

## **A Bibliometric Analysis on Philanthropic Research Between 1981-2023**

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### **Abstract**

*The current bibliometric study provides a thorough overview of philanthropic research, from its development in 1981 to 2023. It identified the most influential authors, prolific contributors, leading academic institutions, and the prominent countries at the forefront of philanthropic-related research through extensive visualizations. The study also critically analyzed several aspects such as annual scientific productivity, primary sources, major authors and their affiliations, leading nations, document trends, and predominant keywords in philanthropy research. Drawing upon data sourced from Scopus, the study employed bibliometric indicators to unveil key insights into this field. The data for this study was collected from the Scopus database between 1981 and 2023. The findings of the study highlight the potential for significant progress in philanthropy science, with major contributions from five main countries: the USA, China, the UK, Australia, and Canada. Keyword analysis further divides philanthropic research into three main themes: human, article, and humans. The bibliometric analysis provides essential reference information for researchers in the field of philanthropy and can be a beneficial resource for industry professionals interested in the diverse aspects of philanthropy.*

**Keywords:** *Bibliometric analysis, Philanthropy, Bibliometric, scopus database.*

### **1. Introduction**

Philanthropic activities are increasingly important in addressing a wide range of societal challenges, including poverty, inequality, climate change, and global health. Philanthropy is the voluntary giving of money, time, or skills to the public good (Amarante, 2018). It is distinct from business initiatives, which are private initiatives for private benefit, and government endeavors, which are public initiatives for the public good (Amarante, 2018). This is because in philanthropic activities, individuals and organizations contribute resources with the primary intention of making a positive impact on society, while in business activities, the primary objective is usually profit generation for the stakeholders of the business.

Existing literature suggests philanthropy can positively impact business and societal welfare in several ways, including economic empowerment of the community, increasing awareness of Islamic philanthropy, and providing assistance to improve societal well-being (Wicaksana, 2021). Liao (2020) specifically studied the effect of philanthropic activities on the financial performance of publicly listed Chinese companies. A two-stage

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Heckman selection model was utilized to adjust for potential selection bias, and a significant positive relationship was found between corporate charitable donations and financial performance. This suggests thoughtful decision-making regarding charitable donations can improve a company's reputation, recognition, and acceptance among customers, and increase employees' sense of loyalty and identity, potentially leading to increased productivity and improved financial performance. However, the impact of philanthropic activities on financial performance might differ across sectors and industries. Industries more closely tied to social welfare, like healthcare and education, may derive greater benefits from philanthropic endeavors.

In addition to Liao (2020), philanthropy has been found to have a positive impact on trade credit financing, as it enhances the social trust environment and increases the willingness of suppliers to extend credit to firms. A study by Yang et al. (2019) investigated the factors that influenced a relationship and explored the implications for businesses operating in China. Drawing on a sample of 1,200 private firms listed on the Shanghai and Shenzhen stock exchanges from 2010 to 2017. Findings of the study found that corporate philanthropy had a positive impact on trade credit financing for private firms in China. Specifically, firms that engaged in philanthropic activities were more likely to receive trade credit financing from their suppliers. This is also interesting to highlight that the study found that the effect of philanthropy on trade credit financing was weaker for firms with political connections and this was observed that these firms may have alternative sources of financing. Although, there was an important notion that the effectiveness of philanthropy may depend on the firm's financial situation and political connections.

In a European context, Brammer and Millington (2005) analyzed the effect of philanthropic expenditures on the reputation of large UK companies. This study utilized data about philanthropic giving levels and corporate community involvement policies to create variables measuring the degree of a firm's philanthropic activities. The findings indicated that companies with greater philanthropic expenditures generally have enhanced their reputations in the surrounding communities. However, the study also showed that the effect of philanthropy on reputation can fluctuate depending on its correlation to the social consequences of individual firms. For instance, a tobacco company contributing to anti-smoking campaigns may potentially have a greater impact on its reputation compared to a technology firm donating funds towards the same cause. Moreover, the research found that companies directly providing cash donations are more likely to gain a positive influence on their reputation, as opposed to those incorporating employees in their philanthropic endeavors. This highlights the significance of corporate-level philanthropy over employee-level engagement.

The conducted research above collectively highlights the critical importance of philanthropy within today's business environment. It demonstrates that well-planned corporate philanthropic activities can significantly improve a company's financial standing, brand image, and cohesion among employees. In addition, philanthropy also promotes trust within the community and positively affects trade credit financing, a key component for many businesses, particularly those in emerging markets. However, it's crucial to recognize that the effectiveness of philanthropy can be influenced by specific contexts, differing across sectors and industries. Moreover, the extent of the alignment between philanthropy and a company's fundamental values, as well as the societal effects of its operations, significantly shape its reputation. As a result, these findings underline the complex influence of philanthropy, establishing it as a critical factor in ethical business practices and strategic decision-making. This has broad implications for both corporate prosperity and the welfare of society.

With the acceleration in philanthropy-related research, bibliometric analysis has become a useful tool to analyze, understand and develop philanthropy-related research. Due to the growth of philanthropy-related research in research (Yusra et al., 2022), bibliometric analysis is used to map research trends related to philanthropy, identify popular research areas and identify collaborations between researchers. Bibliometric analysis aims to assist in mapping research trends by identifying topics that have been widely researched and

understanding the contribution of bibliometric studies in the field of philanthropy, as well as providing information for the development of research related to philanthropy (Aulia & Rusli, 2020). Bibliometric methods use bibliographic data from publication databases to create a structural picture of the scientific field (Zupic & Čater, 2015). These methods introduce a measure of objectivity into the evaluation of scientific literature Garfield (1979) and can be used to detect invisible research networks that lie beneath the surface but are not formally connected (Crane, 1972; Price, 1965). Bibliometric methods have two main uses: performance analysis and science mapping (Cobo et al., 2011). Performance analysis aims to evaluate the research and publication performance of individuals and institutions. Knowledge mapping aims to reveal the structure and dynamics of scientific fields. Information about this structure and development is useful when researchers aim to review a particular research field (Zupic & Čater, 2015).

In other words, increase in research related to philanthropy has made the use of bibliometric analysis necessary for understanding the changing field of philanthropic studies. This method is important not just because of the sheer growth in philanthropic research but also because it helps map out emerging research trends, spot common study areas and discover hidden collaboration networks among scholars. By utilizing publication databases, bibliometric techniques offer an unbiased and organized depiction of the academic terrain, hence shedding light on well-studied themes and the crucial position of bibliometric studies in predicting the trajectory of philanthropic research. The division of bibliometric methods into performance analysis and science mapping adds to its usefulness, allowing for an all-encompassing grasp of the field's shifting structure and methods. Hence, it is an invaluable tool for researchers exploring the world of philanthropy research.

This current bibliometric analysis aims to identify and understand global research trends related to philanthropic through key analyses. This bibliometric analysis is carried out by collecting and analyzing publication data, citations, and author collaborations. This analysis assists researchers to explore the evolution of the concept of philanthropy, the research methods practiced, and the impact of scientific papers in shaping philanthropic thinking and behavior. To comprehensively identify and understand trends related to its issue, we have analyzed documents that had been published in Scopus from 1981 to 2023. These documents were evaluated and analyzed from 7 main aspects such as annual scientific production, sources, authors, affiliations, countries, documents, and keyword analysis. The results of this analysis are used to show new potential that will be generated as a consideration in improving further research related to philanthropy. The researchers then developed a graphical analysis of the bibliographic data related to philanthropy using visualization from Bibliometrix software to generate co-occurrence of similarity of published research titles related to philanthropy and co-authorship network of authors who published their journals in this period.

## **2. Methodology**

The aim of this bibliometric study is to gain an in-depth understanding of worldwide research trends in the field of philanthropy. This is achieved through the collection and examination of data related to publications, citations, and collaborations among authors. Additionally, a bibliometric analysis was conducted to explore relationships between keywords, collaboration networks, and co-authorship patterns, using the bibliometrix software (van Eck & Waltman, 2014). By studying these aspects, this research aimed to provide a comprehensive and informative overview of the changing landscape of philanthropic research, from both a quantitative and qualitative perspective.

### **2.1. Data collection**

The data for this study was collected from the Scopus database between 1981 and 2023. A thorough search of the database found 334 publications on philanthropy. Hassan et al

(2023) and Zainuldin and Lui (2022) suggest that the use of Scopus driven-database article would benefit bibliometric research in that Scopus is widely perceived as largest collection of peer-reviewed multidisciplinary databases in the field of economy, management, and social science in general. More importantly, the Scopus database were shown to maintain higher quality article publication database compared to many other open-access databases

The article publications obtained from the Scopus database were divided into five groups: articles (269; 80.55%), book chapters (33; 9.88%), conference papers on philanthropy (12; 3.59%), reviews (13; 3.89%), and other document types (7; 2.09%). Articles were chosen as the main source of data because they were considered reliable in showing philanthropic trends as the focus of the research (Garfield, 1979). From the Scopus database, 269 articles discussing philanthropy were carefully selected for further analysis. This dataset provided the basis for a detailed examination of various aspects like annual scientific production, sources, authors, affiliations, countries, document types, and keyword analysis. Additionally, a bibliometric analysis was conducted to explore relationships between keywords, collaboration networks, and co-authorship patterns, using the bibliometrix software (van Eck & Waltman, 2014). By studying these aspects, this research aimed to provide a comprehensive and informative overview of the changing landscape of philanthropic research, from both a quantitative and qualitative perspective.

## 2.2. Data analytical tool

In this bibliometric research, two specific tools were employed to analyze Scopus metadata: VOSviewer and Excel. Using VOSviewer is in line with common practice in bibliometrics for the visualization of bibliometric networks, as referenced in scholarly works (Hassan et al., 2023; van Eck & Waltman, 2014). VOSviewer enables the construction of visual depictions of the relationships among research entities, which provide insight into the patterns and linkages within the data. Conversely, Excel serves a supportive role, assisting in the organization and analysis of the data, thereby enriching the overall depth of the bibliometric study. Employing this combination of analytical tools allows for a thorough and nuanced analysis of trends in philanthropic research, thus demonstrating the robustness and methodological integrity of this approach for the aims of this study.

## 2.3. Types of analysis

The analysis of Scopus metadata was performed in some stages. First, the analysis was performed to evaluate the annual scientific production with average citation per year. Second, analysis was done to examine the most relevant sources, the relation between journals and the number of published articles, and finally sources' local impact and production over the year. The third analysis also concerned with the most relevant authors and their productivity. Finally the Scopus metadata was also examined for their themes.

# 3. Findings and discussion

## 3.1. Annual Scientific Production

In this section, the visualization of the annual scientific production data concerning philanthropy is presented. The graph outlining the annual scientific production illustrates that research in philanthropy originated in 1981, marked by the singular publication that year. A bibliometrix analysis of philanthropy indicated in the primary information table reveals an average annual growth of approximately 9.11% from 1981 to 2023. Eight articles were produced in 2007, but none were published in 2008. However, a noticeable surge in production from 2009 to the present year, 2023, has been observed, culminating in the publication of 39 articles. Given philanthropy is a relatively obscure field, the results from this analysis suggest a projected increase in philanthropy-related research in the coming years.

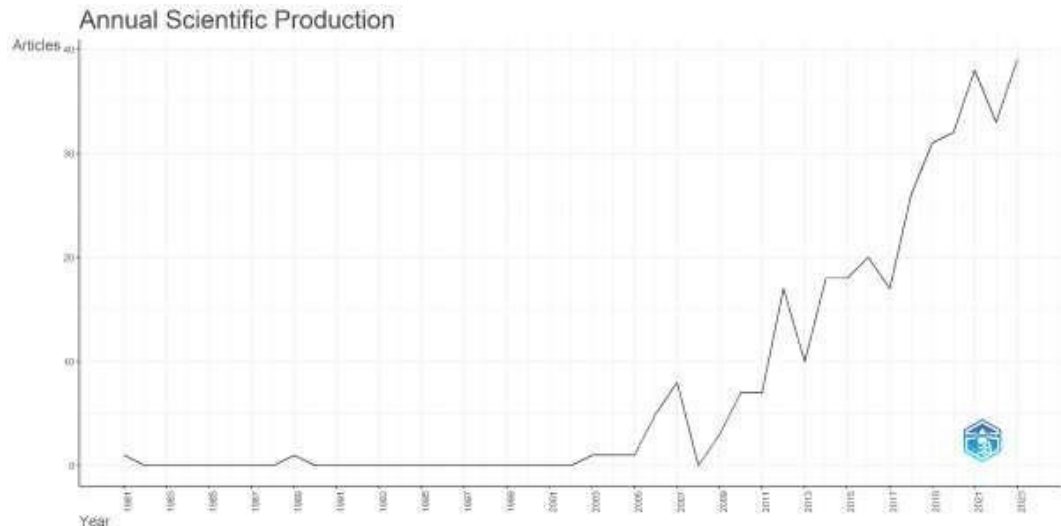


Figure 1. Annual scientific production

In addition, an examination of the average annual citation data for philanthropy research reveals key insights about the field's impact within scientific discourse. The calculated annual citation average reflects the influence of published work on philanthropy science. As shown in Table 1, the data reveals that 2006 was a high-impact year; research related to philanthropy amassed an average of 4.17 citations per publication that year. This is in stark contrast to 2005, where no citations were recorded. Post-2006 trends show a marked decline in average citations. For instance, in 2009 and 2012, the yearly citation averages were 0.13 and 0.39 respectively, indicating a significant decrease from earlier years. Further analysis illustrates that the citation averages dipped below one in other years as well, notably in 2016 and 2023. The underlying factors causing this reduced citation activity remain unclear to the author. However, these instances could be considered statistical anomalies. Moreover, an assessment of the annual research production graph reveals a noteworthy discrepancy. Despite the demonstrated escalation in yearly article production, the average citation statistic for those years does not follow the same trend, thus indicating an anomalous relationship between publication output and citation frequency.

Table 1. Average citations per year

Year	Mean per article	N	Mean per year	Citable Years
1981	23	1.00	0.53	43
1989	13	1.00	0.37	35
2003	2	1.00	0.10	21
2004	8	1.00	0.40	20
2005	0	1.00	0.00	19
2006	75	5.00	4.17	18
2007	40.75	8.00	2.40	17
2009	2	3.00	0.13	15
2010	14.57	7.00	1.04	14
2011	14.71	7.00	1.13	13
2012	4.71	17.00	0.39	12
2013	14.7	10.00	1.34	11
2014	17.89	18.00	1.79	10
2015	17.22	18.00	1.91	9
2016	5	20.00	0.62	8
2017	8.24	17.00	1.18	7
2018	13.81	26.00	2.30	6
2019	6.71	31.00	1.34	5

2020	5.38	32.00	1.34	4
2021	4.82	38.00	1.61	3
2022	2.33	33.00	1.17	2
2023	0.85	39.00	0.85	1

### 3.2. Sources

The subsequent sub-section will shed light on the significant sources, Bradford's law, the local impact and evolution of source production overtime.

#### Most relevant sources

As shown in Figure 2, the relevant sources enumerates a list of 10 important sources that concentrate on the publication of scientific articles concerning philanthropy. The data used to arrive at these results were sourced from the Scopus database in 2023. It can be assertively stated that *Voluntas* emerges as the primary journal for article publications in the scientific realm of philanthropy. In addition to *Voluntas*, other significant sources include *Nonprofit and Voluntary Sector Quarterly*, and *The Foundation Review*. The figure clearly communicates that *Voluntas*, with 14 articles, is a predominant journal. Concurrently, *Nonprofit and Voluntary Sector Quarterly* contributes with 10 articles, while *The Foundation Review* contributes with 8.

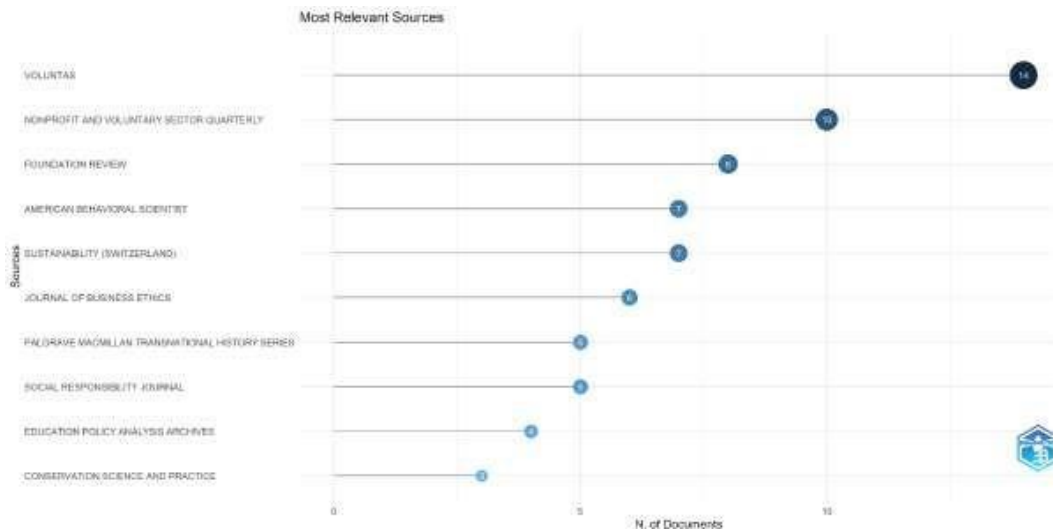


Figure 2. most relevant sources

#### Bradford's law

The analysis of core sources from the Scopus metadata was conducted by employing a visual representation of Bradford's law to assess the correlation between the number of journals and the published articles. As shown in Figure 3, Bradford's law stipulates that a limited number of primary journals are responsible for producing the majority of articles on a specific subject. This includes a significant segment, one-third, of publications followed by a secondary or a more extensive group of journals. The remaining third encompasses an even wider selection of journals. A total of 247 journals were identified based on the cumulative frequency of publications and citations, forming three clusters. According to Bradford's law, the smallest cluster in this study consisted of 25 journals, which are the cornerstone for the remaining journals. This phenomenon is displayed in the first nuclear zone of the core sources graph below, as per Bradford's law.

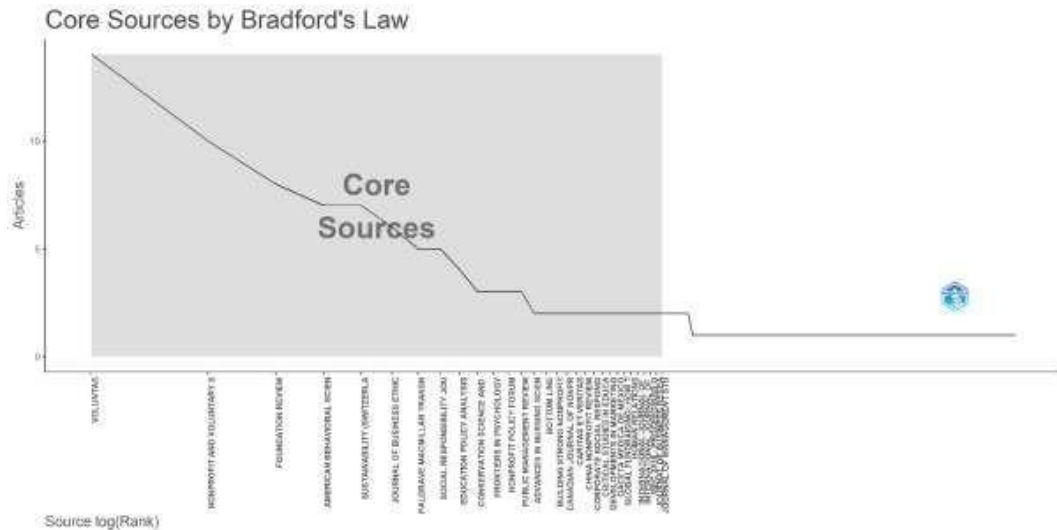


Figure 3. Core sources by Bradford's law

The bibliometric visualization of sources local impact below presents the most relevant journals in zone 1. The graph below shows that the h index of journal performance measures can be used to identify the significance of a journal. The most productive journals consist of journal of business ethics followed by American behavioral scientist, journal of business ethics, and nonprofit and voluntary sector quarterly. Productivity levels based on the results of the H-index are different from Bradford's law because voluntas is the first rank with the highest amount of productivity. Journal of Business Ethics (6), American Behavioral Scientist (5), and Nonprofit and Voluntary Sector Quarterly (5) are the most significant sources in evaluating the quality of journal publications based on sources of local impact.

#### Sources' Local Impact

In addition to the most relevant sources and Bradford's law, the current bibliometric study analyzed the sources' local impact. As shown in Figure 4, the bibliometric visual representation of the local impact of sources below delineates the principal journals in Zone 1. The ensuing graph illustrates that the H index of journal performance metrics can be leveraged to ascertain the importance of a particular journal. The most prolific journals are composed of the Journal of Business Ethics, succeeded by the American Behavioral Scientist. Thereafter, we again have the Journal of Business Ethics, with the Nonprofit and Volitable Sector Quarterly completing the cohort. Productivity levels based on the results of the H-index diverge from Bradford's law since Voluntas occupies the top rank with the highest level of productivity. Regarded as the most significant sources for evaluating the quality of journal publications based on local impact sources, the Journal of Business Ethics (6), the American Behavioral Scientist (5), and the Nonprofit and Voluntary Sector Quarterly (5) stand out the most.

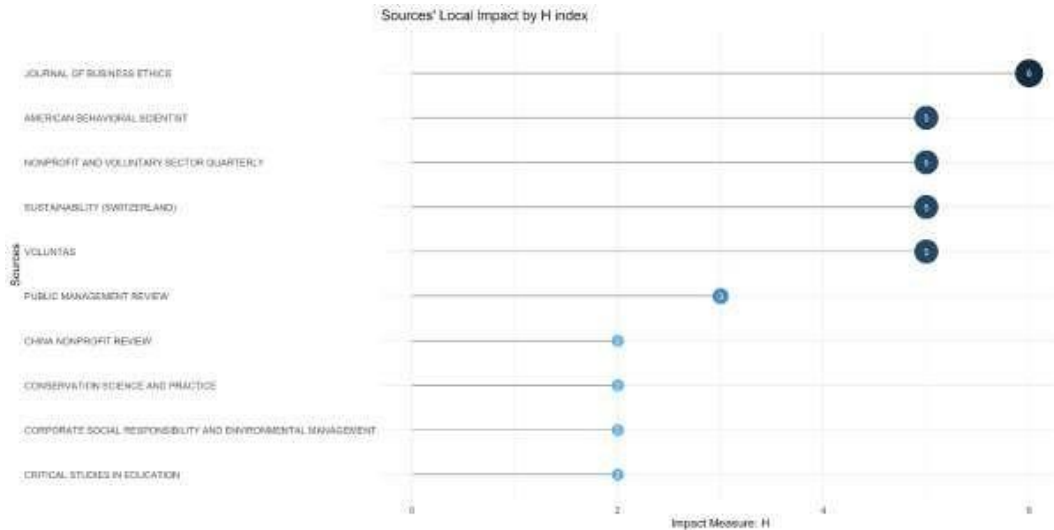


Figure 4. Sources' local impact

### Sources' production over time

Figure 5 below illustrates the progression in article production from five distinct publication outlets over time. In 2006, article publication was initiated by the Non-Profit and Voluntary Sector Quarterly, setting a precedent for research focused on the theme of philanthropy. This trend was further corroborated in 2011 when Voluntas began publishing similar articles, which to this day have shown significant growth, as the graph attests. The American Behavioral Scientist, on the other hand, began its publications in 2017 and has since seen no substantial increase in the number of articles centered on philanthropy. Conversely, despite not illustrating drastic annual growth, both the Foundation Review Journal and Sustainability (Switzerland) have experienced a steady rise in publications over the years.

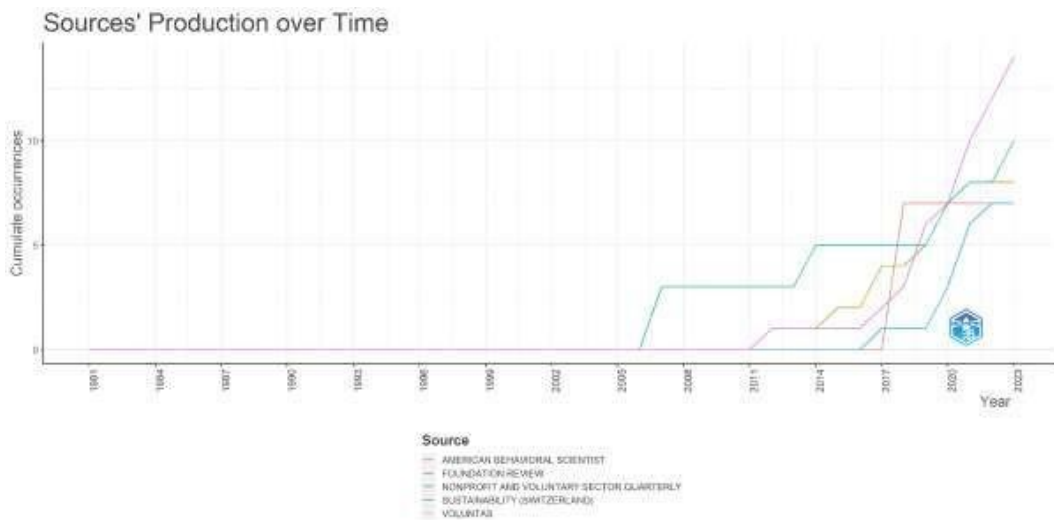


Figure 5. Sources' production over year

### 3.3. Authors and their affiliation

The author's analysis of metadata from Scopus indicates that 735 authors contributed towards the total of 334 publications pertaining to the subject of philanthropy. The 'most relevant authors' graphic will feature the top ten authors who have made significant contributions within this field. It is notable that Jia M and Williamson AK lead this group, as they have each authored five publications. Following them, Adam T, Scarlata M, and Zhang Z have each written four significant papers on philanthropy. Accordingly,



Du X, Hassan SH, Luke B, Ma J, and Peel V have contributed to this field with three noteworthy publications each (See Figure 6).

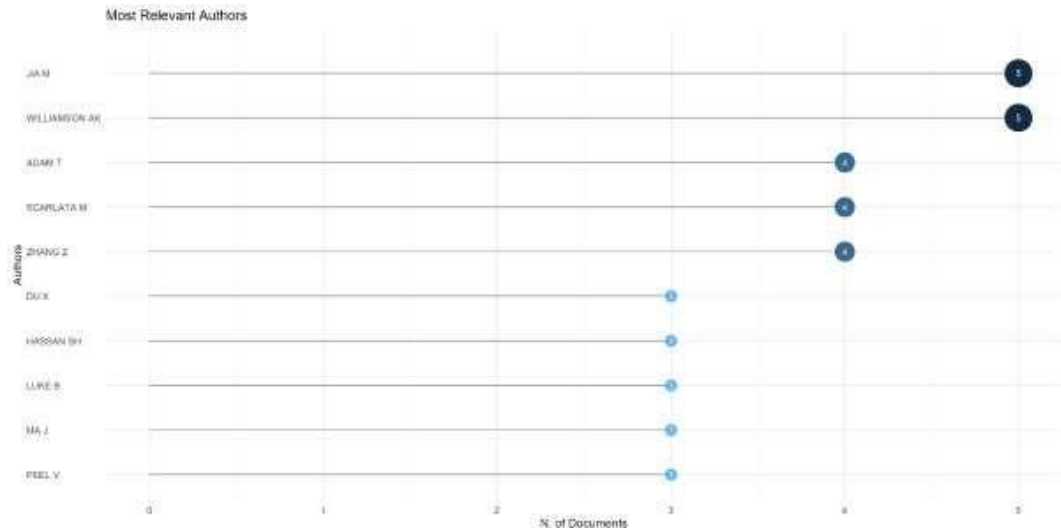


Figure 6. Most relevant authors

In addition, the authors' productivity over time can typically be evaluated based on the number of citations their writings garner annually. An existing table tracking authors' production over time reveals pertinent details such as names of authors, titles of articles, years of publication, and yearly citation counts for each piece. From the analysis, it is apparent that the years of 2014 and 2016 showed a considerable increase in citation counts as compared to other years. In 2014 and 2015, Du X emerged as the most productive author, amassing an average of 13.6 and 16.33 citations per year, respectively. In contrast, the authors who achieved the highest productivity in 2013 and 2019 were Jia M and Zhang Z. Both of them managed to secure nine annual citations. The year 2023 saw the publications from two different authors - Jia M and Ma J. The former's article accumulated an annual citation count of three. However, while Ma J had two publications in the same year, there was a discrepancy in terms of citation counts. One of his articles accrued five annual citations, whereas the other failed to receive any citation.

Moreover, literature also suggests that Lotka's law can be used to measure author productivity. The measurement of author's productivity can be carried out by distributing the number of articles that have been published by the author. As suggested earlier, there are 334 documents produced by 735 authors. Figure 7 below presents the results of the distribution of author productivity through Lotka's law. Based on the graph below, it can be confirmed that most authors (82.93%) published one or two articles with the theme of philanthropy, while (17.07%) as co-authors in publishing articles, for co-authors per document as much as 2.47.

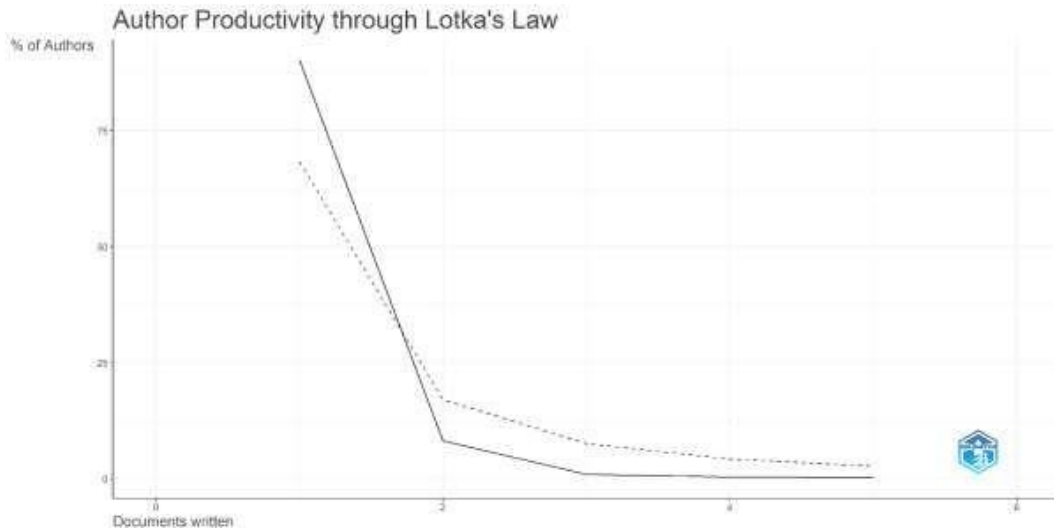


Figure 7. Author productivity through Lotka's law

Figure 8 represents the local impact of several authors: Du X, Jia M, Luke B, Peel V, Toepler S, Weiler B, Williamson Ak, and Zhang Z. Based on the H-index value presented, all authors show the same productivity level, indexed at three. The H-index, as depicted in the ensuing figure, is employed to gauge the productivity of authors as well as the influence exerted by citations from their respective publications.

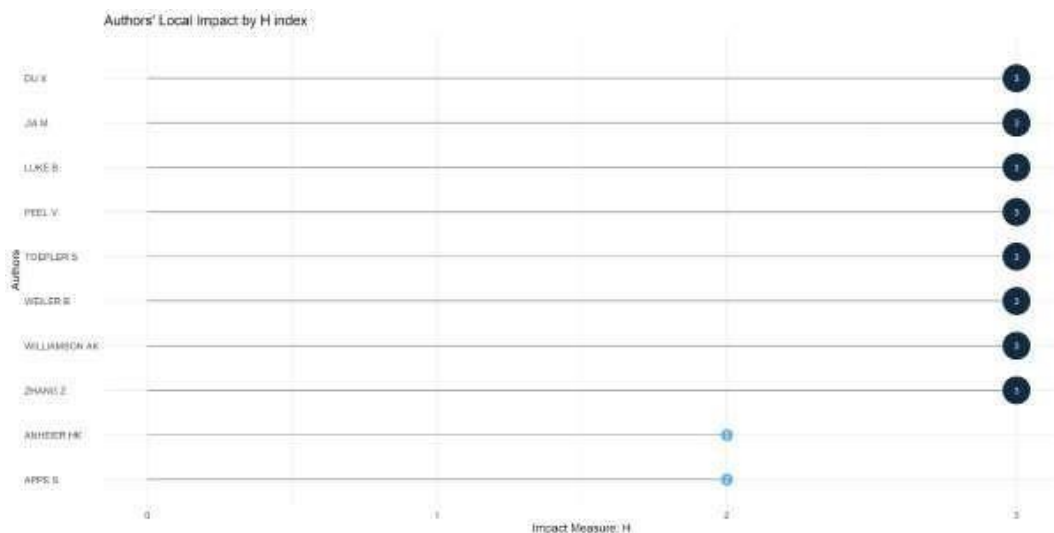


Figure 8. Authors' local impact by H-index

Beside analysing the authors, the analysis of the authors' affiliation was done and it suggested that the most pertinent institutional data linked to the outcomes of works related to philanthropy. Figure 8 illustrates these primary institutions demonstrates that Queensland University of Technology holds the highest rank, with a total of 13 publications. Subsequently, the Cancer Center follows closely behind with a total of 12 publications revolving around the subject of philanthropy. Securing the third position is the International University, with a total of nine publications. In addition, Colorado State University, Northwestern Polytechnical University, Shenzhen University, and Tsinghua University each have an equal number of publications, that is, eight publications centered around the theme of philanthropy. Meanwhile, a count of seven or fewer publications have been produced by the remaining institutions.

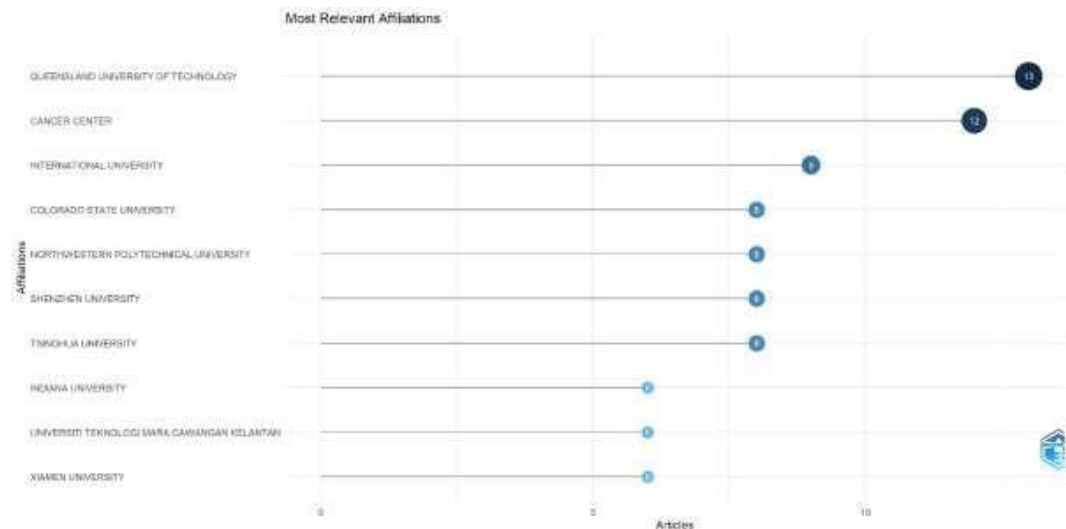


Figure 8. Most relevant affiliations.

In addition to examining the most relevant affiliations, the current bibliometric analysis also scrutinizes the affiliation production over a period of time. Figure 9 displays a graph charting the affiliations' publication output from 2005 to 2023. The data suggests that Tsinghua University leads the field in terms of sustained publication, maintaining this trend with a total of six publications thus far. Conversely, the Cancer Center has shown remarkable growth in its publication count, more so than other affiliations; from 2020 to 2023, it has produced 12 articles. Nonetheless, the title for the highest volume of productions goes to the Queensland University of Technology. It too has witnessed significant growth in its publication count from 2020 to 2023, amassing a total of 13 publications.

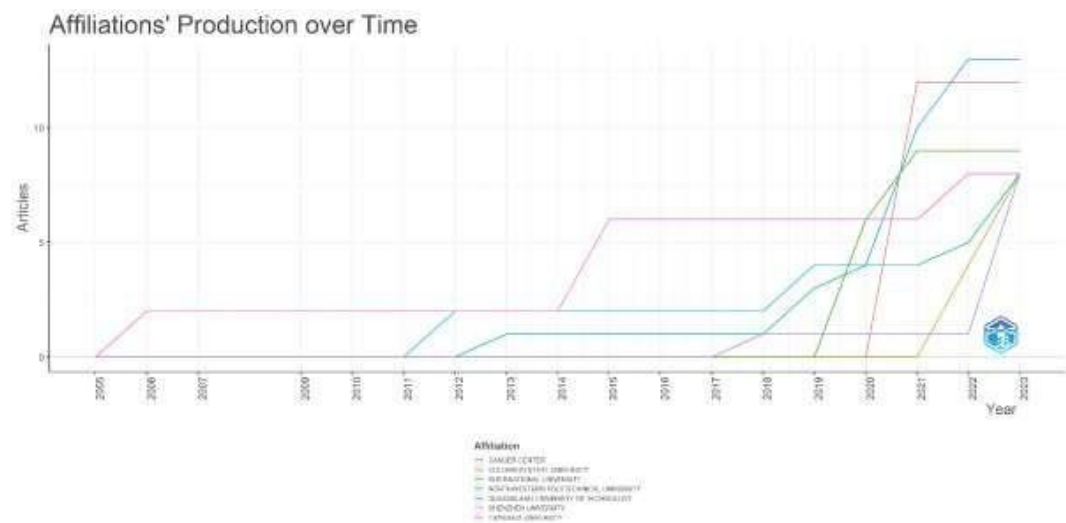


Figure 9. Affiliations' production over time

### 3.4. Countries

Figure 10 presents data on the nations from corresponding authors. The Figure reveals that the United States, China, and the United Kingdom lead in the number of publications. In particular, corresponding authors from the United States have contributed the most SCP publications compared to other countries. China takes the second place, with less SCP publications than the United States. The United Kingdom is in the third position, with fewer SCP publications than both the United States and China. However, when it comes to MCP publications, China emerges as the front-runner. The United States and the United Kingdom demonstrate equivalent levels of MCP publication.

Several nations, including Australia, Germany, Malaysia, the Czech Republic, Denmark, France, and South Africa, are absent from the MCP publication list.

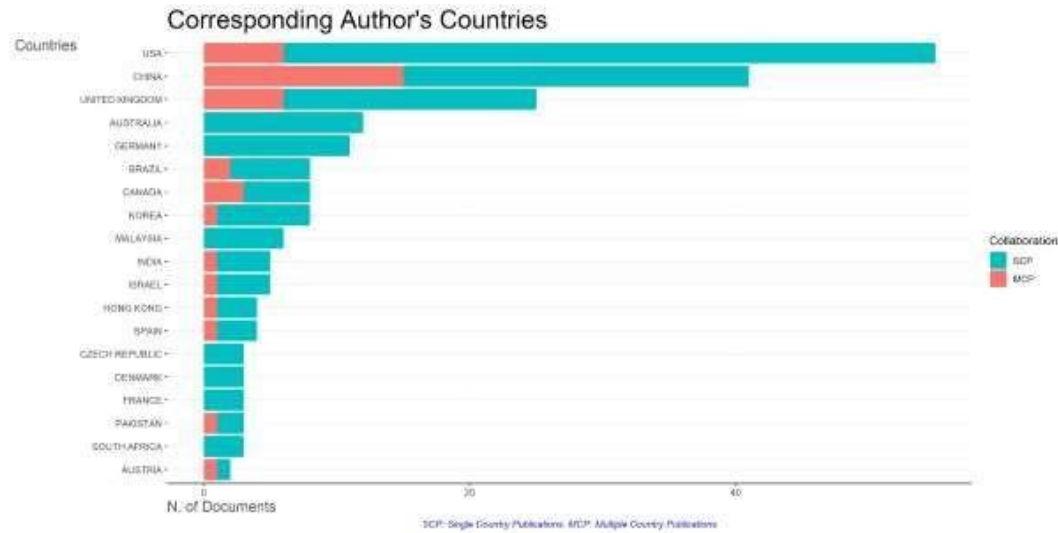


Figure 10. The countries of the corresponding authors

Furthermore, an analysis was carried out to examine which country produces the highest number of scientific papers related to philanthropy. It was revealed that the United States leads with a total of 234 publications. This is nearly twice the amount produced by China, which holds second place with 121 articles. The United Kingdom ranks third with 63 published articles, almost double the number of China's publications. India holds the position for the country with the least amount of philanthropy related articles, having only published 15. Figure 11 below presents the production of scientific production by countries, and Figure 12 illustrates the most cited countries.

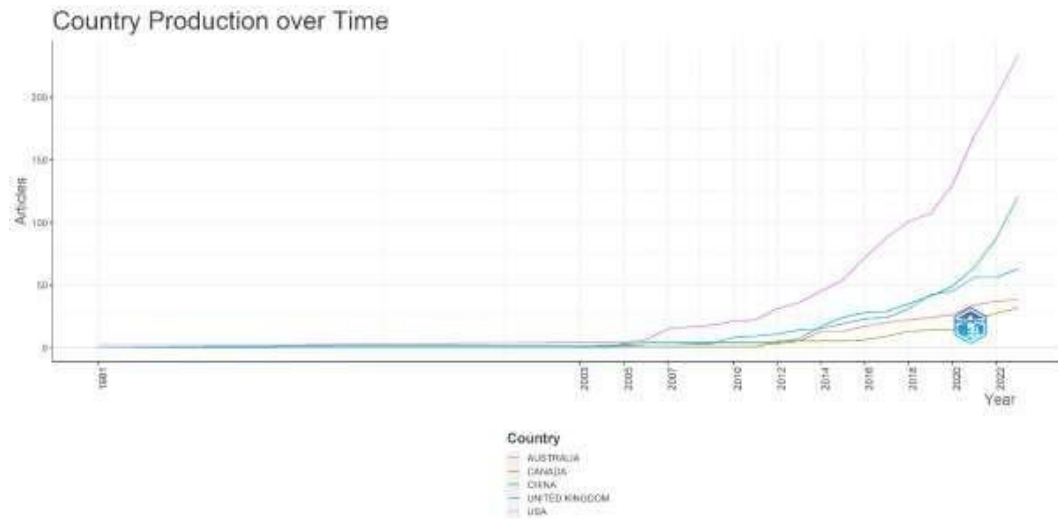


Figure 11. Country scientific production over time

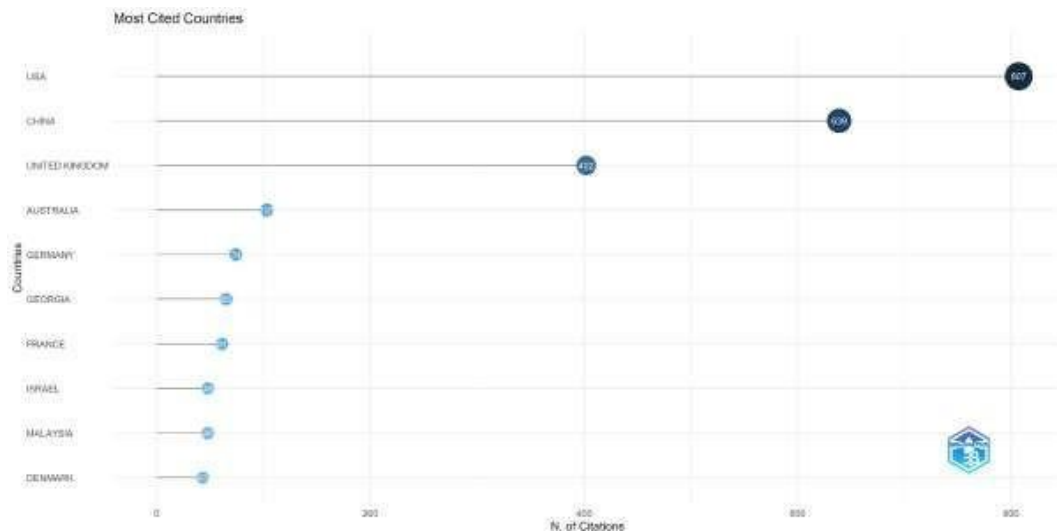


Figure 12. Most cited countries

The bibliometric visualization illustrates data derived from the ten countries with the highest citation frequency. A substantial discrepancy emerges, particularly between the United Kingdom and the United States, with the difference in the cited articles' count being twofold that of the United Kingdom's. This data presents the United States as the country with the predominant citation count, amounting to 807. Subsequent to the United States, China trails closely as the second most cited country with a total of 639 citations. The United Kingdom holds the third position, bearing 402 citations, which equates to approximately half the number of cited articles attributed to the United States. Following the United Kingdom, we find Australia with a notable citation count of 107. The citation counts of the remaining countries fall below 100.

### 3.5. Documents

Table 2 below displays the ten most frequently referenced articles concerning philanthropy. The three papers garnering the highest number of citations are subsequently discussed. Firstly, an article by Bartley T published in 2007, is the most cited, with 211 references being attributed to it. The article, titled "How Foundations Shape Social Movements: The Construction of an Organizational Field and the Rise of Forest Certification", demonstrates how charitable foundations use their grant-making powers to establish the field of forest certification. They incorporate social activist organizations into this project, exploiting protest movements to further their field development agenda. Second on the list with 148 citations is an article by Bai C-E, titled "Property Rights Protection and Access to Bank Loans Evidence from Private Enterprises in China". Published in 2006 in the 'Economics of Transition and Institutional Change' journal. This paper empirically explores the influence of political involvement and philanthropic undertakings. It also delves into the informal alternatives that mitigate the dearth of formal protection for private property, and how they affect access to bank loans. Finally, Du X's 2005 article titled "Is Corporate Philanthropy Used as Environmental Misconduct Dressing? Evidence from Chinese Family-owned firms" sits at third place, having been referenced 147 times. Published in 'Business Ethics', this work provides robust and consistent evidence that corporate environmental wrongdoings are significantly positively related to corporate philanthropy. This suggests a troubling trend, where some family-owned Chinese firms use philanthropic actions as a smokescreen to redirect public scrutiny from their environmentally unfriendly behaviour.

Table 2. Most globally cited documents

Paper	TC	TC/ Year	N TC
BARTLEY T, 2007, SOC PROBL	211	12.41	5.18
BAI C-E, 2006, TRANSIT ECON	148	8.22	1.97

DU X, 2015, J BUS ETHICS	147	16.33	8.54
BAE J, 2006, PUBLIC RELAT REV.	146	8.11	1.95
DU X, 2014, J BUS ETHICS	136	13.60	7.60
JIA M, 2013, J BUS ETHICS	99	9.00	6.73
FORBES KF, 2014, NONPROFIT VOLUNT SECTQ	75	7.50	4.19
O'DONOHUE S, 2006, HUM RELAT	69	3.83	0.92
CARROLL AB, 2021, J STRAT MANAG	65	21.67	13.50
STONE D, 2010, POLICY POLIT	64	4.57	4.39

### 3.6. Words

Figure 13 illustrates the ten most prevalent words in research associated with the keyword "philanthropy." The word "Human," with 24 occurrences, is most salient and frequent in relevance to the term Philanthropy. The second most related word is "Article" with 23 incidences. Subsequently, the term "Humans" has been observed 12 times. There are two words, "China" and "United States," that have cropped up 11 times each, holding significant relevance. Other words, however, have been mentioned less than 10 times.

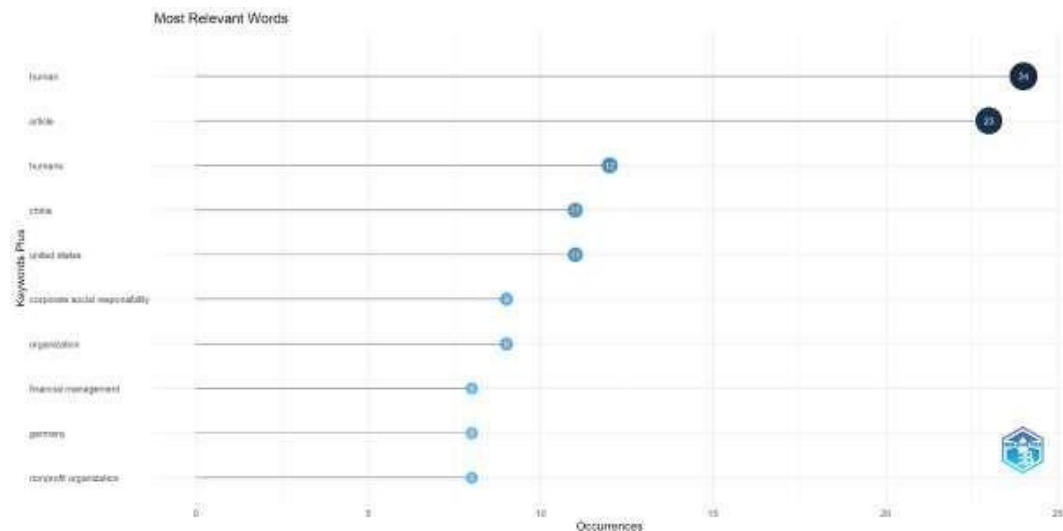


Figure 13. Most relevant words

In addition, based on the analysis of the research articles, the most dominant words related to philanthropy were found. The most dominant words can be seen in the figure below, based on the figure below the most dominant words are Human, Article, Humans, China, United States, Corporate Social Responsibility, and Organization. These words often appear because philanthropy has a close relationship with humanity so the words human and humans often appear. Then there are two words in the form of countries, namely China and the United States, this word appears in connection with humanitarian issues that exist in these countries.

Furthermore, in analyzing the research articles, we discovered the most prevalent terms associated with philanthropy. As shown in the figure below, the most frequently used terms are "Human," "Article," "Humans," "China," "United States," "Corporate Social Responsibility," and "Organization." The use of words like "human" and "humans" is likely due to the inherent connection between philanthropy and humanity. References to "China" and "United States," are indicative of their significance in global humanitarian concerns.

Besides the words, the bibliometric analysis examined the trend topics by observing the keywords used by the authors from the collected Scopus data. Article keywords, as defined by the authors, are typically linked to the published content, and sufficiently provide insight into field-specific subject matter (Aria & Cuccurullo, 2017). The

following Figure 14 indicates 17 frequently utilized keywords, highlighting the prevailing topics of discussion among authors in each respective year. These trending topics are connected to the broader theme of philanthropy.

As shown in Figure 14, the term "Brazil" first appears in 2007 and by 2011, it becomes a trend among authors. In 2015, "education" notably begins to surpass the "private sector" as the most frequently discussed subject. In 2018, the term "article" also begins to trend, with a frequency count of 20. In 2019, out of three trending words, "human" becomes the most popular. The year 2020 features two trending words each with a frequency of 15: "rich united states" and "human". However, the year 2023 only features one trending term - "human experiment" - despite its frequency count of only 5.

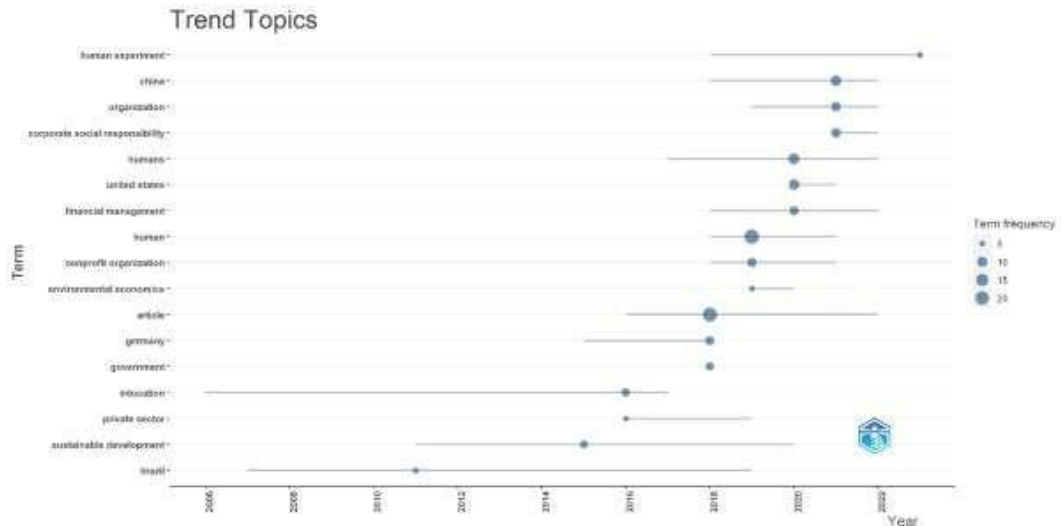


Figure 14. Trend topics

### 3.7. Thematic analysis

The current bibliometric study utilizes thematic analysis to identify the key themes among identified keywords and their interrelationships used by authors. These themes are denoted by their density and centrality characteristics, which are respectively represented by the vertical and horizontal axes in the analysis. These properties contribute to gauging the significance of the discussed topics and differentiating them according to their relevance. A theme's centrality and importance increase with the number of its interconnections with other themes in the network, reflecting its essential role in the network. In addition, the interconnectedness among themes (nodes) – representing the density of a research field – forecasts its potential for expansion and longevity. Figure 15 segment featuring philanthropy-related thematic mapping is divided into four sections: Quadrant 1 to Quadrant 4. In this mapping, Quadrant 1 illustrates the key themes driving the field, while Quadrant 2 shows the highly specialized themes. Quadrant 3 represents emerging themes and Quadrant 4 displays the foundational or underlying themes. Key themes such as 'environmental economics' and 'economic analysis', positioned in Quadrant 4, are fundamental to the field's development. The specialized themes in Quadrant 2 include 'regression analysis', 'Bahrain customer satisfaction' and 'corporate philanthropic giving'. 'Empirical analysis of transaction costs', 'public policy', and 'financial systems' are emerging themes located in Quadrant 3. Lastly, Quadrant 1 consists of the driving themes in the context of philanthropy, which include 'sustainable development', 'human', 'humans', and 'articles'.

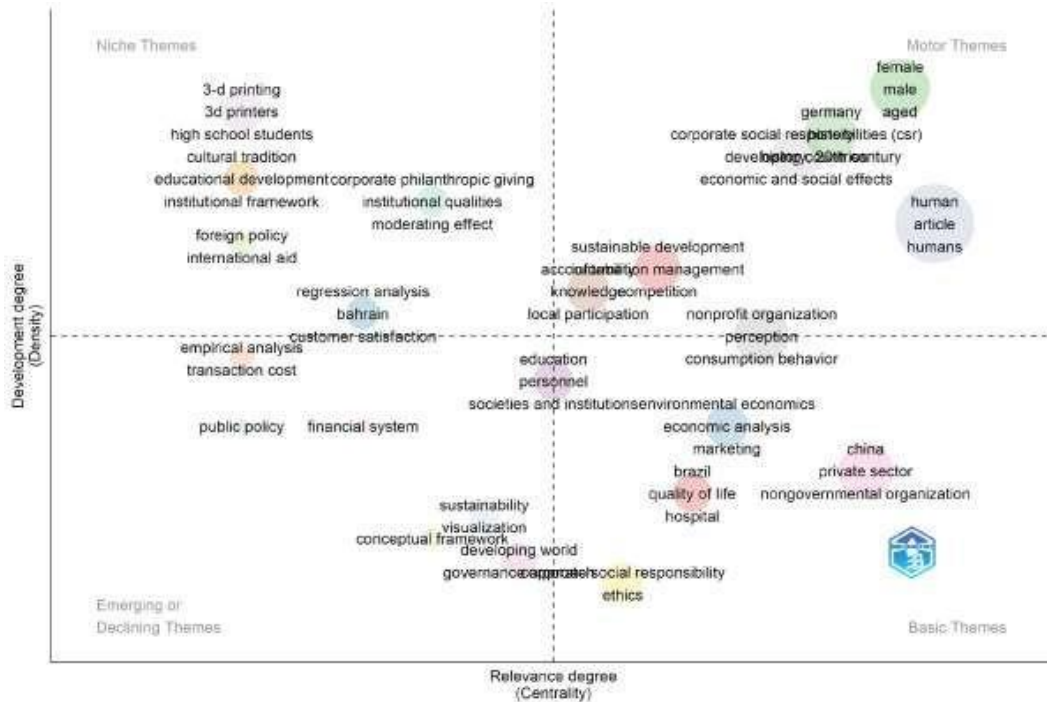


Figure 15. Thematic analysis map

The current study elaborates on the thematic analysis map by developing dendrograms to illustrate the relationships between various topics. The dissimilarities between certain topics are a result of varying degrees of correlation between different topics or groups of topics. Dendrograms serve as effective tools for exploratory analysis - they showcase groups of similar topics which represent a range of intricate abstract concepts. This section tentatively explores these abstract concepts to attain a profound understanding of how various topics interrelate. Hierarchical clustering offers a more intuitive depiction of the relationship between similar and disparate topics, based on the relationships mapped in the dendrogram. It is inferred that the topics of human, investment, and interview are very much similar to the findings, and bear a relative similarity to economics, as reflected in the topics of the United States and social welfare.

Furthermore, previously frequently discussed topics, such as Articles and Humans, bear a resemblance to or are related to the topics of organization and government. These topics share similarities due to their compelling correlation to research, particularly in exploring relationships amongst humans, organizations, and governments. Examination of the below dendrogram reveals that the majority of cluster divisions correlate with human gender, covering both male and female.

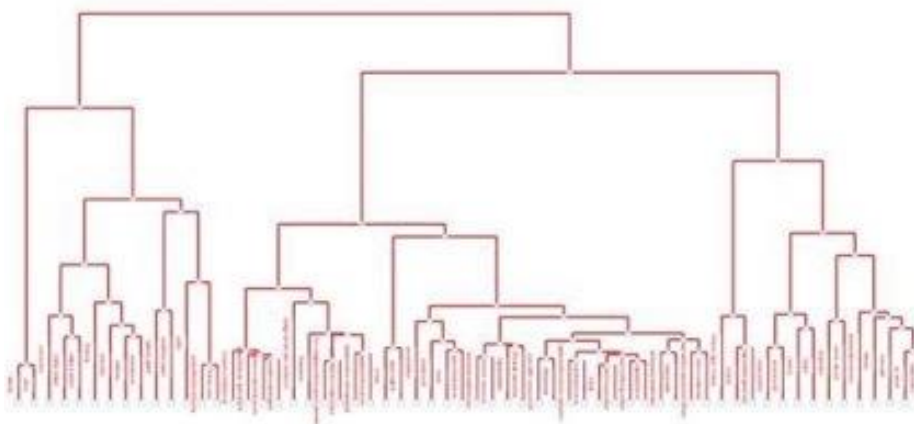


Figure 16. Topic dendrogram



#### 4. Conclusion

There is a growing interest in studying philanthropy research, indicating a greater recognition of its significance in addressing societal issues. To enhance philanthropic practices, increased research is necessary. By examining the fluctuation of citations over time, we can identify the link between research topics and their impact on society. Researchers should explore the reasons behind these changes, such as new discoveries, relevance, and citation patterns. Researchers should consider consulting the journal *Voluntas*, as it offers comprehensive knowledge and insights into philanthropy research. It is also important to remain aware of other influential journals in this field. Collaboration plays a vital role in philanthropy research since working with researchers from other disciplines can provide fresh perspectives and innovative solutions to challenges in philanthropy.

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