



# Religion and entrepreneurship: a map of the field and a bibliometric analysis

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## Abstract

Research concerning religion and entrepreneurship has greatly increased over the last years and is scattered across various academic disciplines and fields. To provide an overview, we conduct a systematic literature search leading to a descriptive overview of the field based on 270 articles published in 163 journals. We identify and characterize the most important publications, journals, and authors in the field and map the analyzed religions and regions. Then, we perform a bibliometric analysis to structure the field and identify thematic clusters and author and journal interconnections and networks. Our study provides a better understanding of the field of religion and entrepreneurship research and, based on these results, outlines avenues for future research.

**Keywords** Religion · Entrepreneurship · Bibliometric analysis · Mapping the field · Systematic literature review

**JEL Classification** L26 · M13 · Z12

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## 1 Introduction

Recently, religion has been introduced to entrepreneurship research and has attracted a considerable amount of research interest (Audretsch et al. 2007; Carswell and Rolland 2007; Dana 2009; Dodd and Seaman 1998; Gümüşay 2015; Henley 2017; Parboteeah et al. 2015; Pearce et al. 2010). Religion promotes values within societies. In turn, these values shape attitudes and attitudes toward entrepreneurship (Dodd and Seaman 1998; Rehan et al. 2019). Accordingly, religion and associated values can both encourage and discourage entrepreneurship (Carswell and Rolland 2007; Dana 2009).

Researchers have analyzed the relationship between religion and entrepreneurship from various perspectives, and research related to religion and entrepreneurship is diversified and scattered across disciplines. For example, religion can be regarded as a contextual, cultural or environmental factor at the macro level (Dodd and Seaman 1998; Henley 2017; Parboteeah et al. 2015). However, religion can also be considered a factor that creates networks at the micro level (Elo 2016). Our goal is to gain a better understanding of the field's current state of knowledge in light of this diversity and bridge the different views and perspectives. Therefore, we conduct a systematic literature search leading to a descriptive overview of the field, which we then enrich with a bibliometric analysis. Consequently, our study focuses on the following research questions: How has research concerning religion and entrepreneurship evolved thus far? Which journals publish research concerning this topic? What are the most important articles and who are the most important authors? Which religions and regions have received particular attention? Can we identify thematic clusters? Which themes, religions and regions lack research and need further attention?

Our systematic literature review involved 270 articles, which we use to provide an overview of the field's state-of-the-art. Subsequently, bibliometric methods are used to identify thematic clusters, the most important authors and articles, and how they are connected to each other. Research concerning religion and entrepreneurship has gained momentum since 2007. Most articles were published over the last few years. The *Journal of Enterprising Communities: People and Places of Global Economy* is identified as the most productive journal in this field. Moreover, we find that research concerning entrepreneurship and religion has remained a niche topic and, thus far, has only rarely entered highly ranked social science journals. A citation analysis further reveals the most influential papers over different periods. Mazzarol et al. (1999), Guiso et al. (2003), Becker and Woessmann (2009), and De Vita et al. (2014) are the most cited articles in their respective periods, and Leo Paul Dana is the most prolific author among the 494 authors who contributed to the field. Our analysis further reveals that East Asia and the Pacifics are the most widely analyzed regions, but publications conducted in North America as a region of interest are most often cited and more frequently published in journals with (high) impact factors. Publications that investigate Islam as the religion of interest are less often published in (high) impact factor journals.

Moreover, most studies investigating a specific religion, such as Christianity, Islam, Buddhism, Hinduism or Judaism, are non-empirical, while empirical

studies typically use ‘being religious or not’ or more than one religion to analyze the relationship between religion and entrepreneurship. The mapping of the field reveals that the field is still relatively young, confirming the findings reported by Balog et al. (2014). We also find that researchers have shifted their focus over time from the macro to the micro level and that thematic clusters based on keywords can be identified. We label the clusters as follows: (a) *economics and finance*, (b) *culture, institutions, and women*, (c) *social capital*, and (d) *ethnicity and immigrants*. The keyword-based identification of clusters is accompanied by a co-citation analysis of the journals and authors leading to similar observations. The bibliographic depiction of the journals and co-citations broadly confirms these clusters and shows the broad variety of disciplines involved in the field ranging from entrepreneurship to economics, finance, sociology and general management.

Scholars can consider these findings when conducting research related to religion and entrepreneurship. Our study helps scholars understand the field in its entirety, identify relevant articles and uncover parallels and differences across religions and regions. Our study reveals a lack of empirical research related to specific religions and specific regions. Therefore, scholars can consider these regions and religions when conducting empirical research. Many promising future research avenues exist, especially in the context of developing countries. In particular, there is a lack of robust empirical micro-level research related to specific religions and specific regions (e.g., the effect of values associated with Hinduism on entrepreneurship behavior).

## 2 Methods

### 2.1 Literature review methods and steps involved

To identify academic studies concerning the intersection of entrepreneurship and religion, we conduct a systematic literature review. Systematic literature reviews are widely accepted methods used to summarize scientific knowledge in different areas of the social sciences (e.g., Fisch and Block 2018; Liñán and Fayolle 2015; Tranfield et al. 2003). Since journal articles are considered validated knowledge (Podsakoff et al. 2005), we are interested in identifying journal articles in the area of religion and entrepreneurship. A literature review is a three-stage process (Tranfield et al. 2003). During the planning stage, we define the research objectives and identify the main keywords for our literature search. The conducting stage refers to the search and collection of relevant data (i.e., publications). This stage consists of the following three steps: (1) identification of literature sources, (2) defining the selection and screening criteria, and (3) the search for and retrieval of articles. The third stage involves coding, analyzing, and reporting the results. Figure 1 illustrates the step-by-step procedure adopted in our systematic literature search.

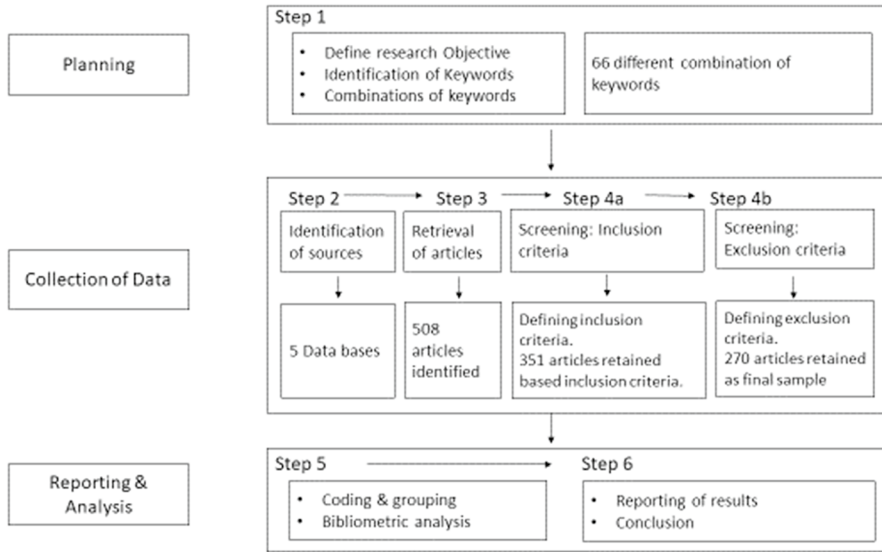


Fig. 1 Strategy and steps of our systematic literature review

Table 1 Keywords used to identify relevant articles

Themes	Keywords
Entrepreneurship	“Entrepreneurship” OR “entrepreneurial” OR “entrepreneur” OR “new-venture” OR “new venture” OR “self-employment” OR “startups”
Religion	“Religion” OR “religiosity” OR “religious” OR “spiritual” OR “Spirituality” OR “Faith” OR “Christianity” OR “Islam” OR “Hinduism” OR “Buddhism” OR “Judaism”

## 2.2 Article identification

To identify relevant articles, we derived 6 keywords from the entrepreneurship theme (entrepreneurship, entrepreneurial, entrepreneur, new-venture, self-employment, and startups) and 11 keywords from the religion theme (religion, religiosity, religious, spiritual, spirituality, faith, Christianity, Islam, Hinduism, Buddhism, and Judaism). In total, we used 66 combinations of these keywords to identify relevant articles (see Table 1).

We selected 5 databases for our literature search (EBSCOhost, Web of Science, Science Direct, Emerald, and Springer). Then, we performed a search for articles using combinations of the abovementioned keywords in all specified databases. We

**Table 2** Inclusion and exclusion criteria**Inclusion criteria**

- Article published in peer-reviewed journal
- Empirical or non-empirical article
- Article in English language
- Keywords (Table 1) included in the article's title, abstract, or keywords

**Exclusion criteria**

- Comments, book chapters, book reviews, working papers, and conference papers
- Keyword not mentioned anywhere in article (error in article search); keyword appearing only in reference list
- The article does not focus on religion and entrepreneurship

also build upon existing literature reviews related to the topic and included any valuable articles that did not emerge in the prior database search.

This broad search strategy identified a total of 508 articles after searching for each combination of keywords in the title, abstract, or keywords.

### 2.3 Screening of articles and article selection

During the fourth step, we defined the inclusion and exclusion criteria (see Table 2). We only included articles (empirical and non-empirical) published in journals and in English. We excluded comments, book chapters, book reviews, working papers, and conference papers (Block et al. 2017; Jones et al. 2011). We also excluded articles lacking the keywords mentioned above in the articles' title, abstract, or keywords. Moreover, we removed duplicates during the initial screening stage. In total, 157 identified articles did not match the initial screening criteria and were excluded, while 351 articles proceeded to further screening.

During the following step, one author evaluated the abstracts of the remaining 351 articles manually to ensure that the study truly analyzed the relationship between entrepreneurship and religion. In total, 223 articles fulfilled this criterion. Then, the remaining 128 articles were re-evaluated by two authors independently. In total, 14 of these articles lacked unanimous agreement. After discussion, this number decreased to five articles. Then, these 5 articles were included in our final sample. Overall, Cohen's kappa (intercoder reliability) showed an agreement of 92%. Of the 128 articles under reevaluation, 47 articles were included, while 81 articles were excluded from the data because these articles did not directly or indirectly focus on religion and entrepreneurship. Thus, we include 270 articles in the final sample for further analysis.

### 2.4 Bibliometric analysis

To provide an overview of research concerning religion and entrepreneurship, we use the following two different methods of bibliometric analysis: co-occurrence of (key)word analysis and co-citation analysis (Zupic and Cater 2015). The

*co-occurrence of (key)word analysis* measures frequently used words in a particular research field. This analysis can be based on either the authors' keywords or the words used in the respective papers' abstracts. We use this method to identify thematic clusters. A *(co-)citation analysis* was conducted to identify the most influential articles, authors, and journals in the field (Gundolf and Filser 2013). We use the frequency of the citations of a particular article during a given period to measure the articles' importance and identify the most influential articles; the number of contributions was used as a measure to identify the most prolific author. A *co-citation analysis* can also be used to identify interconnections among publications, authors, and journals. Small (1973) defines the co-citation analysis as the frequency at which two articles, authors, or journals are cited together, whereas bibliometric coupling uses the number of references shared by two documents as a measure of similarity between the two documents (Kessler 1963). We use a co-citation analysis to identify the networks of interconnections among authors and journals using a sample of 220 articles retrieved from the Scopus database. The co-citation analysis was conducted with VOSviewer software, which is frequently used in bibliometric analyses (Van Eck and Waltman 2009; Santos et al. 2018; Chandra 2018).

For interpretation reasons, we analyzed the content of the articles in the identified clusters and performed frequency counts to identify fitting thematic labels (Skute et al. 2019).

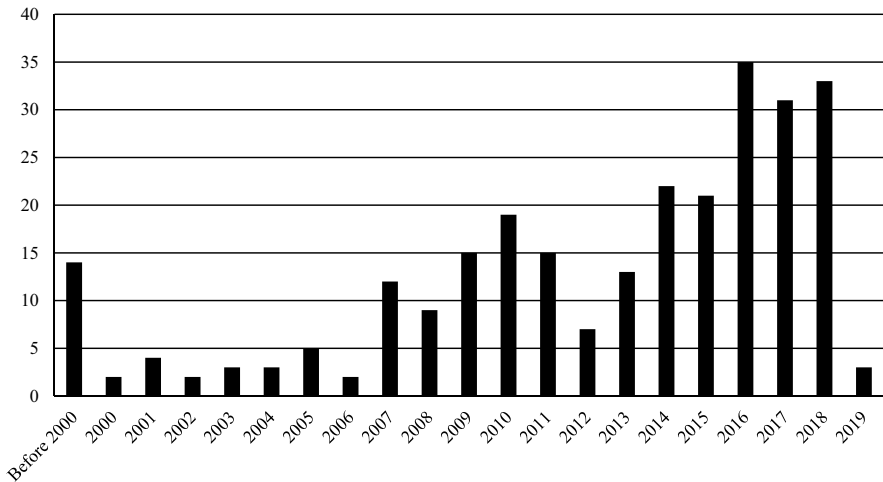
### 3 Mapping the field 'religion and entrepreneurship'

This section provides a descriptive overview of research concerning religion and entrepreneurship. We show the evolution of articles over the years and the most productive journals and authors. We further identify the most influential papers (based on a citation analysis) and the most widely analyzed religions and regions.

#### 3.1 Evolution of the field based on the annual number of articles

Figure 2 shows the evolution of the field based on the annual number of publications. The results show that religion and entrepreneurship was a small field of research from 1963 to 2006. Only a small amount of research was conducted before 2000, resulting in a total of 14 articles published in peer-reviewed journals, followed by a total of 21 articles published during the period from 2000 to 2006.

Research related to religion and entrepreneurship has gained momentum and achieved significant importance since 2007, yielding 12 articles at the end of 2007. Considering the timeframe from 2007 to 2013, Fig. 2 shows that 90 articles were published during this period, representing a 61% increase over the period from 1963 to 2006. There was a decline of approximately 53% in research in 2012 compared to 2011. However, the level of activity doubled in 2014, and research related to religion and entrepreneurship greatly increased. Furthermore, 2016 was the most productive year, resulting in 35 articles published during this year. Almost 87% of the articles were published during the 2007–2019 period for a total of 235 articles. Notably,



**Fig. 2** Articles per year. *Notes:* Evolution of the number of articles over the years since 1963. Articles published until March 2019 were included. The Figure is based on a sample of  $N = 270$  articles

the year 2019 is still ongoing; thus, the dataset includes only articles published by March 2019. Approximately 5% of the articles were published before 2000. Approximately 8% of the articles were published during the 2000–2006 period, and 33% of the articles were published during the 2007–2013 period. Approximately 54% of the articles concerning religion and entrepreneurship were published from 2014 to 2019.

### 3.2 Important journals in the field

Our final sample contains 270 articles published in 163 journals. Approximately 46% of these articles were published in the top 25 journals, which were identified based on the number of articles. Regarding these 25 journals, Table 3 shows the 2018 impact factors, cite-scores and total number of Web of Science and Google Scholar citations of the identified articles. The *Journal of Enterprising Communities: People and Places of Global Economy* is the most productive journal with 19 published articles, followed by *Small Business Economics* and the *Journal of Business Ethics* with 12 and 10 published articles, respectively. Among these top 3 journals, *Small Business Economics* and the *Journal of Business Ethics* are impact factor journals.

A journal's impact factor (IF) indicates the number of citations typically received by the articles in the journal and is an indicator of the journal's quality. According to the 2018 impact factors, the *Journal of Business Venturing* (IF: 6.0) was the highest ranked journal among the top 25 journals, followed by *Entrepreneurship: Theory and Practice* (IF: 5.32) and *International Small Business Journal* (IF: 3.90). Four articles were published in each of these journals. However, among the top 25 journals, only 10 are impact factor journals. Over the entire dataset, 122 articles (=45%) were published in impact factor journals. Using the 2018 Scopus cite-score instead of the 2018 IF leads to a similar conclusion as follows: *Entrepreneurship: Theory*

**Table 3** Top 25 journals in the field according to the number of articles in our sample

Journal	Impact factor	Cite-score	No of articles	Web of Science citations	Google Scholar citations	Average GS citations
Journal of Enterprising Communities: People and Places of Global Economy	–	1.54	19	4	523	27.53
Small Business Economics	2.852	4.19	12	51	607	50.58
Journal of Business Ethics	2.917	4.46	10	205	597	59.70
International Journal of Entrepreneurial Behavior and Research	1.863	3.23	9	22	699	77.67
International Entrepreneurship and Management Journal	2.406	4.01	7	8	213	30.43
Journal of Small Business and Enterprise Development	–	2.12	7	1	367	52.43
International Journal of Entrepreneurship and Small Business	–	1.14	6	0	113	18.83
International Journal of Gender and Entrepreneurship	–	1.51	5	4	194	38.80
International Journal of Social Economics	–	0.69	5	1	48	9.60
Journal of Management, Spirituality, and Religion	–	1.46	5	11	128	25.60
Entrepreneurship: Theory and Practice	5.321	10.04	4	64	472	118.00
Journal of Business Venturing	6.000	9.79	4	51	140	35.00
International Small Business Journal	3.900	5.48	4	33	495	123.75
Journal of Developmental Entrepreneurship	–	0.79	4	1	90	22.50
World Journal of Entrepreneurship, Management, and Sustainable Development	–	–	4	1	41	10.25
International Journal of Islamic and Middle Eastern Finance and Management	–	1.05	3	2	72	24.00
Humanomics	–	–	3	1	37	12.33
International Journal of Organizational Analysis	–	1.22	3	0	258	86.00
Journal of Islamic Marketing	–	2.19	3	0	179	59.67
Journal of Economic Behavior & Organization	1.296	1.98	2	81	289	144.50



**Table 3** (continued)

Journal	Impact factor	Cite-score	No of articles	Web of Science citations	Google Scholar citations	Average GS citations
Journal of Evolutionary Economics	1.095	1.16	2	38	236	118.00
Journal of International Entrepreneurship	–	2.13	2	16	118	59.00
Society and Business Review	–	–	2	7	49	24.50
Research in Social Stratification and Mobility	1.493	2.18	2	6	38	19.00
Religion	–	0.50	2	5	39	19.50

Citations are based on Google Scholar (GS) and Web of Science as of May 7, 2019. Journal's 2018 Cite-Score is taken from Scopus. Journal's impact factor for 2018 was taken from Clarivate Analytics

**Table 4** Important authors in the field

Authors	No of articles	Web of Science citations	Google Scholar citations
Dana, L. P.	6	5	263
Neubert, M.	4	14	92
Dodd, D. S.	3	NA	326
Altinay, L.	3	3	196
Pio, E.	3	58	185
Audretsch, D.	3	42	133
Kayed, R. N.	3	NA	104
Galbraith, C.	3	NA	90
Gbadamosi, A.	3	7	70
Ratten, V.	3	11	46
Nikolova, E.	3	1	22

We only include authors who contributed to more than 2 articles. The table considers articles published before April 2019. Citations counts were retrieved on May 7, 2019

and Practice had the highest cite-score (10.04), followed by the *Journal of Business Venturing* (9.79) and *International Small Business Journal* (5.48).

Table 3 also shows the citations received by the articles published in the top 25 journals. In total, 19 articles published in the *Journal of Enterprising Communities: People and Places of Global Economy* received 523 citations per Google Scholar with an average of approximately 27 citations per article. In total, 12 articles published in *Small Business Economics* received 607 citations with an average of approximately 51 citations per article. The third most productive journal was the *Journal of Business Ethics* with 10 articles, 597 citations and an average of approximately 60 citations per article. Moreover, we find that the articles published in the *Journal of Economic Behavior & Organization* had the highest average number of citations (144.50), followed by those published in *Entrepreneurship: Theory and Practice* and *Journal of Evolutionary Economics*, (each with an average of 118 citations per article).

### 3.3 Important authors in the field

A total of 494 authors contributed to the 270 articles in our sample. Table 4 shows the authors who contributed to more than two articles. Dana is the most prolific author in terms of the number of articles and contributed to six articles that received a total of 263 citations according to Google Scholar. The most cited work by Dana is “Religion as an Explanatory Variable for Entrepreneurship,” which was published by the *International Journal of Entrepreneurship and Innovation* in 2009. Neubert contributed to four articles published in different journals, and his articles received a total of 92 citations. He is the second most prolific author. The most cited paper by Neubert is “A Religious Profile of American Entrepreneurs,” which was published by the *Journal for the Scientific Study of Religion* in 2013. The third most prolific

**Table 5** Top 5 articles in the different time periods

Top 5 articles (before 2000)		Top 5 articles (2000–2006)	
References	Citations	References	Citations
Mazzarol et al. (1999)	459	Guiso et al. (2003)	2997
De Wit and Van Winden (1989)	295	Basu, and Altinay, (2002)	363
Ladinsky (1963).	204	Lelkes (2006)	287
Dodd and Seaman (1998).	188	Brouwer (2002)	222
James, (1987)	169	Cuervo (2005)	180
Top 5 articles (2007–2013)		Top 5 articles (2014–2019)	
References	Citations	References	Citations
Becker and Woessmann (2009)	975	De Vita et al. (2014)	192
Essers and Benschop (2009)	269	Gümüşay (2015)	76
Pearce et al. (2010)	233	Balog et al. (2014)	64
Azmat and Samaratunge (2009)	175	Jiang et al. (2015)	60
Sandikci (2011)	168	Elo (2016)	48

Citations counts were retrieved on May 7, 2019

author is Dodd. She published three articles and received the highest number of citations (i.e., 326) among the top authors. Her first paper was published nearly 20 years ago, which partially explains the high number of citations. “Religion and Enterprise: An Introductory Explanation” was published by *Entrepreneurship Theory and Practice* in 2009. This article has received 188 citations by May 7, 2019.

Furthermore, we find that 35% of the articles were single-authored. In 30% of the cases, there were two authors. The remaining 35% of the articles were written by author teams involving more than two authors.

### 3.4 Important articles in the field

Table 5 shows the influential articles in terms of Google scholar citations (Table 15 in the appendix performs a similar exercise based on Web of Science citations). Since older papers have a greater chance of being cited, we divided the entire time-frame into four periods (i.e., articles published before 2000, between 2002 and 2006, between 2007 and 2013, and between 2013 and 2019). In total, 14 articles were published before 2000. The most cited article before 2000 with a total of 459 citations was written by Mazzarol, Volery, Doss, and Thein in 1999 and published in the *International Journal of Entrepreneurial Behavior & Research*. Mazzarol et al. (1999) examined the effect of demographic factors on small business formation and argued that religion is a background factor that can influence business formation. The article written by De Wit, and Winden in 1989 received the second most citations during the period before 2000 and was published in *Small Business Economics*. De Wit and Van Winden (1989) found that a religious background and the family social status appear to be unimportant on the choice to become self-employed.

Similarly, Dodd and Seaman (1998) found that religion may not be a significant environmental factor responsible for entrepreneurship. The article by Dodd and Seaman received 188 citations during the period before 2000 and was published in *Entrepreneurship: Theory and Practice*.

Table 5 also displays the 5 most influential articles during the period between 2000 and 2006. This period represents the early stage of the field (see Fig. 2). The most cited article, which has 2997 citations per Google Scholar by May 7, 2019, was written by Guiso, Sapienza, and Zingales in 2006 and published in the *Journal of Economic Perspectives*. Guiso et al. (2003) examined the cultural impact on economic outcomes and used religion and ethnic background as instrumental variables for culture. These authors found that cultural aspects affect attitude towards risk, which influences the choice to become an entrepreneur. The second most cited article during this period, which has 363 citations, was written by Basu and Altinay in 2002 and published in the *International Small Business Journal*. Basu and Altinay (2002) examined the effect of the cultural aspects of immigrant groups on entrepreneurial behavior and found that culture manifested by religion does not influence immigrants' entrepreneurial behavior. Lelkes wrote the third most cited article during this period, which has 287 citations since 2006. This article was published in the *Journal of Economic Behavior & Organization*. Lelkes (2006) found that money is not a vital source of happiness among religious people and that money is not the sole motivation for an entrepreneur. Religious people enjoy a higher level of satisfaction and are less affected by economic change in transition economies, while non-religious people, especially entrepreneurs, are the winners in transition economies. The fourth most influential article, which has received 222 citations since 2002, was written by Brouwer and published in the *Journal of Evolutionary Economics*. Brouwer (2002) interpreted Weber's, Schumpeter's, and Knight's view of entrepreneurship. Briefly, Weber's thesis is that Protestant ethics influence entrepreneurship and economic development. Schumpeter provides a different explanation by focusing on innovation rather than religious ethics. Knight emphasizes uncertainty and perceptiveness. The fifth most influential article has received 180 citations since 2005. Cuervo (2005) examined the psychological and non-psychological determinants of individual entrepreneurs and specific environmental determinants and found that cultural values and beliefs encourage the exploitation of entrepreneurial opportunities.

The most cited paper during the 2007–2013 period, which has 975 citations per Google Scholar, was written by Becker and Woessmann in 2009 and published in *The Quarterly Journal of Economics*. This article is the second most cited paper among all 270 articles. Becker and Woessmann (2009) found that religious affiliation has economic implications. Moreover, these authors found that Protestantism leads to higher economic prosperity with better literacy in a Protestant region. Essers and Benschop wrote the second most cited paper between 2007 and 2013. This paper was written in 2009 and published in *Human Relations*. These authors argued that the Muslim identity is a private matter between Allah and the believer. Therefore, boundaries can be stretched to facilitate female entrepreneurship. Three authors, i.e., Pearce, Fritz, and Davis, received a total of 233 citations. This paper was the third most influential article during the 2007–2013 period. Pearce et al. (2010) found that

religious people engage in a combination of innovativeness, autonomy, and risk-taking behavior. Moreover, these elements of entrepreneurial orientation are associated with the performance of a nonprofit religious group. Azmat and Samaratunge wrote the fourth most influential article, which has 175 citations, during the period between 2007 and 2013. Azmat and Samaratunge (2009) found that religious beliefs, rules, norms, and standards affect the ethical perception of small-scale individual enterprises and influence responsible entrepreneurship. The fifth most influential paper during this period, which has 168 citations, was written by Sandikci in 2011. In this article, Sandikci (2011) provides policy implications for entrepreneurs. For example, entrepreneurs must understand Muslim consumers because they should not consider the Muslim consumer market a homogeneous market segment. Moreover, Sandikci argues that more research concerning Muslim entrepreneurs, their motives, and the implementation of marketing principles is needed.

During the period from 2014 to 2019, the most cited paper, which has 192 citations, was written by De Vita, Mari, and Poggesi in 2014. This research provides a literature review of female entrepreneurship and was published in the *Journal of Economic Perspectives*. The authors found that religion and religious values influence women's participation in entrepreneurship in the context of developing countries. Gümüşay (2015) wrote the second most cited article, which has 76 citations per Google Scholar, concerning entrepreneurship in Islam between 2014 and 2019. He concluded that Islam is an entrepreneurial religion and that it encourages entrepreneurship at the micro, meso, and macro levels. Moreover, Gümüşay (2015) argues that Islam is misrepresented in the entrepreneurship literature. The third most cited paper during the 2014–2019 period, which has 64 citations, was written by Balog, Baker, and Walker in 2014 and published in the *Journal of Management, Spirituality, and Religion*. In this literature review, Balog et al. (2014) concluded that religious values and spirituality are, to a certain degree, connected to the life of entrepreneurs and venture success. The paper written by Jiang, Jiang, Kim, and Zhang and published in the *Journal of Corporate Finance* received a total of 60 citations. Jiang et al. (2015) examined entrepreneurs' decision making while comparing religious and nonreligious entrepreneurs. These authors found that religious entrepreneurs were more risk-averse than nonreligious entrepreneurs. The fifth most cited paper during the 2014–2019 period, which has 48 citations, was written by Eio in 2016. This article presents a case study exploring the vital socio-cultural drivers of entry into diaspora entrepreneurship and considers religion a sociocultural factor. The authors found that social networks are essential for entrepreneurship because these networks provide ideas and solutions to problems through advice and access to finance and information (see Table 15 in the appendix for the top 25 articles according to Web of Science citations).

**Table 6** Regions investigated

Religion	No of articles	Impact Factor articles	Ratio (%)
Africa	23	6	20.09
Central and Western Asia	11	5	45.45
East Asia and Pacific	35	13	37.14
Middle East	17	5	29.41
South Asia	21	10	47.62
European Countries	25	12	48
North America	32	21	65.63
Latin America	2	0	0
More than one regions	24	16	66.67

No of articles published before April 2019. Journal's 2018 Impact Factor was taken from Clarivate Analytics

### 3.5 Regions and religions investigated in the field

#### 3.5.1 Regions investigated

Table 6 shows the publication counts according to the region of investigation. The most active area is the East Asia and Pacific region with 35 papers, followed by North America (32 articles) and Europe (25 articles). Among the 32 articles related to North America, 21 articles were published in journals with an impact factor. The publications investigating North America as the region of interest are more influential. These publications received the highest number of citations (4404 per Google Scholar in May 2019). There are 24 articles that investigate more than one region as the area of interest, and these articles are the second most influential articles per Google Scholar citations. The articles investigating European countries as the inquiry regions are the third most influential. The results show that most articles published in impact factor journals investigate either North America or more than one region as the region of interest.

Of the 35 articles that investigate the East Asia and Pacific region as the region of interest, 14 articles discuss Islam, 10 articles discuss religion in general, 5 articles discuss Christianity, and 5 articles examine more than one religion. Of the articles focusing on North America, 14 articles discuss Christianity, 9 articles discuss religion in general, and 2 articles discuss Judaism. Among the European countries, 9 publications discuss Christianity, 5 publications discuss religion in general, 7 publications discuss more than one religion, and 3 publications discuss Islam. In the African region, most articles investigate more than one religion (8 publications), followed by Islam with 7 articles, religion in general with 5 articles and Christianity with 3 articles. In total, 24 studies investigate more than one region, and most articles investigate more than one religion to discuss religion and entrepreneurship (see Table 9).

In the South Asian region, 11 articles investigate more than one religion to discuss religion and entrepreneurship, followed by 6 articles related to Islam and

**Table 7** Religions investigated

Religion	No of articles	Impact Factor articles	Ratio (%)
Christianity	52	20	38.46
Islam	70	19	27.14
Judaism	10	6	60
Buddhism	5	4	80
Hinduism	2	1	50
More than one religion	59	32	54
Overall religion	71	33	46
Others	01	0	0

No of articles published before April 2019. Journal's 2018 Impact Factor was taken from Clarivate Analytics

2 articles related to Hinduism. In general, the studies examining more than one religion use Islam and Hinduism. In the Middle East, Islam is the dominant religion, and the results show that most articles in this region used Islam, followed by Judaism with 4 articles. In Central and Western Asia, Islam is discussed in 8 articles, followed by 2 articles discussing more than one religion and 1 article discussing Judaism (see Table 9).

### 3.5.2 Religions investigated

Table 7 shows the publication count according to the religion of investigation. In total, 70 articles do not focus on one particular religion and analyze religion as an overall factor, representing the highest number of articles published in impact factor journals (33 articles). As shown in Table 7, most articles concerning religion and entrepreneurship are related to Islam (70 articles). However, only 19 articles were published in impact factor journals. While coding the dataset, we observed that most articles using religion as an overall factor investigated predominantly Christian regions. Thus, the most productive religion in terms of publication is not Islam but Christianity. We find that 59 published articles were related to more than one religion; most frequently, Christianity and Islam were investigated as the religions of interest in these 59 articles. Interestingly, all articles related to Judaism were published in impact factor journals.

Moreover, quality journals tend to publish articles that investigate religion in general or data related to more than one religion. Although very few articles investigated Buddhism, Hinduism, and Judaism, most articles related to these three religions were published in impact factor journals. However, 19 articles investigating Islam were also published in impact factor journals, but the share of impact publications is smaller compared to that of publications concerning the other religions.

Table 8 illustrates that in total, 114 studies in our sample were empirical, while 156 articles were non-empirical. Many articles were conceptual, followed by interview-based studies. The results show that studies investigating a specific religion (i.e., Christianity, Islam, Judaism, Buddhism, and Hinduism) were mostly

**Table 8** Religion and method of investigation

Religion/method	Conceptual, case study and literature reviews		Qualitative methods		Quantitative methods			Mixed methods and others	
	Conceptual papers and case study	Literature reviews	Participant and field observation	Interviews	Surveys	Secondary data	Mixed methods	Others	Total
Christianity	19	0	3	15	2	13	0	0	52
Islam	30	0	2	15	18	3	2	0	70
Judaism	2	1	0	2	3	2	0	0	10
Buddhism	3	0	0	1	0	1	0	0	5
Hinduism	0	0	0	1	1	0	0	0	2
Others	0	0	0	1	0	0	0	0	1
Overall religion	19	8	0	12	17	14	1	0	71
More than 1 religion	12	0	0	10	11	22	2	2	59
Total	85	9	5	57	52	55	5	2	270

Number of articles published before April 2019. Other methods include Q-methodology. Other religions include Chinese folk religion



**Table 9** Religion and region of investigation

Religion/region	East Asia and Pacific	Central and Western Asia	Middle East	South Asia	European Countries	Africa	North America	Latin America	More than one regions	Total
Christianity	5	0	0	0	9	3	14	2	4	37
Islam	14	8	9	6	3	7	0	0	1	48
Judaism	0	1	4	0	1	0	2	0	0	8
Buddhism	1	0	0	0	0	0	0	0	1	2
Hinduism	0	0	0	2	0	0	0	0	0	2
Other	0	0	0	1	0	0	0	0	0	1
Overall religion	10	0	3	1	5	5	9	0	8	45
More than 1 religion	5	2	2	11	7	8	7	0	10	52
Total	35	11	18	21	25	23	32	2	24	191

Number of articles published before April 2019. Other religions include Chinese folk religion

**Table 10** No of articles in each thematic area

Thematic area	Topic	No of articles
Women and social entrepreneurship	Women entrepreneurship	30
	Social entrepreneurship	11
Religiosity, values, and spirituality	Religious beliefs and values	26
	Spirituality and entrepreneurship	19
	Religiosity and entrepreneurship	16
	Entrepreneurial attitude, intention and behavior	10
	Islam and entrepreneurship	12
Ethnicity, immigrants, and community	Ethnicity and entrepreneurship	14
	Immigrant entrepreneurs	12
	Community entrepreneurship	7
Culture and social capital	Social capital	11
	The socio-cultural and economic factor	11
	Cultural values and effect	10
	Culture and Entrepreneurship	8
	Religion as an environmental factor	5
	Religion as an institution	7
Microfinance, economic development, and others	Microfinance	11
	Economic development	5
	Other	45

'Other' includes family firms, entrepreneurial success, diaspora entrepreneurship, challenges, consumer behavior, Islamic marketing, neoliberalism, religious teaching, motivation, and faith-based entrepreneurship

non-empirical, whereas articles studying religion in general or more than one religion were mostly empirical. In total, 52 articles focused on the Christian religion directly or indirectly. Among these 52 articles, 19 articles were conceptual or case studies, 15 articles used interviews, 13 articles used secondary data, and 2 articles used the survey method. Islam was discussed in 70 articles. Of these 70 articles, 30 articles are conceptual and use case studies as a method, followed by surveys and interviews as the data collection methods in 18 and 15 articles, respectively. In total, 71 articles discussed religion in general, and 19 articles used conceptual and case studies as methods, followed by surveys, secondary data analyses, and interviews as the method of study in 17, 14, and 12 articles, respectively.

Furthermore, 59 articles discussed more than one religion with regard to entrepreneurship. In total, 22 articles used secondary data, followed by conceptual papers and case studies in 12 articles, surveys in 11 articles, and interviews in 10 articles (Table 9).

### 3.6 Topics of analysis

Table 10 shows the count of the most frequently discussed topics or themes in research related to religion and entrepreneurship. We identified the following five different broad thematic areas: (a) women and social entrepreneurship; (b) religiosity, values and spirituality; (c) ethnicity, immigrants, and community; (d) culture and social capital; and (e) micro-finance, economic development, and others. We identified sub-topics in each thematic area.

- (a) The first thematic area includes 30 articles concerning women entrepreneurship and 11 articles concerning social entrepreneurship. Of these 30 articles concerning women entrepreneurship, 15 articles investigated women entrepreneurship within Asian countries, 7 articles are conceptual and literature review papers, 4 articles investigated women entrepreneurship in African countries, and the remaining articles investigated women entrepreneurship by using data from more than one region. Research related to religion and women entrepreneurship is mostly conducted in Muslim majority Asian countries.
- (b) The second thematic area includes 26 articles concerning religious beliefs and values, 19 articles concerning spirituality and entrepreneurship, 16 articles concerning religiosity and entrepreneurship, 12 articles concerning Islamic entrepreneurship, and 10 articles concerning religion's effect on entrepreneurial attitude, intentions and behavior. This thematic area is the largest thematic area among all areas and includes the second most discussed topic, i.e., religious beliefs and values regarding entrepreneurship. In total, 83 articles are related to this thematic area. Most articles in this area used individual-level data (40 articles) to perform an empirical investigation. Of the empirical articles, 9 articles use data from North America, 4 articles use data from European countries, 15 articles use data from Asian countries, and 6 articles use data from more than one region.
- (c) The third thematic area includes 14 articles discussing ethnicity and entrepreneurship, 12 articles discussing immigrant entrepreneurs, and 7 articles discussing community entrepreneurship. Among the 33 articles in this thematic area, 23 (10) articles are non-empirical (empirical). In total, 10 articles focus on European countries, 9 articles focus on North America, 6 articles focus on Asian countries, and the remaining articles focus on other regions.
- (d) The fourth thematic area discusses the interrelationship of culture and social capital with entrepreneurship. This thematic cluster includes 11 articles concerning social capital, 11 articles concerning religion as a socio-cultural and economic factor, 8 articles concerning culture and entrepreneurship, 7 articles concerning religion as an institution, and 5 articles concerning religion as an environmental factor.
- (e) The fifth thematic area is diversified and includes 11 articles related to micro-finance and 5 articles related to religion with reference to economic development and growth. The remaining 45 articles focus on a diverse set of topics, such as family firms, entrepreneurial success, diaspora entrepreneurship, challenges, consumer behavior, Islamic marketing, neoliberalism, religious teaching, motivation, and faith-based entrepreneurship.

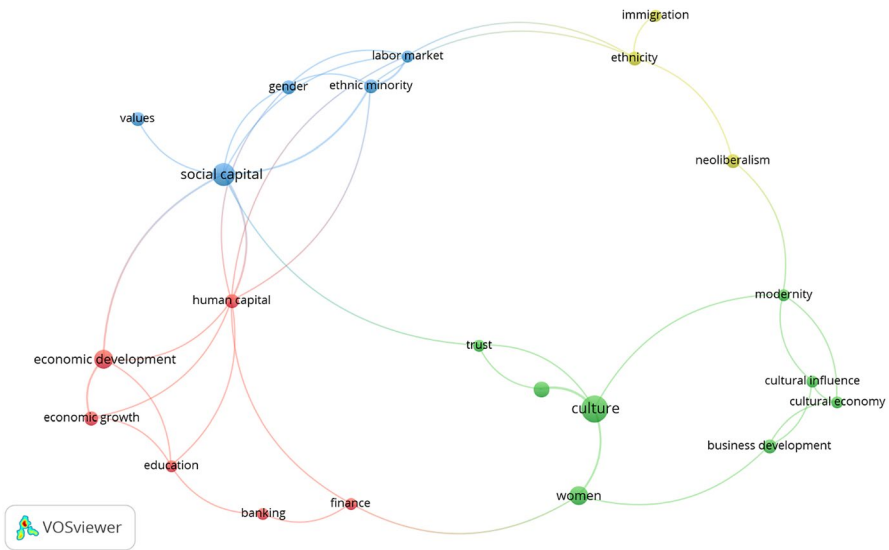
### 3.7 Summary

We retrieved 270 peer-reviewed articles related to religion and entrepreneurship. Research concerning entrepreneurship and religion has steadily grown in the 1990s. Since 2000, the field began to shape its contours and emerge as an academic field (Meyer et al. 2014). Since entrepreneurship is a multilevel and multidisciplinary phenomenon (Zuccala 2006), different perspectives and concepts have been applied. Research related to religion and entrepreneurship is relatively young (Balog et al. 2014), and we find that such research gained momentum only after 2007. The field has achieved progress, albeit rather slowly. The mapping of research related to religion and entrepreneurship revealed that Leo Paul Dana, Mitchel Neubert, and Sarah Dodd are the three most prolific authors in the field. Furthermore, with few exceptions, the leading entrepreneurship researchers thus far did not pay much attention to religion as a variable of interest.

Articles related to religion and entrepreneurship have been published in a total of 163 journals. The top 25 most productive journals mainly include management, entrepreneurship, and economics journals. The *Journal of Enterprising Communities: People and Places of Global Economy* published most articles related to the topic. *Small Business Economics* and the *Journal of Business Ethics* were the second most productive journals. Research concerning religion and entrepreneurship appears in quality journals, but the share is still relatively small. There might be several reasons for the lack of publications in quality journals. One factor might be the lack of a solid and robust empirical foundation.

We used a citation analysis to identify the most influential papers and most cited journals. The most productive journal received 523 citations with an average of 28 citations per paper. The articles published in the *Journal of Economic Behavior & Organization* received the highest average citations (i.e., 144.50). Based on the average citations per paper, *Entrepreneurship Theory and Practice* is the 2nd most influential journal in this field. To identify the most influential article, we divided the entire timeframe into four periods. The paper by Mazzarol et al. (1999) received the most citations among the articles published before 2000. These authors used religion as a background factor. Guiso et al. (2003) received the highest citations among the articles published between 2000 and 2006. These authors used religion as an instrumental variable representing culture. The article by Guiso et al. (2003) was the most cited among the sample of 270 articles. Becker and Woessman (2009) wrote the most cited articles during the 2007–2013 period in 2009. In total, 33% of all articles were published during the 2007–2013 period, whereas most articles were published in recent years (i.e., 54% of all articles were published during the 2014–2019 period). De Vita et al. (2014) received the highest number of citations in recent years. These authors found that religion and religious values encourage women to participate in entrepreneurship.

Although most published articles related to religion and entrepreneurship investigate Islam, the share of articles published in quality journals is small. Moreover, the mapping of the field reveals that most research related to religion and entrepreneurship published in quality journals either investigates more than one religion or religion as a general phenomenon. The most widely analyzed



**Fig. 3** Co-occurrence of keywords. *Notes:* Created using VOSviewer based on a sample of N=220 articles (included in Scopus)

region is East Asia and the Pacific. However, most research published in quality journals is either based in North America or focuses on more than one geographical area. It was observed that empirical studies have a higher probability of being published in quality journals.

By mapping the content of the papers, we identified five different thematic areas, including (a) women and social entrepreneurship; (b) religiosity, values and spirituality; (c) ethnicity, immigrants, and community; (d) culture and social capital; and (e) micro-finance, economic development, and others.

#### 4 Bibliometric analysis

This section presents the results of a carefully conducted bibliometric analysis. The goal of this analysis is to identify and substantiate thematic clusters and reveal the networks of the journals and authors describing the field. Therefore, two different bibliographic methods are used. These methods include an analysis of the co-occurrence of keywords and a co-citation analysis at the journal and author levels. We retrieved all relevant bibliographic data from the Scopus database (220 of 270 articles were included in Scopus). As a bibliographic software, we rely of VOSviewer.

**Table 11** Thematic clusters based on co-occurrence of keywords analysis

Cluster I: economic and finance		Cluster II: culture, institutions and women	
Keywords	Occurrences	Keywords	Occurrences
Economic development	7	Culture	14
Economic growth	4	Women	7
Human capital	4	Institutions	5
Banking	3	Business development	4
Education	3	Cultural economy	3
Finance	3	Cultural influence	3
		Modernity	3
		Trust	3
Cluster III: social capital		Cluster IV: ethnicity and immigrants	
Keywords	Occurrences	Keywords	Occurrences
Social capital	10	Ethnicity	4
Ethnic minority	4	Neoliberalism	4
Gender	4	Immigration	3
Values	4		
Labor market	3		

Created using VOSviewer based on a sample of N=220 articles. We excluded those keywords which we used for the identification of articles in the first place

#### 4.1 Co-occurrence analysis of keywords

VOSviewer identifies the most frequently used keywords in the 220 studies in our sample. Figure 3 shows the results.<sup>1</sup> We set the minimum threshold at three appearances; thus, for a keyword to be included in our analysis, it had to be mentioned at least three times. In total, 55 keywords had at least three appearances in our dataset of 220 articles. From these 55 keywords, we excluded country names and the keywords used for the identification of the articles (see Sect. 2.1 and Table 1). The most widely used keyword is *culture* with 14 occurrences, followed by *social capital* with 10 appearances. Other widely used keywords include *economic development*, *women*, *gender*, *institutions*, and *ethnicity*.

Subsequently, we perform a co-occurrence of keyword analysis to identify thematic clusters (Ding et al. 2001). Using this technique, we identify four clusters. Table 11 shows the results and the keyword appearances in each cluster. Here, we label and provide a short description of each cluster.

Cluster I is labeled the *economic & finance* cluster. This cluster mainly includes macro level studies and refers to research topics, such as economic development, economic growth, banking, finance and human capital. Cluster II is labeled the

<sup>1</sup> Figure 6 (Appendix) performs the same exercise based on the appearances of the keywords in the papers' abstracts.

*culture, institutions & women* cluster and represents the studies in our sample discussing religion and entrepreneurship in the context of culture, institutions and women entrepreneurship; these studies are performed at both the micro and macro level and refer to the co-occurring keywords culture, women, institutions, business development, cultural economy, cultural influence, modernity, and trust. Figure 3 shows that the strength of the link between the different cluster keywords is relatively weak. Cluster III is labeled the *social capital* cluster and mainly refers to micro level studies considering religion from a social capital perspective. The respective cluster keywords include social capital, ethnic minority, gender, values, and labor market. A connection exists with cluster I, which uses the keywords human capital. Prior research has shown that social capital is crucial for entrepreneurship (Lans et al. 2015; Liao and Welsch 2005) and that it can be built and developed through religion and attending religious communities and activities. Social ties help entrepreneurs identify, evaluate, and exploit entrepreneurial opportunities (Abereijo and Afolabi 2017; Honig 1998). Cluster IV is labeled the *ethnicity & immigrants* cluster. This cluster includes the three commonly occurring keywords ethnicity, neoliberalism, and immigration. Studies in this cluster consider religion an important factor leading to immigrant entrepreneurship.

## 4.2 Co-citation analysis

We also perform a co-citation analysis at the journal and author levels. This analysis identifies links between journals and authors based on co-citation data and helps identify journal and author clusters.

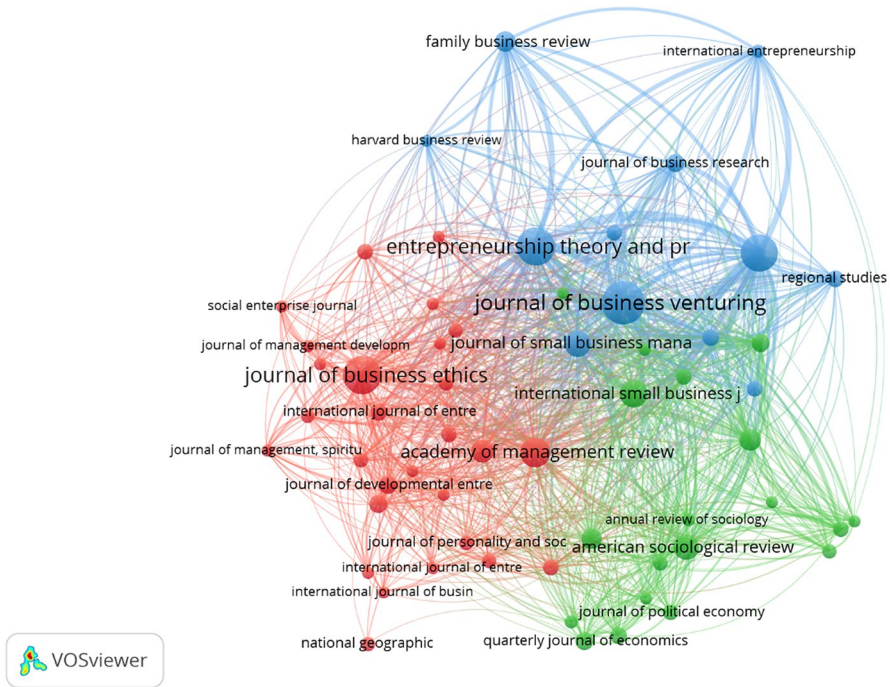
### 4.2.1 Co-citation analysis at the journal level

We set the minimum threshold at 20 citations such that for a journal to be included in our analysis, it had to be cited at least 20 times by the studies in our sample. In total, 58 journals fulfilled this criterion. By analyzing the co-citation patterns, three clusters can be identified. Figure 4 and Table 12 show the results.

Cluster I (in blue) includes 13 journals, and of these journals, the *Journal of Business Venturing* and *Entrepreneurship Theory & Practice* are the most cited journals. Other frequently cited journals in this cluster include *Small Business Economics*, the *Journal of Business Research*, *Entrepreneurship & Regional Development*, and the *Journal of Small Business Management*. We label this cluster the *entrepreneurship* journal cluster as most journals in this cluster are entrepreneurship journals.

Cluster II (in green) contains 19 journals. *International Small Business Journal* and the *American Sociological Review* are the most cited journals in this cluster. Other renowned and frequently cited journals in this cluster include the *Quarterly Journal of Economics*, *International Migration Review*, and the *Journal of Political Economy*. We label this cluster the *economic and sociology* journal cluster.

Cluster III (in red) is the largest cluster and includes a very diverse set of journals. The most cited journals in this cluster include the *Journal of Business Ethics* and the *Academy of Management Review*. This cluster also contains journals,



**Fig. 4** Co-citation analysis at the journal level. *Notes:* Created using VOSviewer based on a sample of  $N=220$  articles (included in Scopus) (color figure online)

such as the *International Journal of Entrepreneurial Behavior & Research*, *International Journal of Entrepreneurship and Small Business*, *Journal of Management Studies*, *Academy of Management Journal*, and *Journal of Management, Spirituality & Religion*. Most journals in this cluster are management or business ethics journals, but some psychology and religion journals are also included in this cluster. Due to its diverse nature, we label this cluster the *management, ethics & miscellaneous journal cluster*.

#### 4.2.2 Co-citation analysis at the author level

We also performed a co-citation analysis at the author level. An author had to be cited at least 15 times to be included in our analysis. In total, 94 authors fulfilled this criterion. By conducting a co-citation analysis, four clusters can be identified (Fig. 5 and Table 13). The thickness of the lines between the authors shows the strength of the connection between the different authors in our dataset. A circle close to the center represents a central and impactful position in the citation network, whereas a circle at the periphery represents a less impactful position. Our results show that Audretsch, Dana, Welter, Gartner, Weber, Shane,



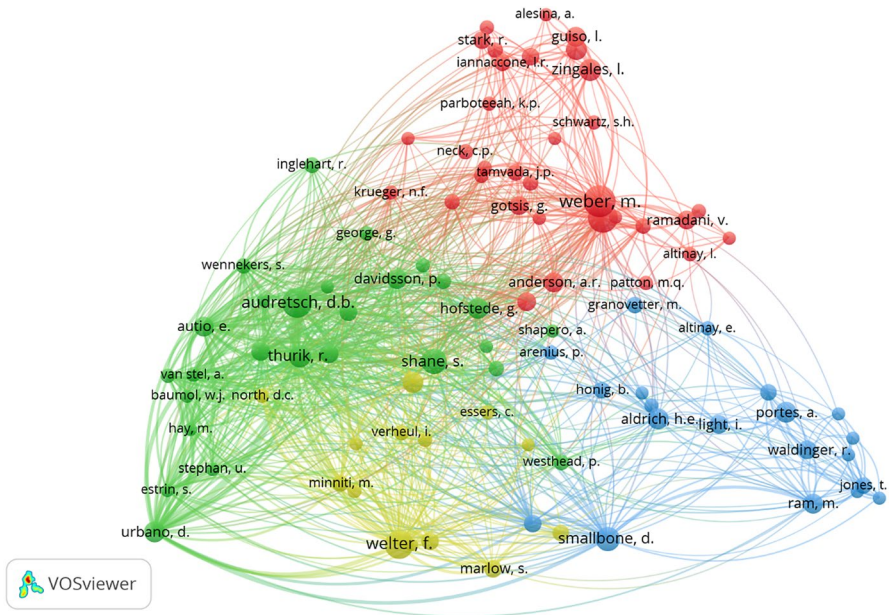
**Table 12** Clusters based on co-citation analysis on journal level

Cluster I: Entrepreneurship		Cluster II: economics and sociology		Cluster III: management, ethics and Misc.	
Journals	Citations	Journals	Citations	Journals	Citations
Journal of Business Venturing	268	American Sociological Review	94	Journal of Business Ethics	211
Entrepreneurship Theory and Practice	206	American Journal of Sociology	63	Academy of Management Review	128
Small Business Economics	193	Journal of International Business Studies	47	Academy of Management Journal	77
International Small Business Journal	114	Quarterly Journal of Economics	47	Journal of Developmental Entrepreneurship	50
Journal of Small Business Management	97	American Economic Review	40	International Journal of Entrepreneurship and Small Business	46
Family Business Review	58	Administrative Science Quarterly	38	International Journal of Entrepreneurial Behavior & Research	44
Entrepreneurship & Regional Development	56	Social Forces	36	Human Relations	37
Journal of Business Research	45	International Migration Review	34	Organization	34
Journal of Management	43	Journal of Political Economy	34	International Journal of Social Economics	32
Regional Studies	40	Journal of Economic Literature	33	Journal of Enterprising Communities: People and Places in the Global Economy	32
Strategic Management Journal	35	Journal for the Scientific Study of Religion	30	Journal of Small Business and Enterprise Development	32
World Development	35	Journal of Personality and Social Psychology	30	National Geographic	29
International Entrepreneurship and Management Journal	28	Ethnic and Racial Studies	29	Journal of Organizational Change Management	28
International Journal of Gender and Entrepreneurship	23	Annual Review of Sociology	27	International Journal of Entrepreneurship and Innovation	24
Harvard Business Review	22	Journal of Economic Perspectives	27	Journal of Applied Psychology	24
		Journal of Labor Economics	23	Organization Science	24
		Organization Studies	23	Journal of Management Development	23

Table 12 (continued)

Cluster I: Entrepreneurship Journals	Cluster II: economics and sociology		Cluster III: management, ethics and Misc.	
	Journals	Citations	Journals	Citations
	Journal of Ethnic And Migration Studies	22	Journal of Management, Spirituality & Religion	23
	International Journal of Urban And Regional Research	21	Social Enterprise Journal	23
			Journal of World Business	22
			Journal of Management Inquiry	21
			Journal of Management Studies	21
			International Journal of Business and Globalization	20
			Journal of Enterprising Culture	20

Created using VOSviewer based on a sample of N = 220 articles



**Fig. 5** Co-citation analysis at the author level. *Notes:* Created using VOSviewer based on a sample of  $N = 220$  articles (included in Scopus) (color figure online)

Smallbone, and Aldrich are the most cited authors in the field of religion and entrepreneurship.

Cluster I (in red) includes Weber, Dana, Zingales, Sapienza, Guiso, Anderson, and Ramadani as the most cited authors. The studies conducted by these authors consider religion an environmental factor at the macro level, promoting values conducive or detrimental to entrepreneurship (Dodd and Gotsis 2007). This link can be direct or indirect through spirituality and institutions. We label this cluster the *religion, spirituality, and institutions* cluster.

Cluster II (in green) includes core entrepreneurship authors, such as Shane, Davidsson, and Audretsch. The studies conducted by these authors are typically micro level studies. We labeled this cluster the *core entrepreneurship* author cluster.

Cluster III (in blue) contains authors that adopt a social capital and network perspective regarding the phenomenon of religion and entrepreneurship. Their objects of study are often immigrants and ethnic minorities. The most prominent authors in this cluster include Smallbone, Aldrich, Portes, Ram, and Waldinger. We label this cluster the *social capital & ethnicity* author cluster.

Cluster IV (in yellow) is a small cluster and includes only 14 authors. The most prominent authors in this cluster include Welter, Gartner, Marlow, Brush, and Carter. Most authors in this cluster conduct research concerning women entrepreneurship. Hence, their studies regard the phenomenon of religion and entrepreneurship through a women entrepreneurship lens or perspective. We label this cluster the *women entrepreneurship* author cluster.

**Table 13** Clusters based on co-citation analysis on author level

Cluster I: religion, spirituality and institution		Cluster II: core entrepreneurship		Cluster III: social capital and ethnicity		Cluster IV: women entrepreneurship	
Author	Citations	Author	Citations	Author	Citations	Author	Citations
Weber, M.	89	Audretsch, D.B.	79	Smallbone, D.	51	Welter, F.	72
Dana, L.P.	79	Shane, S.	55	Aldrich, H.E.	41	Gartner, W.B.	38
Zingales, L.	42	Thurik, R.	44	Portes, A.	38	Marlow, S.	29
Sapienza, P.	38	Urbano, D.	41	Ram, M.	36	Brush, C.G.	28
Guiso, L.	37	Hofstede, G.	40	Waldinger, R.	32	Carter, S.	26
Anderson, A.R.	36	Davidsson, P.	36	Light, I.	30	Minniti, M.	25
Ramadani, V.	31	Autio, E.	34	Wright, M.	28	Verheul, I.	23
Gotsis, G.	30	Reynolds, P.D.	33	Basu, A.	26	Baker, T.	20
Barro, R.J.	28	Acs, Z.J.	33	Honig, B.	25	North, D.C.	19
Stark, R.	27	Zahra, S.A.	29	Jones, T.	24	Essers, C.	19
Tamvada, I.P.	26	Westhead, P.	22	Granovetter, M.	24	Steyaert, C.	18
Iannaccone, L.R.	26	Wennekers, S.	22	Pio, E.	19	Katz, J.	17
Galbraith, C.S.	23	Venkataraman, S.	22	Arenius, P.	18	Carter, N.M.	17
Neck, C.P.	22	Wiklund, J.	21	Altinay, E.	18	Ahl, H.	15
Mccleary, R.M.	22	Inglehart, R.	21	Ward, R.	15		
Seaman, P.T.	21	Van Stel, A.	20	Modood, T.	15		
Dodd, S.	21	George, G.	20	Mcevoy, D.	15		
Schwartz, S.H.	20	Bruton, G.D.	19	Mcelwee, G.	15		
Carswell, P.	20	Ajzen, I.	19	Clark, K.	15		
Ratten, V.	19	Shapero, A.	16	Borjas, G.J.	15		
Krueger, N.F.	19	Baumol, W.J.	16				
Finke, R.	19	Stephan, U.	15				
Altinay, L.	19	Mueller, S.L.	15				
Rolland, D.	18	Kolvereid, L.	15				
Patton, M.Q.	18	Hay, M.	15				
Parboteeah, K.P.	18	Estrin, S.	15				
Shleifer, A.	17	Bosma, N.	15				
Lumpkin, G.T.	17	Schumpeter, J.A.	31				
Kraybill, D.B.	17						
Alesina, A.	17						
Scott, M.G.	16						
Boente, W.	15						

Created using VOSviewer based on a sample of N = 220 articles. Citations refer to citations in Scopus

### 4.3 Summary

The results of the bibliometric analysis show that the field of entrepreneurship and religion is very diverse and that different thematic clusters can be identified. Consistent with this thematic clustering, several author and journal clusters also exist. The overlap between the thematic clusters and the journal and author clusters is relatively high. Table 14 illustrates the different clusters identified in our study.

Specifically, the results of the bibliometric analysis are also consistent with our thematic grouping performed in Sect. 3, confirming the robustness of our main findings. By mapping the content of the papers (Sect. 3), we identified the following five different thematic areas: (a) women and social entrepreneurship; (b) religiosity, values and spirituality; (c) ethnicity, immigrants, and community; (d) culture and social capital; and (e) micro-finance, economic development, and others. By analyzing the keywords used in the articles, we identify the following four areas: (a) economic and finance; (b) culture, institution and women; (c) social capital; and (d) ethnicity and immigrants. Finally, our co-citation analysis by journal identifies the following three thematic clusters: (a) entrepreneurship, (b) economics and sociology, and (c) management and miscellaneous; furthermore, our co-citation analysis by authors identifies the following four clusters: (a) religion, spirituality, and institution; (b) core entrepreneurship; (c) social capital and ethnicity; and (d) women entrepreneurship.

## 5 Conclusions

### 5.1 Avenues for future research

We show that research concerning religion and entrepreneurship has greatly increased during the last years and is scattered across various academic disciplines and fields. To reconcile prior research, we map the field of religion and entrepreneurship and perform various bibliometric analyses. Our comprehensive overview of prior studies allows us to identify research gaps and derive avenues for future research in a substantiated way.

First, several moderators and mediators likely play a role in the relationship between religion and entrepreneurship. Thus far, moderator or mediator relationships have received limited attention in the studies we reviewed. The candidate moderators or mediators in such relationships include individual-level factors (e.g., socio-demographic factors, such as age, education and gender) and country-level factors (e.g., culture, history, and political institutions). Additionally, the family and social context (Aldrich and Cliff 2003) in which an individual is embedded might play an important role in how religion influences entrepreneurship. To improve the understanding of religion's influence on entrepreneurship, future research should carefully pay attention to contextual factors, which requires the use of empirical methods combining micro and macro level variables, such as multi-level analyses. Parboteeah et al. (2015) report one of the few studies employing a multi-level analysis in research investigating religion and entrepreneurship.

**Table 14** Overview of thematic clusters identified

Clusters based on mapping the field	Clusters based on co-occurrence of keywords	Clusters based on journal co-citation	Clusters based on author's co-citation
Women and social entrepreneurship	Economics and finance	Entrepreneurship	Religion, spirituality and institutions
Religiosity, values and spirituality	Culture, institutions and women	Economics and sociology	Core entrepreneurship
Ethnicity, immigrants and community	Social capital	Management and Misc.	Social capital and ethnicity
Culture and social capital	Ethnicity and immigrants		Women entrepreneurship
Microfinance, economic development and others			

Second, our review reveals that the construct of entrepreneurship as a dependent variable is analyzed with limited differentiation. Thus, future research should more carefully investigate the influence of religion on different types of entrepreneurship, such as growth entrepreneurship, social entrepreneurship, innovative entrepreneurship, opportunity or necessity entrepreneurship, or family entrepreneurship. Whether religion influences all different types of entrepreneurship similarly and whether similar moderators apply remain unclear. For example, due to its strong value orientation, religion could play a more pronounced role in social entrepreneurship, while its effect on innovative or growth entrepreneurship might be less pronounced. Relatedly, religion is a very complex and multi-dimensional construct. While most studies treat religion as a homogenous and uniform construct, the same religion may substantially differ across regions. For example, Islam in Iran may have different effects on entrepreneurship than Islam in Pakistan or Saudi Arabia. Additionally, many religious or spiritual subgroups exist, and prior research has largely disregarded such subgroups, such as sects or cults. Additionally, the effects of atheism in its different forms on entrepreneurship is a potentially fruitful avenue for future research. The multi-dimensionality of the religion construct could also be captured via a more nuanced operationalization of religion. Most studies in our review measure religion in the form of a dummy variable (religious or not or belonging to a certain religion or not). Recent studies show that a more nuanced measurement of the relationship between religion and entrepreneurship may be necessary. For example, Rehan et al. (2019) use a more refined operationalization of Islam and identify various Islamic values and practices that differ in their effects on entrepreneurship attitudes and intentions.

Third, our review shows that empirical studies investigating religion and entrepreneurship typically focus on only one religion. Such a study design does not allow for comparisons across religions and, hence, does not allow the detection of commonalities and differences in how religion influences entrepreneurship. More comparative research is needed. Such a study could ideally be performed in a country where different religions are practiced and play an important role, such as the US or India, which could control certain environmental factors, such as culture or the educational system, to remain constant and help isolate the effect of a certain religion on entrepreneurship.

Fourth, one of the thematic clusters we identify is the relationship between religion and women entrepreneurship. Our review shows that this relationship is mainly investigated from an Islamic perspective. Further research is needed to investigate the phenomenon of women entrepreneurship in the context of other religions, such as Judaism and Hinduism. Our review also reveals that empirical research related to religion and women entrepreneurship in the context of developed countries is limited. One could expect that religion does not play an important role in the context of developed countries with highly developed legal and political institutions. However, such countries might already be in a state of post-materialism where values play an important role, which could reflect a more pronounced effect of religion on women entrepreneurship in such countries. Empirical research is needed to address this question.

Fifth, research concerning religion and entrepreneurship mostly analyzes the effect of religion on entrepreneurship. However, an effect in the opposite direction may also exist. By becoming an entrepreneur or getting in touch with entrepreneurship, individuals might question certain religious values and change their attitude towards religion. For example, in countries, such as Saudi Arabia, where women are currently receiving more rights (e.g., the right to drive a car) and are increasingly starting their own ventures, one could expect women to start to question the privileges of men and the role of religion in justifying such privileges. Future research analyzing the effect of entrepreneurship on religion appears a fruitful and highly practically relevant line of research.

Finally, our review shows that research concerning religion and entrepreneurship is characterized by the lack of rigorous research methods. Many studies are either conceptual or of a qualitative empirical nature. The quantitative empirical studies we identified typically do not allow for causal statements as they cannot rule out endogeneity issues. Future research could also benefit from a quantitative aggregation and consolidation of the empirical research available thus far, which could be achieved in the form of a meta-analysis.

## 5.2 Limitations

Our study is not without limitations. First, our sample is limited to peer-reviewed articles published in English language journals. Hence, a certain body of knowledge was not considered. In this regard, our sample of studies might be biased towards studies analyzing Christianity as Christianity is the most dominant religion in most English-speaking countries and the Western world.

Second, our bibliometric analysis does not include the entire sample of relevant studies we identified. Instead, the bibliometric analysis was restricted to data retrieved from the Scopus database (220 of 270 articles) since Scopus provides the information required to conduct a bibliographic analysis. We provide a full list of the studies used in our review in the Appendix. The studies that were included in Scopus (journals) are marked with an asterisk.

Third, citation and (co-)citation analyses assign a weight to an article's citations. These weights are likely biased towards older articles because older articles typically have a higher number of citations than articles that were recently published. Therefore, our bibliographic analyses might be biased in favor of older articles and potentially lead to an underestimation of the emerging and recent trends in the field. Additionally, our co-occurrence of (key)word analysis depends on the usage of words. Since the same word is sometimes used with different meanings in different articles, some articles could be assigned to the same cluster even though they substantially differ. For example, the term "values" can refer to personal values, social values, cultural values, entrepreneurial values, or work values.

Finally, purposefully, our review is very descriptive. We do not conduct an in-depth content analysis of the articles we identified. While we are able to identify trends and clusters in research concerning entrepreneurship and religion, a detailed analysis of the content of the studies in our sample is clearly beyond the scope of

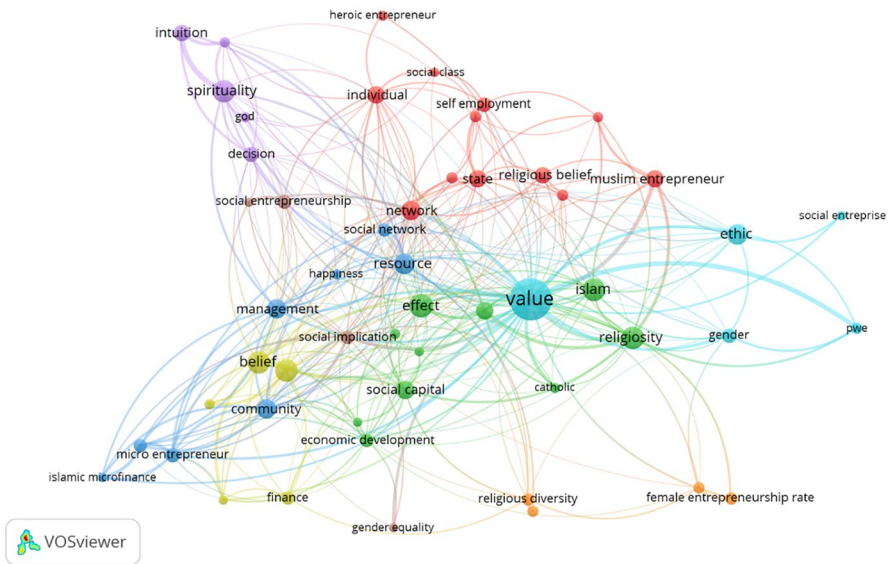


this review. Such a content-focused review is desirable, but due to the complexity and size of the field, such a review most likely needs to a narrower scope and focus on a particular religion only.

## Appendix

The full references of the studies included in our literature review can be found under <https://osf.io/t48hy/>.

See Figure 6 and Table 15.



**Fig. 6** Co-occurrence of the words in abstracts *Notes*: Created using VOSviewer based on a sample of 220 studies

**Table 15** Top 25 articles according to Web of Science citations

No.	References	Web of Science citations	Google Scholar citations
1	Guiso et al. (2003)	795	2997
2	Becker and Woessmann (2009)	253	975
3	Essers and Benschop (2009)	114	269
4	Lelkes (2006)	81	287
5	De Vita et al. (2014)	65	192
6	Azmat and Samaratinge (2009)	60	175
7	Syed and Pio (2010)	58	116
8	Pearce et al. (2010)	52	233
9	Collins and Low (2010)	45	131
10	Sørensen (2008)	45	112
11	Leroux (2005)	35	80
12	Brouwer (2002)	34	222
13	Audretsch et al. (2013)	31	90
14	Atia (2012)	31	85
15	Grosfeld and Rodnyansky (2013).	29	103
16	Uygur (2009)	24	80
17	Aygün et al. (2008)	24	68
18	Patwardhan et al. (2012)	24	41
19	Carr (2003)	23	73
20	Jiang et al. (2015)	22	60
21	Tlaiss (2015)	22	45
22	Essers and Tedmanson (2014)	20	47
23	Shinde (2010)	20	44
24	Roomi (2013)	19	67
25	Meagher (2009)	66	17

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