamic principles apply to all parties instead TCF applies only to customers.

Starting from that general considerations and having a look at the trending topics of the last 5 years, it is clear that academics are underlining very important concepts useful for the diffusion of social finance practices in a system that seems to be the natural environment for social responsibility and social and sustainable development. Social responsibility, sustainability, trust and challenges are the most relevant words in that sense. Even if in that paper it doesn't clearly emerges an explicit reference to the SDGs (Sustainable Development Goals), it seems that Islamic finance could be a very effective instrument to the achieve that goals.

The research shows the results of 21 years of academic contribution in the field of Islamic finance and social finance and could be considered as the starting point to deepen on the fields of knowledge that has emerged from the bibliometric analysis.

A bibliometric analysis has been used to map the patterns and characteristics of 788 contributions published worldwide in proceedings papers, books chapters and reviews, international academic journal and editorial materials. This scientific method allows the analysis to grant a deeper understanding of the state of art of the research on the field of the relation between Islamic finance and social finance. The main finding is the presence of a number of keywords which link Islamic finance, social finance and sustainable development goals. Another important finding is the diffusion of this academic issue not only in Muslim countries but also in USA, UK and Australia which seem to have a certain attention toward Islamic Finance both from an academical and financial point of view.

The bibliometric analysis showed that the most cited articles are very old compared to the relevant academical production of the last five years. However, these articles are really interesting in the way they stress their focus on actual issues such as:

- The link between social responsibility and justice in Islamic finance and the implications of that relation in social reporting in Islamic banks;
- Doubts on the sustainability of a profit and loss sharing system such as those conducted by Islamic banks;
- The higher efficiency of Islamic ETFs compared to the performance of IEFs (Islamic Equity funds);
- The overperformance of Islamic stock indexes compared to their

conventional counterparts during the 2008 world crisis.

2.4.2 Implications for institutions, banks, enterprises and customers

Starting from the study's preliminary evidences and if supported by future research, Islamic finance and Social finance have demonstrated a proven relevant relation which can be enhanced by all levels of stakeholders, from governments, to banking institutions, to social enterprises, to SMEs and also to customers. However, they have to coordinate their actions in order to generate a positive impact both from a social and economic point of view.

Islamic social finance is a reality and also the academical and economic discussion on that field which is continuously growing. It implies that it is time to boost the output of that relation also considering that a shared action of Islamic finance actors in the social finance fields will enhance ethical investments that will generate economic activities able to create social impact also helping people in need. Despite the fact that Muslim countries may have seen a deeper relation between Islamic finance and its social output, however these countries have suffered a lack of coordination between banking and social institutions and often failed in the past to convey money in social projects (Olanrewaju, Shahbudin, e Zakariyah 2020). In non-Muslim countries, on the other hand, there is a higher awareness on the field of social finance but the countries usually fail to attract Islamic finance investments, due to their legislation which is not completely ready to welcome Islamic finance tools, so loosing huge amounts of money that could enhance their economy and the condition of local Muslims (P. P. Biancone 2014; P. Biancone, Secinaro, e Radwan 2020; Masiukiewicz 2017; Kalimullina 2020; Grassa e Hassan 2015; Alharbi˙ 2016).

Particularly in a period of deep crisis, from an economic, environmental and social point of view, it seems very important to invest on sustainable development systems in which Islamic finance as social finance perfectly fits. The results suggest that the attitude toward that issue is changing and that it could be time to invest and bet on that field. Academic sector, in fact, is shading some light on the possible outputs of Islamic finance as social finance which implies that there is more consciousness on the challenges and the possibilities that now are ready to find practical application on real economy (Al-Roubaie e Sarea 2019; Sekreter 2017; Moghul e Safar-Aly 2014; Atah, Nasr, e Mohammed 2018; T. Khan 2019).

2.4.3 *Limitations and future research*

The paper's main limitation is due to the adoption of the bibliometric method because the databases include only part of the scientific papers and not all world's sources. However, WOS database, the one adopted for the research, is the world's most complete index even though it is not complete at all. On the other hand, to have a wider landscape of knowledge on the field of research, they have been considered all kind of sources: papers published in international and academic journals, books chapters and reviews, editorial materials and proceedings papers. The implications for academics, institutions, banks, enterprises and customers seem to be very relevant because it is assumed that a lot of work on the field must be done to strengthen the practical relation between Islamic finance and social finance.

The results suggest that in general there is a new awareness on the specific field of interest, as demonstrated by the analysis of the last 21 years' literature and that there are the basis for a general reflection on the possible opportunities of taking advantage of Islamic finance for social purposes.

In conclusion, observing that the originality of the paper lies on the fact that there are no other bibliometric analysis on this field and with the aim of demonstrating the connection between Islamic finance and social finance, this research confirms the initial questions and shows really interesting outputs for a huge number of stakeholders that can make a lot of work in the future in order to create value from social and sustainable activities.

3. SECOND PAPER

ISLAMIC FINANCE AND SUSTAINABLE DEVELOPMENT GOALS. A BIBLIOMETRIC ANALYSIS FROM 2000 TO 2021

Abstract

The aim of this research is to provide, through a bibliometric analysis of the last 21 years of thematic literature, an overview on the contribution of sustainable development goals (SDGs) to the discussion in the field of Islamic finance.
A bibliometric method has been used to analyze the characteristics, citation patterns and content of 15 documents published in international academic journals, books review and chapters, editorial material and proceedings papers.
Considering the findings, the analysis has shown that there is an enormous gap on that field, with a few works on the topic with an impact on research. Through the analysis of the papers, it emerges that qualitative method is the most used method to demonstrate the link between Islamic finance and its relationship in the achievement of sustainable development goals. The research also shows that there is an increase on the academic interest on the topic only in the last four years.

Research limitations/implications – The study highlights a limitation, related to the adoption of the bibliometric method. This is due to the fact that databases include only part of the scientific papers and not all world's sources. However, WOS database, the one adopted for the research, is the world's most complete index even if it is not complete at all. On the other hand, to have a wider landscape of knowledge on the field of research, they have been considered all kind of sources: books review, chapters, papers published in international and academic journals, editorial materials, reviews and proceedings papers.

Originality/value – This research shows the initial attention of the academic world toward the relation between Islamic finance and Sustainable Development Goals, however underlying that this contribution is not systematically interpreted by the different stakeholders and in the different countries. The bibliometric analysis of

the literature puts Islamic finance and Sustainable Development Goals in relation but contemporarily indicates that more efforts need to be done in order to enhance this bond both from an academical and a practical point of view. Therefore, with the intention of mapping all the studies that have been done in this regard, the study analyzes how research on the relationship between Islamic finance and social development goals has been addressed, confirm with its qualitative approach the link between Islamic finance and social impact.

Keywords Islamic finance, SDGs, bibliometric analysis, social impact

3.1 Introduction

Islamic finance in the last 30 years has been growing continuously and has provided a niche market with solutions and financial inclusion through a well-defined Islamic ethos (Mahomed 2017). Its conformation to Islamic principles however has not limited its attractiveness to non-Muslim countries, customers and actors and poses this alternative finance as one of the most interesting vehicles of a financial transformation with hypothetical unlimited outputs in the real economy (Ferro 2005; Belouafi e Chachi 2014; Masiukiewicz 2017; Hajjar 2019; Nawaz et al. 2019). Starting from that preliminary observation, in the field of the relationship between Islamic finance and sustainable development goals, it has been observed that there are still gaps in our knowledge (Zarrouk Jamel 2015) they are principally related to a lack of academic debate and to the lack of coordination between financial actors as it will be demonstrated in the research. In fact, there is not much literature that faces the relationship between Islamic finance and SDGs that, however, seems of a certain relevance for global growth. To enhance the knowledge on that topic, this paper analyzes the literature evolution from 2000 until 2021 in order to fill a gap of knowledge in the specific field. Islamic finance, in fact, had been addressed as one of the key "actors" for the reach of a sustainable development since it can move a huge amount of money that actually is not deployed for that purposes (OECD 2020). Due to present social and economic challenges, particularly after 2008 and COVID-19 crisis, it has been enhanced the knowledge of all the possible instruments which can be a real alternative for sustainable development and global growth (M. Kabir Hassan, Aishath Muneeza, Adel M. Sarea 2021; Aam Slamet Rusydiana 2020; M. T. Alam 2020; Abbas e Frihatni 2020).

In this work, the research focuses on the relationship between Islamic finance and sustainable development goals from 2000 to 2021. It has been systematically analyzed every article published on that field in international and academic journals, editorial materials, reviews and proceedings papers.

The aim of this paper is to demonstrate (a) if Islamic finance and sustainable development goals have a relation in literature, (b) if so, to crystallize the academic studies on this field and (c) furthermore to demonstrate the evolution of the perception of the SDGs in Islamic finance in literature. This research will show how, among 21 years, the literature has underlined the relation between Islamic finance and the achievement of sustainable development. Therefore, with the intention of mapping the studies that have been done in this regard, the paper aims to explore how research on this field has been addressed. The originality of this paper is represented by the fact that no bibliometric studies have been published in this specific field.

In order to explore the contents of the relationship between Islamic finance and sustainable development goals in literature and as well to identify the main flows of the academic sector, this work is organized as follows:

(i) analysis of the literature;

(ii) identification of the most influential articles;

(iii) analysis of the main themes.

The next section presents the methodology, including a review of the literature regarding the results on the eventual relation between Islamic finance and social finance. The third section explains the categorization of these findings and after describing the results of the method used, the fourth section outlines implications and conclusions.

3.1.1 Background

According to previous studies which explained the existing relation between Islamic finance and social finance (Olanrewaju, Shahbudin, e Zakariyah 2020; The World Bank 2017; Cattelan 2018), it seemed interesting to deepen the research in order to find out the state of art of the academical research on Islamic finance in relation to sustainable development goals which are, as an instance, related to the "social aspects" of finance. Islamic finance, as a matter of fact, could be seen as a tool for institutional and economic actors to achieve Sustainable Development Goals (SDGs) developed by the UN (OECD 2020).

Starting from the "Independent Group of Scientists appointed by the Secretary-General, Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development, (United Nations, New York, 2019)", this study aims analyze how Islamic finance acts in promoting the effective functioning of the SDGs.

In the motivating principles of the SDGs, the Secretary-General stated (United Nations, 2017, p. 2): "*In adopting the 2030 Agenda for Sustainable Development, world leaders resolved to free humanity from poverty, secure a healthy planet for future generations, and build peaceful, inclusive societies as a foundation for ensuring lives of dignity for all [...] Our challenge now is to mobilize action that will bring these agendas meaningfully and tangibly to life. I call on Governments and stakeholders to recognize the gaps that have been identified in this report – in implementation, financing and political will – and to now join hands to fulfil this vision and keep this promise*".

The 17 SDGs developed by the UN recognize and ratify the essential social, economic and environmental issues facing our society.

Fig. 1 Sustainable development goals

Source: United Nations Development Program web site

Governments and the public sector as well as the stakeholders and the enterprises (P. P. Biancone e Radwan 2019) too as a whole must use the SDGs as a basis for developing the public implementation (Farneti et al. 2019).

Literature in the field is really limited (Georgeson e Maslin 2018; Kharas e McArthur 2019; Attridge, te Velde, e Peter Andreasen 2019; Ziolo, Bak, e Cheba 2021) so an academic contribution with a deepening on that topic appears to be highly recommended in order to reach substantial progress in achieving global goals and meet the criteria of 2030 Agenda for Sustainable Development (Littlewood e Holt 2018).

Bibliometric analysis help on the field of Islamic finance do not pertain the relationship between Islamic finance and SDGs. These analysis are focused on general topics such as "Islamic finance" and "Islamic banking and finance" (P. P. Biancone et al. 2020; Bollani e Chmet 2020).

3.2 Methodology

3.2.1 Method

The study was conducted in the form of bibliometric analysis which is often used in order to extract and manipulate data, based on content or citation analysis (Wallin 2005) to determine necessary information about the literature about a specific research topic (Zupic e Čater 2015). Bibliometric method, furthermore, had already been used in the field of Islamic finance (Tijjani et al. 2020; Alshater et al. 2020; P. P. Biancone et al. 2020) and in the field of sustainable development (Secinaro et al. 2021). This method benefited greatly from computerized data treatment and in the recent years there has been a huge increase in the number of that kind of publications (Ellegaard e Wallin 2015).

According to Verbeek, Debackere, Luwel, & Zimmermann (2002), bibliometric analysis can be defined as follows: "Bibliometrics is the statistical analysis of scholarly communication through publications". All sources are used to perform rigorous bibliometric and network analysis (e.g., citation and citation analysis) with the function of tracing the knowledge structure of this topic. In particular, according to Moral-Munoz et al., "bibliometrics has quickly evolved and technically perfected alongside with the exponential growth of science. Presently, the massive amount of data published on academic journals, books, patents, proceedings, etc. required to be stored and organized into bibliographic databases. The information contained on these platforms (i.e. citations, keywords, titles, journals, authors, institutions, etc.) provides a valuable sample to perform science evaluation research using bibliometric techniques (GUTIÉRREZ-SALCEDO et al. 2020). As a result, bibliometrics has become in contemporary context an essential tool for assessing and analyzing researcher's production (Ellegaard e Wallin 2015), collaboration between institutions (Skute et al. 2019), impact of state scientific investment in national R&D productivity (Fabregat-Aibar et al. 2019) and academic quality (van Raan 2004), among other possibilities (Glänzel 2012).

The analysis of the network through bibliometric tools has proved useful in identifying consolidated and emerging topical areas (Aria e Cuccurullo 2017; Moral-Munoz et al. 2020) and also to give contribution towards integrating these elements in literature (Secinaro et al. 2020).

The keywords used to perform the bibliometric study were:
"Islamic finance and sustainable development goals";
"Islamic finance * sustainable development goals";
"Islamic finance and SDG";
"Islamic finance * SDG".

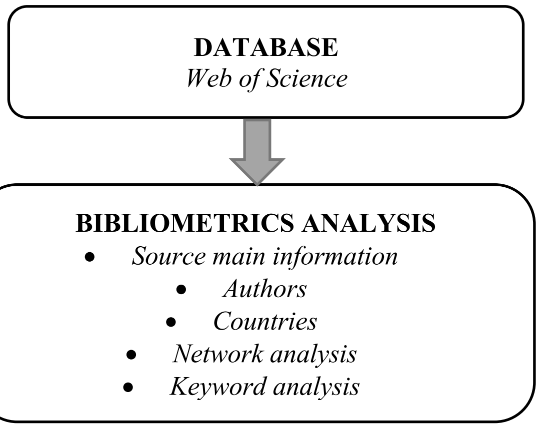
A meta-search engine (Web of Science-WOS) was used in the research, which accessed the most well-known academic databases (Archambault et al. 2009). This multidisciplinary database allows researchers to identify key articles for scientific analysis (Okoli e Schabram 2010; Webster e Watson 2002).

The research's results were then aggregated into a single list for comparative purposes through the creation of a .bib file for the Data Analysis which has been performed with R-Studio. Biblioshiny tool was used for the creation of conceptual maps of the Data Analysis.

The statistical analyses were done with the statistical software R-studio (Derviş 2020; Rodríguez-Soler, Uribe-Toril, e De Pablo Valenciano 2020) and the statistical software provided by Web of Science (WOS).

The above-mentioned process can be summarized and represented in Fig. 2 below.

Fig. 2: Methodology framework



Source: personal elaboration

3.2.2 Identification of papers

Fifteen (15) documents have been identified in the WOS database based on the assumptions made. Despite the limited number of documents selected for the topic analysis, this research maintains its originality because it aims to start a fruitful discussion on this topic. Bibliometrix quantitative variables have been helpful to analyze, mainly, keywords and main topics.

All the results were then aggregated into a single list for comparative purposes. After the comparison of the four lists, it emerged that the first list, "Islamic finance and sustainable development goals" was the only one that included all the results generated by the researches with other keywords. Articles dealing within all areas of knowledge have been included in the list. For a wider search, not only peer review journals have been selected.

In order to answer the research question, documents published from 2000 to 2021 (February 2021) have been selected. This period includes the years in which Millennium Development Goals and Sustainable Development Goals have been operative (MDGs 2000-2015 and SDGs 2015-still on operations) due to the fact that Millennium Development Goals principles had been substituted and absorbed by Sustainable Development Goals . In the research had been included documents published in international academic journals, books review and chapters, editorial material and proceedings papers.

The language of publication selected is English in order to have a wider and more homogeneous overview since it is the most dominant language in social sciences articles (Hamel 2007).

3.3 Results and findings

3.3.1 Publication pattern

Main information, source growth, annual scientific production, most relevant sources, top 20 authors and top 20 Universities cited had been analyzed to identify the publication pattern.

In Tab. I we can find the main information regarding the 15 articles included in the research.

Tab. I - Main information

Description	**Results**
MAIN INFORMATION ABOUT DATA	
Timespan	2000:2021
Sources (Journals, Books, etc)	11
Documents	15
Average years from publication	2
Average citations per documents	1,667

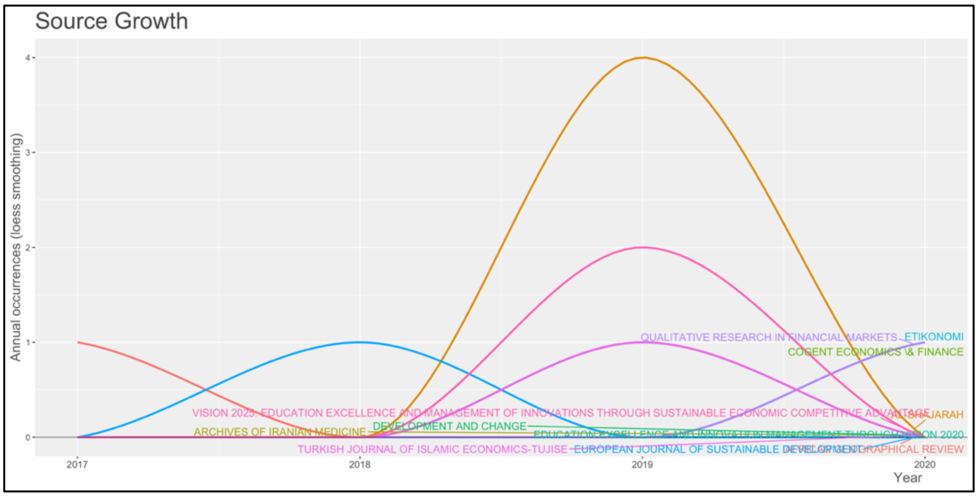
Average citations per year per doc	0,5856
References	500
DOCUMENT TYPES	
article	11
proceedings paper	3
review	1
DOCUMENT CONTENTS	
Keywords Plus (ID)	15
Author's Keywords (DE)	60
AUTHORS	
Authors	31
Author Appearances	35
Authors of single-authored documents	3
Authors of multi-authored documents	28
AUTHORS COLLABORATION	
Single-authored documents	4
Documents per Author	0,484
Authors per Document	2,07
Co-Authors per Documents	2,33
Collaboration Index	2,55

Source: personal elaboration

As it could be observed, articles (11) and proceeding papers (3) are the most relevant type of documents followed by reviews (1). On average, most articles were the result of the work of multiple authors considering that only 4 documents, out of 15, were single-authored. Finally, the Collaboration Index which implies the total number of authors of multi-authored articles/total number of multi-authored articles, has a value of 2,55.

During the period under review (2000-2021), the number of publications on the analyzed theme increased in the last four years.

Fig. 3: Source growth



Source: personal elaboration from Biblioshiny

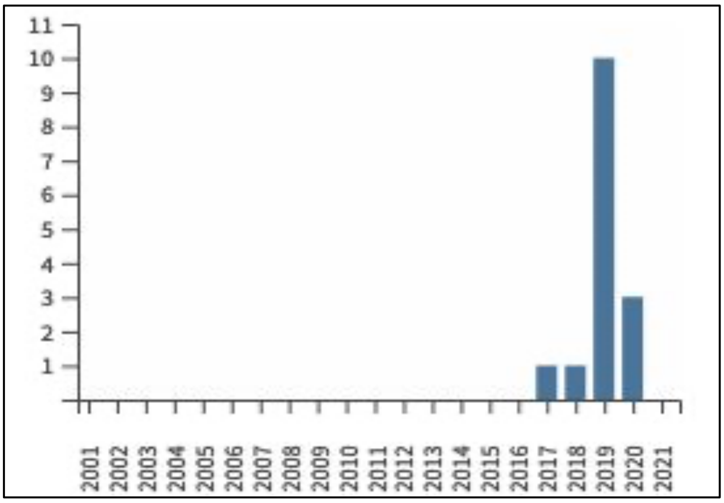
The most relevant scientific production refers to one journal: Al-Shajarah that is the Journal of the International Institute of Islamic Thought and Civilization (ISTAC) (Fig. 4). It can be noted (from the figure below) that the majority of journals are related to Social studies rather than to Islamic finance.

Fig. 4: Most relevant sources

Source: personal elaboration from Web of Science

Annual scientific production has increased particularly in the last two years (2021 has just started) (Fig. 4). The data confirm what has already been said above. This field of research is evolving and the horizons are increasingly broad.

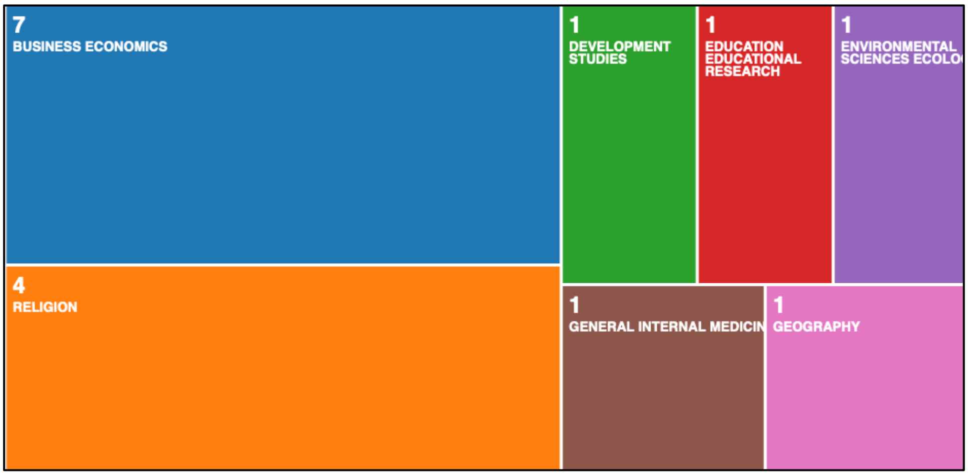
Fig. 5: Annual scientific production



Source: personal elaboration from Web of Science

Considering the research areas of the articles, it can be noted (from the Fig. 5 below) that the articles mostly deal with Management (3) and only 1 article has been published in the field of Development Studies.

Fig. 6: Research areas



Source: personal elaboration from Web of Science

The sample is composed of 31 authors (Tab. II). The authors with most impact so far have been: ALI ERAE (2), GUNDOGDU AS (2), MAHADI NF (2), ZAIN NRM (2). Checking their affiliation at the time of publication emerged that the most represented Universities are those represented on Tab. III.

Most of the studies are the result of a group-work while only 4 had been the result of the work of a single author.

Tab. II: top 20 authors

Authors	Articles
Ali Erae	2
Gundogdu As	2
Mahadi Nf	2
Zain Nrm	2
Abduh M	1
Afandi Ma	1
Ali Km	1
Azman Smms	1
Balqiah Te	1
Bazyar M	1
Doshmangir L	1
Ghoniyah N	1
Hananto A	1
Hartono S	1
Hassan R	1
Hati Srh	1
Hudaefi Fa	1
Kamal R	1
Kassim S	1
Majdzadeh R	1

Source: personal elaboration

Tab. III: top 20 University for Scientific Production

Affiliations	Articles
Iium Inst Islamic Banking And Finance Iiibf	8
Univ Tehran Med Sci	8
Int Islamic Univ Malaysia	4
Univ Indonesia	4
Assoc Shariah Advisors Islamic Finance Asas	3
Peace Res Inst	3
Yarmouk Univ	3
Baznas Ctr Strateg Studies	2
Boston Univ	2
Disciplinary Comm	2

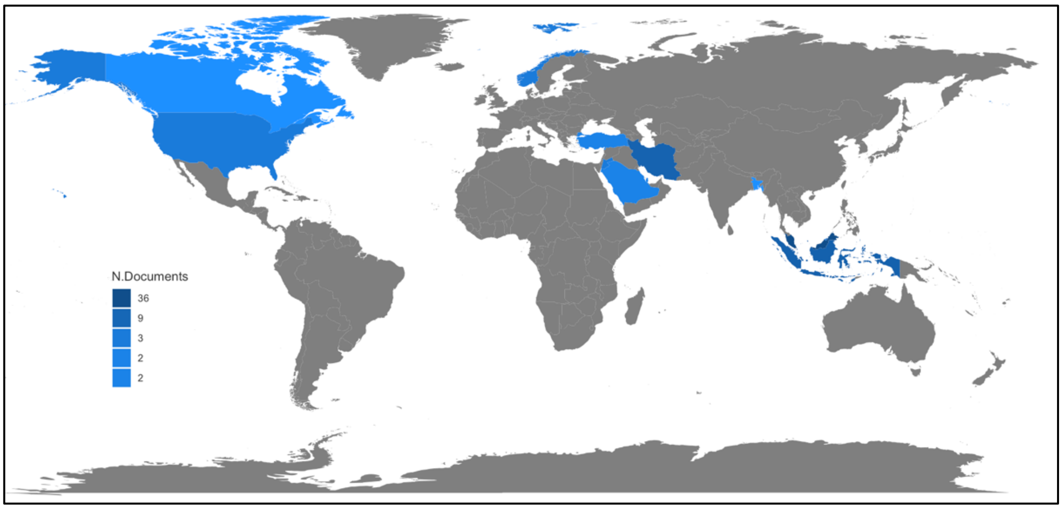
Hamad Bin Khalifa Univ	2
Inst Agama Islam Darussalam Iaid Ciamis	2
Ipb Univ	2
Istanbul Sabahattin Zaim Univ	2
Labuan Financial Serv Author Labuan Fsa	2
Malaysian Inst Islamic Understanding	2
Nrm (Corresponding Author)	2
Sch Business And Econ Ubdsbe	2
Shariah Advisory Council	2
Tabriz Univ Med Sci	2

Source: personal elaboration

3.3.2 Citation analysis

Fig. 5 and Tab. V display the Country Production with Malaysia which tops the list (36), followed by Indonesia (12) and Iran (11) which are the only three countries with a production of more than 10 documents. This is due to the presence on that countries of a lot of scholars interested on the themes and with a Muslim majority. In these countries Islamic finance is becoming day by day a fundamental tool for growth and academic discussion on the field is continuously growing. (Rammal e Zurbruegg 2016; Belouafi e Chachi 2014). Finally, Fig. 5 shows a generalized worldwide interest on the topic of research.

Fig. 5 - Country production



Source: personal elaboration from Biblioshiny

Tab. IV - Top 20 Country production

Region	Freq
Malaysia	36
Indonesia	12
Iran	11
Jordan	3
Norway	3
Usa	3
Brunei	2
Qatar	2
Saudi Arabia	2
Turkey	2
Bangladesh	1
Canada	1

Source: personal elaboration

The most cited country is Iran (17), the only one with more than 10 citations, followed by Indonesia (3), Malaysia (1), Qatar (1), Saudi Arabia (1), Turkey (1) and USA (1) (Tab. IV).

Tab. V: Most cited countries

Country	Total Citations
Iran	17
Indonesia	3
Malaysia	1
Qatar	1
Saudi Arabia	1
Turkey	1
Usa	1

Source: personal elaboration

Table IV represents the ranking of the top 20 articles per number of citations from other articles. This shows that the article with the most total citations and total citation per year is a paper edited in Archives of Iranian Medicine (Doshmangir et al. 2019). At first sight it could seem strange that an article of a Medical journal could be of any interest for the topic of this research, however that particular paper is really interesting in facing the problem of healthcare systems in achieving sustainable development.

On the other hand, regarding the other articles it could be said that they came from a variety of journals. Articles with a significant number of total citations per year are related to the role of fintech in achieving SDGs in Indonesia (Hudaefi 2020), the use of waqf in forest preservation and in achieving SDGs (K. Ali e Kassim 2020), the role of Islamic PPPs in the context of SDGs (Gundogdu 2019), the different approaches of Development Bank of Latin America and the Islamic Development Bank in realizing sustainable development (Ray e Kamal 2019) and the role of Islamic finance in the perspective of Sustainable Development Goals (Gundogdu 2018). According to the results, it is not possible to identify a leading journal with a higher number of published articles inserted in the Top-cited documents list.

Tab. V: Top-cited documents

#	**Authors, Title and Sources**	**Total Citations**	**TC per Year**
1	(Doshmangir et al. 2019) *So Near, So Far: Four Decades of Health Policy Reforms in Iran, Achievements and Challenges* Archives of Iranian Medicine 22(10):592-605 – October 2019	17	5,667
2	(Hudaefi 2020) *How does Islamic fintech promote the SDGs? Qualitative evidence from Indonesia* Qualitative Research in Financial Markets - Vol. 12 No. 4, pp. 353-366. 14 March 2020	3	1,5
3	*(K. Ali e Kassim 2020) Waqf Forest: How Waqf Can Play a Role In Forest Preservation and SDGs Achievement?* Etikonomi: Jurnal Ekonomi, 19(2), 2020	1	0,5
4	(Gundogdu 2019) *Determinants of Success in Islamic Public-Private Partnership Projects (PPPs) in the Context of SDGs* Journal Turkish Journal of Islamic Economy Volume 6; Pages 25-43; 2019	1	0,333
5	(Ray e Kamal 2019) *Can South–South Cooperation Compete? The Development Bank of Latin America and the Islamic Development Bank*	1	0,333

	Development and Change - Volume50, Issue1- January 2019 - Special Issue: Beyond Bretton Woods: Complementarity and Competition in the International Economic Order		
6	(Gundogdu 2018) *An Inquiry into Islamic Finance from the Perspective of Sustainable Development Goals* European Journal of Sustainable Development, 7(4), 381. - 2018	1	0,25
7	(Tok e O'Bright 2017) *Reproducing spaces of embeddedness through Islamic NGOs in Sub-Saharan Africa: reflections on the post-2015 development agenda* African Geographical Review Volume 36, 2017 - Issue 1: From the Millennium Development Goals (MDGs) to the Sustainable Development Goals (SDGs): Africa in the Post-2015 Development Agenda. A Geographical Perspective, Part 1	1	0,2
8	(Ghoniyah e Hartono 2020) *How Islamic and conventional bank in Indonesia contributing sustainable development goals achievement* Cogent Economics & Finance Volume 8, 2020 - Issue 1	0	0
9	(Azman e Ali 2019) *Islamic social finance and the imperative for social impact measurement* Al-Shajarah - 2019: Special Issue: Islamic Banking and Finance 2019	0	0
10	(Mahadi, Zain, e Ali 2019) *Leading towards impactful islamic social finance: malaysian experience with the value-based intermediation approach* Al-Shajarah - 2019: Special Issue: Islamic Banking and Finance 2019	0	0

Source: personal elaboration

Topics analyzed from the considered articles are quite various, so for the purpose of this research, we will have a deepen look at the five most cited papers in the field of interest. In the most cited articles, the most relevant scientific contributions are:

- Doshmangir et al. (2019) observe the necessity of a sustainable development of healthcare system in Iran, providing an interesting reconstruction of the last 30 years achievements on that field. Regarding the target of this research, it appears relevant to underline the lines of the paper in which the authors of the paper state that "*To achieve sustainable health development, bold policy reforms are essential in core components of the health system, i.e. governance, delivery of healthcare and financing*"(Roberts et al. s.d.)(World Health Organization 2010), attributing a determinant role to a joint action at all levels to achieve sustainable goals. Even if in the paper there is no direct mention of SDGs, it is possible to insert that contribution in SDG number 3 "good health and wellbeing";
- Hudaefi (2020) examines the relationship between Islamic fintech and the achievements in endorsing SDGs, finding that "*Islamic P2P fintech lending in Indonesia has been financing SMEs, agriculture sector, and conducting charity programmes for disadvantaged groups. In some degree, these findings may be synonymous of the Islamic fintech efforts in endorsing the SDGs implementation in Indonesia. This study is among the pioneers which substantively confirm the role of fintech firms in promoting SDGs*";
- K. Ali e Kassim (2020) analyze the role that a productive waqf forest will generate in tangible and intangible benefits. An important implication of the research is that "*Waqf research for Muslim society is essential and potential for elaborating the potentials of waqf in strengthening the ummah's economy (Rusydiana & Al Farisi, 2016). Previous research stated that waqf could be used to support environmental and forest sustainability*." and also that "*Waqf could be introduced into forest protection and regeneration program in terms of funding (Hasanah & Hakim, 2017; Yaakob et al., 2017). Waqf is "holding the assets and donating the yields." Waqf has several unique characteristics that suitable for developing forest preservation, namely: waqf cannot be sold (laa yubaa'), cannot be granted (laa yuuhab), and inherited (laa yurats) as well As-Sa'di, 2002). In terms of waqf for forest conservation, a forest that became a waqf land will be sustainable, because waqf rule forbids to change the land use to another use until the end of the world*.". Finally, that kind of sustainable

investment will have a dramatic impact on the achievement of a sustainable development since it complies with SDGs number 1 “no poverty,” 2 “zero hunger,” 3 “good health and wellbeing,” 6 “clean water and sanitation,” 13 “climate action,” and 15 “live on land”;

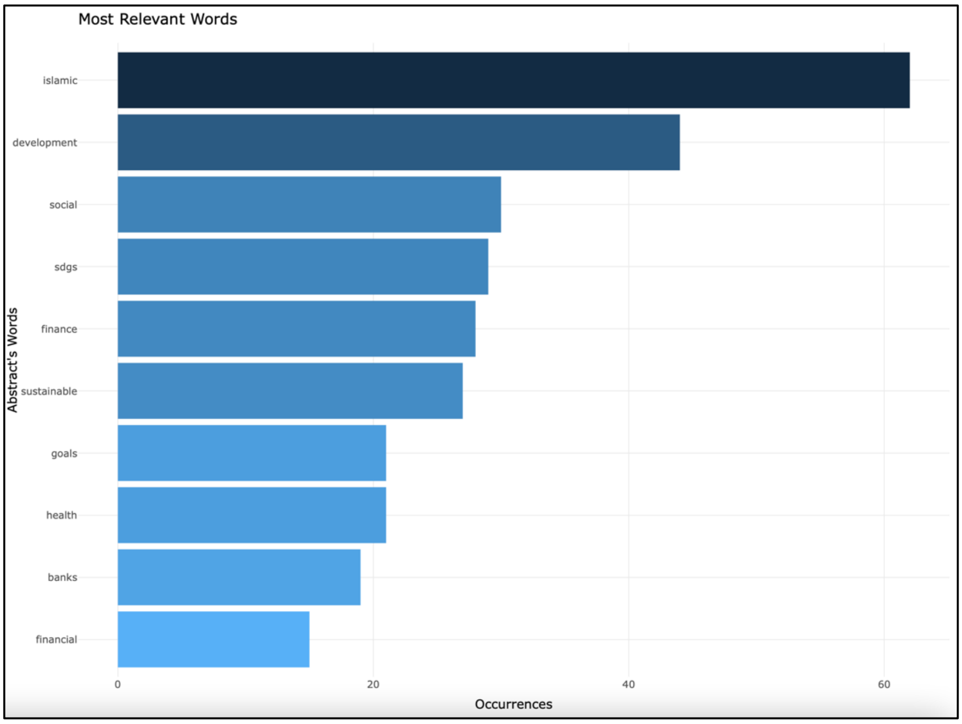
- Gundogdu (2019) examines the role of Islamic public-private partnership (PPPs) projects in bridging the huge infrastructure investment gap related to sustainable development goals (SDGs); in this paper “I*slamic PPPs are presented as an instrument to address SDG #7: Affordable Energy, SDG #9: Industrial Innovation and Infrastructure Development and SDG #8: Decent Work and Economic Growth*”. SDGs are seen as an opportunity for the growing of Islamic finance industry since “*Islamic financial institutions would find leeway to invest in tangible assets produced by PPP projects*”;
- Ray e Kamal (2019) analyze the role of Southern-led multilateral development banks (MDBs) in harnessing global capital to finance specific sector such as infrastructure. They analyze MBDs’ performances comparing them to those of their Northern-based counterparts and focuses on “*bank operations to determine whether their governance structure impacts their internal performance, as reflected on balance sheets, and external performance — gaining relevance in development finance and particularly in infrastructure lending, including the burgeoning sector of sustainable (climate-resilient) infrastructure*”. Finally, it resulted MBDs’ prominence as major players in the field of development finance.

3.3.3 Keyword co-occurrences network

Every article published must contain keywords. These keywords are the research fields that have been involved in the respective articles. It establishes the co-occurrences of the network keywords. The purpose of the co-occurrence analysis is to design the conceptual structure of a frame of reference using a network of co-occurrence words to map and group the terms extracted from the keywords into a bibliographic collection.

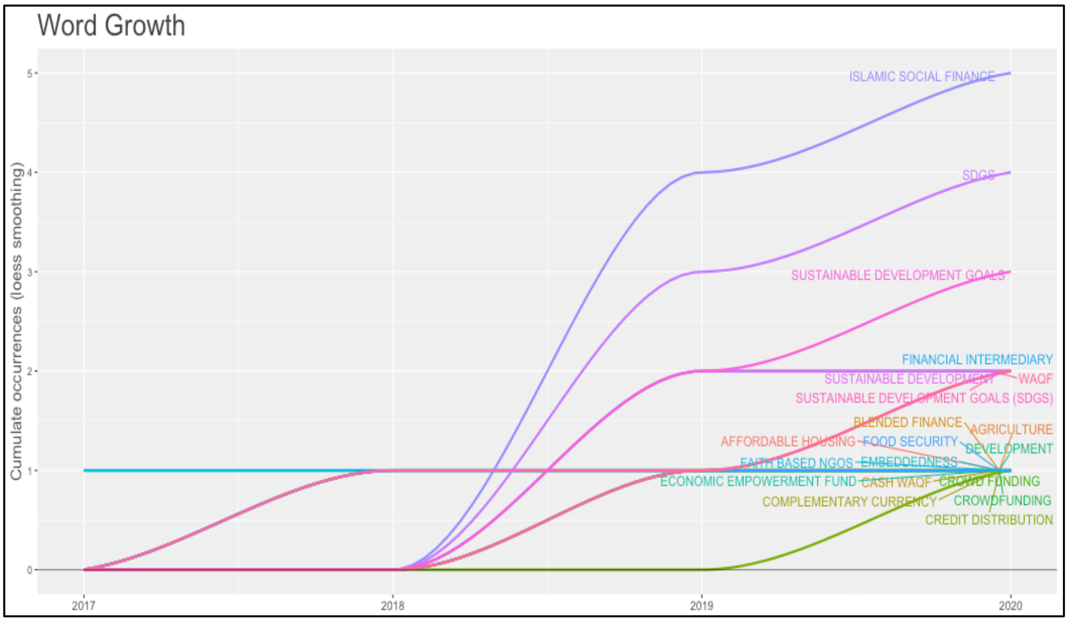
The following Fig. 6 provides information to find out which are the most relevant keywords analyzing papers' abstracts. The figure shows that researchers combine their scientific production with a significant number of keywords. The most involved keywords are ISLAM, DEVELOPMENT, SOCIAL, SDGS, FINANCE, SUSTAINABLE, GOALS, HEALTH, BANKS and FINANCIAL. Analyzing these keywords, it is clear that there is a general attention to sustainable development but there is a lack of specificity, with the exception of the keyword health that could be reconducted to a specific SDG. Central appears the role of BANKS in Islamic finance path toward sustainable development.

Fig. 6 - Most relevant words



Source: personal elaboration from Biblioshiny

Fig. 7 - Annual occurrences of most cited words



Source: personal elaboration from Biblioshiny

The figure above helps to understand the spread of the annual occurrences of the most cited words in the last years (production starts effectively in 2017 and does not register articles in 2021, so the picture contains the period 2017-2020).

At the same time in Tab. VI and Fig. 8 below clarify the trending topics between 2017 and 2020, the years with production.

Tab. VI Trend topics per year

item	freq	year
Islamic Social Finance	5	2019
Sdgs	4	2019
Sustainable Development Goals	3	2019
Financial Intermediary	2	2019
Sustainable Development	2	2019
Sustainable Development Goals (Sdgs)	2	2019
Waqf	2	2020
Affordable Housing	1	2018
Agriculture	1	2019
Blended Finance	1	2019
Cash Waqf	1	2018

Complementary Currency	1	2018
Credit Distribution	1	2020
Crowd Funding	1	2018
Crowdfunding	1	2019
Development	1	2017
Economic Empowerment Fund	1	2018
Embeddedness[3]	1	2017
Faith Based Ngos	1	2017
Food Security	1	2019
Goal And Function Of Bank	1	2020
Goals	1	2019
Green Sukuk	1	2019
Hdi[4]	1	2019
Health Policy	1	2019
Health System	1	2019
Health System Framework	1	2019
Ihya' Al-Mawat	1	2019
Ijara	1	2019
Indonesia	1	2020
Infrastructure Development	1	2018
Intermediation	1	2019
International Trade	1	2018
Iran	1	2019
Islamic Bank Financing	1	2019
Islamic Banks	1	2019
Islamic Fintech	1	2020
Istisna	1	2019
Maqasid Al-Shari'ah	1	2019
Maqasid Al-Sharrah	1	2019
Micro Finance	1	2018
Ppps	1	2019
Project Finance	1	2019
Qatar	1	2017
Reform	1	2019
Rem	1	2019
Review	1	2020
Sme Financing	1	2018

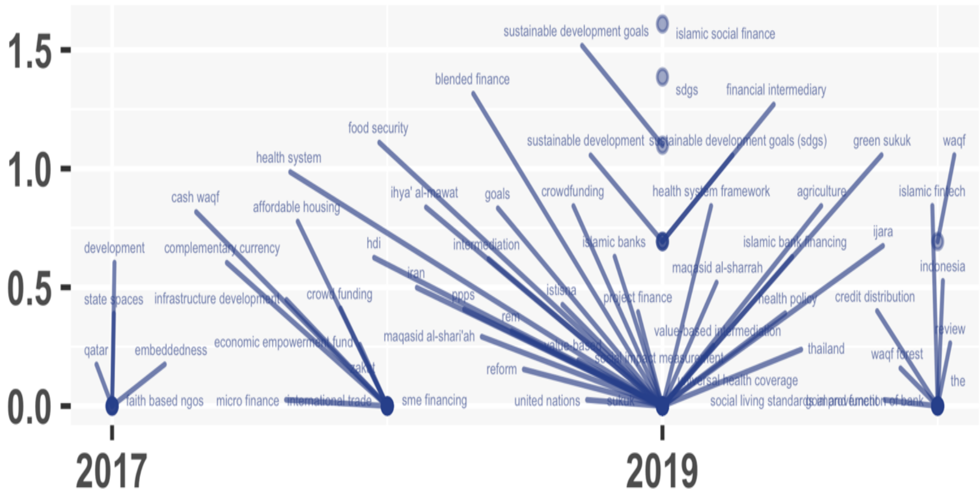
[3] According to the concept of social embeddedness, economic decisions are affected by the social networks in which economic actors operate (Czernek-Marszałek 2020)

[4] Human Development Index

Social Impact Measurement	1	2019
Social Living Standards Improvement	1	2020

Source: personal elaboration

Fig. 8 Trend topics per year



Source: personal elaboration from Biblioshiny

The figure and the table above show that researchers combine their scientific production with a significant number of keywords. Instead, the figure below helps to understand the spread of the annual occurrences of the most cited words in the last four years which implies an increased awareness on the field.

To examine the content of the articles, a list of the trend topics per year had been developed. The target of the coding process is to determine whether there is a match between SDGs and the keywords in the article collection.

According to UNDP[5], "*The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. The 17 SDGs are integrated—that is, they recognize that action in one area will affect outcomes in others, and that*

[5] https://www.undp.org/content/undp/en/home/sustainable-development-goals.html

development must balance social, economic and environmental sustainability."

Tab. VII Sustainable Development Goals and trend topics

#	SDGs	Expected achievements	Most cited words
1	No poverty	End poverty in all its forms everywhere	Agriculture and Food security
2	Zero hunger	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Agriculture and Food security
3	Good health and well-being	Ensure healthy lives and promote well-being for all at all ages	Health policy, Health system and Health system framework
4	Quality education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	
5	Gender equality	Achieve gender equality and empower all women and girls	
6	Clean water and sanitation	Ensure availability and sustainable management of water and sanitation for all	
7	Affordable and clean energy	Ensure access to affordable, reliable, sustainable and modern energy for all	Green sukuk
8	Decent work and economic growth	Promote sustained, inclusive and sustainable economic growth, full and productive	Blended finance, Complementary currency, Credit distribution, Crowdfunding,

		employment and decent work for all	Economic empowerment fund, Embeddedness, Faith based NGOs, Goal and function of bank, Intermediation, International trade, Islamic fintech, Micro finance, PPPs, Project finance, SME financing, Social impact measurement
9	Industry, innovation and infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Green sukuk; Blended finance, Complementary currency, Credit distribution, Crowdfunding, Economic empowerment fund, Embeddedness, Faith based NGOs, Goal and function of bank, Intermediation, International trade, Islamic fintech, Micro finance, PPPs, Project finance, SME financing, Social impact measurement
10	Reduced inequalities	Reduce inequality between and among countries	Affordable Housing, HDI, Social living standards improvement, Infrastructure development; Blended finance, Complementary currency, Credit distribution, Crowdfunding, Economic empowerment fund, Embeddedness, Faith based NGOs, Goal and function of bank,

			Intermediation, International trade, Islamic fintech, Micro finance, PPPs, Project finance, SME financing, Social impact measurement
11	Sustainable cities and communities	Make cities and human settlements inclusive, safe, resilient and sustainable	Affordable Housing, HDI, Social living standards improvement, Infrastructure development
12	Responsible consumption and production	Ensure sustainable consumption and production patterns	
13	Climate action	Take urgent action to combat climate change and its impacts	Agriculture and Food security; Green sukuk
14	Life below water	Conserve and sustainably use the ocean, seas and marine resources for sustainable development	
15	Life on land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss	Agriculture and Food security; Green sukuk
16	Peace, justice and strong institutions	Promote peaceful and inclusive societies for sustainable	

		development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17	Partnership for the goals	Strengthen the means of implementation and revitalize the global partnership for sustainable development

Source: personal elaboration from UNDP website

Keywords emerged on Tab. VI and Fig. 8 had been put into Tab. VII in order to clarify their relation with SDGs. It emerges that literature on the field of Islamic finance and SDGs deals with a number of issues that will be analyzed below.

- (**Affordable Housing**, **HDI**, **Social living standards improvement**, **Infrastructure development**) SDG 10 – Reduced inequalities, SDG 11 - Sustainable cities and communities;

The issue of ***Affordable housing***, according to (Gundogdu 2018) can be attained through resource mobilization. It is also observed that such mobilization requires product development and successful SDG programs that will have to provide convincing results.

HDI has been taken under consideration (Afandi, Wahyuningsih, e Muta'ali 2019) to evaluate the role of Islamic finance in improving quality of life of Java Islands' population; it has been observed that Islamic banking should encourage its financing based on social values or impact investments such as education, health, rural communities, agriculture, nutrition and renewable energies to support the improvement of HDI. ***Social living standards improvement*** are, according to (Ghoniyah e Hartono 2020), part of the banking's objectives in Indonesia in order to improve equity, national stability, and economic growth. ***Infrastructure development*** by Multilateral

Development Banks and local governments have not succeeded in reducing poverty (Gundogdu 2019), however Islamic finance could succeed in achieving sustainable development goals using PPPs.

- (**Agriculture** and **Food security**) SDG 1 – No poverty, SDG 2 – Zero hunger, SDG 13 – Climate action, SDG 15 Life on land;

Agriculture and ***food security*** are identified as key actors in achieving Sustainable Development Goals (SDGs), particularly goal number two, "Zero hunger". In this sense, it is assumed that sixs Islamic social finance tools namely infāq, waqf and zakat and Iḥyā' al-Mawāt and al-Iqṭāʿ are really effective and will be very important tools to sustain regionally or internationally the achievement of sustainable development, especially for developing and least developed countries. (Abduh 2019).

- (**Green sukuk**) SDG 7 Affordable and clean energy, SDG 9 - Industry, Innovation and Infrastructure, SDG 13 – Climate action, SDG 15 Life on land;

Green sukuk is seen (Hati et al. 2019) in Indonesia as a viable solution to environmental problems and as a bridge between the Islamic and conventional financial markets. It is assumed that, since those who invest in Sukuk are mostly socially responsible, there is even more potential for countries that have Muslim majorities to develop green Sukuk markets because they are in greater compliance with Sharia principles and they also are aligned with the achievement of sustainable development goals (SDGs).

- (**Blended finance, Cash waqf, Complementary currency, Credit distribution, Crowdfunding, Economic empowerment fund, Embeddedness, Faith based NGOs, Goal and function of bank, Intermediation, International trade, Islamic bank financing, Islamic bank, Islamic fintech, Micro finance, PPPs, Project finance, SME financing, Social impact measurement**) SDG 8 – Decent Work and Economic Growth, SDG 9 - Industry, Innovation and Infrastructure and SDG 10 – Reduced inequalities;

Blended finance, PPPs and ***Project finance***, are examined to shed a light on the role of Islamic finance in order to achieve sustainable development goals through a blended form of finance called Islamic public-private partnership (PPPs). PPPs' projects, which will have the nature of Project financing, in fact, could also reach a resource mobilization from Islamic capital markets and are seen as an opportunity for the growing of Islamic finance industry which may contribute to the achievement of Sustainable Development goals (Gundogdu 2019)

(Ghoniyah e Hartono 2020) assumes that an intensification in ***credit distribution*** can increase the level of banking profitability generating a very significant impact of financing or credit on sustainable development. It is also considered that, on the one hand, Conventional bank has a lower orientation of credit distribution in the real sector while, on the other hand, Islamic banks, which have more friendly implications than conventional banks, can be a reference in setting and applying business objectives (social objectives).

Islamic finance industry has contemporary products to address at least the first 11 SDGs that relate directly to Islamic economics and finance. Among them ***Crowdfunding*** is analyzed as a useful tool for resource mobilization (Gundogdu 2018). Moreover, in Thailand ***Crowdfunding*** is seen (Zain, Mahadi, e Noor 2019) as a useful platform to make possible the revival of waqf, which is one of Islamic social finance's instruments and the most preferrable charitable tool due to its features that are perpetual, irrevocable, and inalienable. The revival of waqf may provide essential assistance in alleviating poverty and giving equal opportunity for economic participation.

In (Tok e O'Bright 2017) the nexus of religion, space, and development is analyze, shading light on the role of ***Faith based NGOs*** as partners in sustainable development and key actors for achieving the Sustainable Development Goals in sub-Saharan Africa (SSA). Moreover, it is also stressed the concept of ***Embeddedness***, according to which economic decisions are affected by the social networks in which economic actors operate, analyzing the case study of Qatari organizations in SSA.

Goal and ***function of bank,*** according to (Ghoniyah e Hartono 2020), are strictly related due to the fact that banks in Indonesia have as a clear objective and target to be aligned with social goals. In fact, for Islamic banks in Indonesia the goals are profit-oriented or socially oriented, which align them with sustainable development goals (SDGs). It is also assumed that there are differences between Islamic and conventional banks in promoting sustainable development.

(Azman e Ali 2019) assume that there is a growing interest of Islamic social finance towards ***Social Impact Measurement***. They also address that Value Based ***Intermediation,*** in the continuously evolving environment of Islamic social finance integration with Islamic financial instruments and mainstream social finance, could be useful, along with other instruments, such as Maqcisid al-Shari'ah, to achieve Sustainable Development Goals.

Islamic bank financing is intended to be encouraged (Afandi, Wahyuningsih, e Muta'ali 2019) when it supports activities based on social values or impact investments such as education, health, rural communities, agriculture, nutrition and renewable energies to support the improvement of HDI, as it is demonstrated by the case study of Java Islands.

Islamic bank (Razinah, Hassan, e Salman 2019) are addressed in order to stress on the one hand their relevance to achieve of Sustainable Development Goals (SDGs) through their financial intermediary roles and, one the other hand to highlight the positive impacts of Sustainable Development Goals (SDGs) in expanding the financial intermediary roles of Islamic banks. Moreover, it has been underlined that Islamic banks may implement SDGs in their policies and may realize more transparent reporting on their activities.

(Hudaefi 2020) explores the Indonesian market in order to clarify how ***Islamic fintech*** firms have been promoting the global movement of sustainable development goals (SDGs) in the that context.

Of the 17 Sustainable Development Goals (SDGs) of the United Nations, the first 11 have a perfect fit with the purpose and principles of Islamic finance. It is highlighted (Gundogdu 2018) that Islamic finance industry has contemporary products to address these SDGs. In this context, ***Cash waqf,***

Complementary currency, Economic Empowerment fund, International trade, Micro finance and ***SME financing*** must be seen as useful tools to achieve SDGs also because they are employed as resource mobilization tools.

- (**Health policy, Health system and Health system framework**) SDG 3 Health and well-being; ***Health policy, Health system*** and ***Health system framework*** are analyzed (Doshmangir et al. 2019) in order to reach a sustainable development of healthcare system in Iran.

SDG 4 - Quality education, SDG 5 - Gender equality, SDG 6 - Clean water and sanitation, SDG 12 - Responsible consumption and production, SDG 14 - Life below water, SDG 16 - Peace, justice and strong institutions e SDG17 - Partnership for the goals do not match with the considered literature.

Furthermore, there are some keywords, typical of Islamic finance framework, which has not been possible to insert in the SDGs framework (**waqf, cash waqf, ihya' al-mawat, ijara, istisna, maqasid al-shari'ah**). These keywords, however, have a certain relevance in the Islamic finance discussion on SDGs since all of them refer to particular financial tools that could be deployed to reach them.

3.4 Discussion and conclusions

3.4.1 Contributions to the literature

The relationship between Islamic finance and sustainable development goals has been proven according to literature, however the academic debate is still at the beginning. In order to develop the contribution of Islamic finance to the debate of sustainable international growth, a hard work must be done from both an academical and practical point of view. That is particularly true also taking on account the enormous chances of expansion of Islamic finance both in Muslim and non-Muslim countries (Al-Khazali, Lean, e Samet 2014; Alharbi˙ 2016; Belouafi e Chachi 2014; Grassa e Hassan 2015; Kalimullina 2020; Pepinsky 2013; Uddin e Mohiuddin 2020). In fact, according to Nawaz et al. (Nawaz et al. 2019), “Numerous market trends suggest a rising use of Islamic financing as a financial sector development. It is an increasingly visible substitute for conventional banks in Islamic states (Cihak e Hesse 2008) and in a growing number of countries with large Muslim populations, such as the UK, USA, Italy, France, China, Singapore, Korea, and Japan. In some countries, such as Pakistan and Malaysia, Islamic banking activity runs in parallel with the conventional banking system. Globally, the assets of Islamic institutions have grown at two-digit rates for three decades and some conventional banks have opened Islamic finance divisions.

Due to the need to boost the participation of Islamic finance to the world’s growth and sustainable development, it has been considered that a bibliometric analysis of the relationship between Islamic finance and sustainable development goals could have been the right way to contribute to the academic debate for further systematic studies on this field. Through the coding activity, emerged that only 10 out of 17 SDGs have connections in literature to Islamic finance.

Some keywords, as emerged by the coding activity, cannot be inserted in particular SDGs categories because they are specific Islamic finance instruments. Among them, a particular mention must be done regarding zakat, sukuk and wakq (awfq) which appear to be the most effective instruments for an Islamic financial contribution to sustainable development. According to (Ismail, Shaikh, e Mohd Shafiai 2017) waqf “can be used to provide a wide range of welfare services to Muslims as well as non-Muslims, and the beneficiaries could also be other living beings. For instance, animal protection programmes and environmental preservation expenditures can be provided more flexibly through waqf. The institution of waqf can transform social capital into social and public infrastructure. It provides a permanent social safety net in the case of perpetual waqf to the beneficiaries.”. On the other hand, Zakat, which is a “Payment made annually under Islamic law on certain kinds of property and used for charitable and religious purposes, one of the Five Pillars of Islam”, according to (Ismail e Shaikh, 2017), seems to be another important instrument to achieve sustainable development, particularly due its attitude to “help in scaling up the benefits in terms of strengthening institutions to create synergistic effects". Finally, sukuk has a high potential to be an innovative financing mechanism for Islamic microfinance also because well-developed Sukuk markets would enhance access to financial services, deepen capital markets and create Sharia-compliant alternative for small and/or risk-averse investors (Khiyar, 2014). Moreover, Socially Responsible Investment (SRI) sukuk has demonstrated (Khouildi e Kassim 2018) a relevant attitude and "potential to be developed as innovative shariah-compliant mechanism as shown by Malaysian experience in issuing the SRI sukuk to develop socially-related projects including the educational and green energy sectors". In this respect, a particular mention can be done in relation to Green sukuks (Aassouli et al. 2018) since "Mitigating climate change and achieving the SDGs by 2030 requires national, regional, and international partnerships and collaborations, as well as the development of alternative segments of modern finance." To that extent, it is important to underline the importance of developing Green sukuks for Islamic finance. In fact, that particular instrument could be a booster for an international mobilization of funds both from Muslim and non- Muslim investors in order to create social outcomes and a relevant contribution to social development and to reach the goals of SDGs 7-9-13-15.

This study presents the results of research in the field of Islamic finance and sustainable development goals and could be a starting point for further studies on the fields of knowledge that emerged from this bibliometric analysis.

A bibliometric method was used to analyze the characteristics, citation patterns, and content of 15 documents published in international academic journals, book and chapter reviews, editorial materials, and proceedings papers. By adopting this scientific method, the analysis presents the state of art of the research on the field of the relation between Islamic finance and sustainable development goals. The main findings have to be linked with the keyword analysis which helped to understand what are the present themes in literature in regard of Islamic finance and sustainable development goals. Another important finding is that the researches on this field are mostly related to Muslim countries. It also emerges that academics of non-Muslim countries may contribute with researches related to possible applications of Islamic finance to contribute to the achievement of sustainable development goals in their countries (Corvo e Pastore 2019). That gaps on literature suggests that a lot of work can be done on that field, particularly observing the potential outputs of that relationship.

The bibliometric analysis showed that the most cited articles explore very interesting themes:

- The link between social development and sustainable health systems;
- The relationship between Islamic fintech and its achievements in endorsing SDGs;
- The relevance of waqf forest investments in climate and environment protection;
- The role of Islamic public-private partnership (PPPs) projects in sustaining infrastructure investment.

3.4.2 Implications for institutions, banks, enterprises and customers

Based on the study's preliminary evidence and if supported by further research, Islamic finance and sustainable development goals have a proven relation that can be enhanced by all levels of stakeholders, from governments, to banking institutions, to social enterprises (Iannaci e Mekonnen 2020), PPPs and SMEs that have to coordinate their actions in order to generate a positive impact and effective sustainable development.

The use of Islamic finance to achieve sustainable development goals is a reality and the academical and economic discussion on that field has just begun and could benefit of an indefinite growth. It implies that it is time to enhance the role of Islamic finance toward 2030 Agenda's targets through ethical investments that will generate social impact and sustainable growth. However, a part from the above mentioned 10 SDGs that had been found in relation with Islamic finance, a particular effort must be done in integrating that kind of ethical finance also in regard of the other SDGs, particularly those related to SDG 4 - Quality education, SDG 5 - Gender equality and SDG 16 - Peace, justice and strong institutions. These SDGs, particularly in Muslim countries, which have a deeper relation with Islamic finance, need to be taken under serious consideration and may attract social investments to grant to the involved citizens better life conditions which, for those countries, are not actually at an acceptable level (OECD 2020).

As already underlined in previous studies, Muslim countries particularly suffered a lack of coordination between banking and social institutions and often failed in the past to convey money in social projects (Olanrewaju, Shahbudin, e Zakariyah 2020). In non-Muslim countries, on the other hand, as already said, there is a higher awareness on the field of social finance (P. P. Biancone e Radwan 2019)and toward the achievement of sustainable development goals, but the countries usually fail to attract Islamic finance investments, due to their legislation which is not completely ready to welcome Islamic finance tools (P. P. Biancone 2014; P. Biancone, Secinaro, e Radwan 2020; Masiukiewicz 2017; Kalimullina 2020; Grassa e Hassan 2015; Alharbi˙ 2016).

At this point and considering the actual period of deep crisis, from an economic, environmental and social point of view, it seems very important to invest on sustainable development also through Islamic finance.

3.4.3 Limitations and future research

The study shows a limitation, related to the adoption of the bibliometric method even as it considers books, chapters, articles published in international and academic journals, editorial materials, reviews, and proceedings papers. The purpose of this study is to provide insights that other scholars can draw upon and explore further in the process of theory development. Therefore, this study invites scholars to increase their efforts to provide further researches on this field.

These findings suggest that there is an initial awareness on the specific area of research, as demonstrated by the analysis of the literature that puts the basis for a general reflection on the possible opportunities and challenges coming from the match between Islamic finance and sustainable development goals. The originality of the research is the application of a quantitative approach to discover the relation between Islamic finance and social impact which could hopefully generate further empirical studies investigating the impact of this relationship. To this extent, it must be underlined the lack of academic awareness in the field of SDG 4 – Quality education, SDG 5 – Gender equality, SDG 6 – Clean water and sanitation, SDG 12 – Responsible consumption and production, SDG 14 – Life below water, SDG 16 – Peace, justice and strong institutions e SDG17 – Partnership for the goals, which are not mentioned at all in the papers considered. These SDGs, however, are particularly relevant for a sustainable development proving that higher attention must be put at all levels in order to play positive actions to achieve this SDGs and develop an academic debate on the field.

In conclusion, with the aim of demonstrating the connection between Islamic finance as a tool for the achievement of sustainable development goals, this research confirms the initial question and shows really interesting outputs for a huge number of stakeholders that can make a lot of work in the future in order to create value from social and sustainable activities through Islamic finance

4. THIRD PAPER

ISLAMIC FINANCE FOR GREEN ECONOMY

Abstract

Green economy, among the years, has played a continuously increasing role in large scale economies and long-term projects and it is mobilizing international financial resources like never before. This paper argues that Sharia-compliant financing in the field of green economy represents a potential opportunity of further growth and able to contribute to the achievement of sustainable development goals in Europe, particularly with public utility projects. This paper describes how Islamic finance can contribute in this field and analyzes real cases in which it has contributed to the achievement of global goals, suggesting also a conceptual model to deploy all the potential of Islamic green finance in Europe, analyzing its actual situation.

Research limitations/implications –The research is supposed to be a clarifying paper that will hopefully give some good insights for public and private investors but also to the academic community to boost the contribution of Islamic finance toward Sustainable Development goals and to green economy, particularly in Europe. WOS database, adopted to analyzed the literature in the field of Islamic green economy and finance, seemed to be the best tool for that kind of research since it is the world's most complete index for social studies.

Originality/value – This research shows the attention of the academic world toward the relation between Islamic finance and green economy but also with Sustainable Development and the need of a higher global awareness at all levels. The originality and value of the contribution of the research emerges from the fact that this is the first academic paper that matches different perspectives from apparently separated fields toward a comprehensive analysis of the possibilities to deploy, with positive outcomes, particularly in Europe, Islamic finance for green economy. The first identified research gap is that there are no other researches on the field of Islamic green economy in Europe, the second research gap is that there

are no other studies that suggest a conceptual model involving an Islamic finance tool to finance environmental-friendly projects in Europe and the third and last gap is that there are no other studies that systematically links Islamic finance, sustainable development and Europe.

Keywords Green economy, green sukuk, Public utilities project, Islamic finance, Europe

4.1 Introduction

4.1.1 General background

The achievement of 17 Sustainable Development Goals is the target of the 2030 Agenda of the UN. An overall global effort is required to reach these goals and in particular for those projects related to the environment preservation which is directly related to green economy. As a matter of fact, Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change demand deep interventions worldwide at all levels. However, there is not a harmonized knowledge on how these two fundamental global calls for responsibility can be addressed and put into practice. In this context, needs to be remarked the initiative launched from the International Institute for Applied System Analysis (IIASA), "The World in 2050 initiative", that aims "*to provide the fact-based knowledge to support the policy process and implementation of the SDGs*" and "*to address the full spectrum of transformational challenges related to achieving the 17 SDGs in an integrated manner so as to minimize potential conflicts among them and reap the benefits of potential synergies of achieving them in union*"[6]. Consequently, (Sachs et al. 2019) suggest a six-level transformational model that can help to achieve SDGs' achievement: "*(1) education, gender and inequality; (2) health, well-being and demography; (3) energy decarbonization and sustainable industry; (4) sustainable food, land, water and oceans; (5) sustainable cities and communities; and (6) digital revolution for sustainable development*." As it is possible to see, five out of six blocks are related to green economy.

As a matter of fact, it is considered that an unprecedented transformation of existing infrastructure systems is needed to achieve the world's climate and development objectives (OECD, The World Bank, e United Nations Environment Programme 2018) required to meet the criteria of the Agenda 2030. A green-change, for example through the issuance of specific financial instruments related to green economy, is a unique opportunity to develop infrastructure systems that

[6] https://iiasa.ac.at/web/home/research/twi/TWI2050.html

deliver better services while protecting the environment. Particularly after COVID-19, world's economic system will benefit of rapidly emerging technologies, new business models and financial innovations that could be the key in opening new pathways to low-emissions and a sustainable and green future (M. T. Alam 2020). In addition, the pandemic and the subsequent economic crisis have underlined the importance of environmental health and resilience as a critical complement to public health (OECD, 2020).

In order to boost green economy, a mobilization in public and private resources is essential and each part will play a crucial role. Infrastructural investments cannot be put in place with national budgets alone but need to be strengthen also by private contributions both in financial and non-financial terms (World Economic Forum 2013). To this extent, the World Economic Forum observes that "*Greening investment at scale is a precondition for achieving sustainable growth. [...] New kinds of investments are needed that also achieve sustainability goals. Beyond the known infrastructure investment barriers and constraints, the challenge will be to enable an unprecedented shift in long-term investment from conventional to green alternatives to avoid locking in less efficient, emissions-intensive technologies for decades to come [...] Closing the green investment gap is affordable but needs to be supported by effective public policy. Public resources are limited, especially during the current period of austerity measures across much of the OECD. Therefore, reliance on public-sector investment must be minimized, and more attention paid to attracting private finance, which is at the core of the green growth transition.*". In fact, infrastructural projects, and in particular those related to green investments, always involve a wide number of actors such as project promoters (sponsors and investors), lenders, government, contractors, suppliers, and customers (P. P. Biancone e Radwan 2018b). In previous academic studies, it has been observed that public utility projects and, in particular, infrastructures, play an important role in supporting a nation's economic growth and competitiveness (P. P. Biancone e Radwan 2018b). In fact, it is argued that a well-developed infrastructure is often considered the foundation for economic growth (P. P. Biancone e Radwan 2018b).

In this context, Islamic finance may play a fundamental role due to its potential and already deployed and demonstrated capacity to operate in socially responsible projects, particularly related to Sustainable Development Goals (Abduh 2019; Afandi, Wahyuningsih, e Muta'ali 2019; Atah, Nasr, e Mohammed 2018; Ghoniyah e Hartono 2020; Chirambo 2018).

Really interesting are the conclusion of the OECD on the field of climate change (OECD, The World Bank, e United Nations Environment Programme 2018): "*The OECD estimates that USD 6.9 trillion a year is required up to 2030 to meet climate and development objectives Aligning financial flows with low-emission, resilient development pathways is now more critical than ever to meet the goals of the Paris Agreement and deliver on the 2030 Agenda for sustainable development. today there is a unique opportunity to develop infrastructure systems that deliver better services while protecting the environment. Harnessing the benefits of rapidly emerging technologies, new business models and financial innovations will be key in opening new pathways to low-emission, resilient futures. Mobilizing public and private resources across the financial spectrum is an essential part of generating the trillions of dollars needed for sustainable infrastructure. Public finance institutions, banks, institutional investors, corporations and capital markets all have a crucial role to play, both in their own right and as part of the broader financial ecosystem*".

In particular, the above-mentioned study highlights 6 transformative areas that are key to aligning financial flows with climate and development goals in the areas of planning, innovation, public budgeting, financial systems, development finance and cities:

- Plan infrastructure for a low-emission and resilient future;
- Unleash innovation to accelerate the transition;
- Ensure fiscal sustainability for a low-emission, resilient future;
- Reset the financial system in line with long-term climate risks and opportunities;
- Rethink development finance for climate;

- Empower city governments to build low-emission and resilient urban societies.

According to World Economic Forum's report "Future of Nature and Business" – 2020, there are three relevant areas of intervention to afford the challenge of environmental sustainability:

- *NATURE POSITIVE FOOD, LAND AND OCEAN USE SYSTEM*: it seems that business opportunities across this field could create nearly $3.565 trillion worth of annual value and 191 million jobs by 2030 through six transitions:
  - *Ecosystem restoration and avoided land and ocean use expansion (450 billion $ - 11 million jobs);*
  - *Productive and regenerative agriculture (1,140 trillion $ - 62 million jobs);*
  - *Healthy and productive oceans (170 billion $ - 14 million jobs);*
  - *Sustainable management of forests (230 billion $ - 16 million jobs);*
  - *Planet compatible consumption (1,060 trillion $ - 70 million jobs);*
  - *Transparent and sustainable supply chains (515 billion $ - 18 million jobs).*
- *NATURE-POSITIVE INFRASTRUCTURE AND BUILT-ENVIRONMENT SYSTEM*: it seems that these opportunities could create over $3,015 trillion worth of annual value and 117 million jobs by 2030 through five transitions:
  - *Compact built environment (665 billion $ - 3 million jobs);*
  - *Nature-positive built environment (935 billion $ - 38 million jobs);*
  - *Planet-compatible urban utilities (670 billion $ - 42 million jobs);*
  - *Nature as infrastructure (160 billion $ - 4 million jobs);*
  - *Nature-positive connecting infrastructure (585 billion $ - 29 million jobs).*
- *NATURE-POSITIVE ENERGY AND EXTRACTIVES SYSTEM*: it seems that opportunities could create over $3.530 trillion worth of annual value and almost 87 million jobs by 2030 through four transitions:
  - *Circular and resource efficient models (2,310 trillion $ - 30 million jobs);*
  - *Nature-positive metals & mineral extraction (520 billion $ - 28 million jobs);*

- *Sustainable metals & materials supply chains (30 billion $ - 3 million jobs);*
- *Nature-positive energy transition (670 billion $ - 26 million jobs).*

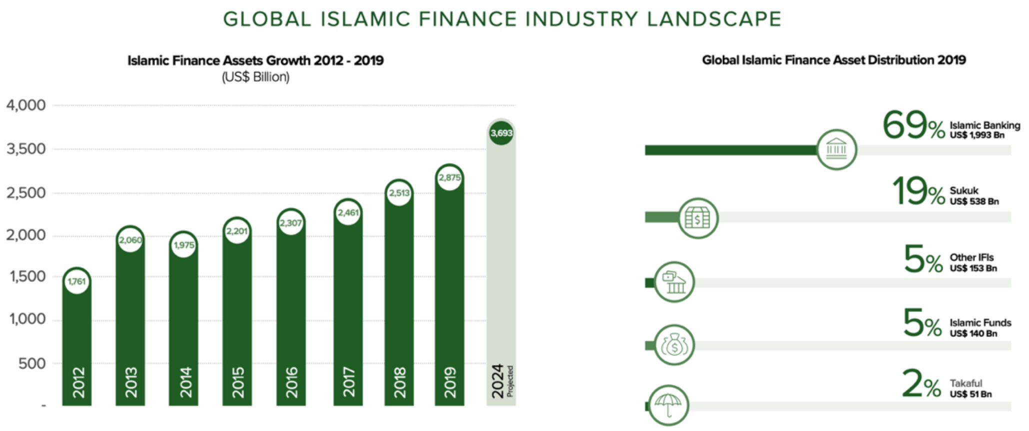
4.1.2 <u>Islamic finance for green economy</u>

In this context, it seems relevant to evaluate the possible role of Islamic finance for green economy.

Muslim populations, according to Pew Center's Research data[7], is nowadays 24,9% of world's population with 1.9 billion people. By the end of 2030 it will be 26.5% with 2.2 billion people, in 2040 it will be 28.1% with 2.5 billion people and in 2050 it will be 29.7% with 2.7 billion people. From an economical point of view, according to (Collins 2007), the potential to raise capital from Islamic countries is large and the liquidity that Islamic finance brings into the mainstream should not be underestimated (Gabbani 2012), particularly looking at the population numbers and growth rate.

According to the ICD-REFINITIV - Islamic Finance Development Report 2020, the Islamic finance industry saw double-digit growth of 14% in 2019 to a total US$2.88 trillion in assets and expects a growth, by 2024, to a total US$3.69 trillion in assets (Fig. 1).

Fig. 1 – Global Islamic finance industry landscape



Source: ICD-REFINITIV - Islamic Finance Development Report 2020

[7] http://globalreligiousfutures.org

What seems relevant, for the extent of this research, is that Sukuks already have a 19% share in the Islamic Finance Asset distribution in 2019 with 538 billion $. This means that the possible growth of this instrument could be very high by 2024 looking at the global growth rate of Islamic finance as a whole. At the same time, we can observe a significant increasing interest from governments and private sector on Green and socially responsible investing (SRI) held through Green Sukuks that may help in meeting UN's SDGs. In fact, in 2019 Green sukuk issuance totaled US$ 4.4 billion, comprising issuances from Indonesia and countries of the GCC (ICD-REFINITIV - Islamic Finance Development Report 2020). In detail, the Indonesian government and Dubai holding group Majid Al Futtaim issued their first green sukuk in 2019 with, respectively, US$2 billion + US$750 million and US$600 million issuances to finance sustainable development projects, renewable energy projects and projects related to energy efficiency. On the other hand, in 2020 Islamic Development Bank (IsDB) issued a US$1.5 billion sustainability sukuk to support various social projects carried out by member countries affected by the Covid pandemic. This was the first ever AAA-rated sustainability sukuk to be issued on the global capital markets. The first green IsDB's sukuk was launched in December 2019 and had a value of US$1.17 billion to finance climate change-related and green projects among its member countries. Other green sukuk emission had been launched in Saudi Arabia and Malaysia while Uzbekistan and Kazakhstan are still considering that option (ICD-REFINITIV - Islamic Finance Development Report 2020).

4.1.3 Islamic green economy in Europe

Looking at European situation after the pandemic of COVID-19, it seemed interesting to look at the possible opportunities to put efforts into sustainable development with all the possible instruments. According to (Lanzara 2021), in particular, there is a proven link between Islamic finance and Sustainable Development Goals (SDGs) that could be an interesting link to sponsor alternative kind of investments in Europe. In fact, this market, a part from the Muslims' countries markets, seems to be a possible high rewarding market for Islamic finance[8] particularly having a look at the new environmental policies boost by the pandemic and also to the Sustainable Development policies[9,10] (OECD 2021; EUROSTAT 2020). What emerges from the literature is that some authors have concentrated their efforts among years to discuss the possible strategies to introduce Islamic finance in Europe. Countries like UK and now Luxemburg, Germany and Russia have disclosed a sincere interest on that field allowing changes on their legislation, but a lot of work must still be done to harmonize legislations and legal frameworks in all other European countries. At this time, Italian situation seems to be one of the most debated from an academic point of view. However, no specific contribution on Islamic green economy in Europe, in particular after COVID-19, has already been discussed from an academic point of view.

Regarding the possibility to deploy Islamic finance in Italy for infrastructural projects, according to P. P. Biancone e Shakhatreh (2015), "*Islamic project finance is the solution to fill the gap between infrastructure demand and available finance*". It is considered possible to use Islamic finance to fund infrastructure project, that is one of the sectors that is facing major challenges in long-term financing, while the potential implementation of Islamic project finance structure to fund the infrastructure project in Italy is under discussion. In the following year, Alharbi˙ (2016) aims to shade a light on the development of Islamic finance industry in the west and to highlight that there are still regulatory, legal, knowledge and social obstacles that limits its spread. The debate continues when P. P. Biancone e Radwan (2016) observe that Islamic finance is an attractive financial system particularly in Western countries; however, the main issue is still that to attract Islamic investors in Europe the investments must be Sharia-compliant. Later, Ashfaq (2017) evaluates the prospects of success of Islamic finance in Germany by carrying out a quantitative study that "*revealed that two-thirds of respondents were willing to switch to Islamic banking, and that Giro and savings bank accounts and mortgage*

[8] https://www.responsible-investor.com/articles/2020-the-year-sustainable-islamic-finance-scales
[9] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
[10] https://www.sc.com/en/feature/the-eu-green-deal-a-purpose-driven-plan-with-global-investment-impact/

financing products and services were most desired by the respondents" and that "*showed that the success of Islamic Banking and Finance in the United Kingdom is mainly due to the proactive role taken by regulators and London's role as an international financial center*". Thus, showing that "*the success of Islamic banking in Germany will largely depend on the operating model of Islamic financial institutions*".

Afterwards, Masiukiewicz (2017) analyzes the development of Islamic finance in the European market, focusing on its crisis-resistance and on the possibility to share each other's expertise. It is observed that, even though Islamic finance is continuously growing in niece areas of the market, there are still some obstacles to its homogeneous spread into European market: "***incompatibility of legal regulations in non-Muslim countries, low demand among Islamic diaspora in Europe, shortage of qualified Sharia scholars, unsatisfactory standardization of Islamic financial products and accounting policies***". Things are slowly changing and countries such as Luxembourg, Germany, Russia and in the United Kingdom have approved beneficial legislative changes to welcome Islamic finance. It is also underlined the positive impact that countries may have using Islamic finance to finance infrastructure projects by using the already existing laws and regulations. A particular focus is given to the Italian situation. Thereafter, Salvi, Zito, e Caragnano (2019) compare, over the period 2005–2017, the performance of European listed firms applying Shariah principles and the performance of those who do not act according to such guidelines, suggesting that Shariah-compliant ones perform better than the others and, finally, P. Biancone, Secinaro, e Radwan (2020) address the issue of the legislative changes needed in Italy to welcome Islamic finance projects, observing that the system can welcome this kind of finance with little modifies but also that the awareness on the specific sector is very low, particularly compared to other countries.

Even though not mentioning Islamic finance, it seems important, with regard to the research topic, to mention Secinaro, Brescia, Calandra, e Saiti (2020) that examine the relationship between climate change and firm performance in the context of European publicly listed companies. Hoping that policymakers and organizations will pursue climate change mitigation and sustainable business solutions, the analysis shows that environmental performance positively impacts financial performance, confirming that the firm-wide adoption of environmental practices reduces environmental risks and also lowers production costs increasing profits. In this context, it is possible to underline, according to this study, which huge benefits could have the spread of Islamic finance and Islamic green finance in Europe.

4.1.4 Research aims and structure

This paper aims at analyzing how and if Sharia-compliant financing, in the field of green economy, represents a potential opportunity of further growth and how and if it is able to contribute to the achievement of sustainable development goals, particularly with private and public projects in Europe.

The first identified research gap is that there are no other researches on the field of Islamic green economy in Europe, the second research gap is that there are no other studies that suggest a conceptual model involving an Islamic finance tool to finance environmental-friendly projects in Europe and the third and last gap is that there are no other studies that systematically links Islamic finance, sustainable development and Europe.

This paper, through a systematic review of the literature and the recommendation of a conceptual model, describes one of the methods and the possible solutions through which Islamic finance tools can be used for the deployment of green economy in Europe. In fact, it is quite evident that the opportunities of growth of the green sector are really high and also extremely important for the world's future. In this context, the different instruments to deploy the potential of Islamic finance in the green field will be targeted, analyzing their possible use and future challenges. Furthermore, it is considered that the suggestion of a conceptual model for the practical deployment of Islamic green finance can be very useful for all the stakeholders.

In order to address the above-mentioned research questions and to fill the gaps in the literature, the paper is organized as follows: Section two will host the methodology; Section three will analyze the results of the research; Section four will host the conceptual model and Section five will conclude the paper.

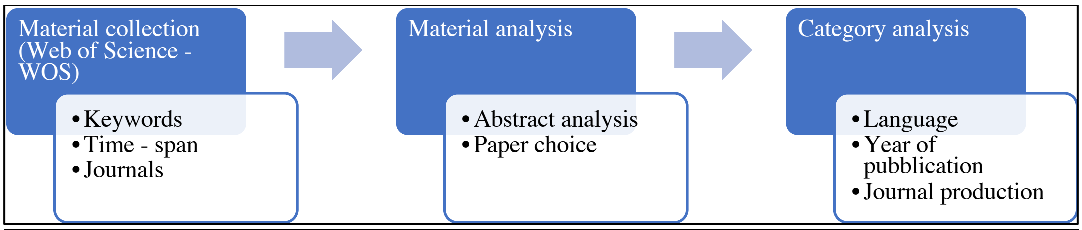
4.2 Methodology

According to Webster e Watson (2002a), the value of a literature review is creating solid basis for a future theory development. For this reason, a literature review is required in fields of knowledge that are in need of development. In the same field, in order to identify the more reasonable method to conduct the literature review, according to Snyder (2019), there are different types of literature review to conduct researches but there is not a specific method that is uniquely tailored to social sciences studies. For the extent of this paper, the systematic literature review seems the best method (Davis et al. 2014) because it can help "*to clarify the state of a field of research, determine whether an effect is constant across studies, and discover what future studies are required to demonstrate the effect*.". So, with the purpose to map the existing studies regarding Islamic finance and green economy, a meta-search analysis has been conducted through the database Web of Science – WOS which is the most reliable database for social sciences (Mongeon e Paul-Hus 2016).

To conduct the research a three-stage method has been followed (Tranfield, Denyer, e Smart 2003; Seuring e Müller 2008)(Fig. 2):

- material collection;
- material analysis;
- category analysis.

Fig. 2 – Research flow



Source: personal elaboration

4.2.1 <u>Material collection</u>

In order to extract articles regarding Islamic finance and green economy, a structured keyword search was deployed in the meta-search engine (Web of Science-WOS), which has access to the most well-known academic databases (K. Li, Rollins, e Yan 2018), without any limitation on the selection of journals and type of contribution. This multidisciplinary database allows researchers to identify key articles for scientific analysis (Okoli e Schabram 2010; Webster e Watson 2002).

The keywords used for the research were:

- **"Islamic finance * green"; (4 results -WOS)**
- **"Islamic finance * green sukuk"; (6 results – WOS)**
- **"Islamic green finance"; (12 results -WOS)**
- **"Islamic green economy"; (11 results -WOS)**
- **Islamic finance * environment". (62 results – WOS)**

Ninety-five (95) documents have been identified inserting the above-mentioned keywords related to the topic of research. All the results were then merged into a single list to search for duplicates results. The comparison of the five lists gave a final number of 82 papers. The use of a wider number of keywords and the absence of a limitation on the analysed sources gives the chance to find a higher number of papers, enhancing the value of the systematic research.

As already mentioned, the research was extended to all the databases of WOS, to all types of documents (papers from academic journals, books review and chapters, editorial material and proceedings papers) and from a time range between

1985 to 2021. The language of publication selected was English which is the most widespread language in social sciences articles (Hamel 2007) .

4.2.2 Material analysis

Analyzing the content of the title and abstract of the 82 articles, only 17 of them are relevant for the research (Tab. I). They mainly come from the researches held with keywords "Islamic finance * green" (4), "Islamic green finance" (5) and "Islamic green economy" (7).

Tab. I – Relevant articles

Authors	Article Title	Source Title	Publication Year
Richardson, E	The UAE and Responsible Finance-Can Responsible Finance Sukuk Help the UAE in Fulfilling Its Sustainability Ambitions?	ARAB LAW QUARTERLY	2020
Abdullah, MS; Keshminder, JS	What drives green sukuk? A leader's perspective	JOURNAL OF SUSTAINABLE FINANCE & INVESTMENT	2020
Hati, SRH; Yuliati, E; Prasetyo, MB; Hananto, A; Balqiah, TE	Green Sukuk Potential in Attracting Global and Domestic Investor to Support Sustainable Development in Indonesia	VISION 2025: EDUCATION EXCELLENCE AND MANAGEMENT OF INNOVATIONS THROUGH SUSTAINABLE ECONOMIC COMPETITIVE ADVANTAGE	2019
Campisi, D; Gitto, S; Morea, D	Shari'ah-Compliant Finance: A Possible Novel Paradigm for Green Economy Investments in Italy	SUSTAINABILITY	2018
Ali, Q; Parveen, S; Senin, AA; Zaini, MZ	Islamic bankers' green behaviour for the growth of green banking in Malaysia	INTERNATIONAL JOURNAL OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT	2020
Julia, T; Kassim, S	Exploring green banking performance of Islamic banks vs conventional banks in Bangladesh based on Maqasid Shariah framework	JOURNAL OF ISLAMIC MARKETING	2019
Safitri, R; Hartiwiningsih; Purwadi, H	The Role of Law on the Implementation of Green Banking in Indonesia	JURNAL CITA HUKUM-INDONESIAN LAW JOURNAL	2019

Kunhibava, S; Ling, STY; Ruslan, MK	Sustainable Financing and Enhancing the Role of Islamic Banks in Malaysia	ARAB LAW QUARTERLY	2018
Julia, T; Kassim, S	Green financing and bank profitability: empirical evidence from the banking sector in Bangladesh	AL-SHAJARAH	2016
Julia, T; Rahman, MP; Kassim, S	Shariah compliance of green banking policy in Bangladesh	HUMANOMICS	2016
Al-Harami, A; Furlan, R	Qatar National Museum-Transit oriented development: The masterplan for the urban regeneration of a 'green TOD'	JOURNAL OF URBAN MANAGEMENT	2020
Khoros, VG; Dolgov, BV; Solov'eva, ZA	Problems of the North African region	MIROVAYA EKONOMIKA I MEZHDUNARODNYE OTNOSHENIYA	2019
Ramadhan, DS; Iswati, S; Herianingrum, S; Anshori, A	Analysis of The Disclosure of Greenhouse Gas Emissions and Environmental Performances in Listed Firms at The Jakarta Islamic Index	PROCEEDINGS OF THE 1ST INTERNATIONAL CONFERENCE POSTGRADUATE SCHOOL OF UNIVERSITAS AIRLANGGA: IMPLEMENTATION OF CLIMATE CHANGE AGREEMENT TO MEET SUSTAINABLE DEVELOPMENT GOALS (ICPSUAS 2017)	2017
Mansour, MS; Hassan, KH; Bagheri, P	Shari'ah Perspective on Green Jobs and Environmental Ethics	ETHICS POLICY & ENVIRONMENT	2017
Ali, SH	Reconciling Islamic Ethics, Fossil Fuel Dependence, and Climate Change in the Middle East	REVIEW OF MIDDLE EAST STUDIES	2016
Ahmad, A	Islamic Attitudes towards Environmental Problems and Practices	WORLDVIEWS-GLOBAL RELIGIONS CULTURE AND ECOLOGY	2015
Kassim, S; Abdullah, A	Pushing the frontiers of Islamic finance through socially responsible investment sukuk	AL-SHAJARAH	2017

Source: personal elaboration

4.2.3 Category analysis

During selected period (1985-2021) it was possible to observe that there is a progressive increase of interest about the research topic from 2015, as it can be seen from the table (Tab. II) below.

Tab. II - Articles per year

Articles	Year
1	2015
3	2016
3	2017
2	2018
4	2019
4	2020
0	2021
17	

Source: personal elaboration

The most relevant scientific production, taking on account journals that published more than one article on the field of interest, refers to the "ARAB LAW QUARTERLY" (2) and "AL-SHAJARAH" (2). All the other sources published only one article.

4.3 Results

The content analysis of the above-mentioned papers shed the light on different and very interesting topics that could enhance the research level on the field of the role of Islamic Finance for green economy. In particular, it has been observed that four are the main topics: (a) green sukuk and responsible investments, (b) green banking and green jobs, (c) peace-building role of green economy in Islamic countries and (d) urban regeneration and environmental performance.

4.3.1 Green sukuk and responsible investments

Regarding green sukuk and responsible investments, Richardson (2020) maps the UAE's sustainability agenda and analyze if responsible finance sukuk can fit within this agenda. In the article it is argued that in Islamic finance centers such Malaysia or Indonesia the use of **responsible finance sukuk** is really spread and they are used for green, social of sustainable economic activities while on the UAE for different reasons they are not very much used. Furthermore, M. S. Abdullah e Keshminder (2020), due to the increasing interest on climate change, analyze the current performance of **global green sukuk** since their results in Malaysia do not meet the expectations. It is assumed that a stronger legislative, educative and promotional effort is needed to boost the presence of green sukuk in the market. In fact, according to the author, competitiveness, legitimation and ecological responsibility negatively influenced, up until today, the issuance of green sukuks. In addition, Hati et al. (2019) assume that "***green sukuk*** *can become a viable solution to environmental problems and serve as a bridge between the Islamic and conventional financial markets*". The study confirms that there is a significant growth potential for the expansion and diffusion of green sukuks in the market particularly in Muslim countries which operate under the Sharia law and consequently have an interest to operate in a socially responsible way also aligned with the achievement of SDGs. Finally, Kassim e Abdullah (2017) explore the potentials of **Socially Responsible Investment (SRI) sukuk** considered as a good financing source "*for projects that address community and social issues, thus giving positive impact to the society*". in order to demonstrate their theory, the authors focused on several cases of SRI sukuk used in field such as education, environment and health, highlighting mechanisms and challenges as well as potentials of SRI sukuk as a source of financing for these projects, also considering that the field of SRI sukuk is still in a beginner stage particularly in Islamic finance. Likewise, Campisi, Gitto, e Morea (2018) shed light on the Italian renewable energy sector which suffers of a consistent national funds reduction. The authors, after suggesting the need of a general rethinking of financing sources and the need to widen this research also toward non-conventional instruments and cultures, target the possible use, also in Italy, of **sukuk for sustainable investments** particularly in the wind sector which is the one analyzed in the study.

4.3.2 Green banking and green jobs

Looking at bank's attitude and interest towards green economy related aspects, (Q. Ali et al. 2020) explore, through a survey questionnaire collected from 55 Islamic bankers in Malaysia, green behaviors among Islamic bankers and the influence of these behaviors on green banking growth in Malaysia. Results highlights that bankers' green behaviors influences green banking's growth. On the other hand, Julia, Rahman, e Kassim (2016) evaluate whether the green banking policies set in Bangladesh are really Sharia-compliant. These policies include "*different categories such as environment protection, conservation of resources, risk management, educating people about green financing, transparency and disclosure and investing in green projects*". The research found that the green policies are Sharia compliant and that Islamic banks need to deploy a higher effort to successfully implementing green financing policies also due to the fact that Islam must be considered a green religion due to the presence of verses of holy Quran and authentic Hadiths related to environmental sustainability concept. Moreover, Julia e Kassim (2019) focus on the environmental degradation in Bangladesh (fourth most polluted country in the world, according to WHO) which is considered one of the most relevant impediments in this country's growth. In the study is analyzed the financial performance of banks who promote, after the introduction of Government's Green Financing Policy, environment-friendly economic activities for sustainable economic development.

Finally, even though not directly related to the banking sector, M. S. Mansour, Hassan, e Bagheri (2017) examine through a content analysis approach within Islamic jurisprudence the concept of **green jobs** intended as "*means for conserving energy, minimizing natural gas emissions, reducing pollution and waste and protecting and improving ecosystems*".

4.3.3 Peace-building role of green economy in Islamic countries

Focusing on the peace-builder role that Islamic finance could play, it has been observed that it could be related to its contribution to environmental awareness. In particular, S. H. Ali (2016) suggests that actions on climate change are now put in place also by long-time fossil dependent countries of the Middle East area. **Environmental awareness** had its advent with the "Islamic Declaration on Climate Change" which was promulgated in 2015 and that will hopefully lead into a green transition also in Muslim countries. Proof of this new sensibility is the establishment of the International Renewable Energy Agency (IRENA) in the UAE. Furthermore, the paper argues the fundamental **peace-building role** that environment could play in the area particularly due to the recent evident changes on world's climate. On the other hand, Khoros, Dolgov, e Solov'Eva (2019) analyze the difficult situation of the Northern African region, in a vast majority of Islamic religion, highlighting the need of a deep modernization. However, the standalone process of modernization in Tunisia, Egypt and other countries could not resolve difficult economic and social problems. While Islamic political forces made attempts to take power, always failing, secular, mostly authoritarian, political leaders were not anyway able to deploy the right efforts to change the situation and to promote economic and social modernization as well as political one. Contemporary, these regions are facing the threat of Islamic terrorism that is not a resolved question and that hurts significantly all these countries. In constancy on this difficult overall situation, the modernization progress passes also through the ecological aspect intending it as a factor of balanced progress. So, an adequate **ecological policy and "green economy"** is considered necessary for this region because of its climate and resource characteristics to boost its growth. Morocco at this time is setting the pattern for others.

4.3.4 Urban regeneration and environmental performance

Concerning the fourth topi "urban regeneration and environmental performance", Al-Harami e Furlan (2020) propose a masterplan for the **urban regeneration** of Qatar National Museum's Transit Village (Transit-Oriented Development - TOD) located along Doha Metro's Gold Line, based on a **Green Urbanism** and TOD design strategy. The extraordinary urban growth experienced from the country after the WWII conflict caused relevant changes on country's economy boosting statal investments that had been conveyed into the transformation of Doha's built environment and the construction of major urban public transit systems. On the other hand, D. S. Ramadhan et al. (2017) evaluate the environmental performance of 150 companies listed in Jakarta Islamic Index and finds that they have good **environmental performance** in accordance with corporate performance, profitability and firm size. It is also observed that Indonesia has a high attention on the environmental issue, having adhered to the Kyoto protocol and also having issued local presidential decrees called National Action Plan to Reduce Greenhouse Gas Emission and Inventory Operation of National Greenhouse Gas. Finally, Ahmad (2015) observes the situation of the developing Islamic nation Brunei Darussalam, which is rich in natural resources including fossil fuels and biodiversity. At the same time, however, even if the Government is trying to preserve the biodiversity, also maintaining a clean environment, they are still facing many issues with pollution, such as haze and solid waste. However, the majority of the population, which is Muslim, seem to have an uncaring attitude and behavior toward the **environmental issues**.

4.4 Islamic finance for green economy in Europe – Overview, challenges and model development

4.4.1 General principles

To deploy a sustainable international development mainstream finance and Islamic finance[11] are moving toward social finance. In regard to the field of research, Islamic finance, due to its strict adherence to the Shaaria and Quran's principles, has its own set of ethical and social characteristics which regulate all aspects of public and private life for Muslims (Algaoud e Lewis 2007; Ayub 2007; Mahmoud A. El-Gamal 2006; Haron, Shanmugam, e Alam 2007; P. P. Biancone e Radwan 2015), and is trying to approach worldwide issues with some specific financial tool that will be analyzed in the following paragraph.

[11] https://www.responsible-investor.com/articles/2020-the-year-sustainable-islamic-finance-scales

Before considering the single useful tool for the development of an Islamic green economy, it must be said that Islamic finance is based upon 10 main rules which are strongly linked to social responsibility in financial environment (Schoon 2015):

- Avoid riba (Hassan and Lewis 2009; Iqbal e Mirakhor 2017; Mirakhor 2000);
- Avoid gharar (Sudin Haron 1997);
- Trade honestly and fairly;
- Full disclosure;
- Avoid misrepresentation;
- Do not interfere in a transaction that is (being) concluded;
- Avoid haram (forbidden) items (Alexander 2010; P. P. Biancone e Radwan 2016; Holden 2007; Rehman 2007; Mansoor Khan e Ishaq Bhatti 2008);
- No hoarding;
- Open markets;
- Do not take advantage of a seller's helplessness.

These principles, as a matter of fact, are similar to those of mainstream's Socially Responsible Investing (SRI) and to UK's Treating Customer Fairly (TCF).

Other relevant rules are those related to the prohibition of "maysir" (gambling) (Algaoud e Lewis 2007), those related to the principle of profit-loss sharing to investors and investees (Ayub 2007) and those related to Sharia-compliant investments that must be based on an identifiable and tangible underlying asset (P. P. Biancone e Radwan 2018b).

In order to qualify investments as Sharia-compliant, they must succeed a qualitative and quantitative process (Charles e Darné 2015; DeLorenzo 2007; Hassan e Girard 2011; Hayat e Kraeussl 2011; Ho et al. 2014; Hussein 2004). While qualitative screening focuses on the definition of "halal" (lawful) and "haram" (unlawful)[12] business activities (Derigs and Marzban, 2008), the quantitative screening consists on a series of "stress tests" on the company's financial aspects, testing the levels of debt, interest and liquidity (P. P. Biancone e Radwan 2016).

4.4.2 Relevant Sharia-Compliant tools for green economy

According to the literature review, the most relevant Sharia-Compliant tool that has already been deployed in the field of green economy is the sukuk, intended as "**green sukuk**" (Hati et al. 2019; M. S. Abdullah e Keshminder 2020) or "**Socially Responsible Investment (SRI) sukuk**" (Kassim e Abdullah 2017).

Sukuk or "bonds" are debt instruments that can be issued by corporate entities, governments, sovereign entities, funds and indices. They are always addressed as "Islamic bonds" but in reality they represent "*a proportional ownership share in an asset or pool of assets where the sukuk holders have an undivided beneficial ownership in the underlying assets*" (McMillen 2006; Piper 2008; P. P. Biancone e Radwan 2018b) and they can be used both for long and short-term financing and refinancing utility projects. According to P. P. Biancone e Radwan (2018b), "*Sukuk are investment certificates that are asset-based rather than asset-backed securities, with the underlying asset being necessarily Sharia-compliant in both nature and use*". Moreover, P. P. Biancone e Shakhatreh (2017) indicate that sukuk "*can help meet utility sector financing needs and proposed the sukuk with no redemption value*". A part from the authors targeted by the literature review, as far as the author of this article is concerned, also other authors (Moghul e Safar-Aly 2014; Abubakar e Handayani 2020; Aassouli et al. 2018; N. Alam, Duygun, e Ariss 2016; Amri, Mohammed, e Abdi 2021; Anugrahaeni 2017; Athiyah Tabassum, Mebasara Diengdoh, Dr. G Vincent, s.d.; Bennett Michael 2015; Boutti e Mosaid 2015; Hati et al. 2019; Keshminder et al., s.d.; Morea e Poggi 2017; Munir et al. 2020; I. A. Ramadhan e Wirdyanigsih 2020; Dodik Siswantoro

[12] i.e. pornography, gambling, pork-related products, tobacco, financial services based on interest, weapons, alcohol and biological human and animal genetic engineering

e Surya 2021; D Siswantoro 2018; Zain et al. 2021) addressed green sukuk as a viable source of funding to achieve also Sustainable Development Goals (SDGs).

Moreover, according to Lanzara (2021), also **waqf, cash waqf, ihya al-mawat, ijara** and **istisna** had been identified as possible alternatives to green sukuk financing activities related to Sustainable Development Goals (SDGs). However, only waqf had been directly addressed to finance green economy initiatives (K. Ali e Kassim 2020). As described by P. P. Biancone e Radwan (2018b) in their paper about financing for public utility infrastructure, other Sharia compliant instruments could be deployed too in the field of infrastructural investments such as "**musharaka**" (partnership), "**mudaraba**" (profit-sharing and loss-bearing) contracts and also Sharia-compliant investments in the form of shares and funds (i.e., mutual, trust, index, investments, Sovereign Wealth and exchange-traded) (Inderst 2016). Finally, other possible financing instruments may include "*"**murabaha**" (cost-plus financing with a pre-determined mark-up fee), "**ijara**" (leasing) contract where renting an asset to gain from its usufruct, "**salam**" (forward sale), and "**istisna**" (a contract with deferred both payment and delivery for manufacturing or constructing an asset)"*(P. P. Biancone e Radwan 2018b).

This general overview on the deployable Islamic finance tool is also supported by other studies (OECD 2020; Qatar Foundation 2015; M. Abdullah 2018; F. Khan e Hassan 2019; World Economic Forum 2019) that identify in sukuk, zakat e waqf the principal financial tools to support Sustainable Development which is, as already mentioned, directly related to green economy.

4.4.3 Overall challenges and model development

What clearly emerges from the analysis above is that a lot of challenges affect Islamic finance and, consequently, Islamic green finance to spread, even though a lot of positive signals can be underlined. According to P. P. Biancone e Radwan (2018b) to finance public utility projects with Islamic finance could be very challenging. At the same time, some of the traits the two authors address, can be found also in the some of the relevant papers mentioned in this research (Tab. III) and can definitely be applied also to Islamic green finance projects.

Tab. III – Islamic finance main challenges

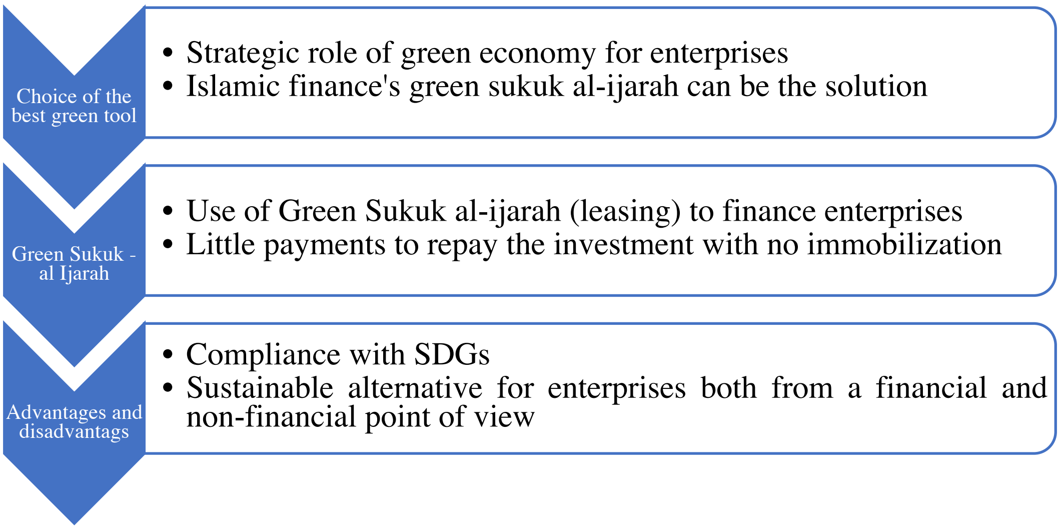
Challenges	Authors
Islamic finance products are not simply to understand and to apply in the conventional environment.	(Masiukiewicz 2017)
Lack of interest from expat Muslims and also from Muslims living in Muslim countries.	(Masiukiewicz 2017)
Lack of Islamic finance expertise, financial background and Sharia's knowledge.	(Masiukiewicz 2017) (Chachi 2021)
Lack of harmonization with national legal accounting and tax frameworks. The UK has worked on this harmonization and succeeded.	(Alharbi˙ 2016)(P. P. Biancone e Radwan 2016) (Masiukiewicz 2017)
Need for a different regulation and supervision of the risk exposure of Islamic banks compared to the one that regulate traditional banks (Basel Committee on Banking Supervision).	(P. P. Biancone e Radwan 2016)

Source: personal elaboration

On the other hand, positive signals can be seen in the increased interest on the topic, both from an academical and an institutional point of view. Independent studies (OECD 2019; World Economic Forum 2020) show the already-achieved results towards a green economy, even in emerging countries, underlining the need to increase the funds, the know-how and the awareness on the field. Contemporary, academics observed and studied a number of projects deployed in the field of sustainable development and green economy in depressed areas of the world and also on the field of legislative harmonization which seem one of the most relevant barriers of access for Islamic finance and, consequently, of Islamic green finance in non-Muslim countries.

In order to create a conceptual model for the introduction of Islamic finance for green economy in Europe and according to Igarashi, de Boer, e Fet (2013), it can be used a threefold model. First of all, there will be a qualitative synthesis of the results of research on Islamic finance and green economy. Second, the model can be used by academics as a tool to identify the most suitable tool for private stakeholders and to show new paths of research in the future. Third, all the possible stakeholders, public subjects, clients and consultants, may use this work to consider the possible advantages and disadvantages related to the use of the best Islamic finance tool to boost green economy, particularly in European market. (Fig. 3)

Fig. 3 – Conceptual model



Source: personal elaboration

4.4.3.1 Choice of the best green tool

Furthermore, through the analysis of the independent reports of CICERO (Center for International Climate Research), it is underlined that Green Sukuks are interesting and useful tools both for governments, financial and private actors too. Observing that "*Sovereign and Quasi Sovereign issuers dominate the Sukuk market with 83.7% of issuance*." According to Rafay, Sadiq, e Ajmal (2017), for the extent of that research, considered that the sukuk al-ijarah model for green sukuk is the most suitable for green investments for private actors also due to its highest share in the market[13]. So, in order to address the interest of private actors towards the choice of a Green Sukuk al-ijarah, it seems important to underline that green practice is nowadays part of the overall strategy of enterprises, whether big, medium or small (Igarashi, de Boer, e Fet 2013). For this reason, green actions must be addressed at every level of the organization, which requires a lot of investments that may justify the use of Green Sukuk for these purposes.

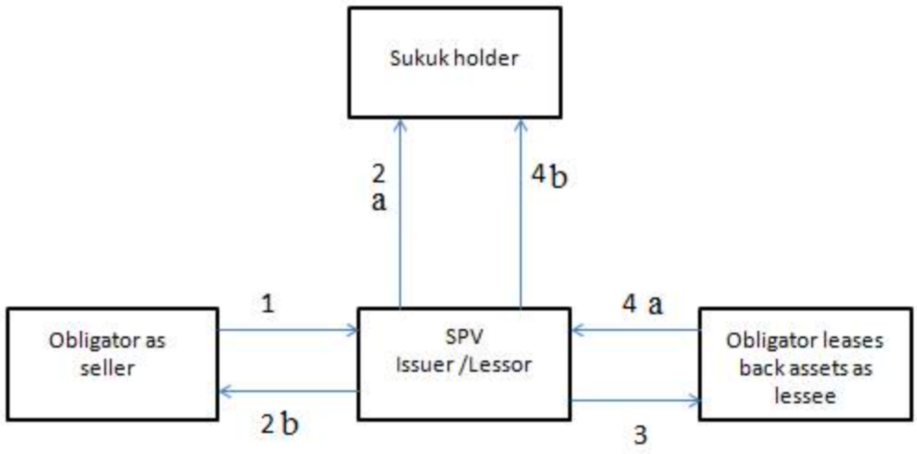
[13] https://islamicmarkets.com/education/sukuk-al-ijara

4.4.3.2 Green Sukuk al-Ijarah

Islamic finance ijarah contract can be compared to mainstream finance leasing contract which allows the payment of a little annual leasing fee to repay the initial investment without to bear the weight of the immobilization. With that instrument there are though benefit of taxes and, avoiding ownership, it is possible to avoid risks connected to ownership. The real profit will come mainly from the savings in terms of environmental footprint and, secondary, from the eventual major incomes coming from public incentives or side earnings coming from the use of the environmentally friendly tools (e.g. energy re-selling in case of solar panels or Eolic energy). Furthermore, this kind of investment, as already seen in the literature review, may also contribute to the achievement of SDGs 7 - 8 - 9 -11 -12 - 13 -14 - 15.

Taking on account the fact that one of the most relevant challenges of Islamic finance is the harmonization of its instruments, it has been chosen, for the purposes of this research and to try to succeed in the challenge to harmonize Islamic finance tools worldwide, the Sukuk al-Ijarah model suggested by Rafay, Sadiq, e Ajmal (2017) (Fig. 4).

Fig. 4 – Sukuk al-Ijarah model



1. Title to asset: The originator/obligator seeking financing make a true sale of its asset to the Sukuk SPV for a value equal to the financing provided.
2a: Sukuk proceeds: The SPV issues Sukuk and...
2b. Sukuk proceeds: ...with the proceeds pays the originator/obligator.
3: Lease agreement: The originator leases the asset back and ....
4a: Periodic rentals and capital amount payments: makes lease and repurchase payments to the SPV.
4b: Periodic rentals and capital amount payments: The SPV distributes these periodic rentals amoung the Sukuk holders.

Source: Uniform Framework for Sukuk al-Ijarah – A proposed model for all madhahib (Rafay, Sadiq, e Ajmal 2017)

According to Rafay, Sadiq, e Ajmal (2017), Sukuk al-Ijarah *" is a debt like instruments that investors are more willing to invest in than others especially the equity instruments where the pattern of profit participation also include sharing of losses beyond the investment. Furthermore, Sukuk al-Ijarah can be used in multiple contexts, including securitization, asset-backed and asset-based Sukuk and can be combined with other instruments like Istisnah thus give a large leverage to both the investor and issuer in terms of fulfillment of objectives of investment and for risk mitigation."* and it must have some specific characteristics to be compatible with Sharia worldwide (Rafay, Sadiq, e Ajmal 2017), some of which are recalled below:

- The issuer of Sukuk al-Ijarah should not be involved with haram activities and the underlying assets should have halal usage while the lessee should use the underlying in halal operations;
- no limitation in currency and tenure;

- it should be asset-backed, in particular, the issuer should transfer not only the usufruct but also the title and should not be convertible in kind for principal repayment;
- the SPV should be independent of the originator;
- the underlying asset should not be subordinated or under any hypothecation;
- the rentals can be fixed or floating, preferably with unconventional benchmarks and the amount due to investors in either case should be known before the start of period to remove gharar;
- it should preferably be listed and tradable on a recognized stock exchange and rated by any international credit rating agency;
- assets' buyback should be agreed with a unilateral promise acceptable with a post Ijarah sales price.

4.4.3.3 Advantages and disadvantages

Green Sukuk al-Ijarah, accordingly to mainstream leasing, can face both advantages and disadvantages. At the same time as being compliant with Sustainable Development Goals (SDGs), this instrument represents a sustainable alternative for enterprises both from a financial and non-financial point of view.

Green Sukuk al- Ijarah, according to the suggested model, will allow a consistent reduction in environmental footprint while allowing the reduction of carbon footprint. The possible economic advantages that this particular instrument has, must be connected to the environmental investment that will have a long-term impact both on the enterprise and in the environment. This model, according to P. P. Biancone e Radwan (2018b) could be also useful itself in the operations phase, while it could also be deployed for mid-term projects. In particular, the main advantages can be summarized as follows:

- reduced environmental footprint;
- balanced cash outflow;
- quality assets;
- better usage of capital;
- tax benefits;

- better planning;
- low capital expenditure;
- no risk of obsolescence;
- termination rights.

While, on the other hand, disadvantages are:

- lease expenses;
- limited financial benefits;
- debt;
- limited access to other loans;
- no ownership.

Possible areas in which Sukuk al-Ijarah could be inserted, particularly regarding European context (Parisse e Ceccarelli 2020), due to the European Green Deal, may be, but are not limited to:

- construction and housing requalification;
- sustainable supply chains;
- sustainable and green mobility.

4.5 Discussion and conclusions

4.5.1 Contributions to the literature

This paper shows that Islamic finance, in the field of green economy, represents a potential opportunity of economic and social growth, being also able to contribute to the achievement of Sustainable Development Goals in compliance with the Agenda 2030. Islamic finance, particularly after the pandemic, could be a driver for new green projects and offers a lot of potential tools to boost European's growth.

The contribution to the literature comes from (a) a systematic literature review of the academic contribution on the field, using WOS database to find the relevant documents, (b) a comprehensive analysis of the tools for Islamic green economy, (c) an overview of the actual challenges to deploy this high potential form of alternative finance (d) the demonstration of a link between Islamic finance, sustainable development and Europe and (e) the suggestion of a conceptual model for the practical deployment of Islamic green finance. The originality and value of the contribution emerges from the fact that this is the first academic paper that matches different perspectives from apparently separated fields toward a comprehensive analysis of the possibilities to deploy, with positive outcomes, Green Sukuk al-Ijarah to sustain green economy in Europe.

What emerges is a really articulated framework in which a lot of actors can play a fundamental role, particularly in regard to the need of professional expertise on Islamic finance and on Sharia laws and the need of harmonization of Islamic finance with local legislations, in relation to the chances to use this alternative finance structurally in Europe and in relation to the practical use of Greek sukuk al-Ijarah in European market.

Furthermore, in this research it is shown the strong connection between Islamic finance, green economy and Sustainable Development Goals (SDGs), confirming, as underlined in Lanzara (2021), that Islamic finance could be a very effective instrument to the achieve global goals.

4.5.2 Implications for institutions, banks, enterprises and customers

Based on the preliminary evidences and if supported by further research, the connection between Islamic finance, green economy and Sustainable Development Goals (SDGs) must be enhanced by a strong joint effort at all levels, from governments to parliaments, from banking and financial system to private actors, investors and final customers. This is particularly true with regard to green economy that is a global issue that hurts and involves all levels of society. As seen for public utility projects (P. P. Biancone e Radwan 2018b), the need of a strong link between public and private is more than ever a necessity.

While Islamic finance is a relevant topic for academic and also for institutions, real economy seems to be still so far from being involved in the discussion, with consequent bad repercussions on the growth and spread perspectives of Islamic green economy.

In particular, what seem more urgent to address, with regard to Europe, are the points that follows:

- Islamic finance products are not simply to understand and to apply in the conventional environment;
- Lack of interest from expat Muslims and also from Muslims living in Muslim countries;
- Lack of Islamic finance expertise, financial background and Sharia's knowledge;
- Lack of harmonization with national legal accounting and tax frameworks;
- Need for a different regulation and supervision of the risk exposure of Islamic banks compared to the one that regulate traditional banks (Basel Committee on Banking Supervision).

Moreover, referring to Muslim countries, however, what emerges is still a lack of interest from population and also the need of higher levels of financial expertise, the need of harmonization of Sharia laws that is differently applied from country to country with consequent uncertainty that limits private investments and also a surprisingly low interest, in some Muslim countries, for Islamic finance itself on behalf of conventional finance.

Finally, the possible positive outputs of deploying all the potential of green economy, and consequently of Islamic green finance, are evident looking at the numbers released by World Economic Forum's report "Future of Nature and Business" – 2020 regarding possible business opportunities in:

- *NATURE POSITIVE FOOD, LAND AND OCEAN USE SYSTEM* that could create nearly \$3.6 trillion worth of annual value and 191 million jobs by 2030;
- *NATURE-POSITIVE INFRASTRUCTURE AND BUILT-ENVIRONMENT SYSTEM* that could create over \$3 trillion worth of annual value and 117 million jobs by 2030;
- in *NATURE-POSITIVE ENERGY AND EXTRACTIVES SYSTEM* that could create over \$3.5 trillion worth of annual value and almost 87 million jobs by 2030.

4.5.3 Limitations and future research

The research is supposed to be a clarifying paper, even if not exhaustive at all, that will hopefully give some good insights for public and private investors but also to the academic community to boost the contribution of Islamic finance toward Sustainable Development goals and to green economy, particularly in Europe. WOS database, adopted to analyzed the literature in the field of Islamic green economy and finance, seemed to be the best tool for that kind of research since it is the world's most complete index for social studies.

The findings suggest that there is a new awareness on environmental issues and also toward new possible solutions to address sustainable development. Among these, the products and the alternativity of Islamic finance seem to be a reasonable booster of this change even if a lot of work must still be done both in Muslim and non-Muslim countries while other studies may also clarify how to practically address this challenge and what could be other Islamic finance instruments that could be successfully deployed in Europe. Furthermore, the hope is that future studies could demonstrate the effectivity of the conceptual model, if applied in the future from the all the addressed stakeholders.

5. CONCLUSION AND IMPLICATIONS

The reasons behind the choice to analyze the possible relation between Islamic finance and social finance and between Islamic finance and sustainable development goals come from the observation that Islamic finance has a high growth prospective and a huge amount of potential institutional and non-institutional clients, among both Muslims and non-Muslims.

The research, in paper one and two, highlights possible relevant aspects of Islamic finance as an alternative and sustainable financial system and in the third paper analyzes the possible contribution of Islamic finance for green economy in Europe also suggesting a possible conceptual model to deploy its potential in this market.

During the recent pandemic we assisted to an unprecedent attention toward health and environment and worldwide all the major forces put in place a lot of actions to increase their environmental awareness and to boost investments on that field. According to the research's results, this could be an occasion for Islamic finance, on the one hand, to strengthen its position in Muslim countries and its diffusion in non-Muslim countries and, on the other hand, to face the overall challenges that a number of studies has underlined among the years as important barriers towards its development and consolidation.

In fact, this thesis tries to shade the light on the real terms of a very fragmentary academic discussion towards Islamic finance, that caused its reduced spread and growth and that generates confusion both in the main stakeholders and on its practical application everywhere in the world.

Particularly due to the need of a higher harmonization and a higher awareness toward this type of alternative finance the literature review seemed to be the best method to clarify what has already been done in the specific field and what could be done in the future. In this regard, the discussions and conclusions of each paper clarify what is needed from an academical, institutional, financial and private point of view, stimulating further researches and specific actions on the different fields.

Finally, the suggestion of a conceptual model to express the potential of Islamic finance for green economy in Europe tries to give a practical application to the theoretical information emerged, aiming also at stimulating the use of that model in practical situations in the near future.

In conclusion, the main implications that emerged from the overall research shows that:

- all levels of stakeholders, from governments, to banking institutions, to social enterprises, to SMEs and also to customers have to coordinate their actions in order to generate a positive impact from a social and economic point of view, in deploying Islamic finance for social purposes and in achieving Sustainable Development Goals; in fact, Muslim countries have suffered a lack of coordination between banking and social institutions and often failed in the past to convey money in social projects, while in non-Muslim countries there is a higher awareness on the field of social finance but the countries usually fail to attract Islamic finance investments, due to their legislation which is not completely ready to welcome its tools;
- it is time to enhance the role of Islamic finance toward Agenda 2030 targets through ethical investments that will generate social impact and sustainable growth;
- Islamic finance must invest in all the 17 sustainable development goals: a strong effort must be done in regard to some SDGs that hare absent from the academical discussion and practical appliance so far (SDG 4 - Quality education, SDG 5 - Gender equality and SDG 16 - Peace, justice and strong institutions);
- while Islamic finance is a relevant topic for academic and also for institutions, real economy seems to be still so far from being involved in the discussion, with consequent bad repercussions on the growth and spread

perspectives particularly of Islamic green economy;

- there are a lot of urgent issues to address in order to allow the diffusion of Islamic green finance in Europe:
  - Islamic finance products are not simply to understand and to apply in the conventional financial environment;
  - Lack of interest from expat Muslims and also from Muslims living in Muslim countries;
  - Lack of Islamic finance expertise, financial background and Sharia's knowledge;
  - Lack of harmonization with national legal accounting and tax frameworks;
  - Need for a different regulation and supervision of the risk exposure of Islamic banks compared to the one that regulate traditional banks (Basel Committee on Banking Supervision).
- there is a need of harmonization of Sharia laws that is differently applied from country to country with consequent uncertainty that limits private investments and there is also a surprisingly low interest, in some Muslim countries, for Islamic finance itself on behalf of conventional finance.

The paper's main limitation is related to the method adopted to carry out the research. The adoption of the literature review method, even though in two papers with a quantitative-bibliometric method and in the second with a systematic one, could suggest a limitation in the practical output of the study. However, this is only an apparent limitation due to the fact that the gaps on research were evident and connected to a lack of framework, systematicity and harmonization, that had to be addressed. Furthermore, in order to mitigate the theoretical imprint of the study, a conceptual model had been suggested. With this regard, the conceptual model is intended to be simply deployed on the field from multiple stakeholders.

The findings suggest that there is an initial awareness on the topic of research, as demonstrated by the analysis of the literature, and that there are different ways for institutional and non-institutional subjects to put in place positive actions to enhance the contribution of Islamic finance toward a sustainable and green growth. Furthermore, it is observed that the products and the alternativity of Islamic finance seem to be a reasonable booster of change even if a lot of work must still be done from different points of view. In particular it is desirable that practitioners or other interested subjects will practically demonstrate the effectiveness, in the European environment, of the suggested model for a Green Sukuk al-Ijarah.

Finally, researchers at this stage may focus on the development of different conceptual models appliable in the different economic environments, both for green and non-green purposes, to stimulate the attention of non-academic subjects and may also focus, accordingly with Muslim and non-Muslim authorities to the harmonization of the characteristics of Islamic finance, allowing an easier use worldwide.

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