



Department of International & European Studies

Bachelor Thesis:

Bibliometric Analysis of Qualitative Data Analysis Methods (2013-2022)

by

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Abstract

This bachelor's thesis aims to provide a comprehensive overview of bibliometric data related to qualitative research and its data analysis methods from 2013 to 2022. In Chapter 1, the bibliometric data, sourced by the bibliometrix R package is presented, highlighting key contributors, most cited nations, leading affiliations, and influential local authors. The analysis provides insights into the dynamics of the sources, assessing their impact and identifying the most globally cited documents. Then, in the second chapter, detailed summaries of the three most cited papers globally are provided, underscoring their significant contributions and relevance to the broader field of qualitative research. The goal of this paper is to provide a well-rounded perspective on the pivotal elements that shaped qualitative research over the specified timeframe.

Keywords: Bibliometrics, Bibliometric Analysis, Qualitative Research, Qualitative Methodologies, Data Analysis Methods, Bibliometrix R

Περίληψη

Η παρούσα πτυχιακή εργασία επιχειρεί να προσφέρει μια λεπτομερή επισκόπηση βιβλιομετρικών δεδομένων που σχετίζονται με το πεδίο της ποιοτικής έρευνας και των ποιοτικών μεθόδων ανάλυσης δεδομένων από το 2013 έως το 2022. Στο Κεφάλαιο 1, παρουσιάζονται τα βιβλιομετρικά δεδομένα, τα οποία αντλήθηκαν μέσω του πακέτου bibliometrix της γλώσσας R, αναδεικνύοντας τους κύριους συντελεστές, από άποψη παραπομπών, όπως τα κυρίαρχα ιδρύματα και κράτη καθώς και τους δημοφιλέστερους συγγραφείς. Η ανάλυση παρέχει επίσης πληροφορίες σχετικά με τη δυναμική των πηγών, αξιολογώντας την επίδρασή τους και αναγνωρίζοντας τα πιο διαδεδομένα ακαδημαϊκά κείμενα στον χώρο. Το δεύτερο κεφάλαιο αφιερώνεται στην παρουσίαση των τριών κορυφαίων άρθρων παγκοσμίως, τονίζοντας τη σημαντική τους συνεισφορά στο ευρύτερο πεδίο της ποιοτικής έρευνας. Ο στόχος αυτής της εργασίας είναι να

παρέχει μια σφαιρική εικόνα των βασικών στοιχείων που διαμόρφωσαν το πεδίο της ποιοτικής έρευνας κατά το καθορισμένο χρονικό πλαίσιο.

Λέξεις-Κλειδιά: Βιβλιομετρία, Βιβλιομετρική Ανάλυση, Ποιοτική Έρευνα, Ποιοτικές Μέθοδοι, Μέθοδοι Ανάλυση Δεδομένων, Bibliometrix R

Integrity and Source Declaration

"I declare that all the information in this work I acquired, processed, and present in accordance with the rules and principles of academic ethics, as well as the laws governing research and intellectual property. I also declare responsibly that, as required by these rules, I refer to and cite the sources of all the information I use which do not constitute my original creation".

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Introduction

Qualitative research, in contrast to its quantitative counterpart, focuses on human experiences, interactions, and behaviors in their natural environments. It provides nuanced insights that quantitative data often fails to capture (Creswell, 2007). The distinction is crucial for grasping the complexities of human behavior, which can occasionally be overlooked when research relies solely on quantitative data. Especially in fields like sociology, psychology, and education, qualitative research allows us to look into personal experiences of individuals in ways that quantitative methods may not always permit.

In terms of methodological diversity and application, qualitative research has evolved significantly over the last decade. New theoretical perspectives and research methods have emerged, expanding our ability to collect and comprehend qualitative data. Narrative analysis, for example, has grown in popularity as a method of exploring people's personal stories, while digital technologies have opened up new approaches for evaluating online interactions and behaviors (Given, 2008). As a result, qualitative research has evolved into a dynamic and rapidly evolving field with numerous opportunities for new research.

As the field continues to evolve and expand, it calls for effective methods to comprehend, record, and interpret the vast body of qualitative works that become available. An efficient method for accomplishing this goal is called bibliometrics, which involves the quantitative analysis of written publications such as books and articles. It is particularly well suited to the analysis of qualitative works and their data analysis techniques as it can help identify key themes, influential works, and trends over time. The reason for this is that it can provide a broader view of the field that

supplements the micro-level insights offered by individual qualitative studies. Alan Pritchard coined the term 'bibliometrics' in 1969 to describe "the application of mathematical and statistical methods to books and other media of communication" (Pritchard, 1969). However, the idea and methods that would eventually evolve into bibliometrics have deeper roots, dating back to the turn of the twentieth century.

The field of bibliometrics saw foundational contributions from notable figures in the first decades of the twentieth century. Alfred J. Lotka, an Austro-Hungarian mathematician and statistician, discovered a pattern in author productivity in 1926. According to Lotka's Law, the number of authors making n contributions is approximately $1/n^2$ of those making only one contribution, implying that a small number of writers are responsible for a significant proportion of outputs (Lotka, 1926). Based on his understanding of the distribution of scientific contributions, English librarian Samuel C. Bradford observed in 1934 that a relatively small number of journals contributed the majority of articles relevant to any given subject. This observation led to 'Bradford's Law of Scattering,' which proposed that scientific literature was exponentially dispersed: core journals in any discipline would provide a third of all articles, the next third would come from a larger set of less core journals, and so on (Brookes, 1985).

Bibliometric procedures underwent significant evolution in the middle of the twentieth century, with Eugene Garfield's work serving as a catalyst. Garfield first introduced the concept of citation indexing in 1955. Citation indexing was established as a method for the evaluation of the significance of scientific articles by counting the number of times they have been cited by other researchers. As a result of this, the Science Citation Index was established in 1964. It was the first database of its kind that offered methodical and all-encompassing citation information.

Later, in the 1970s, the introduction of computers and digital databases marked an important turning point in the evolution of bibliometric analysis. Thanks to automation, researchers were able to identify patterns and trends in academic literature on an unprecedented scale, allowing them to investigate much larger and more sophisticated data sets than was previously possible. Due to this, the field of bibliometrics began to gain traction and became utilized in a variety of different fields ranging from information science to research policy (Broadus, 1987).

The application of bibliometrics has increased in recent decades, due to the development of computer technology and the digitization of academic literature. New metrics, such as the h-index

(Hirsch, 2005), have been developed to assess a researcher's output as well as the citation effect. Furthermore, new bibliometric analytic methodologies and tools, such as the bibliometrix R package, which is being used in this work, have been developed (Aria & Cuccurullo, 2017).

Today, bibliometrics plays an important role in understanding the dynamics of scientific research. It enables researchers to explore the intellectual framework of an existing field and to identify emerging trends in article and journal performance, collaboration patterns, research constituents, and more. However, as with any instrument, it must be used with understanding and caution, taking into account both its limitations and its capabilities. The journey of bibliometrics is an ongoing one, mirroring the dynamic progress of scientific research that it attempts to investigate.

In this thesis, the aim is to leverage bibliometric analysis to investigate and comprehend the trajectory of qualitative research and its data analysis techniques from 2013 to 2022. For this purpose, the bibliometrix R package is employed, a novel method for analyzing bibliographic networks (Aria & Cuccurullo, 2017). The first chapter delves into the resulting bibliometric data, highlighting patterns, trends, and key contributors that have shaped the landscape of qualitative research during this period. Chapter 2 offers an in-depth investigation and analysis of three major works from this decade. Selected for their high citation rates and notable contributions to the field, these works are then carefully examined, with the hope to allow readers to assess their individual and collective impact.

In conclusion, this thesis delves into bibliometric data related to qualitative research and its data analysis methods over the past decade. The main objective of this paper is to provide researchers, students and practitioners alike with valuable insights into the current state of this research area. By reviewing influential publications, we can gain a clearer understanding of how this field has evolved, outlining its complexities, current status and potential future trends.

Chapter 1: Examination of Bibliometric Data on Qualitative Research and Data Analysis Methods (2013-2022)

1.0 Introduction

The first chapter is devoted to presenting and interpreting the bibliometric data on qualitative research sourced via the bibliometrix R package. Bibliometrix, an increasingly popular tool, that can perform comprehensive bibliometric analysis of scientific literature. This allows for insights into research trends, prolific authors and institutions, and impactful publications in a specific field (Aria & Cuccurullo, 2017). Designed specifically for the R environment, this software provides a quantifiable and systematic method for reviewing literature.

Bibliometric methods in academic research have gained prominence, primarily for their ability to add quantitative rigor to literature reviews. These methods benefit both emerging and seasoned researchers by elucidating the complexity of specific fields. Zupic and Čater (2015) contend that such methodologies proficiently map out published research, interlinking publications, authors, and journals to provide a comprehensive view of the research terrain. However, while bibliometrics provides systematic organization and classification, the interpretation of these findings is dependent on the researcher's subject matter expertise.

The data that is explored covers the period 2013-2022 and includes metrics such as the annual research output, related specifically to qualitative research and its data analysis techniques, the impact of authors and countries in producing qualitative research and the ranking of the most cited qualitative documents globally are also presented.

In the initial part of this chapter, an overview of the methodology is provided, offering an understanding of the bibliometrix R package and its specific application in analyzing qualitative research and data analysis methods. The steps involved in this qualitative-focused analysis are then mentioned briefly, and explanations are given on how the package facilitates the analysis of large bibliographic data. Following the methodological overview, the findings of the analysis are presented. Each metric derived from the analysis is discussed, highlighting key trends, major contributors, and patterns of influence in the qualitative research field.

Overall, this chapter gives a decade long overview of bibliometric data on qualitative studies and sets the stage for a more detailed discussion in the subsequent chapter of this thesis.

1.1 Methodology

As mentioned earlier, the bibliometric data was generated with the help of bibliometrix, an R package that enables the conversion bibliographic data into a quantifiable and analyzable format (Aria & Cuccurullo, 2017). Because of its high compatibility with prominent databases such as Scopus, Web of Science, and PubMed, Bibliometrix stands out as a dependable tool for various bibliographic datasets.

Moreover, Bibliometrix includes Biblioshiny, a web-app application which provides an interactive graphical user interface and eliminates the need for extensive coding skills. Bibliometrix's reputation as a powerful tool for comprehensive academic research in bibliometrics is cemented by this combination of thorough analysis and user-friendliness (Bibliometrix, n.d.).

Bibliometric analysis using this R package typically includes the following steps:

1. Data Import and Standardization: Bibliographic data is sourced from the selected databases, then cleaned and standardized to ensure precision and error-free analysis.

2. Data Analysis: Bibliometrix makes it easy to calculate metrics like publication count, citation count, and H-index. Additionally, it enables complex analyses such as the generation of co-citation and co-occurrence matrices, which reveal the frequency of elements such as authors, institutions, or countries appearing together.

3. Visualisation: The final step is related to the visualization of the data. Bibliometrix can generate a plethora of graphs, plots, and maps, making it easier to interpret the results.

1.2 Data Collection

The data for this specific study was obtained from the Web of Science database, which is well-known for its extensive library of scholarly literature in a variety of fields. The search parameters focused on publications relevant to qualitative research, that were published between 2013 and 2022. Specific keywords related to this domain such as "qualitative research" and "qualitative data analysis methods" were used to search the database for relevant publications. Following parameter definition, a bibliographic dataset with metadata such as author names, publication titles, abstracts, keywords, affiliations, citation counts, and more was generated.

1.3 Data Analysis

The bibliographic dataset was then processed using the Bibliometrix R package, which provided a valuable toolset for data analysis and visualization. Among the metrics discovered during this process were annual production, country production, author impact, and the most globally cited documents.

Annual production metrics, for example, displayed the total number of qualitative publications published each year during the specified time period. Country production and author impact, on the other hand, identified the leading countries in qualitative research publication and influential authors. By analyzing the most widely cited documents, insights about pivotal papers in the academic realm emerged, shedding light on invaluable topics and methodologies during the specified time period. Graphs and tables were also created to visually represent these metrics, making trend and pattern recognition easier.

Both the data collection and analysis processes were meticulously executed by my professor and supervisor, Mr. Koutsoupas, and in the subsequent sections of this chapter, I will attempt to present and interpret the bibliometric findings that were generated.

1.4 Data Overview

Now that the methodology is outlined, it's time to look into the actual data.

The dataset compiled for this analysis contains 1737 documents published between 2013 and 2022. These documents were compiled from a diverse set of 1012 sources, including books and journals. This diversity demonstrates the academic world's broad and global engagement with qualitative research.

The data was organized into several key categories using the bibliometrix package:

Annual Production: Over the last decade, there has been an increase in the annual output of qualitative research. This trend emphasizes the growing importance of qualitative research methods in academia.

Author Impact: This category recognizes pivotal contributors in the field of qualitative research. Authors who have made significant contributions based on the volume of their works and citation rates are highlighted.

Country Production and Most Cited Countries: This section provides a comprehensive overview of the global qualitative research scene. Key research hubs and international collaboration patterns are revealed.

Most Globally Cited Documents: This section highlights significant works from the last decade that have shaped qualitative research.

Most Relevant Affiliations and Countries: Leading academic institutions and countries in qualitative research are identified here. There are insights into the main hubs of qualitative research.

Source Dynamics and Impact: The most influential sources of qualitative research, as well as their trajectories over the chosen time period, are investigated.

The sections that follow will go into greater detail about each category, as well as discuss the implications of the data.

1.5 Main Information

In the following table (Table 1) a breakdown of the main components of the bibliometric dataset that was utilized in this study is shown.

Table 1. Summary of Bibliometric Dataset (2013-2022) Including information such as Sources, Document Contents, Document Types, and Authors.

MAIN INFORMATION ABOUT DATA	
Description:	Results:
Timespan	2013:2022
Sources (Journals, Books, etc)	1012
Documents	1737
Annual Growth Rate %	13.67
Document Average Age	3.32
Average citations per doc	11.46
References	1
DOCUMENT CONTENTS	
Keywords Plus (ID)	2710
Author's Keywords (DE)	5735
AUTHORS	
Authors	4715
Authors of single-authored docs	347
AUTHORS COLLABORATION	
Single-authored docs	364
Co-Authors per Doc	2.92
International co-authorships %	16
DOCUMENT TYPES	
article	1670
conference paper	7
editorial	4
note	7
review	48
short survey	1

The dataset which is centered around qualitative works that employ data analysis methods, includes 1,737 documents sourced from journals, books, and other academic platforms, showcasing a diversity of sources.

Furthermore, the dataset's growth rate of 13.67% is notable. This percentage demonstrates the academic community's growing interest in and importance of this research area. Each document in the dataset has an average citation count of 11.46, highlighting its influential role in academic discussions. With 1,670 entries, articles are the most common document type in the dataset. There are also 48 reviews, 7 conference papers, 7 notes, 4 editorials, and a single short survey in the dataset.

In terms of authorship, the dataset indicates collaborative research. With 4,715 authors contributing, it suggests the collaborative spirit of the field. Nonetheless, 347 documents were written by sole authors. The average document in the dataset is co-authored by 2.92 researchers, reflecting the collaboration trend. It is worth noting that 16% of these collaborations include international partners, emphasizing the importance of global collaboration in qualitative studies.

Finally, keywords hold significance in the dataset. There are 2,710 keywords obtained from the "Keywords Plus" database, with the authors contributing an additional 5,735 keywords. These keywords shed light on the evolving themes and trends in the research domain over the last decade.

1.6 Annual Production

Table 2. Yearly Production of Articles in Qualitative Research (2013-2022).

Year	Articles
2013	89
2014	83
2015	99
2016	126
2017	147
2018	190
2019	203
2020	239
2021	279
2022	282

The annual production trend as shown in Table 2 reveals an intriguing trajectory. From 89 articles in 2013, there has been a consistent year-on-year increase, culminating in 282 articles by 2022. Between 2017 and 2018, there was a significant increase of 43 articles. This is closely followed by the period from 2019 to 2020, which saw an increase of 36 articles. The increase in these numbers highlights the field's growing prominence within academia. The growth pattern of the scientific production is also illustrated in Figure 1 below:

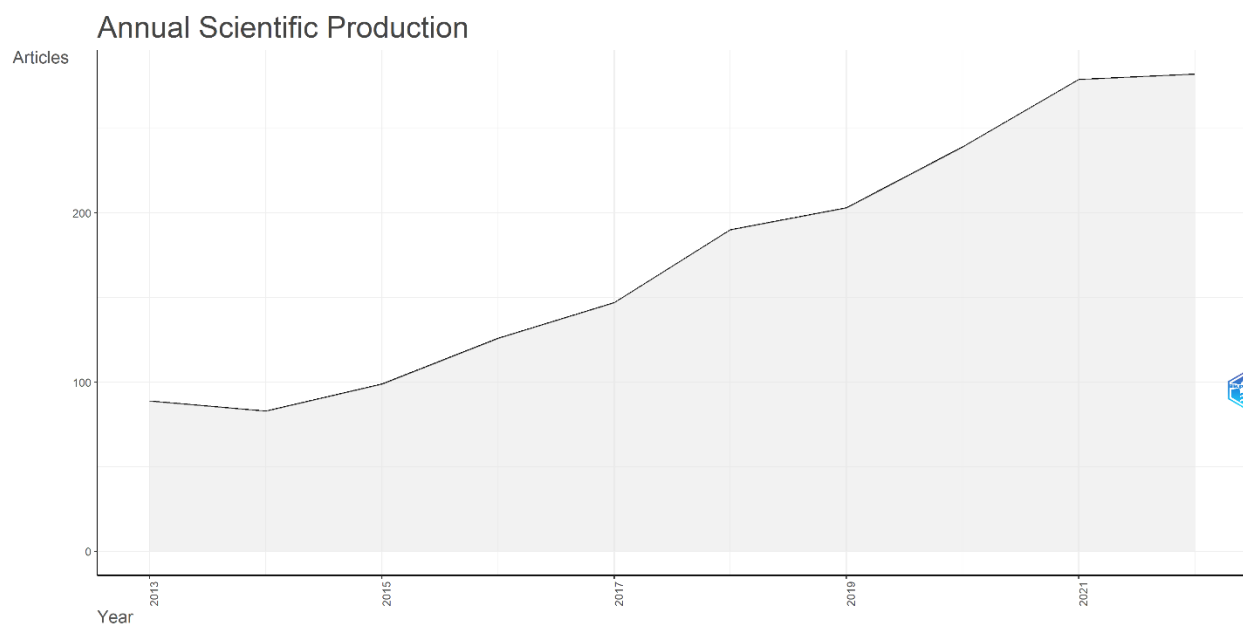


Figure 1. Annual production of articles from 2013 to 2022.

1.7 Author Impact

Table 3. Impact Metrics of Top 10 Authors.

Element	h_index	g_index	m_index	TC	NP	PY_start
DOLLAHITE DC	4	4	0.571	22	4	2016
FATHI J	4	4	1	126	4	2019
MARKS LD	4	4	0.571	22	4	2016
PAULUS T	4	4	0.571	208	4	2016
PAULUS TM	4	7	0.571	97	7	2016
RICHARDS KAR	4	5	0.667	154	5	2017
VAN MOOK WNKA	4	5	0.571	37	5	2016
ABANTANGA FA	3	3	0.5	25	3	2017
AMALBA A	3	4	0.429	33	4	2016
ATKINS DP	3	3	0.429	178	3	2016

Table 3 displays the top ten authors as measured by the following metrics: h-index, g-index, m-index, TC (Total Citations), NP (Number of Papers), and the year of publication (PY_start).

Specifically, Dollahite DC, Fathi J, Marks LD, Paulus T, Paulus TM, Richards Kar, and Van Mook Wnka lead the list with an h-index of 4, indicating that each has at least four papers that have been cited at least four times. Paulus TM's g-index stands out at 7, indicating that seven of their papers have received 49 or more citations, indicating significant prominence within the field. The m-index, which measures an author's impact over time, demonstrates that Fathi J, who began publishing in 2019, has maintained a consistent yearly impact, as demonstrated by an m-index of 1. Several other authors, however, such as Dollahite DC, Marks LD, and Paulus TM, have spread their influence more gradually since their initial publications in 2016. While Jackson AY's h-index is 3, the author has amassed an impressive 462 citations, according to the TC column. This suggests that a few of their papers may be particularly influential, though not all may have a significant impact on the h-index.

The NP column indicates how frequently each author publishes. Notably, while the majority of authors with an h-index of 4 have only published four papers, authors such as Paulus TM and Richards Kar have published more.

Finally, the PY_start column provides context for the time span in which these authors have had an impact on the field. Fathi J is one such example, whose achievements stand out due to their more recent entry into publishing in 2019. The accompanying figure (Figure 2) depicts the distribution of the h-index among these top authors to provide a visual perspective on the discussed metrics.

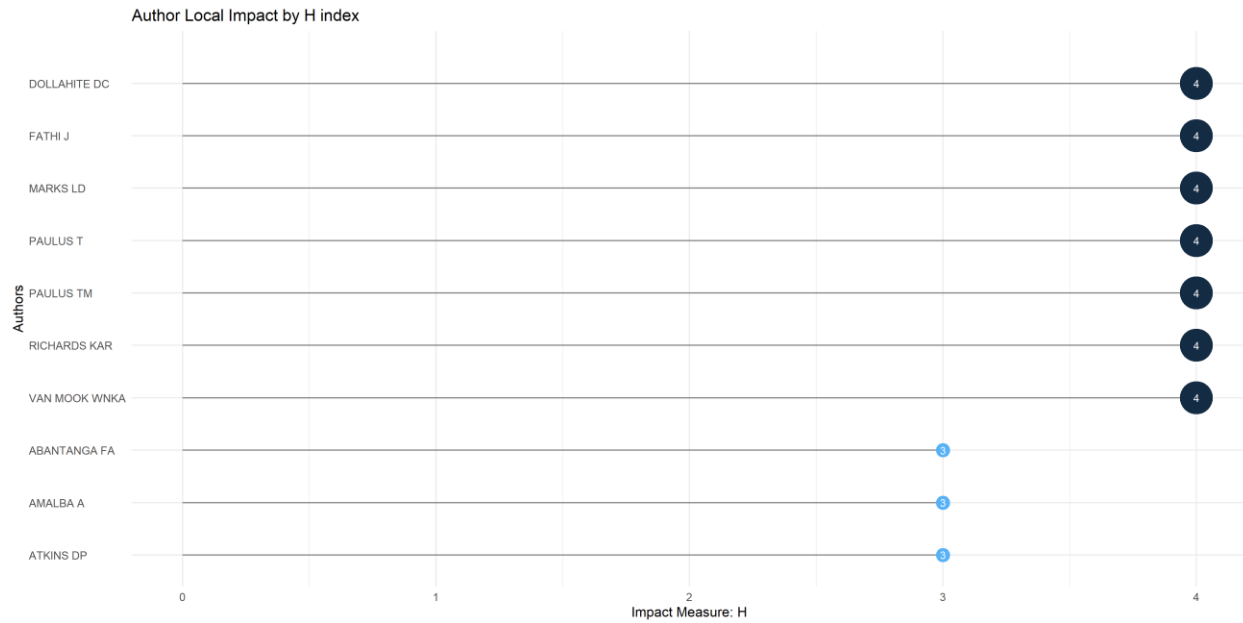


Figure 2. H-index distribution among top 10 authors.

1.7 Country Production

The distribution of scientific outputs across various countries can provide valuable insights into a research field. Table 4 depicts the production of research articles from the top ten contributing countries between 2013 and 2022.

Table 4. Research Production by Top 10 Countries (2013-2022).

region	Freq
USA	1389
UK	345
INDONESIA	282
TURKEY	263
AUSTRALIA	211
SPAIN	165
CANADA	156
SOUTH AFRICA	154
GERMANY	148
IRAN	131

More specifically, as shown in Table 4, the U.S. is at the forefront with 1,389 articles, reflecting its plethora of universities, research bodies, and funding sources. The United Kingdom follows closely behind with 345 articles, showcasing its academic expertise. Indonesia's contribution of 282 articles highlights the growing importance of qualitative research in Asia. Turkey and Australia both make significant contributions with 263 and 211 articles respectively. Spain represents Southern Europe with its contribution of 165 articles, while Canada's 156 articles demonstrate North America's prominent presence. South Africa leads in the continent of Africa with 154 articles. Germany, known for its strong academic tradition in Europe, offers 148 articles. Iran's 131 articles highlight the expanding research landscape in the Middle East.

Overall, this category gives insight into the global impact of qualitative research across diverse regions such as North America, Europe, Asia, Oceania and Africa. A visual representation of this distribution can also be found in Figure 3.

Country Scientific Production

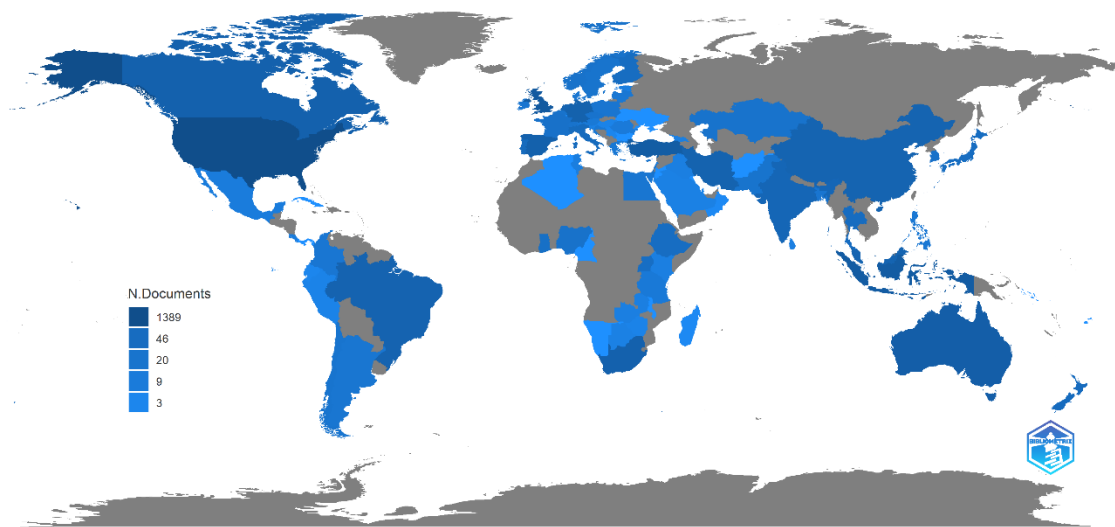


Figure 3. Map graph of Scientific Production (2013-2022).

1.8 Most Cited Countries

Table 5 delineates the top 10 countries based on the cumulative citations their scholarly articles have garnered in the specified research domain. In addition to the total citations, the table offers an insight into the mean citations each article from the respective countries typically obtains.

Table 5. Top 10 Countries Ranked by Cumulative Citations of Scholarly Articles.

Country	TC	Average Article Citations
USA	3968	13.18
CANADA	3661	85.14
UNITED KINGDOM	1754	20.64
AUSTRALIA	1083	19.34
GERMANY	554	12.59
NETHERLANDS	465	21.14
CHINA	385	10.69
TURKEY	350	4.79
IRAN	339	9.16
GEORGIA	296	49.33

USA: Leads in total citations with 3,968, averaging 13.18 citations per article.

CANADA: While Canada has 3,661 total citations, its eye-catching average of 85.14 citations per article puts it in the spotlight.

UNITED KINGDOM: Has 1,754 total citations, with 20.64 citations per article on average.

AUSTRALIA: Receives 1,083 total citations, with an average of 19.34 citations per article.

GERMANY: 554 total citations, with an average of 12.59 citations per article.

THE NETHERLANDS: Received 465 total citations, with an average of 21.14 citations per article.

CHINA: 385 total citations, with an average of 10.69 citations per article.

TURKEY: Despite having 350 total citations, it has the lowest average of 4.79 citations per article among the top 10.

IRAN: Receives 339 total citations, with each article receiving an average of 9.16 citations.

GEORGIA: Has 296 total citations, but an impressive average of 49.33 citations per article.

Moreover, as it is shown, the USA, while dominant in sheer volume, is overshadowed by Canada in terms of average citations per article. This infers that Canadian articles, on average, resonate more profoundly within the research community.

Noteworthy is the performance of Georgia and Canada. Despite not being at the pinnacle in aggregate citations, the impactful average citations of their articles underscore the significance of their research contributions.

The data also intimates that countries like China and Iran, while prolific in many academic terrains, are still burgeoning contributors in this particular domain.

Moreover, European nations, namely the UK, Germany, and the Netherlands, display a balanced research approach, as hinted by their consistent average citation figures.

In summary, this analysis emphasizes that while the volume of scholarly contributions is pivotal, the ensuing impact of research, as reflected by average article citation, is important in gauging the influence of a nation's academic endeavors. Figure 4 below depicts the disparity between total citations and average citations per article across the top countries. This visualization provides a comparative perspective, emphasizing each nation's nuanced contributions and impacts in the research domain.

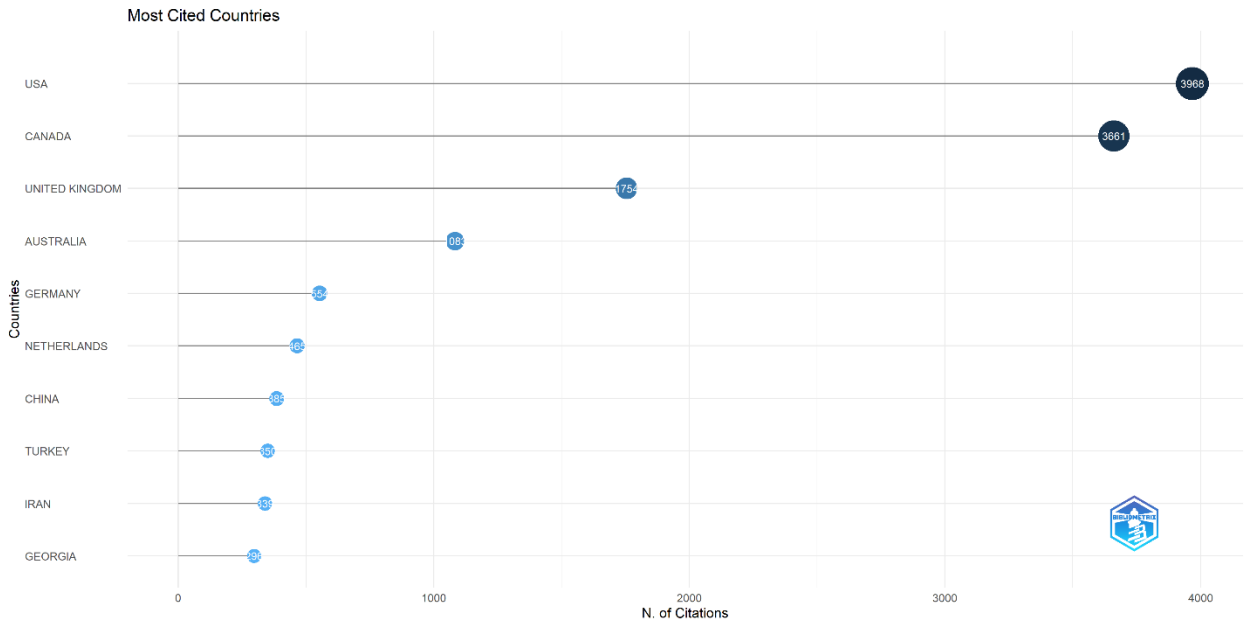


Figure 4. Visualization of Citations Distribution for the Top 10 Countries.

1.9 Most Globally Cited Documents

Table 6. Most Globally Cited Documents (2013-2022).

Paper	DOI	Total Citations	TC per Year	Normalized TC
NOWELL LS, 2017, INT J QUAL METHOD	10.1177/1609406917733847	3361	560.17	96.72
KIGER ME, 2020, MED TEACH	10.1080/0142159X.2020.1755030	359	119.67	56.26
DETERDING NM, 2021, SOCIOL METHODS RES	10.1177/0049124118799377	276	138.00	63.43
MENA C, 2013, J SUPPLY CHAIN MANAGE	10.1111/jscm.12003	270	27.00	9.26
ELLIOTT V, 2018, QUAL REP	NA	228	45.60	18.29
ST PIERRE EA, 2014, QUAL INQ	10.1177/1077800414532435	218	24.22	11.01
SKJOTT LINNEBERG M, 2019, QUAL RES J	10.1108/QRJ-12-2018-0012	200	50.00	22.72
KARPINSKI AC, 2013, COMPUT HUM BEHAV	10.1016/j.chb.2012.10.011	195	19.50	6.69
JACKSON AY, 2013, QUAL INQ	10.1177/1077800412471510	190	19.00	6.51
SOTIRIADOU P, 2014, ANN LEIS RES	10.1080/11745398.2014.902292	186	20.67	9.40
GLÄSE J, 2013, FORUM QUAL SOZIALFORSCHUNG	NA	179	17.90	6.14
MACLURE M, 2013, CULT STUD CRIT METHOD	10.1177/1532708613487863	175	17.50	6.00
MACPHAIL C, 2016, QUAL RES	10.1177/1468794115577012	169	24.14	11.39
FINFGELD-CONNETT D, 2014, QUAL RES	10.1177/1468794113481790	168	18.67	8.49
AZUNGAH T, 2018, QUAL RES J	10.1108/QRJ-D-18-00035	161	32.20	12.91
MAHER C, 2018, INT J QUAL METHOD	10.1177/1609406918786362	156	31.20	12.51
KIM C, 2015, COMPUT EDUC	10.1016/j.compedu.2015.08.005	152	19.00	9.27
DECASTRO R, 2013, ACAD MED-a	10.1097/ACM.0b013e318285d30	150	15.00	5.14
WU M-Y, 2014, TOUR MANAGE	10.1016/j.tourman.2013.09.010	131	14.56	6.62
GOVAERTS MJB, 2013, ADV HEALTH SCI EDUC	10.1007/s10459-012-9376-x	130	13.00	4.46
RICHARDS KAR, 2018, J TEACH PHYS EDUC	10.1123/jtpe.2017-0084	129	25.80	10.35
LAN J, 2017, SUSTAINABILITY	10.3390/su9091504	119	19.83	3.42
WOODS M, 2016, SOC SCI COMPUT REV	10.1177/0894439315596311	113	16.14	7.62
WATKINS DC, 2017, INT J QUAL METHOD	10.1177/1609406917712131	109	18.17	3.14
AKINADE OO, 2018, J CLEAN PROD	10.1016/j.jclepro.2018.01.022	108	21.60	8.66
OLIVEIRA E, 2015, J VACAT MARK	10.1177/1356766714544235	106	13.25	6.46

The table above shows the top cited documents within the qualitative domain, with each receiving over 100 citations, as of 2022. This demonstrates their seminal impact on academic discourse in this field. Most notably, Nowell LS's 2017 publication, has received an unprecedented 3,361 total citations, translating to an exceptional average yearly citation rate of 560.17. Recent contributions, such as those by Kiger ME in 2020 and Deterding NM in 2021, highlight the dynamic nature of this domain. This list's diverse range of journals reaffirms qualitative studies multidisciplinary appeal. It can also be noted that, upon a closer look on the most cited documents, the method of thematic analysis emerges as a popular data analysis method in the majority of qualitative studies.

1.10 Most Relevant Affiliations

Figure 5 showcases the most important affiliations associated with qualitative publications. Notably, the datapoint 'NOTREPORTED' which has the most articles with 32, indicates instances where affiliations were not explicitly provided. Brigham Young University has the most reported affiliations, with 27, followed by the University of Georgia and Indiana University, with 26 and 25, respectively. With over 20 contributions, both Islamic Azad University and Arizona State University stand out, while Maastricht University is tied with Arizona State University with 21 articles. With 20 articles, the University of Michigan is close behind. McGill University and the University of Florida round out the top ten, each with 16 articles. This overview focuses on the most important academic centers in this field, emphasizing institutions with a strong presence in the qualitative domain.

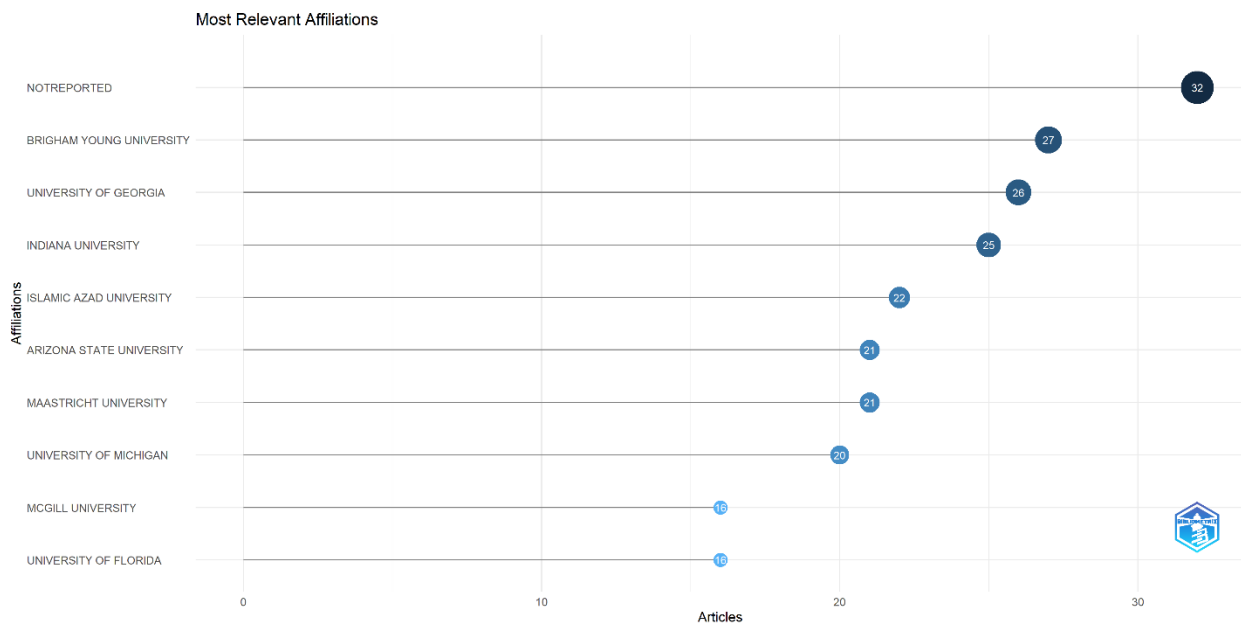


Figure 5. Top 10 Academic Affiliations related to Qualitative Research and Data Analysis Methodologies.

1.11 Most Relevant Authors

The graph below (Figure 6) lists the top ten authors according to their research output in the bibliometrix dataset.

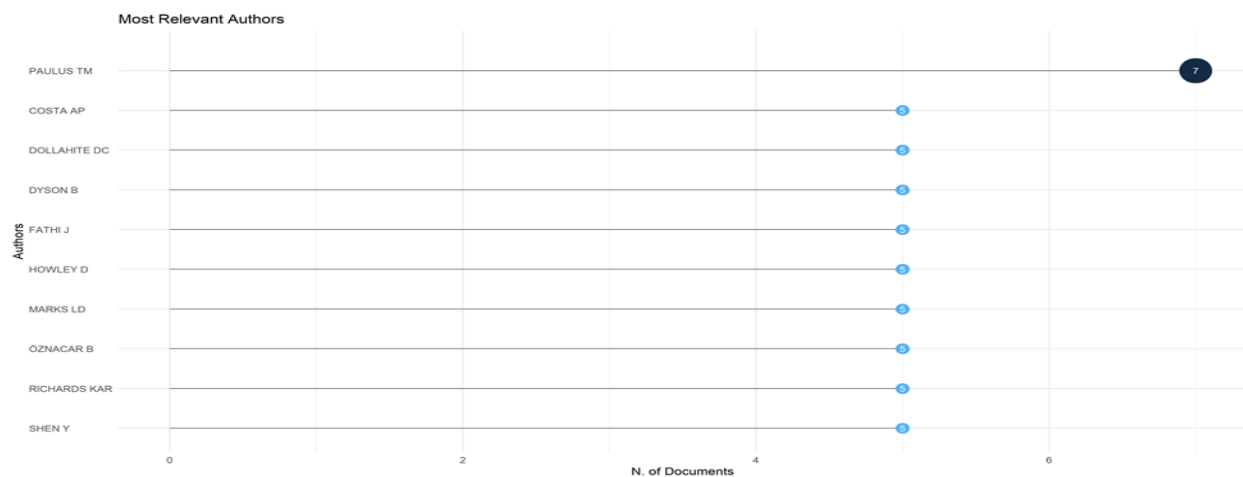


Figure 6. Top Ten Authors in Qualitative Research.

Furthermore, Table 7 shows the fractionalized contributions of these authors, which represent the proportional credit received for co-authored papers.

Table 7. Top Ten Authors by Research Output.

Authors	Articles	Articles Fractionalized
PAULUS TM	7	2.67
COSTA AP	5	1.58
DOLLAHITE DC	5	1.06
DYSON B	5	1.45
FATHI J	5	2.00
HOWLEY D	5	2.12
MARKS LD	5	1.06
ÖZNACAR B	5	2.33
RICHARDS KAR	5	2.08
SHEN Y	5	1.45

As shown in table 7, Paulus TM is at the top of the list, with 7 articles and a fractional contribution of 2.67, indicating a significant collaborative role across his publications. Notably, nine authors follow, each contributing five articles. Among these, Oznacar B stands out with a fractional contribution of 2.33, demonstrating his collaborative research style. Howely D and Richards Kar, with fractional counts of 2.12 and 2.08, are also noteworthy. Dollahite DC and Marks LD, on the other hand, despite having 5 articles each, have a fractional contribution of only 1.06, indicating a more independent authorship style. These insights highlight key research domain influencers, emphasizing both their individual and collective academic contributions.

1.12 Most Relevant Countries

This section offers insights into countries that have made significant contributions to the field, based on the corresponding author's institutional affiliation. A set of specific metrics have been used to evaluate the depth and breadth of contributions as showcased in Table 8:

Articles: Represents the cumulative number of articles that have a corresponding author affiliated with a particular country.

SCP (Single Country Publications): Refers to articles where all contributing authors hail from the same country.

MCP (Multi Country Publications): Highlights articles that are a result of international collaborations, having authors from multiple countries.

Freq: Reflects the prevalence of articles from a given country relative to the dataset's entirety.

MCP_Ratio: Provides a percentage representation of articles from international collaborations against a country's total output.

Table 8. Most Relevant Countries in Qualitative Research.

Country	Articles	SCP	MCP	Freq	MCP_Ratio
	540	466	74	0.311	0.137
USA	301	271	30	0.173	0.1
UNITED KINGDOM	85	69	16	0.049	0.188
TURKEY	73	70	3	0.042	0.041
AUSTRALIA	56	45	11	0.032	0.196
SOUTH AFRICA	46	38	8	0.026	0.174
GERMANY	44	34	10	0.025	0.227
CANADA	43	40	3	0.025	0.07
INDONESIA	42	39	3	0.024	0.071
SPAIN	41	36	5	0.024	0.122
IRAN	37	34	3	0.021	0.081
CHINA	36	27	9	0.021	0.25
BRAZIL	22	15	7	0.013	0.318
MALAYSIA	22	16	6	0.013	0.273
NETHERLANDS	22	15	7	0.013	0.318
INDIA	20	18	2	0.012	0.1
THAILAND	18	15	3	0.01	0.167
JAPAN	17	15	2	0.01	0.118
FINLAND	12	8	4	0.007	0.333
GHANA	12	7	5	0.007	0.417

The data in table 8 shows that 31.1% (540 articles) are unattributed to a specific country, with the United States taking the lead with 301 articles, accounting for 17.3% of total contributions. However, international collaboration is minimal, accounting for only 10% of multi-country initiatives. Following closely behind, the United Kingdom and Turkey have contributed 85 and 73 articles, respectively, with the United Kingdom exhibiting a higher rate of international collaboration at 18.8%. The combined output of Australia, South Africa, and Germany exceeds 40 articles per country, with Germany leading in global partnerships at 22.7%. Canada, Indonesia, Spain, Iran, and China all contribute consistently in the mid-30s, but China stands out with a 25% rate of international collaboration. Interestingly, despite lower total contributions, Brazil, the Netherlands, and Ghana prioritize international collaborations, with Ghana achieving an

impressive 41.7% multi-country publication ratio. This data is also graphically illustrated in the following figure for a better understanding.

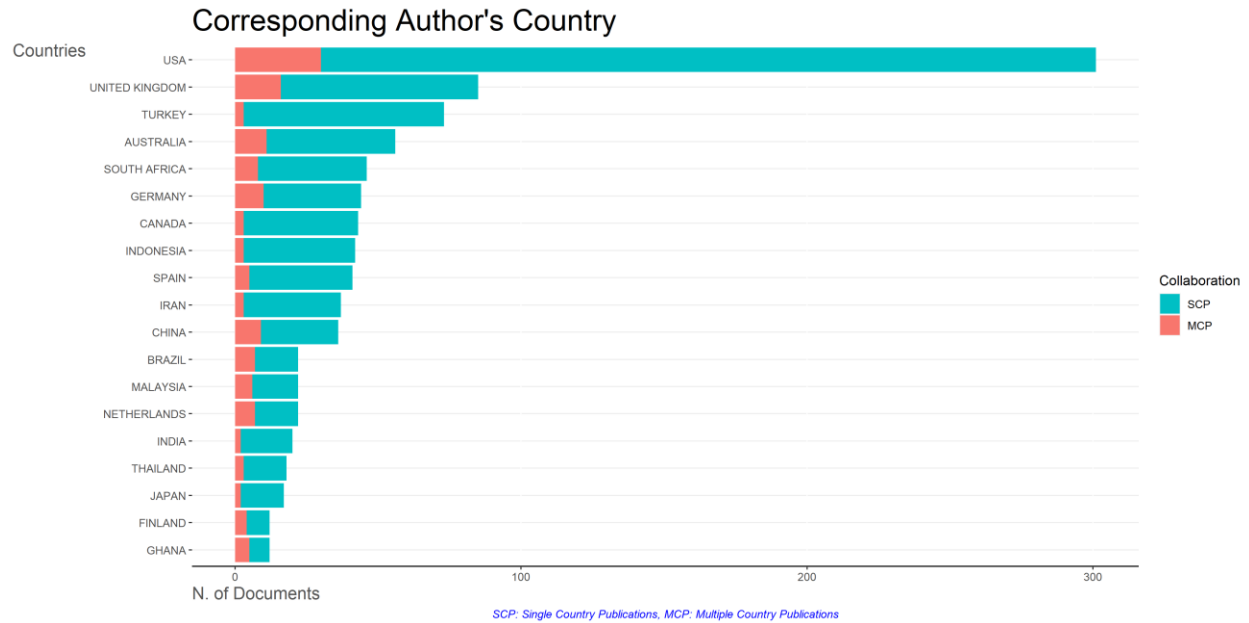


Figure 7. Most Relevant Countries

1.13 Source Dynamics

Table 9. Publication Trends in Prominent Journals (2013-2022).

Year	QUALITATIVE REPORT	SUSTAINABILITY (SWITZERLAND)	FORUM QUALITATIVE SOZIALFORSCHUNG	INTERNATIONAL JOURNAL OF SOCIAL RESEARCH METHODOLOGY	INTERNATIONAL JOURNAL OF QUALITATIVE METHODS
2013	0	0	3	3	1
2014	1	0	3	3	1
2015	3	0	7	5	1
2016	7	1	12	8	1
2017	10	3	14	11	3
2018	23	4	14	11	6
2019	33	9	16	12	9
2020	36	14	19	13	13
2021	44	23	19	16	14
2022	47	33	19	19	18

The table above delineates the evolving publication patterns across five key journals from 2013 to 2022:

1. QUALITATIVE REPORT: Beginning with no publications in 2013, this journal has steadily increased to 47 publications in 2022, indicating its growing renown in the field.

2. SUSTAINABILITY (SWITZERLAND): After being absent until 2016, it quickly emerged as a major player, amassing 33 publications by 2022. Its late but rapid growth suggests that it is a potentially new but rapidly expanding hub for qualitative research.

3. FORUM QUALITATIVE SOZIALFORSCHUNG: After a period of modest growth, there was a significant increase after 2017, settling at 19 articles in 2020 and maintaining that momentum until 2022.

4. INTERNATIONAL JOURNAL OF SOCIAL RESEARCH METHODOLOGY: Since its inception with three articles in 2013, the journal's publication trend has been consistent, with 19 articles published by 2022. This consistent enhancement demonstrates its unwavering dominance in the discipline.

5. INTERNATIONAL JOURNAL OF QUALITATIVE METHODS: From a single publication in 2013, it has grown to 18 by 2022, indicating a slow but steady rise.

Overall, the decade saw an increase in publication across these journals, at varying rates. In addition, the following figure depicts a detailed graphical representation of these dynamics, elucidating the growth trends and nuances.

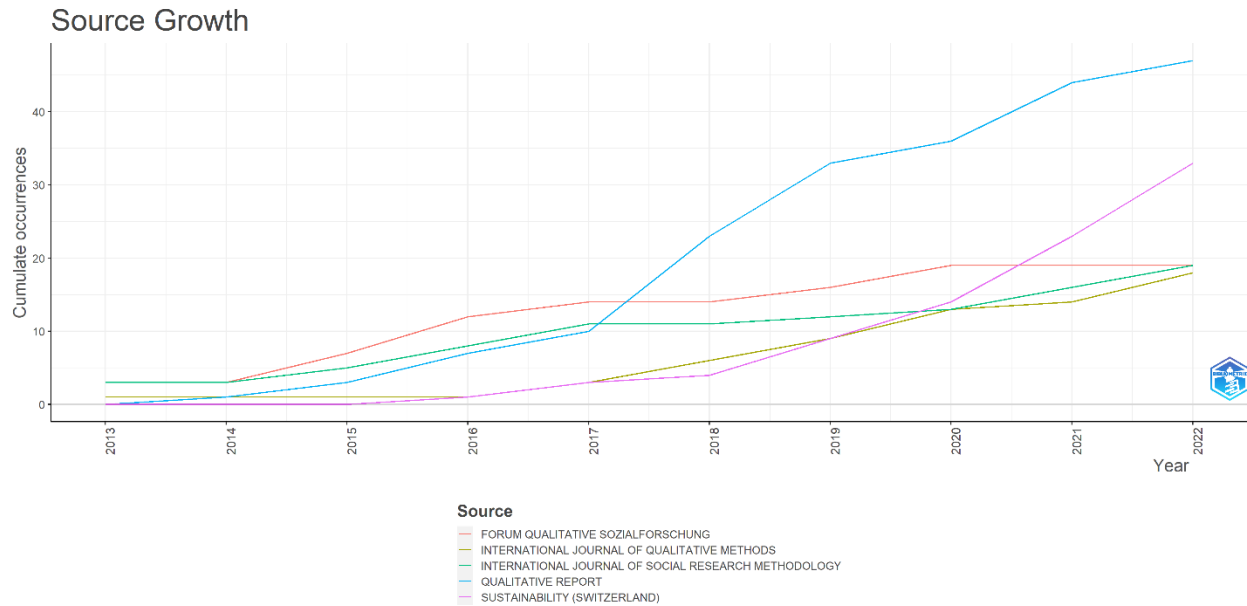


Figure 8. Line graph of Publication Growth in Key Journals (2013-2022)

1.14 Source Impact

In the world of academic publishing, understanding the reach and impact of specific journals is critical. Metrics such as the h-index, g-index, and m-index, among others, provide a quantifiable way to assess the impact of a journal based on its publication record and citation frequency. The key metrics for the top ten influential journals are shown in Table 10.

Table 10. Key Metrics of the top 10 influential Sources in Qualitative Research.

Element	h_index	g_index	m_index	TC	NP	PY_start
QUALITATIVE REPORT	12	25	1.333	692	40	2014
INTERNATIONAL JOURNAL OF SOCIAL RESEARCH METHODOLOGY	11	15	1.1	341	15	2013
FORUM QUALITATIVE SOZIALFORSCHUNG	9	18	0.9	396	18	2013
INTERNATIONAL JOURNAL OF QUALITATIVE METHODS	9	14	0.9	3798	14	2013
SUSTAINABILITY (SWITZERLAND)	9	16	1.286	297	23	2016
BMC MEDICAL EDUCATION	7	11	0.778	131	13	2014
QUALITATIVE INQUIRY	7	12	0.7	522	12	2013
COMPUTERS AND EDUCATION	6	6	0.667	335	6	2014
NURSE EDUCATION TODAY	6	8	0.667	84	8	2014
ARTS AND HEALTH	5	6	0.5	45	7	2013

The selected journals, as shown in Table 10, have a wide range of influence metrics:

h-index: The highest number of papers with h or more citations (Egghe, 2006) represents a balance between the quantity and quality of a researcher's publications.

The g-index: Measures scientific productivity based on a journal's publication record, with articles ranked by their frequency of citation.

The m-index: Measures a researcher's long-term impact by dividing the h-index by the number of active years since their first publication.

TC: The total number of citations for a journal.

NP: The number of publications is indicated by NP.

PY start: Indicates the year the journal began publication.

Examining the data for the most prestigious journals reveals:

QUALITATIVE REPORT: Started in 2014, has an h-index of 12 and 692 total citations across 40 publications.

INTERNATIONAL JOURNAL OF SOCIAL RESEARCH METHODOLOGY: Founded in 2013, it has an h-index of 11 and a total of 341 citations from 15 publications.

FORUM QUALITATIVE SOZIALFORSCHUNG: The journal has an h-index of 9, reflecting 396 citations across 18 publications since its inception in 2013.

INTERNATIONAL JOURNAL OF QUALITATIVE METHODS: Since its inception in 2013, it has received 3798 citations across 14 publications, with an h-index of 9.

SUSTAINABILITY (SWITZERLAND): Since its inception in 2016, the journal has received 297 citations from 23 publications, resulting in an h-index of 9.

BMC MEDICAL EDUCATION: Founded in 2014, it has an h-index of 7 with 13 publications and 131 citations.

QUALITATIVE INQUIRY: The journal has received 522 citations from 12 publications since its inception in 2013, resulting in an h-index of 7.

COMPUTERS AND EDUCATION: Since its inception in 2014, the source has received 335 citations from 6 articles and has an h-index of 6.

NURSE EDUCATION TODAY: Since its inception in 2014, it has received 84 citations across 8 publications, resulting in an h-index of 6.

ARTS AND HEALTH: The journal has 7 publications dating back to 2013, with 45 total citations, yielding an h-index of 5.

Such metrics, particularly the h-index, highlight the volume and the impact of work published in these journals. Research indicates that the h-index strongly correlates with both objective and subjective assessments of scientific quality across disciplines (Hirsch, 2007). Its potential extends beyond tracing past success, with the potential to emerge as a predictive tool for future research contributions. The h-index's robustness makes it an invaluable asset in academic appointments and research resource allocation. The subsequent figure provides a visual representation of these journals' impact through their respective h-index values:

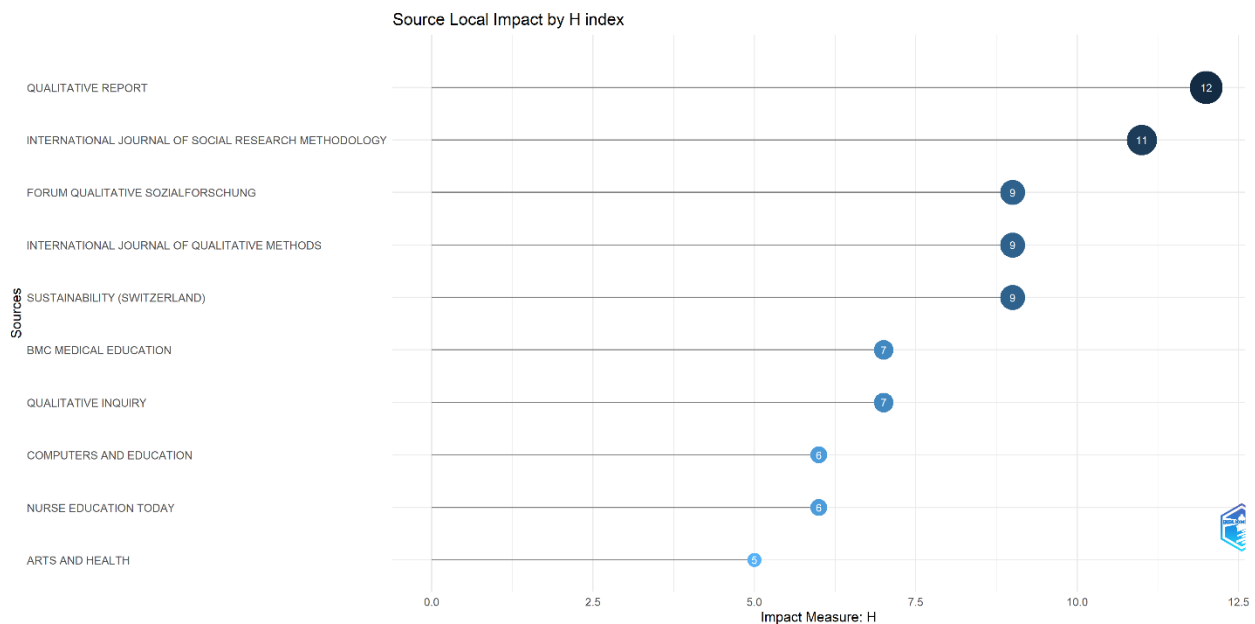


Figure 9. Source Impact measured by the h – index.

1.15 Conclusions

With the use of bibliometric analysis, the first chapter carefully outlined the research terrain relevant to qualitative studies. After examining the data critical roles played by prestigious institutions such as Brigham Young University, the University of Georgia, and Indiana University in shaping the narrative, became apparent. Contributions from ambiguous affiliations are intriguing because they suggest a wide range of perspectives and could possibly be hinting at a rich interdisciplinary scene. Moreover, scholars such as Paulus TM, Costa AP, and Dollahite DC emerge as popular figures within this academic field. While the United States, the United Kingdom, and Turkey are notable contributors, global collaboration demonstrates the topic's broad appeal. MCP ratios (a measure of international collaboration) has helped us understand the global research connections. Lastly, journals such as "QUALITATIVE REPORT" and "SUSTAINABILITY (SWITZERLAND)" have been highlighted due to their significant rise in source dynamics and impact, emphasizing their importance in contemporary discourse.

After laying out this foundational landscape in Chapter 1, Chapter 2 will attempt a more in depth exploration, highlighting the three most-cited articles in the field. Summaries of these papers will be provided, in an attempt to distill their key insights and integrate them into the larger tapestry of qualitative research.

Chapter 2: Analysis of the Most- Cited Seminal Qualitative Papers

2.0 Introduction

The first chapter provided an overview by mapping domain of qualitative research using bibliometric data generated with the bibliometrix R-package. Building on this foundation, Chapter 2 delves deeply into specific influential studies that have made significant contributions to the field.

This chapter will focus on the three most cited documents as of 2022 and specifically:

1. Thematic Analysis: Striving to Meet the Trustworthiness Criteria, amassing 3361 citations.
2. Thematic analysis of qualitative data: AMEE Guide No. 131, with 360 citations.
3. Flexible coding of in-depth interviews: A twenty-first-century approach, that has received 276 citations.

The following sections will offer research summaries for each of the aforementioned papers, diving into their methodologies, key findings, and overall contributions to qualitative research. The goal is to identify trends and patterns, while also recognizing their critical role in the ongoing narrative of the qualitative research domain.

2.1 Summary of Nowell's 'Thematic Analysis: Striving to Meet the Trustworthiness Criteria

Title: Thematic Analysis: Striving to Meet the Trustworthiness Criteria

Abstract

This paper emphasizes the increasing importance of qualitative research and the need for it to be conducted rigorously in order to result into meaningful findings. By elaborating on methodical processes that it utilizes, the emphasis is on achieving trustworthiness in thematic analysis. While there is plenty of information on qualitative research in general, there is a regrettable lack of tools for conducting a rigorous thematic analysis. The article aims to be a resource for researchers who use thematic analysis, providing insights and practical examples while highlighting the importance of rigor and trustworthiness. The article's unique contribution is its step-by-step approach to thematic analysis, as illustrated by a case study on strategic clinical networks in Alberta, Canada.

Introduction

Qualitative research has its foundation in human experiences and plays a crucial role in academic discussions (Sandelowski, 2004). As respect for this tradition continues to grow there is an increasing demand for methodologies that ensure transparency, rigor and credibility (Attride Stirling, 2001). Thorne (2000) identified data analysis as the most challenging phase, in qualitative studies. Employing a rigorous data analysis can enhance transparency and result in reliability,

however, it often receives inadequate attention and documentation. Many people tend to overlook the complexities involved in the process of data analysis (Tuckett, 2005) which makes it challenging for readers to evaluate a study's reliability.

The role of the researcher in data analysis is extremely important, as it is his primary responsibility to ensure rigor and trustworthiness. This paper focuses on thematic analysis, which often gets overshadowed by other methods like grounded theory or ethnography (Braun & Clarke 2006). Despite its range of applications, thematic analysis doesn't receive sufficient recognition or representation in the research literature. This paper aims to address this gap by providing a step by step procedure for conducting thematic analysis based on insights drawn from a study on Strategic Clinical Networks in Alberta, Canada.

Methodology

The research used thematic analysis informed by the authors' qualitative study experiences. This analysis is characterized by a six-phased approach that, despite appearing linear according to Braun and Clarke (2006), operates iteratively. These phases ensure trustworthiness by incorporating Lincoln and Guba (1985) criteria, such as prolonged engagement with data, researcher triangulation, peer debriefing, and maintaining a comprehensive audit trail.

According to the authors, there is a six step approach to establish trustworthiness in thematic analysis:

1. **Data Familiarization:** Engage deeply with data, using various collection modes, and keep organized records of all raw data, notes, and reflections.
2. **Initial Code Generation:** Utilize peer interactions, maintain an audit trail, and document team meetings.
3. **Theme Searching:** Use researcher triangulation and diagrammatic methods for understanding theme connections and hierarchies.
4. **Theme Reviewing:** Vet themes and subthemes within the research team, ensuring alignment with raw data.
5. **Theme Defining & Naming:** Achieve consensus on themes via team collaboration and documentation.

6. Report Production: Offer thick descriptions of context and a clear audit trail, detailing reasons for specific choices made throughout the study.

This methodology was used in a 5-year mixed methods case study of nine Strategic Clinical Networks (SCNs) in Alberta, Canada. The research which was approved by the University of Calgary's ethics board was based on a pilot study and a conceptual framework, and it incorporated models of team effectiveness, knowledge translation, and stakeholder engagement. Data sources for Phase 1 included 71 documents, 117 interview transcripts, and 15 observation notes, with initial codes shaped deductively from prior research and the guiding framework. This phase was completed successfully, and subsequent phases concentrated on additional data analysis.

Results

The research explores the methodology and processes involved in thematic analysis highlighting its importance in the expanding field of qualitative research. Trustworthiness is crucial in studies making it essential to have well structured guidelines and tools.

To ensure the success of the research a systematic approach to managing and organizing data was vital. This included establishing naming conventions for data creating a central storage repository and implementing effective archiving systems. Additionally, a clear coding framework supported by a code manual enhanced the study's credibility. The research team proficiently utilized NVivo software to manage datasets enabling thorough and intricate analyses. Notably they adopted an analytical process where multiple researchers examined the datasets simultaneously to ensure a comprehensive understanding.

The team's commitment to rigor was further exemplified through their weekly research meetings. These sessions provided opportunities for peer debriefing, enabling deeper engagement with the data. The collaborative nature of these meetings combined with documentation formed the basis, for establishing the research's credibility. The journey started by coding using a framework, which led to broad and higher level codes. Subthemes emerged naturally as the analysis progressed

without any coding structure. The researchers were able to understand and explain the connections between themes using diagramming tools creating a unique narrative within each theme.

Refining subthemes iteratively added depth, which was further enhanced through team discussions and reviews. The richness and diversity of the data became particularly evident during case analyses offering a wide range of insights that contributed to a more comprehensive understanding. In the stages of the study great care was taken to ensure that the themes accurately reflected participants actual words and feelings. Renaming exercises added a layer of authenticity by firmly grounding the research in participants lived experiences.

Overall, this study exemplifies the processes involved in thematic analysis providing valuable insights into the careful considerations and steps required to maintain rigor and trustworthiness in this method.

Discussion

The significance of research in capturing the wide range of human experiences is widely acknowledged. For this type of research to have an impact, it needs to employ rigorous methods and yield reliable and relevant results. Data analysis plays a role in qualitative research, particularly during the complex phase. To ensure credibility this study emphasizes the need for systematic and well-documented analysis methods. It also advocates for transparency in how themes are identified, analyzed, and presented.

The lack of detailed analysis processes in qualitative research reports undermines their credibility. The analysis process is not technical but also requires researchers to exercise judgment across various elements such as coding and theming to maintain data integrity. Despite being used thematic analysis often takes a backseat compared to other qualitative methods. However, its usefulness is highlighted by Braun and Clarke (2006). Supported by this study positions it as an essential skill that forms the foundation for various qualitative analyses.

One of the findings from the article is that thematic analysis can be applied across different epistemologies thanks to its adaptability. Acting as a "translator " it helps bridge gaps between research methods facilitating interdisciplinary communication. Nevertheless, there is inconsistency when it comes to applying this method due, to the absence of agreed-upon best practices.

Conclusion

Upon reflecting on the study's goals, which aimed to shed light on the reliability and credibility of thematic analysis, the research findings are quite illuminating. Thematic analysis has been proven to be more than an ancillary tool, and emerged as a crucial qualitative research method. Its ability to bridge qualitative research paradigms and its adaptability firmly establish it as an essential research tool.

However, there is a need for the academic community to address the existing knowledge gap regarding this analytical method. As showcased in this study employing a traceable and verifiable approach to thematic analysis can yield valuable and dependable results. Therefore, researchers should not simply embrace this method but also advocate for its wider recognition in order to contribute towards more robust and transparent outcomes in qualitative research.

2.2 Summary of Thematic analysis of qualitative data: AMEE Guide No. 131

Title: Thematic analysis of qualitative data: AMEE Guide No. 131.

Abstract

This particular study aims to demystify thematic analysis, a pivotal but often misunderstood qualitative method. By contrasting it with other data analysis methods and defining the term "theme", the paper clarifies its broad relevance. Employing a six-step blueprint illustrated with authors' examples, the guide emphasizes the method's versatility. It also discusses its merits, drawbacks, and potential pitfalls, aiming to enable researchers to apply thematic analysis with clarity and rigor.

Introduction

Data analysis is an aspect within qualitative research that is frequently considered the most complex and ambiguous phase (Thorne 2000). This complexity is further compounded by the absence or inadequate description of methodologies in research papers. As pointed out by Sandelowski and Barroso (2003) these omissions and imprecisions give rise to uncertainties and inconsistencies in terms commonly associated with qualitative data analysis. Nowell et al. (2017) state that this lack of clarity not only undermines transparency and interpretability, but also occasionally leads to misconceptions regarding the rigor of qualitative research compared to quantitative research (Clarke and Braun 2013).

Thematic analysis lies at the heart of this terminological discussion. Despite being a method in HPE (Health Professions Education) research there exists significant variation, in how it is defined and perceived (Braun and Clarke 2006).

As emphasized by Attride Stirling (2001) and Braun and Clarke (2006) there is variation in how researchers explain their analytical processes and theoretical frameworks sometimes leaving gaps in the literature. These gaps create an environment for both new and experienced researchers.

Nevertheless, when applied carefully thematic analysis proves to be an invaluable tool for qualitative research due to its adaptability and robustness. This study aims to demystify this method by defining its distinctive features highlighting its inherent adaptability. Special attention is given to the role of themes their different classifications and the pathways—inductive or deductive—to creating them. The paper provides an exploration of thematic analysis supported by real world research examples based on Braun and Clarke's renowned six step framework (2006). The study concludes with an assessment that compares the strengths and limitations of thematic analysis while shedding light on potential pitfalls associated with its implementation.

Methodology

This study adopts thematic analysis as its primary analytical approach recognizing its well established power and versatility in qualitative research. Thematic analysis was chosen not for its adaptability across various research traditions but also for its ability to offer profound insights, into complex phenomena.

To ensure an structured analytical process the researchers diligently followed the six-step framework proposed by Braun and Clarke (2006). These steps include;

1. Becoming familiar with the data,
2. Generating initial codes,
3. Searching for themes
4. Reviewing the identified themes,
- 5.. Labeling the themes and
6. Producing the report.

This systematic approach was considered crucial due to literature's observed ambiguities and inconsistencies in how thematic analysis has been used and reported. The comprehensive methodology serves two purposes: first to bring clarity and depth to the research process and secondly to challenge misconceptions that portray analysis as overly simplistic or unsophisticated. Additionally, this study aims to demonstrate how thematic analysis can be an adaptable tool for gaining valuable insights from complex qualitative data.

Results

A key finding from this study is related to the significant advantages of using thematic analysis in qualitative research. One notable advantage is its ease of learning and application setting it apart from qualitative methods. This simplicity makes it an attractive choice for researchers new, to this field.

However, the simplicity of this method does not diminish its effectiveness. It is well known for its analytical capabilities enabling detailed synthesis, interpretation and emphasis on important features across diverse datasets. Its adaptability only adds to its appeal. Researchers have successfully used this analysis in a variety of contexts to answer a wide range of research questions and explore different types of data. Moreover, the foundational techniques of this approach serve as the basis for other qualitative analyses solidifying its position as an indispensable tool for aspiring researchers.

Nevertheless, like any other analytical method, thematic analysis is not flawless. One major concern is tied to the perception of rigidity. While its praised frequently for its adaptability, critics argue that it may lack rigor compared to other methodologies. While flexibility can be advantageous, in cases it can also introduce uncertainty when applied, and make decision making challenging while simultaneously leaving room for inconsistencies in execution. Additionally, there are discrepancies in thematic analysis terminology that have occasionally caused confusion and hindered broader acceptance.

The evaluation also shed light on pitfalls that researchers should avoid, particularly regarding potential misalignments with core assumptions. Researchers sometimes fail to fully explain the foundational assumptions that guide their analysis. Additionally, there seems to be a tendency for surface level analysis, where a strong focus on description leads to superficial findings without delving into deeper interpretative exploration. This lack of depth often results in a lack of rigor as indicated by overlapping themes, lack of clarity or even findings that contradict the presented data.

In summary, these findings emphasize the importance of approaching analysis with caution. While this qualitative research method offers advantages it requires a thorough understanding and careful application to fully realize its potential.

Discussion

Thematic analysis as a qualitative method, has revealed important insights. One notable advantage is its simplicity and user-friendliness compared to other qualitative approaches. Thematic analysis is relatively easy to grasp and apply, making it an attractive choice for researchers— especially those who are new to the field (King 2004, Braun and Clarke 2006, Nowell et al. 2017). However, this simplicity does not diminish its effectiveness. Researchers can utilize analysis to synthesize and interpret diverse sets of data effectively while capturing and highlighting key elements within them.

Its inherent flexibility adds to its appeal making it suitable for a range of research questions and data types in different contexts (Clarke and Braun 2013). Additionally, its core principles provide a foundation for qualitative analyses establishing its significance as an essential tool in a researcher's analytical toolkit.

While the strengths of thematic analysis are evident it is crucial to acknowledge its limitations and challenges. One significant criticism arises from the perception that it lacks rigor, which ironically stems from its flexibility. Due to its adaptability and versatility, thematic analysis has been accused of not meeting the standards associated with other qualitative approaches (Clarke and Braun 2013). The absence of a framework sometimes raises doubts about its credibility emphasizing the importance for researchers to explicitly outline their theoretical and epistemological foundations to build trust in their findings. The flexibility of analysis can also pose challenges as researchers may encounter difficulties in determining data focus and selecting a theoretical framework potentially resulting in inconsistent interpretations (Braun and Clarke 2006).

Furthermore, evaluations of this method have identified pitfalls that researchers must avoid at all costs. Ensuring alignment, between the analysis conducted and the underlying assumptions is a common concern.

In order for researchers to guide the direction of their analysis and prevent misinterpretation it is important for them to clearly explain their methodology and theoretical frameworks (Braun and Clarke 2006). Superficial analyses should be avoided as they do not capture the essence of thematic analysis, which requires a deep interpretive engagement with the data. The validity of the analysis is at risk if there are overlapping themes, inconsistent definitions or a lack of consistency (Braun and Clarke 2006). The six-step framework that is proposed ensures consistency and robustness in the interpretation process.

Conclusion

In conclusion, this study's exploration of thematic analysis offers a comprehensive understanding of its complexities, advantages, challenges and potential pitfalls. As a qualitative method that is accessible in various domains, thematic analysis serves as a powerful tool for researchers. Its simplicity makes it an appealing option for both beginners and experts. However, its flexibility has garnered both praise and criticism. Researchers are urged to address assumptions, uphold rigor, and explicitly define their analytical approach. By applying the six-step framework provided here researchers can fully harness the potential of thematic analysis while ensuring its reliability in uncovering nuanced insights from complex qualitative data. Overall, this paper provides

researchers with the understanding and confidence to conduct thematic analysis in a thorough and reliable manner, further contributing to the advancement of qualitative analysis methods.

2.3 Summary of Flexible Coding of In-depth Interviews: A Twenty-first-century Approach

Title: Flexible Coding of In-depth Interviews: A Twenty-first-century Approach

Abstract

In this research paper the authors critically assess the relevance of grounded theory methodologies, which were originally developed during the limited technological landscape of the 1960s, to today's sociological interview research. As we progress into the 21st century there is a noticeable shift in qualitative research methods that often diverge from traditional grounded theory principles. By examining sections of selected papers published in journals, by the American Sociological Association, the authors highlight this deviation and support the increased use of modern Qualitative Data Analysis (QDA) software. The ultimate goal is to enhance research by promoting clearer analysis, adaptability and fostering an environment that encourages open science and potential secondary analysis.

Introduction

Grounded theory, a research methodology introduced in the 1960s by Glaser and Strauss has had a significant impact on the field of qualitative research. This influential work, further developed by scholars like Charmaz, offers a deductive approach to qualitative research. However, as we move further into the 21st century there seems to be a noticeable gap; while many still refer to the theory itself they often deviate from its fundamental principles when it comes to their actual research methods.

Back in Glaser and Strauss' time qualitative researchers had mostly rudimentary tools at their disposal, such as paper and index cards. With the advent of modern technology, especially computer assisted qualitative data analysis (QDA) software, these early methods unintentionally became the basis for today's digital tools. While this advancement is groundbreaking, in ways it has also posed challenges for modern researchers. Grounded theory was initially designed for concise projects led by individuals but is now struggling to accommodate the complexities of modern research that often involves extensive interviews and collaborative efforts.

While quantitative research is embracing science practices and emphasizing aspects like data archiving and secondary analysis, qualitative research seems to be lagging behind. The potential benefits of secondary analysis in this domain have largely remained untapped due primarily to a lack of clear methodological guidance.

The aim of this article is to explore the landscape of grounded theory comparing its importance in history with its relevance in present day sociological studies. The authors emphasize the distinctions between theoretical approaches and current methodologies by analyzing the fundamental aspects of grounded theory. Additionally, they introduce a technique called "flexible coding" that harnesses the capabilities offered by modern QDA platforms. The conversation concludes by comparing methodologies with their predecessors thus shedding light on a promising direction for qualitative researchers, in today's era.

Methodology

The research examines the grounded theory of the 1960s and critically evaluates its limitations in today's qualitative research landscape. In this study, a stratified sampling technique was employed to analyze selected articles from American Sociological Association journals published over the decade. The objective was to identify trends and methodologies in semi structured interview studies, particularly those that deviate from conventional grounded theory practices.

Acknowledging the constraints of traditional approaches, especially in light of today's advanced Qualitative Data Analysis (QDA) technology, the researchers sought to develop an alternative methodology. Thus they introduced the flexible coding technique. This method was refined

through experimentation and testing to leverage the strengths of modern QDA technology effectively.

The shift towards flexible coding, as a methodological approach emphasizes rigorous, transparent and adaptable analysis of extensive interview data. A statistical comparison was conducted between findings derived from grounded theory and those obtained through the new flexible coding approach. The aim was to highlight the advantages of the latter in a contemporary research context.

Results

The research suggests a departure from the grounded theory approach by introducing a new methodology called "Flexible Coding." According to Deterding and Waters (2021) primary analysis this approach highlights the benefits of using broad index coding and gradually refining it. The aim of this adaptation is to utilize modern Qualitative Data Analysis (QDA) technology.

One notable advantage of the coding methodology is its efficiency. The findings indicate that it allows for indexing of large amounts of interview data enabling quick electronic access. Considering the time and resources required for interview data collection such efficiency is extremely valuable. Additionally, this approach fosters collaboration among researchers as indexed data can be easily shared within the research team facilitating thematic coding.

Furthermore, the indexing process encourages researchers to engage with their data. It involves reviews of interview transcripts as a foundation for preliminary analysis and subsequent concept refinement. The study suggests that this indexed structure effectively reduces data redundancy ensuring validity, with extensive amounts of data while mitigating risks associated with excessive coding. Another significant benefit is leveraging QDA's data query functions to their potential.

The method helps us identify trends by analyzing patterns in theme coding. However, like any approach we take we must acknowledge that flexible coding has its limitations. While it offers a perspective it may not be universally applicable and might not work efficiently for projects with a small number of interviews or research questions with a narrow focus. Additionally, studies that align more with grounded theory may find this approach ineffective.

In summary, while established grounded theory has played a role in qualitative data analysis its relevance in encompassing all current qualitative research methods can be debated. Modern interview studies require an approach to qualitative coding. This study highlights the lack of coding methodologies in existing literature and emphasizes the need for a structured and updated guidance system especially when dealing with large amounts of data, in QDA software. The results call for an updated, transparent and replicable coding framework as a step forward.

Discussion

The study introduced the idea of flexible coding in qualitative data analysis, highlighting its potential to enhance grounded theory methodologies with the help of modern QDA technology. The study's findings shed light on the benefits of this approach, particularly its ability to efficiently organize large sets of data. This methodology represents an advancement in qualitative research methods departing from the detailed coding approach traditionally associated with grounded theory.

The presented findings have several implications. Notably, the ability to quickly input and flexibly re-examine data emerges as a crucial development for researchers dealing with extensive interview datasets. This not only enhances the value derived from their resources but also facilitates tasks such as electronic archiving and collaborative efforts. One important advantage of this approach is its effectiveness during the stages of indexing which promotes deeper engagement with the data and leads to a better understanding of overarching themes.

However, it is important to recognize that like any methodology, flexible coding has its limitations. It may not be universally suitable for smaller research projects or those firmly rooted in traditional grounded theory.

The research finally emphasized the need for transparency in qualitative studies. Grounded theory appears to be less aligned with the strategies used by contemporary qualitative researchers while flexible coding seems to serve as a means of bridging this gap and aligning more closely with current research paradigms.

Conclusion

The undeniable significance of grounded theory in sociological research has been widely acknowledged. However, this study suggests that it may be time to reevaluate its relevance, in today's research landscape. The research findings propose flexible coding as a promising alternative especially when dealing with extensive interview data. While highlighting the benefits of coding, the study also acknowledges its limitations. It emphasizes the importance for researchers to carefully assess how well this methodology aligns with the requirements of their projects. In conclusion, while flexible coding may not replace grounded theory entirely it certainly offers researchers another valuable tool that promotes transparency and adaptability in the modern era.

2.4 Key Takeaways

By summarizing the three most globally cited papers Chapter 2 delved into the landscape of qualitative research and its methodologies. By diving into each one of these papers, this chapter gave us a glimpse into the most prominent methodologies and data analysis practices while also highlighting the global academic impact and reach of these influential works.

The consistent prominence of thematic analysis in these top-tier papers showcases its foundational role in qualitative research. Its frequent citation also demonstrates its versatility and broad appeal. However, as the existing literature suggests, its flexibility can have both advantages and disadvantages potentially leading to inconsistencies. Taking into account this bibliometric prominence alongside the discussed nuances can serve as a guidepost directing researchers towards the importance of engaging with thematic analysis rigorously.

Moreover, well-established methodologies like grounded theory are being reconsidered and reshaped in response to the digital age. Global citation trends reflect this evolution by emphasizing the interplay between techniques with state-of-the-art digital tools. The development of tools such as Qualitative Data Analysis (QDA) software illustrate how qualitative methodologies are continuously evolving in tandem with advancements.

One of the most cited papers introduced the concept of flexible coding, which represents the modern approach to qualitative research. Its global prominence, as hinted by its citation count, implies its good reception. However, its practicality as discussed in the literature depends on the specific context and individual research goals.

Another notable finding was the academic community's shift towards transparency and embracing open science practices in qualitative research. This not only aligns with worldwide academic trends but also demonstrates a commitment to enhancing clarity and openness in qualitative methodology.

To summarize, this chapter provided an overview of the field of qualitative research by drawing insights from some of the most cited papers. Through a bibliometric lens, we can discern that each citation is not just an academic reference but also an acknowledgement of the profound relevance of qualitative methodologies. By bringing past accomplishments with current challenges and potential directions, Chapter 2 hinted on the dynamic trajectory of qualitative research within academia.

Conclusions

In this thesis, a bibliometric analysis of publications related to qualitative research and qualitative data analysis methods, spanning from 2013 to 2022, was conducted. Amongst the most notable findings, we saw that three prominent institutions, Brigham Young University, the University of Georgia and Indiana University have played significant roles in shaping academic discussions. During the same period, scholars like Paulus TM, Costa AP and Dollahite DC have made groundbreaking contributions that have had a profound impact on the field's direction.

The geographical distribution of research contributions further highlighted the importance of this field. While the United States, United Kingdom and Turkey have been leading contributors there has been engagement from other regions worldwide. This demonstrates how this particular research area holds value across diverse academic settings.

From a methodological standpoint, thematic analysis remains highly relevant and significant. In combination with grounded theory's adaptability showcases the dynamic nature inherent in qualitative research. The emergence of flexible coding exemplifies this innovative spirit within the field as demonstrated by one frequently cited paper, however, its application may vary depending on specific research contexts.

Moreover, a shift towards open science and conducting research in a more transparent manner has been observed among top-cited papers. This change is in line with academic trends and

demonstrates the shared dedication of the qualitative research community to improve clarity, accessibility and methodological accuracy.

In conclusion, this thesis summarizes a decade's worth of research highlighting the intricate balance between foundational principles and evolving methodologies. This combination of practices and innovative approaches offers an optimistic outlook, for the future of qualitative research emphasizing the importance of maintaining methodological integrity while embracing novel and creative data analysis methods.

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