



## Review article

# From virtual observations to business insights: A bibliometric review of netnography in business research

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## ABSTRACT

Netnography is a special kind of qualitative social media research. It applies ethnographic techniques to comprehend social interaction in settings of modern digital communications. This article aims to highlight the key contributors and knowledge structure of this research domain. Utilizing bibliographic data of 722 articles retrieved from the Scopus database, researchers used performance analysis to have insights into the most prolific authors, institutions, countries and journals. Keywords co-occurrence analysis was done to map the knowledge structure. The thematic map tool was used to recognize basic themes, motor themes, niche themes, and emerging themes in order to suggest future research directions. The results indicate that, in terms of research publications, the most productive nation is the United Kingdom. The most lucrative organization has been acknowledged as Griffith University. The most influential author is stated to be Mkono M. The most resourceful source is Journal of Business Research. In addition, three significant knowledge clusters important to study utilizing netnography were identified as a result of co-occurrence of keywords analysis namely, consumer behaviour, co-creation in online brand communities and authenticity. Further, niche and emerging themes include-sustainable tourism, customer engagement and sharing economy. When taken as a whole, this review is a useful tool for quickly understanding the most recent research findings and potential directions for further investigation. An assessment of the state of netnography in business and management research has not been systematically investigated. Hence, the present study aims to thorough a grasp of the state-of-the-art in Netnography research field over the past decades along with the future research directions. Studying the state of the art in the field adds to academic knowledge and provides updated information on the procedure.

## 1. Introduction

The rise in internet access among the populace during the 1990s was notable. Since then, individuals have started interacting more and more virtually, creating “cultures and communities”. These interfaces become relevant as a research topic in this way (Bowler, 2010). The study of these patterns of behaviour is a branch of classic ethnographic research known as netnography, a technique created

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expressly to explore online communities and cultures [1]. Netnography maintains the fundamentals of conventional ethnography while adapting them to the fresh circumstances made possible by the web. It is recognised as an effective research tool for collecting and examining virtual consumer data [2–4], originally formed in retort to consumers' increasing reliance on the web [5]. It includes the methods for identifying virtual fields for study inquiries and themes of interest. Also, it covers approaches for dealing with big digital data sets, navigating tricky ethical dilemmas digitally and handling the public intellectual aspects of netnographic engagement [6]. "In addition to the teaching and learning axes [7], the method expands beyond its anthropological foundation into fields like anthropology, education, geography, tourism, technology studies, cultural studies, research on addiction, sexuality, psychology, education, librarianship, sociology, theology, political science, and librarianship" [6]. Netnography is more significant than ever in today's digital world [8,9]. Comparing netnography to other conventional research methodologies provides benefits in terms of the amount and accessibility of data, but it also has drawbacks that the researcher should be aware of, particularly while doing ethical research.

"The practice of ethnography and the social sciences have undergone a radical upheaval as a result of the availability of vast volumes of preserved interactions online. Netnography is positioned in this environment between big data analysis and discourse analysis" [10]. The method is notable today because a large portion of societal, party-political and economic relations exist in the virtual world due to globalization, technological advancements, transmission and processing of data and the widespread use of the Internet. As a result, it is essential to develop and use methods that are realistic. The technique that makes it possible to comprehend these interactions is netnography. Netnography is a special kind of qualitative social media research. It applies ethnographic techniques to comprehend social interaction in settings of modern digital communications. As the number of people using the internet increased globally and more aspects of people's life moved online, interest in netnography among scholars and practitioners grew quickly [6].

The intense interest in netnography is reflected and underlined in some latest reviews of the technique. In their study [11], employed mapping review to generate a map of netnographic research in nursing. This review is based on 53 articles extracted from PubMed, Academic Search Elite, the Cumulative Index to Nursing and Allied Health Literature, Medline, PsycINFO, Scopus, and Web of Science. Another study [12], provided a bibliometric analysis of netnography based on 116 articles extracted from Science Direct, Emerald, ISI Web of Knowledge, and EBSCO. One more significant study [13], reviewed netnographic research in the hospitality and tourism sector based on 63 articles and contrasted the present application of netnography with conventional ethnographic methods. It is evident from the literature that previous attempts of reviewing literature on netnography have numerous limitations like small corpus of literature and there is no study that uses bibliometric method to review the literature on netnography in the business and management domain.

Even if these studies give a decent overall picture of the netnographic literature in various fields, an assessment of the state of netnography in business and management research has not been systematically investigated. The intellectual structure of the Netnography knowledge base was examined using performance and science mapping review methods in this study in order to identify any apparent gaps in the body of literature and conduct additional in-depth research on the topic. Hence, the present study aims to thorough a grasp of the state-of-the-art in Netnography research field over the past decades along with the future research directions, from 2001 to 2023 by evaluating the key contributors (authors, institutions, countries, journals) and knowledge structure (Co-authorship analysis and thematic analysis) of this domain.

Bibliometric analysis is appropriate to identify current and emerging research patterns in order to examine the complexity of the whole research field comprehensively. In this particular case, this requires not only a solid reflection on current developments in studies using the netnography approach. Studying the state of the art in the field adds to academic knowledge and provides updated information on the procedure.

The review specifically covers the subsequent research questions.

**RQ1.** Who are the most prolific contributors (for example authors, affiliations, countries, articles, and journals) to the research using netnography methodology in the business and management domain?

**RQ2.** What are the different knowledge clusters that have emerged from research using netnography in the business and management domain?

**RQ3.** What are the recommendations for advancing research using netnography in the business and management domain?

The residual portion of the article is organized as follows: the next part provides a literature review, and section 3 offers an explanation of the methods and materials. The results and discussion are summarized in Section 4 and the key implications of this review are highlighted in Section 5. Lastly, section 6 outlines a simplified conclusion.

## 2. Literature review

The term netnography is a synthesis created by fusing the words Internet or network and ethnography. Robert Kozinets, a marketing professor, created netnography in 1995 as a method for studying online fan conversations around the Star Trek series. A variety of other disciplines, including "education, library and information sciences, hospitality, tourism, computer science, psychology, sociology, anthropology, geography, urban studies, leisure and game studies, and human sexuality and addiction research", have adopted the method since it was first used in marketing research and consumer research. Netnography is more than just using classic ethnographic methods in qualitative research in a virtual environment. On the one hand, traditional ethnographic manual data collecting methods are augmented by computer-based data collection. Historically, market cultures and actors have been thoroughly

understood through ethnographic enquiry [14]. Yet, over the past 20 years, the internet has opened up previously unheard-of possibilities for customer analytics [2,4]. In the 1990s, when [5]“created netnography, customers’ online presence was restricted to online groups of fanatics addressing shared interests and creating their own cyber cultures”. Customers may stay connected to the web at all times now thanks to a variety of mobile devices and laptops; millennials in specific share a lot of their thoughts, experiences, and daily web activities. As a result, the development of the internet and communication technology (“such as social media, the internet of things, social networking sites, and mobile technology”) is strongly related to the development of netnographic studies. Accordingly, a variety of online techniques and methodologies, like netnography, which are suited for conducting research on the Web, have been developed in response to the requirement to analyse this vast amount of information that is currently available. Netnography provides a variety of novel perspectives for front-end innovation, including: Detailed market descriptions, understanding of communication and culture, conscious awareness of consumer preferences, a naturalistic perspective on brand meaning, finding consumer innovation, online sociocultural space maps.

Four different types of netnography that are identified by Ref. [15] are Auto-netnography, Symbolic-netnography, Humanistic netnography and Digital netnography. Auto-netnography is a type of netnography where information is gathered and filtered via the

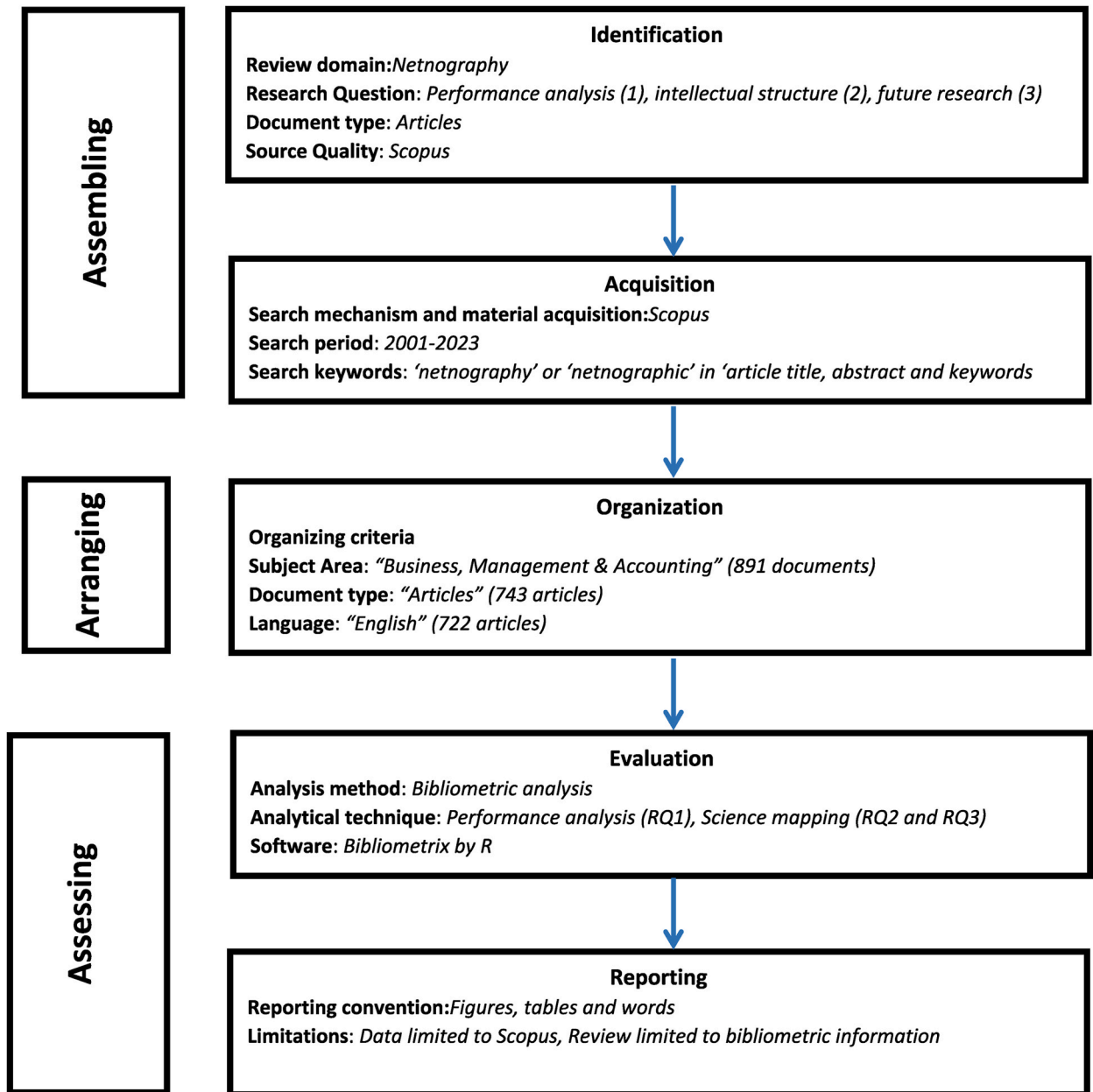


Fig. 1. Methodological design.

self, focusing on a particularly "local" site: the individual's own identity and narrative. The Symbolic Netnography frequently stays local, concentrating on a particular group or field site and aiming to ascertain and explain their practices, meanings, and values in order to create a portrait that can contribute to a more in-depth knowledge of them. Digital Netnography is a relatively modern invention that connects cultural understandings with statistically based data analysis tools. Humanist Netnography is frequently focused on deeply important social issues, and they use information from social media to try to address them and have an influence on society through discussion and resolution.

Compared to other research methodologies, netnography has a number of advantages. First, it has been noted that netnographic data is frequently characterised as rich and realistic, having the capacity to faithfully represent the customers' daily situations [3,8,16]. Netnography, as opposed to ethnography, allows researchers to observe clients' daily life without being overt [17]. The non-intrusive nature of netnography may be required to elicit pertinent data, particularly when researching sensitive subjects [18]. Second, netnography is a resourceful and adaptive qualitative technique that has shown promise in a range of study contexts [6]. Moreover, netnography works well with other research techniques including surveys, ethnography, and even interviews [19]. Netnography also has the benefit of being much quicker, easier, and less expensive than conventional ethnography [10]. Yet, there are some constraints on netnography. The validity and calibre of the data content are major issues [20]. For research that is sensitive to variables like age, race, or even gender, a netnographic approach may not be appropriate due to the difficulties in determining the demographics of informants [21]. However, "just like conventional ethnography, netnography has limitations when it comes to extrapolating its results to clientele outside of the online platforms or communities under investigation" [3].

### 3. Methodology

Literature reviews that encouraged the use of the systematic method of literature review served as the foundation of this analysis [22–24]. Narrative reviews do not follow systematic approaches while bibliometric analysis follows systematic approaches based on a review protocol to report the results of the literature review which make it more reliable and replicable in relation to narrative reviews. Also, bibliometric analysis is a technologically advanced technique as compared to other review techniques as it utilizes artificial intelligence and machine learning-driven scientific databases like Scopus and specialized tools like Bibliometrix and Vos viewer etc [25]. Moreover, choosing the bibliometric analysis for reviewing the literature is apt as the scope of the review is broad and the dataset is too large for a manual review. The methodological design of this review is divided into three sections i.e. assembling, arranging and assessing (Fig. 1). These are discussed in the following subsections.

#### 3.1. Assembling

The first section is dedicated to assembling relevant literature on netnography. It is further alienated into two sub-sections namely 'identification and acquisition'. 'Identification' is more of a preparation step in which all activities that are pertinent to the objectives of the study are identified in order to properly implement the suggested methodological design.

The researchers of this study start by determining pertinent search terms (based on an analysis of the literature and confirmed by subject experts). The search was broadened to include the title, abstract, and keywords. Most relevant keywords i.e. netnography and netnographic were used to gather the data. Both keywords were combined using the 'or' Boolean operator for the search strategy. Another major decision in this section is to decide the most appropriate database. Researchers choose Scopus the most known academic database, to gather information about the current state of netnography in business research. Scopus was utilized for two reasons: firstly, it covers publications that adhere to a strict set of indexing criteria (e.g., are relevant scientifically and scholarly); and secondly, it provides complete bibliometric data for publications that it indexes. Moreover, Scopus is a scientific database that is frequently suggested for bibliometric evaluations [23] and is excellent for studies looking to curate a sizable corpus for review [26]. Moreover, "Scopus has been acknowledged as a high-quality database for bibliometric data [27], and highly correlates with alternate scientific databases like Web of Science [28], Coverage of Web of Science is less than the Scopus" [26], making Scopus a more exhaustive yet high-quality data source for bibliometric data. The next decision in this stage is to select the document type. Researchers opted to include journal articles only because they are often rigorously assessed for uniqueness and put through thorough peer review. Since books, book chapters and conference proceedings typically don't meet these requirements, researchers didn't include them.

The Next sub-section is dedicated to "acquisition" under which the search string as mentioned above was used for material acquisition from the Scopus database consists of keywords i. e "netnography" and "netnographic". Key terms were searched in the title abstract and keywords only to acquire the appropriate literature. The search mechanism yielded 1598 research documents that were related to the time period of 2001 to March 15, 2023. Literature was extracted in. csv file.

#### 3.2. Arranging

The second stage of arranging is dedicated to the organization of 1598 research documents extracted in the earlier step. "We confine our research results to the subject area of business, management and accounting, journal articles as document type and the English language. There are pragmatic reasons for doing so. Selecting the subject area of business, management and accounting is in accordance with the main aim of this study i.e. to map the existing scholarly literature on the netnography in the area of business and management". This criterion excluded 707 research documents and only 891 documents were selected for the next stage. Because journal articles are often rigorously assessed for uniqueness and put through thorough peer review, researchers opted to select articles as the document type. Since books, book chapters and conference proceedings typically don't meet these requirements; researchers

didn't include them in this review. This exclusion criterion excluded 148 research documents and only 743 were found fit for the next stage. Further, research articles that were not written in the English language were excluded for the pragmatic reason that most software used for analyzing bibliometric data works only with the English language literature. 21 research articles written in languages other than English were excluded and a corpus of 722 articles was selected for final synthesis.

### 3.3. Assessing

The third stage, assessing, consists of evaluation and reporting related tasks, with a focus primarily on the analysis of bibliographic data and the dissemination of findings. The "bibliometric analysis comprises performance analysis and science mapping" [23,24]. Performance analysis evaluates how research elements contribute, whereas science mapping aims to capture the relationships between research elements (Table 1) [25]. Insights from performance analysis help researchers to locate where the knowledge regarding the field of interest can be found (for example, authors and institutions). It further assists researchers to know which regions are still underexplored (for example, countries). Thus, authors and institutions analysis could be helpful to academic institutions looking to collaborate on new projects in fields of shared interest, to academic researchers looking for advice, and to business professionals looking for expert commentary or consulting and country analysis could be helpful to researchers looking to conduct new research in underexplored regions. Journal analysis could be helpful for researchers in determining the starting point to build their understanding of their field of interest. Science mapping is an advanced technique of bibliometric analysis. "It unfolds knowledge clusters that represent the main streams of research in the field. It shows how knowledge in the field can be homogeneously clustered and yet remains heterogeneously diverse". To answer the first research question, researchers used performance analysis to have insights into the most prolific authors, institutions, countries and journals. Science mapping was done to answer the research questions second and third. Keywords co-occurrence analysis was done to map the knowledge structure. "In order to answer RQ3, we used the "thematic map" tool to recognize basic themes, motor themes, niche themes, and emerging themes in order to suggest future research directions". Various software is available that can be used for bibliometric analysis like INSPIRE, Histcite, Vantage Point, Pajek [29], CoPalRed, CiteSpace II [30], Gephi [31], Bibexcel [32], Network Workbench Tool, Biblioshiny and Vosviewer [33]. In this study, Bibliometrix by R was used for analyzing bibliometric data. Microsoft Excel was used to generate graphs using the output data from Biblioshiny.

In terms of reporting, this study adheres to previous SLRs' conventions by presenting its findings in the form of a "combination of figures (network visualization), tables (metrics), and text (accompanying narratives). This study acknowledges that its findings may be limited to the accuracy and comprehensiveness of the bibliometric data on Scopus and the review is based on bibliometric information only".

## 4. Result and discussion

Table 2 depicts information regarding literature under review. It has been noticed that there are total of 722 documents under consideration out of which 101 research articles are single authored papers. Annual growth rate in the number of publications is 17.98 %. These documents are published in 259 different sources published over a period of past two decades and contain 44,429 references. Further, there are total 1407 authors contributed in the field of netnography.

### 4.1. Publication trend

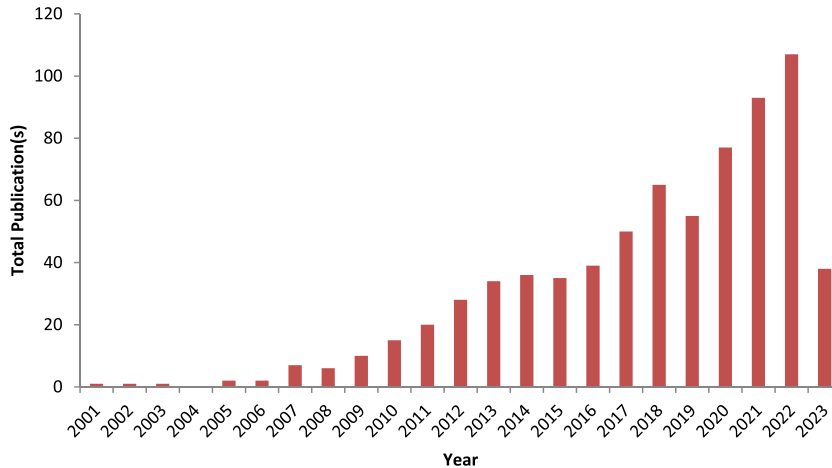
According to the publication trend in Fig. 2, netnography attracted substantial research interest during the preceding two decades. As per the outcomes of the extraction activity, which produced a total of 722 articles, the first two research papers on employing netnography were released in 2001 and later in 2002. It is also depicted in Fig. 2 that before the year 2009, the number of publications

**Table 1**  
Description of applied bibliometric techniques.

Bibliometric technique	Description	Strength	Complemented by
Citation analysis	Assesses the degree of acceptability of a publication by a quantifiable evaluation of its citation in other published work [31]	Aids in comprehending the impact and reach of certain documents and the collaborative network of citations	Prestige analysis
Co-authorship analysis	Evaluates the most productive group of papers and finds the units with the greatest number of collaborative publications [34].	Helps determine the level of collaborative research between authors, institutions, and nations.	–
Keyword co-occurrence analysis	Gauges the frequency of co-occurrence of keywords [35]	Allows for the visual representation of publications' main content	Co-citation
Page rank analysis	Evaluates the frequency with which a publication is cited by other prominent publications [36]	Concurrent examination of a publication's prestige and popularity can be aided by PageRank analysis.	Citation analysis
Thematic analysis	Identify basic, motor, niche and emerging themes [25]	Provides understanding of the foundational and present themes as well as future research directions	Co-citation analysis, Bibliographic coupling

**Table 2**  
Main information about review corpus.

General Discussion	Result
Time Span	2001:2023
Sources	259
References	44,429
Documents	
Total no. of documents	722
Annual growth rate	17.98 %
Single authored documents	101
<b>Authors</b>	
Total authors	1407
International co-authorship	27.29 %



**Fig. 2.** Publication trend.

per year was in single digits and after that publication trend maintains the number of publications in double digits and hit the three-digit number in the year 2022. However there is a fall in the number of publications in the year 2019, the trend increased after that with the highest number of publications in the year 2022. “With this rising trend over the last few years, it is obvious that the netnography technique is gaining interest from researchers”. Customers are continuously linked to the internet today via computers and a wide range of mobile devices; the younger generations in particular share a lot of their ideas, experiences, and daily activities online. Since the internet and information technologies (such as social media, the internet of things, social networking sites, and mobile technology) have evolved through time, so too have netnographic research methods. The availability of the customer impressions on

### Articles



**Fig. 3.** Most contributing journals.

different internet platforms provides useful information for researchers and managers. Netnography papers are relevant to a variety of fields, such as consumer culture, product development, brand management, sports and entertainment, tourism, healthcare and food [12]. However, rise in the number of literature is not uniform. Some fields are growing relative than others like tourism, as indicated by thematic analysis.

#### 4.2. Journal performance

Fig. 3 illustrates the most contributing journals. It is depicted from the figure that “Journal of Business Research (TP = 37)” is the most selected journal for research employing netnography and published the highest number of research articles. It is followed by “Journal of Marketing Management (TP = 31) and European Journal of Marketing (TP = 36)”. Further, Table 3 illustrates that on the basis of total citations, the story is similar. Journal of Business Research (TC = 3670) is the most impactful journal. It is followed by Journal of Marketing Research (TC = 2522) and European Journal of Marketing. With an h-index of 21, Journal of Business Research has the highest h-index. “The largest value of h indicates that a specific journal has published at least h articles, each of which has been cited at least h times, is denoted as the h-index, which is a journal-level metric that evaluates both the productivity and citation impact of publications linked with the journal”. When CPP become the ranking criterion, Journal of Marketing Research (CPP = 1261) has the highest number of citations per publication and it is followed by Journal of Marketing (CPP = 788).

#### 4.3. Article performance

##### 4.3.1. Global citations

Global citations are the total number of citations to a publication in the Scopus database that were acquired without any filtering (such as subject filtration). Table 4 shows the most impactful 20 articles based on global citations.

It is illustrated in Table 4 that the article titled “The Field behind the Screen: Using Netnography for Marketing Research in Online Communities” (TGC = 2151) authored by Robert V. Kozinets is the most globally cited article. It is followed by “Consumer engagement in a virtual brand community: An exploratory analysis” (TGC = 1792) and “Teaching Old Brands New Tricks: Retro Branding and the Revival of Brand Meaning” (TGC = 788). In the top 20 list, Journal of Business Research has contributed 3 articles and Journal of marketing research contributed 2 research articles.

##### 4.3.2. Local citations

In simpler words, local citations are those that come from publications included in the review corpus. Table 5 shows the most impactful 20 articles based on local citations.

Table 4 illustrated that “The Field behind the Screen: Using Netnography for Marketing Research in Online Communities” is not only the most globally cited article but also the most locally cited article with 396 local citations. It is followed by “Sensitive research topics: netnography revisited” (TLC = 114) and “The application of netnography in tourism studies” (TLC = 50). It is also depicted in Table 3 that in the list of top 20 globally cited articles; Journal of Business Research has 4 occurrences.

#### 4.4. Author performance

Fig. 4 illustrated the most prolific authors who contributed at least 5 research articles in this field of research. In Fig. 4 it is depicted that Mkono M is the most contributing author who is currently affiliated with University of Queensland. Mkono M authored 16 research articles related to the application of netnography in tourism studies. Articles authored by Mkono have been cited 817 times. Scaraboto D and Kozinets RV as they contributed 9 research articles. Scaraboto D and Kozinets RV contributed research papers related to the employment of netnography in the marketing research. Further Table 6 depicted that Kozinets RV is the most impactful author as his articles were cited 2063 times. He is followed by Juric B and Brodie RJ with 1940 and 1792 citations respectively. When the ranking criterion changed to h-index, Mkono M has the highest h-index. Similarly, on the basis if g-index, Mkono M has the highest g-index.

**Table 3**  
Most impactful journals.

Journal	TC	TP	CPP	h-index
Journal of Business Research	3670	37	99.18	21
Journal of Marketing Research	2522	2	1261	2
European Journal of Marketing	961	26	36.96	11
Journal of Marketing	788	1	788	1
Journal of Marketing Management	770	31	24.83	15
Tourism Management	752	13	57.84	11
Journal of Consumer Research	673	8	84.12	7
Annals of Tourism Research	620	16	38.75	14
Qualitative Market Research	609	19	32.05	9
International Journal of Contemporary Hospitality Management	487	10	48.7	8

“TC = Total citations, TP = Total publications, CPP= Citations per publication”.

**Table 4**  
Most impactful articles based on global citations.

Article Title	Author(s)	Year	Journal	TGC
"The Field behind the Screen: Using Netnography for Marketing Research in Online Communities" [3]	Robert V. Kozinets	2002	"Journal of Marketing Research"	2151
"Consumer engagement in a virtual brand community: An exploratory analysis" [37]	Roderick J. Brodie, Ana Ilic, Biljana Juric, Linda Hollebeek	2013	"Journal of Business Research"	1792
"Teaching Old Brands New Tricks: Retro Branding and the Revival of Brand Meaning" [38]	Stephen Brown, Robert V. Kozinets, and John F. Sherry, Jr.	2003	"Journal of Marketing"	788
"Brand community of convenience products: new forms of customer empowerment – the case my Nutella The Community" [39]	Bernard Cova, Stefano Pace	2006	"European Journal of Marketing"	540
"Virtual communities: A marketing perspective" [40]	Kristine de Valck, Gerrit H. van Bruggen, Berend Wierenga	2009	"Decision Support Systems"	423
"The influence of C2C communications in online brand communities on customer purchase behaviour" [41]	Mavis T. Adjei, Stephanie M. Noble & Charles H. Noble	2009	"Journal of the Academy of Marketing Science"	378
"Strengthening Customer Loyalty through Intimacy and Passion: Roles of Customer–Firm Affection and Customer–Staff Relationships in Services" [42]	Chi Kin, David K. Tse, and Kimmy WaChan	2008	"Journal of Marketing Research"	371
"Brand communities embedded in social networks" [43]	Melanie E. Zaglia	2013	"Journal of Business Research"	369
"Sensitive research topics: netnography revisited" [18]	Roy Langer, Suzanne C. Beckman	2005	"Qualitative Market Research"	348
"Exploring positively- versus negatively-valenced brand engagement: a conceptual model" [44]	Linda D. Hollebeek, Tom Chen	2014	"Journal of Product & Brand Management"	322
"In TripAdvisor we trust: Rankings, calculative regimes and abstract systems" [45]	Ingrid Jeacle, Chris Carter	2011	"Accounting, Organizations and Society"	318
"Understanding consumer-to-consumer interactions in virtual communities: The salience of reciprocity" [46]	Kimmy Wa Chan, Stella Yiyang Li	2010	"Journal of Business Research"	260
"Vigilante Marketing and Consumer-Created Communications" [47]	Albert M. Muñoz & Hope Jensen Schau	2013	"Journal of Advertising"	214
"Selling, Sharing, and Everything In Between: The Hybrid Economies of Collaborative Networks" [48]	Daiane Scaraboto	2015	"Journal of Consumer Research"	196
"Customer knowledge management via social media: the case of Starbucks" [49]	Alton Y.K Chua, Snehasish Banerjee	2013	"Journal of Knowledge Management"	195
"Brand Public" [50]	Adam Arvidsson, Alessandro Caliendo	2015	"Journal of Consumer Research"	194
"We Create, We Connect, We Respect, Therefore We Are: Intellectual, Social, and Cultural Value in Online Communities" [51]	Mina Seraj	2012	"Journal of Interactive Marketing"	164
"An investigation into gamification as a customer engagement experience environment" [52]	Tracy Harwood, Tony Garry	2015	"Journal of Services Marketing"	163
"Five Co-s in innovating: a practice-based view" [53]	Tiziana Russo-Spena, Cristina Mele	2012	"Journal of Service Management"	162
"Counter-brand and alter-brand communities: the impact of Web 2.0 on tribal marketing approaches" [54]	Bernard Cova & Tim White	2010	"Journal of Marketing Management"	160

TGC = Total Global Citations.

#### 4.4.1. Authors' collaboration

The "collaboration network option in the Bibliometrix-R package's social structure tab is essentially a scientific mapping to examine significant author collaborations that have taken place in research utilizing netnography. Fig. 5 depicts the network of top authors who collaborate. The size of the circle (node) indicates the frequency of articles associated with the author, and the thickness of the lines connecting two nodes indicates the frequency of author collaboration".

Collaboration network analysis provides 14 clusters. Cuomo MT (University of Salerno), Festa G (University of Salerno), Giordano A (University of Naples), Metallo G (University of Salerno) and Tortora D (University of Milano-Bicocca) collaborated to comprise the biggest cluster (light green). Another important cluster (light blue) comprises Kazinets RV (University of Southern California), Ashman R (The University of Liverpool), Patterson A (The University of Liverpool) and Gatrell C (Lancaster University). Janta H, Lugosi P, Quinton S and Ladkin A collaborated with each other and form another significant cluster (dark green). Harrigan P, Fujita M and Azer J form another substantial collaborative network (dark blue).

#### 4.5. Institution performance

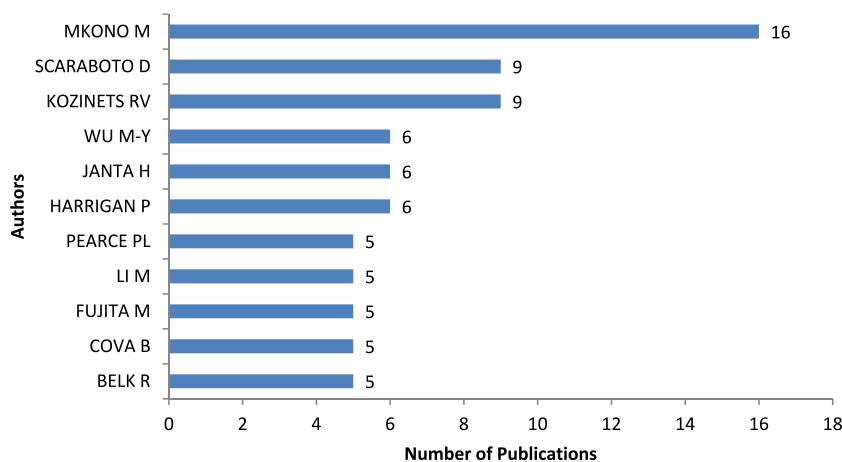
Fig. 6 illustrated the top contributing institutions in this field that contributed at least 10 research articles. It is depicted in Fig. 6 that Griffith University contributed 23 research articles and stands first in the list. It is followed by Bournemouth University and University of Surrey with 21 and 19 research articles respectively ranked as second and third. University of Salerno and Southern Cross University ranked as fourth and fifth respectively. University of Salerno contributed 16 research articles while Southern Cross University contributed 14 research articles. It was also found that the pair of Zhejiang University and James Cook University is the most collaborating pair in this field of research.



**Table 5**  
Most impactful articles based on Local citations.

Article Title	Author(s)	Year	Journal	TLC
"The Field behind the Screen: Using Netnography for Marketing Research in Online Communities" [3]	Robert V. Kozinets	2002	"Journal of Marketing Research"	396
"Sensitive research topics: netnography revisited" [18]	Roy Langer, Suzanne C. Beckman	2005	"Qualitative Market Research"	114
"The application of netnography in tourism studies" [55]	Muchazondida Mkono and Kevin Markwell	2014	"Annals of Tourism Research"	50
"Consumer engagement in a virtual brand community: An exploratory analysis" [37]	Roderick J. Brodie, Ana Ilic, Biljana Juric, Linda Hollebeek	2013	"Journal of Business Research"	47
"Using netnography research method to reveal the underlying dimensions of the customer/tourist experience" [56]	Ahmed Rageh, T.C. Melewar, Arch Woodside	2013	"Qualitative Market Research"	36
"Virtual communities: A marketing perspective" [40]	Kristine de Valck, Gerrit H. van Bruggen, Berend Wierenga	2009	"Decision Support Systems"	31
"Teaching Old Brands New Tricks: Retro Branding and the Revival of Brand Meaning" [38]	Stephen Brown, Robert V. Kozinets, and John F. Sherry, Jr.	2003	"Journal of Marketing"	31
"Appraising netnography: towards insights about new markets in the digital tourist era" [57]	Mao-Ying Wu & Philip L. Pearce	2013	"Current Issues in Tourism"	30
"Wine tourism experience: A netnography study" [58]	Tan VoThanh, Valentina Kirov	2018	"Journal of Business Research"	27
"Exploring cross-cultural ambivalence: a netnography of intercultural wedding message boards" [59]	Michelle R. Nelson, Cele C. Otnes	2005	"Journal of Business Research"	26
"Chinese recreational vehicle users in Australia: A netnographic study of tourist motivation" [60]	Mao-Ying Wu, Philip L. Pearce	2014	"Tourism Management"	24
"Netnography: Doing Ethnographic Research Online" [61]	Stephanie O'Donohoe	2015	"International Journal of Advertising"	24
"Stories visitors tell about Italian cities as destination icons" [62]	Arch G. Woodside, Blair F. Cruickshank, Ning Dehuang	2007	"Tourism Management"	24
"Brand communities embedded in social networks" [43]	Melanie E. Zaglia	2013	"Journal of Business Research"	23
"The Othering of Food in Touristic Eatertainment: A Netnography" [63]	Muchazondida Mkono	2011	"Tourist Studies"	22
"Brand Public" [50]	Adam Arvidsson, Alessandro Caliandro	2015	"Journal of Consumer Research"	20
"Applying netnography to market research: The case of the online forum" [20]	Jiyao Xun & Jonathan Reynolds	2010	"Journal of Targeting, Measurement and Analysis for Marketing"	20
"Counter-brand and alter-brand communities: the impact of Web 2.0 on tribal marketing approaches" [54]	Bernard Cova & Tim White	2010	"Journal of Marketing Management"	20
"Online destination image of India: a consumer based perspective" [64]	Mridula Dwivedi	2009	"International Journal of Contemporary Hospitality Management"	20
"Netnography as a Method of Lead User Identification" [65]	Frank-Martin Belz, Wenke Baumbach	2010	"Creativity and Innovation Management"	19

TLC = Total Local Citations.



**Fig. 4.** Most prolific authors.

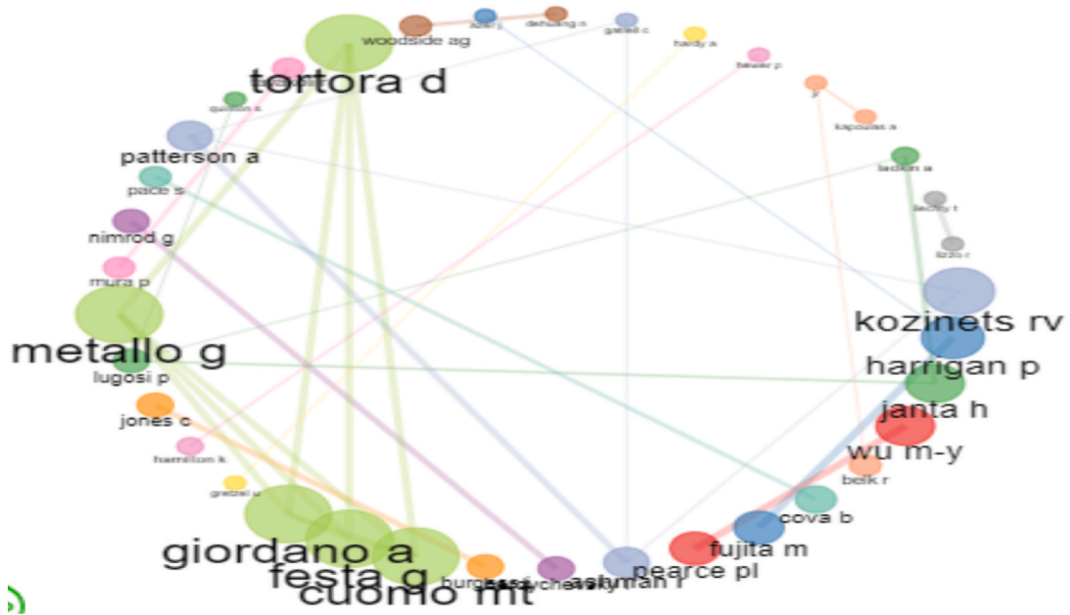
#### 4.6. Country performance

Fig. 7 illustrated all those countries that contributed more than 50 papers in the research employing netnography. It is depicted in Fig. 7 that the United Kingdom has contributed 277 research articles and ranked as first in the list of most contributing countries. It is

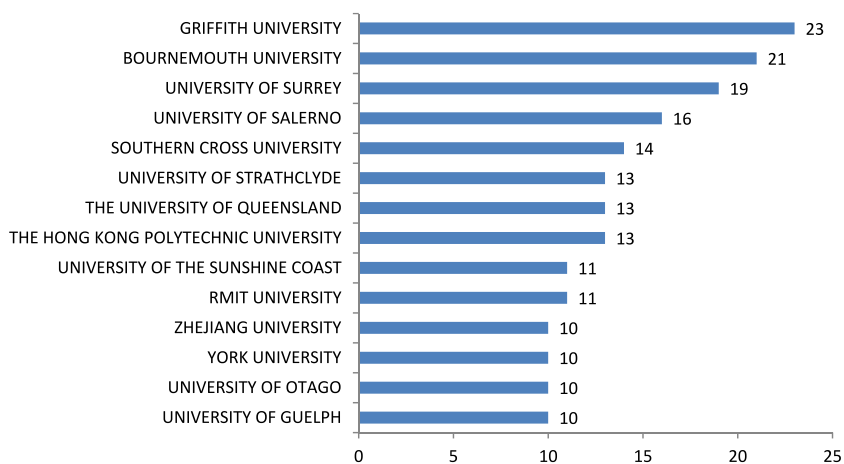
**Table 6**  
Most impactful authors.

Author	Current Affiliation	TC	TP	h-index	g-index
Kozinets RV	University of Southern California	3063	9	7	9
Juric B	The University of Auckland	1940	2	2	2
Brodie RJ	The University of Auckland	1792	1	1	1
Hollebeek L	Vilnius University	1792	1	1	1
Ilic A	The University of Auckland	1792	1	1	1
Cova B	Kedge Business School	825	5	5	5
Brown S	University of Ulster	821	2	2	2
Mkono M	University of Queensland	817	16	15	16
Sherry Jr Jf	University of Notre Dame	788	1	1	1
Pace S	Kedge Business School, Marseille	655	4	3	4
Chan KW	Hong Kong Baptist University	631	2	2	2

TC = Total Citations TP = Total Publications.



**Fig. 5.** Collaboration network of authors.



**Fig. 6.** Most contributing affiliations.

followed by The United States of America (228 research papers), Australia (185 research articles), Italy (97 research articles) and Brazil (93 papers). These are the top 5 countries in this field. Further, Fig. 8 shows the country collaboration map which was made using bibliometrix. In Fig. 8 different colors depict the contribution of various countries wherein dark blue color represents a high number of publications and dark grey color represents a very low number of publications. Red lines between the countries represent the collaboration between the countries and the thickness of the lines represents the frequency of collaboration between the countries. The pair of the UK and the USA is the most collaborating pair of countries. They collaborated on 10 research papers. USA with Canada also collaborated on 10 research articles. China collaborated with USA and Australia on 8 research papers each. The pair of the USA and Australia is the fifth most collaborating pair with 7 research articles together.

#### 4.7. Knowledge cluster

Science mapping is the representation of a network that shows how research in a field is connected to one another. It can be done using a variety of tools, methodologies, and software. One such technique is co-occurrence network analysis. "The knowledge clusters in the field were identified using the co-occurrence network technique in the Bibliometrix-R based on the author's keywords in the articles within an extracted review corpus". Three significant knowledge clusters important to study utilizing netnography were identified as a result of this analysis. Fig. 9 "produced a visual representation of the network link between the author's keywords. Each keyword is portrayed by a node in the network map, and the size of the node indicates how often the keyword appears in the review corpus; the larger the node, the more frequent the occurrence, and inversely". Only when these two keywords co-occur will the line connecting two nodes in the network map appear visually. The line's thickness varies depending on how frequently two keywords co-occur; the thicker the line, the more frequently this occurs, and vice versa.

Using co-occurrence network analysis on three centrality criteria, betweenness, closeness and PageRank—three knowledge clusters were discovered as shown in Table 7.

The term "betweenness" centrality refers to how dependent other nodes are on a particular node, and hence how much potential power they have. "Closeness centrality" is an assessment of either access effectiveness or autonomy from probable intermediary control. In addition, by determining how many in-links a particular node has in relation to other relevant nodes, "PageRank" centrality offers a score of significance to each individual node.

##### 4.7.1. Cluster 1: consumer behaviour

Authors not only conceive "consumption" as a purely analytical term but approaches it as an inescapably an ideology deserving of, even requiring, a critical approach. Netnography has been used to explore phenomena connected to consumer behavior. Kozinets [5] coined the term "netnography" to examine "the consumer behavior of cultures and groups present on the Internet." Nowadays, a lot of consumption-related actions and behaviors are visible online as consumers are increasingly active on the web. Cluster 1 is depicted in red color in the co-occurrence map. With the help of sense making approach as suggested by Ref. [80], keywords occurred in this cluster are arranged as statements to reflect its thematic coverage. This cluster encapsulated how "Brands" can utilize "Netnography" to examine "Consumer behavior" or "Consumption" behavior or customers product use, practices, "Motivation", "Identities" and brand meanings through "User-generated content" on "Social Networks" or "Internet". As per the page rank analysis, "netnography" and "consumer behavior" have the highest page rank score. Also, these keywords have the highest betweenness centrality and closeness centrality. Thus the theme of this cluster is identified as "Consumer Behaviour". Digging deep into the articles classified under this cluster (Table 8) reflects a comprehensive understanding of cluster thematic focus. The article authored by "Ferreira Da; ChimentiPcds" titled as "Netnography: Unveiling Human Narratives in a Digital World" presented netnography as a methodology inserted in the "cultural" perspective of consumption studies. Another study titled "Brand Communities For Mainstream Brands: The Example of the Yamaha R1 Brand Community" authored by Felix R conducted to understand consumers product use, practices, identity and brand meanings in the context of motorcycle brand. Similarly, "The Mental Topography" of the Shanghai City Brand: A Netnographic Approach to Formulating City Brand Positioning Strategies" which was authored by "Larsen Hg" applied netnography for the purpose

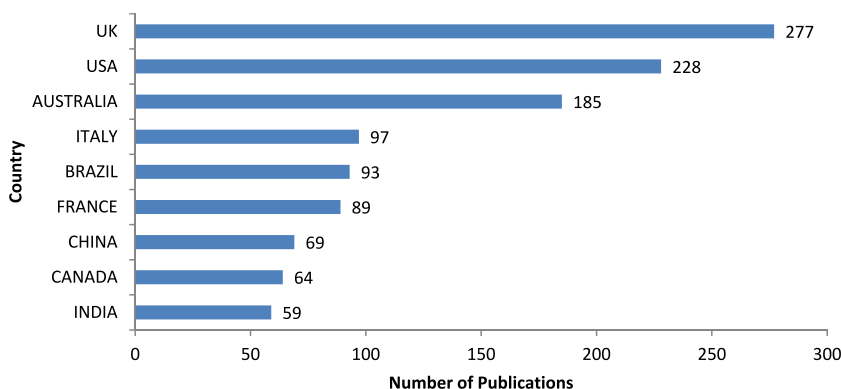


Fig. 7. Most contributing countries.

# Country Collaboration Map

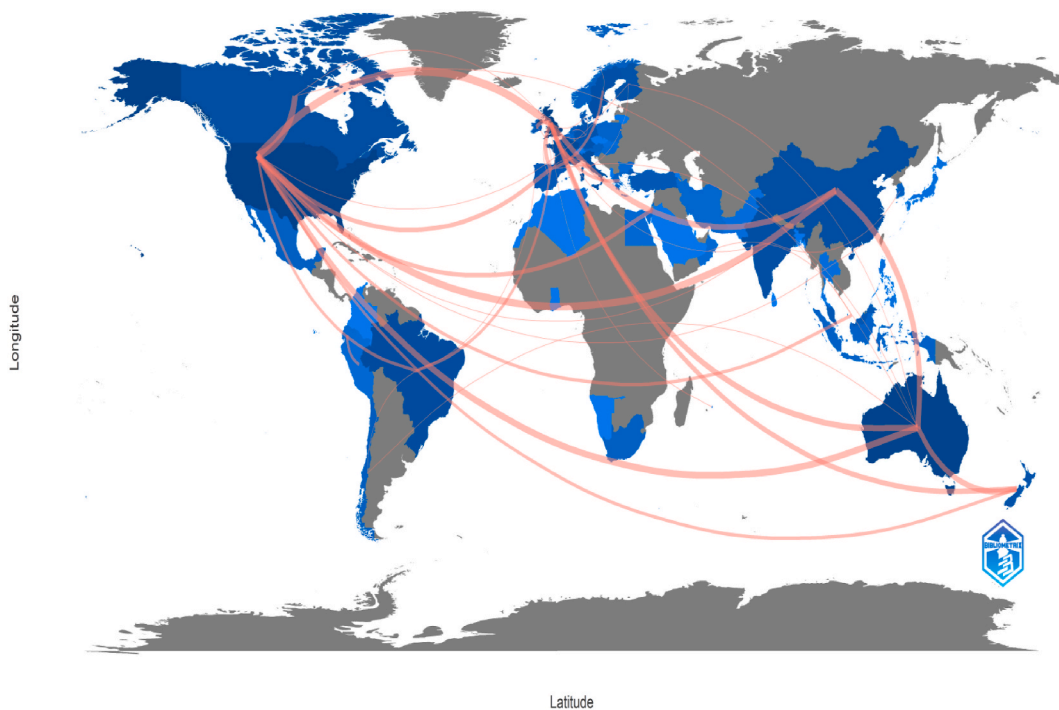


Fig. 8. Country collaboration map.

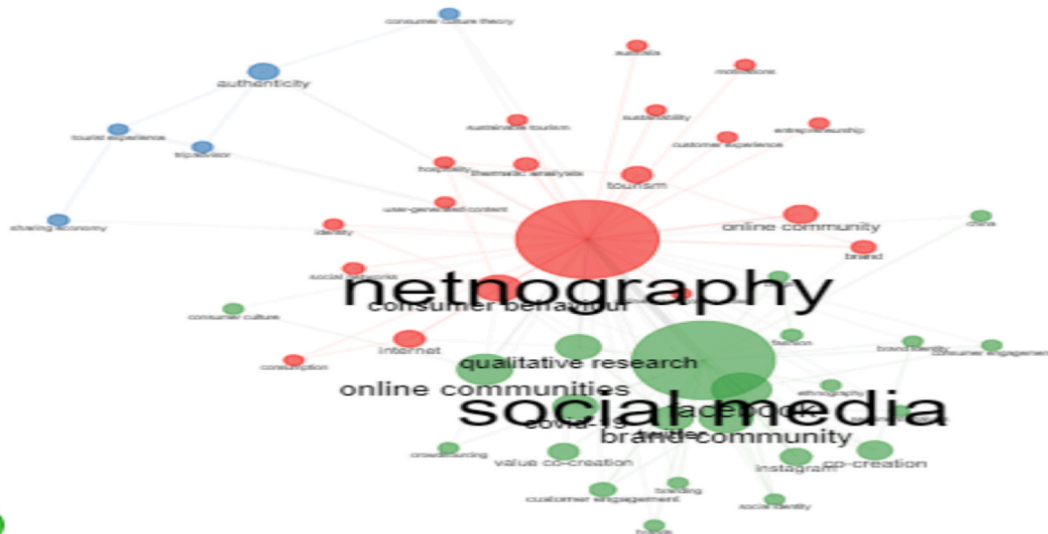


Fig. 9. Keywords co-occurrence analysis.

of gaining insights into the “perceptual” topography of residents living in or visiting a city brand.

#### 4.7.2. Cluster 2: Co-creation in the Online Brand communities

Cluster 2 is depicted by green color in the co-occurrence map. With the help of sense making approach as suggested by Ref. [80], keywords occurred in this cluster are arranged as statements to reflect its thematic coverage. This cluster encapsulated the articles that reflect employing “Netnography” by “Brands” to assess “Co-creation” or “Value Co-creation” on “Online Communities” or online

**Table 7**  
Keywords-based cluster.

Keyword	Betweenness	Closeness	PageRank
<b>Cluster 1: Consumer Behaviour</b>			
Netnography	893.6936	0.0217	0.2965
Consumer behaviour	2.8409	0.0120	0.0276
Internet	0.5578	0.0114	0.0162
Online community	0.0000	0.0110	0.0121
Tourism	0.1111	0.0112	0.0145
Motivations	0.0000	0.0110	0.0067
Social networks	0.0000	0.0111	0.0095
Thematic analysis	0.0000	0.0110	0.0103
Brand	0.0099	0.0112	0.0140
Hospitality	0.0667	0.0112	0.0107
Online brand communities	0.0000	0.0110	0.0059
Consumption	0.0000	0.0111	0.0071
Sustainability	0.0000	0.0110	0.0076
Customer experience	0.0000	0.0110	0.0059
Identity	0.0000	0.0111	0.0068
Sustainable tourism	0.0000	0.0110	0.0059
User-generated content	0.0000	0.0110	0.0050
Australia	0.0000	0.0110	0.0076
Entrepreneurship	0.0000	0.0110	0.0050
<b>Cluster 2: Co-creation in Online Brand Communities</b>			
Social media	78.0102	0.0145	0.1380
Facebook	1.2340	0.0119	0.0348
Brand community	1.4446	0.0119	0.0317
Twitter	0.2970	0.0116	0.0258
Online communities	0.1816	0.0114	0.0239
Covid-19	0.2672	0.0114	0.0202
Qualitative research	0.2903	0.0115	0.0189
Co-creation	0.2133	0.0115	0.0165
Instagram	0.0000	0.0112	0.0158
Customer engagement	0.0000	0.0112	0.0158
Fashion	0.0741	0.0114	0.0140
China	0.0000	0.0111	0.0101
Consumer engagement	0.0000	0.0112	0.0099
Social identity	0.0000	0.0114	0.0099
Ethnography	0.0000	0.0111	0.0095
Blogs	0.0000	0.0112	0.0094
Branding	0.0000	0.0111	0.0092
Consumer culture	0.0000	0.0111	0.0085
Brand identity	0.0000	0.0112	0.0085
Value co-creation	0.0000	0.0111	0.0084
Brands	0.0000	0.0111	0.0083
Sentiment analysis	0.0000	0.0111	0.0077
Crowdsourcing	0.0000	0.0111	0.0074
<b>Cluster 3: Authenticity</b>			
Authenticity	0.4100	0.0114	0.0179
Tripadvisor	0.0000	0.0112	0.0138
Tourist experience	0.2890	0.0114	0.0137
Consumer culture theory	0.0088	0.0112	0.0095
Sharing economy	0.0000	0.0111	0.0082

“Brand Communities” or “Brands” “Social media” (such as “Twitter” or “Instagram”) or “Blogs”. The theme of this cluster is identified as Co-creation in Online Brand Communities. Digging deep into the articles classified under this cluster reflects a comprehensive understanding of cluster thematic focus. The article titled “Let Them Talk! Managing Primary and Extended Online Brand Communities for Success” found through netnography that value creation is a key element for creating online community successful. Further another study titled “Co-Creating Corporate Brand Identity With Online Brand Communities: A Managerial Perspective” applied netnography to explore how brand communities contribute towards formation of co-creating corporate brand identity. In the similar vein, article titled “Transitional Space and New Forms of Value Co-Creation in Online Brand Communities” explored the role of reality and fantasy in generating and sustaining brand value co-creation based on a netnography study.

#### 4.7.3. Cluster 3: authenticity

Due to the fact that authenticity is essentially a social construct, the internet environment of today offers new opportunities for researchers to comprehend the roles that consumers play in the co-creation of the authenticity of market products. Netnography is helpful in uncovering the phenomena of authenticity in the marketplace, including how online consumer conversations affect the perception of an item’s or service’s authenticity [81]. Cluster 3 is depicted in blue color. With the help of sense making approach as

**Table 8**  
Cluster-wise top articles based on PageRank.

Title	Author	Year	Journal	Pagerank
<b>Cluster 1: Consumer Behaviour</b>				
"Let's Talk About Wine: Does Twitter Have Value?"([66])	Wilson D; Quinton S	2012	"International Journal of Wine Business Research"	0.240
"Netnography: Unveiling Human Narratives in a Digital World"([67])	Ferreira Da; Chimenti Pcds	2022	"Revista Brasileira De Marketing"	0.217
"The 'Mental Topography' of the Shanghai City Brand: A Netnographic Approach to Formulating City Brand Positioning Strategies"([68])	Larsen Hg	2018	"Journal of Destination Marketing and Management"	0.214
"Brand Communities For Mainstream Brands: The Example of the Yamaha R1 Brand Community"([69])	Felix R	2012	"Journal of Consumer Marketing"	0.181
"Going Undercover: Online Domestic Tourism Marketing Communication in Closed and Open Facebook Groups"([70])	Roth-Cohen O; Lahav T	2019	"Journal of Vacation Marketing"	0.172
<b>Cluster 2: Online Brand Communities</b>				
"Online Brand Communities as Heterogeneous Gatherings: A Netnographic Exploration of Apple Users"([71])	Özbölük T; Dursun Y	2017	"Journal of Product and Brand Management"	0.151
"Let Them Talk! Managing Primary and Extended Online Brand Communities for Success"([72])	Noble Ch; Noble Sm; Adjei Mt	2012	"Business Horizons"	0.151
"Non-Dyadic Human-Robot Interactions and Online Brand Communities"([73])	Lima V; ZaniniMt; Reis IrigarayHa	2022	"Marketing Intelligence And Planning"	0.151
"Co-Creating Corporate Brand Identity With Online Brand Communities: A Managerial Perspective"([74])	Essamri A; Mckechnie S; Winklhofer H	2019	"Journal of Business Research"	0.015
"Transitional Space and New Forms of Value Co-Creation in Online Brand Communities"([75])	Skandalis A	2023	"Journal of Business Research"	0.012
<b>Cluster 3: Authenticity</b>				
"Is it All Just Lip Service?: On Instagram and The Normalisation of the Cosmetic Servicescape"([76])	Rodner V; Goode A; Burns Z	2022	"Journal of Services Marketing"	0.223
"Experiencing The Real Village-A Netnographic Examination of Perceived Authenticity in Rural Tourism Consumption"([77])	Jyotsna Jh; Maurya Uk	2019	"Asia Pacific Journal of Tourism Research"	0.182
"Netnography as a Marketing Research Tool in the Fashion Industry in Southeast Europe"([78])	Xharavina N; Kapoulas A; Miaoulis G; Jr	2020	"International Journal of Market Research"	0.175
"Organic and Amplified E-wom in Consumer Fashion Blogs"([79])	Kulmala M; Mesiranta N; Tuominen P	2013	"Journal of Fashion Marketing and Management"	0.172

suggested by Ref. [80], keywords occurred in this cluster are arranged as statements to reflect its thematic coverage. This cluster encapsulated the articles that reflect employing "Authenticity" of shared "Tourist Experience" is an important criterion in consumers' selection of "Sharing economy" services from platforms like "Tripadvisor". As per the page rank analysis, "authenticity" has the highest page rank score. Also, this keyword has the highest betweenness centrality and closeness centrality. Thus the theme of this cluster is identified as Authenticity. Digging deep into the articles classified under this cluster reflects a comprehensive understanding of cluster thematic focus. The article titled "Experiencing the real village – a netnographic examination of perceived authenticity in rural tourism consumption" by "J. H. Jyotsna and Upendra Kumar Maurya" examined the indicators of authenticity and how tourists react to it in a rural environment.

#### 4.8. Mapping of topics and future research

##### 4.8.1. Mapping of topics

It is vital to consider the development of netnography in order to spur further study interest and offer prospective directions for future research phenomena. In order to accomplish this, we used the "thematic map" function of the Bibliometrix-R programme "to analyse the themes and identify their transition classes based on their degree of relevance (centrality) and development (density). By combining centrality and density scores with this method, we were able to categorise themes as 'basic, motor, emergent, and niche' [82], with the findings shown in Table 9". Basic and motor themes are indications that the research topics are well-established (centrality). "Basic themes often relate to other topics within the cluster, which results in lower density and effect, as opposed to motor themes, which also connect to other topics beyond the cluster, which results in higher density and impact. This is the main

**Table 9**  
Thematic analysis.

Cluster	Category (CR, DR)	Centrality	Density
Consumer Behaviour	Basic theme (8,5)	0.27	11.27
Co-creation in Online brand communities	Basic theme (5,4)	0.03	11.11
Authenticity	Motor theme (7,6)	0.08	11.82
Hospitality	Motor theme (6,7.5)	0.05	12.50
Sustainable tourism	Niche theme (1,9)	0.00	15.31
Customer engagement	Emerging theme (2,3)	0.01	10.00
Sharing economy	Emerging theme (1,4)	0.03	7.69

difference between basic and motor themes [83]. Three key themes, "Consumer Behavior, Online Brand Communities, and Authenticity," are shown in Table 9 and are also apparent in the cooccurrence network analysis results (Fig. 9). It's interesting to note that there is only one motor with a heavy focus on "Hospitality," having linkages to both cluster-related and non-cluster-related issues. "Given that the bulk of high-quality studies have solely focused on these four thematic clusters, referred to as basic or motor themes, it may be assumed that they are well-established within the research domain focused on Netnography". Table 9 also displays four topic clusters that are grouped under the headings emerging theme and niche theme. "Emerging themes are thought of as developing or immature and as such have little importance or impact right now, but they may yet be significant in the future" [82]. In contrast, "niche themes have strong internal connections within the cluster but weak external connections, demonstrating that these topical clusters are very central and, therefore, highly specific and peripheral in character" [82]. This also suggests that since the results are neither generalizable nor firmly established, interested researchers may want to focus their efforts on emerging themes and niche themes. Therefore, as shown in Table 9, the subject areas of "sustainable tourism, customer engagement, and sharing economy" are intriguing areas for future academics interested in netnography to concentrate on.

#### 4.8.2. Avenues for future research

In order to expand the corpus of knowledge utilizing netnography, three major directions are highlighted for future study attention and consideration in the following sections. These directions were identified as emergent and niche subjects in the preceding section.

**4.8.2.1. Sustainable tourism.** The past ten years have seen a proliferation of travel-related websites and forums. Sustainability, in its most basic definition, is the "long-term preservation and improvement of cultural and natural resources" [84]. When describing sustainable tourism, it is customary to balance economic, societal, and natural issues [85]. Although the idea of sustainable tourism has so far offered a platform for interaction and negotiation between many stakeholders regarding the environmental effects of their operations, it does have analytic and pragmatic flaws [86]. Thus, among marketing researchers who concentrate on hospitality and tourism, netnography has grown in popularity. For instance Ref. [87], investigated how travellers view dangers connected with four well-known locations using a discussion forum on TripAdvisor, the largest travel website in the world. These web resources offer a plethora of data about users' travel and destination thoughts and experiences. So, for many studies on travel experiences, "netnography has proven to be a natural methodological choice" [56,88]. Moreover, blogs have been used as a source for client testimonials about tourism [62]. Further, netnography offers data regarding consumer online behaviour patterns as a result, and business scholars find it to be useful. The value of this methodology has been acknowledged by numerous academics across many fields [12]. Researchers in tourism have paid less attention to it, though. Online communities' growth has given cultural issues new dimensions, greatly influencing the choices made by various stakeholders. Tourists, for instance, can directly influence destination marketers and potential tourists by sharing their experiences on social media channels. Cybercultures have assimilated into our daily lives, strengthening established bonds between various social actors. One of the avenues via which cybercultures are built is online communities. Stakeholders from many societal sectors now engage more frequently both domestically and abroad. A growing number of people are interested in conducting netnographic research as a result of the rapid growth of Web technology. The WTO defines sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities". It was found in the review corpus that major studies taken into consideration the environmental aspect and future researchers are advised to take economic and social aspects into consideration for their research studies. Further, future researchers may consider viewpoints of other stakeholders like managers and staff members regarding sustainable tourism.

**4.8.2.2. Customer engagement.** Over the past ten years, customer engagement has been more prevalent in literature. Customer engagement, which refers to cognitive, emotive, and behavioural responses aimed at the business outside of the purchase, shows a customer's personal connection to a company/business and its associated brands [37,44]. Engagement research has mostly focused on the behavioural component of these reactions. Consumer engagement behaviours (CEBs) include both good and negative actions, such as blogging about a brand in a favourable light (i.e., organising public action against a business). Although these actions are focused on the brand or business, employees and other existing and potential consumers (referred to as peer customers) may also be the objective of CEBs [89]. Customer satisfaction and experience are impacted by peer customer engagement [90]. Further, being a venue for customers to readily provide feedback and suggestions to the retailer, the online community adds value for retailers. With this kind of consumer engagement, retailers have the opportunity to boost product innovation and hasten the development process, two important goals of retailers to reduce costs and increase market acceptability [91].

**4.8.2.3. Sharing economy.** Technology advancements in information and communication support the "sharing paradigm" [92]. According to Ref. [93], sharing platforms have started to create new markets and opportunities, as well as new avenues for income, peer-to-peer engagement, and relationship-building. Yet, given that these platforms have the potential to impact both the wellbeing of specific people and entire communities, these new forms of value co-creation also expose negative aspects that we must deal with in a realistic manner [94]. The sharing economy has begun to disrupt the roles and boundaries of community players, which has an impact on their citizenship and psychological ownership as it challenges traditional market mechanisms to create new wealth [17]. "With shared community values, increased consumer empowerment, and more choice and convenience for buyers, collaborative and sharing economy platforms offer a cultural counterbalance to individualism. Most notably, prosumers and micro-entrepreneurs can benefit from these platforms". The co-creation concept is widely used in service research and has expanded into the tourism and hospitality

industries. They created the concept of co-destruction to recognize potential negative effects in an effort to recognize negative value production circles. It is not unusual for actors to have practises and resources that are inconsistent with one another. Whether this is done unintentionally or on purpose, the result could be a value reduction. Value co-destruction can also happen when opportunities for one party are eliminated, resulting in advantages only for another party. Value co-destruction has received even less focus to this point [48]. Most of the studies that use netnography technique in this cluster are related with the context of car sharing economy platforms and a very few studies are found in the context of other types of sharing platforms like co-working spaces, peer to peer lending, crowdfunding, parking space rental, education sharing or apartment renting etc. Future researchers can focus on these platforms also. Another observation is majority studies apply netnography approach for value co-creation or co-destruction, few research articles are in context of value no-creation. Thus, future researchers can apply netnography technique to study value no-creation on sharing economy platforms.

**4.8.2.4. Netnography in sports industry.** Social media and other digital platforms have increased communication methods and produced new, virtual venues where sports fans may connect and communicate with teams and one other. Netnography can be employed to see if the recent transition to a more mediated consumption of sport and the likelihood of change to the stadium experience will result in better acceptance of an increasingly global fan base by localised, diehard supporters [95]. Further, it can be employed to assess whether social media creates positive impressions of sports public persons [96].

**4.8.2.5. Netnography and innovation management.** The past few decades have seen a significant growth in the subject of innovation management study. Innovation management has a variety of methodological obstacles, much like other social sciences. Regular subjects like digitalization, ecosystems, and open innovation frequently need for data collection and analysis techniques that allow for both depth and breadth [97]. Analysis of connections between concepts and organizations, perspectives, and stakeholder issues are also necessary for innovation management research. Innovation management research is on the cutting edge of new technologies and advances thus require new methodologies that can be adopted for data collection and analysis. Netnography can be employed in the field of innovation management for data collection and analysis related to ecosystem innovation, technology innovation and industrial-societal innovation.

**4.8.2.6. Netnography and health industry.** Health Industry deals with humans, environment, nursing, and caring. Numerous studies have demonstrated how individuals assist one another's mental health conditions, such as post-traumatic stress disorder, anxiety, and depression, via websites like forums and social media. Netnography can be employed to completely understand these types of support from temporary experts on virtual platforms. Understanding such health interactions online offers significant knowledge pathways in areas that could otherwise be ignored or neglected. Moreover, the possible hazards and advantages of adopting netnography in nursing research also require further study [11].

**4.8.2.7. Ethical issues in netnography.** Technological advancements provide new tools to netnographers for recording, sharing, identifying, automating, and mining regular events. However, despite the fact that ethical decision-making is a crucial and constantly evolving subject, they are seldom demonstrated in published studies [98]. When describing their choice of study methodologies, the majority of the publications [99] analysed did not make any reference to any ethical principles. Thus future researchers are encouraged to focus on ethical considerations while employing netnography technique.

## 5. Discussion

Netnography is a special kind of qualitative social media research. It uses ethnographic approaches to understand social interaction in contemporary digital communication scenarios. Interest in netnography among academics and practitioners expanded fast as the number of people using the internet increased internationally. In this study, performance and scientific mapping review techniques were used to investigate the intellectual structure of the Netnography knowledge base in order to detect any apparent gaps in the corpus of literature and carry out more in-depth research on the subject. Bibliometric analysis is appropriate to identify current and emerging research patterns in order to examine the complexity of the whole research field comprehensively. In this particular case, this requires not only a solid reflection on current developments in studies using the netnography approach. Researchers used performance analysis to have insights into the most prolific authors, institutions, countries and journals. Citation analysis to dig deep into the literature to find most cited authors and co-authorship analysis is employed to understand the collaboration pattern among authors, institutions and countries. Journal of Business Research (TP = 37) is the most selected journal for research employing netnography and publishes the highest number of research articles followed by Journal of Marketing Management (TP = 31) and European Journal of Marketing (TP = 36). The article titled "The Field behind the Screen: Using Netnography for Marketing Research in Online Communities" (TGC = 2151) authored by Robert V. Kozinets is the most globally and locally cited article. Mkono M is the most contributing author who is currently affiliated with the University of Queensland. Mkono M authored 16 research articles related to the application of netnography in tourism studies. Articles authored by Mkono have been cited 817 times. Cuomo MT (University of Salerno), Festa G (University of Salerno), Giordano A (University of Naples), Metallo G (University of Salerno) and Tortora D (University of Milano-Bicocca) collaborated to comprise the biggest cluster (light green). Griffith University contributed 23 research articles and stands first in the list followed by Bournemouth University and University of Surrey with 21 and 19 research articles respectively ranked as second and third. The United Kingdom has contributed 277 research articles and ranked as first in the list of most contributing



countries. It is followed by The United States of America (228 research papers), Australia (185 research articles), Italy (97 research articles) and Brazil (93 papers). Keywords co-occurrence analysis was done to map the knowledge structure. The "thematic map" tool was used to recognize basic themes, motor themes, niche themes, and emerging themes in order to suggest future research directions. Three basic themes, "Consumer Behavior, Online Brand Communities, and Authenticity," are identified which is also apparent in the cooccurrence network analysis results. Future scholars interested in netnography may find it interesting to focus on the themes of "sustainable tourism, customer engagement, and sharing economy."Based on the review few more themes are suggested for future researchers i.e. netnography in sports industry, netnography and innovation management, netnography and health industry and ethical issues in netnography. By outlining the rising trends in the discipline and providing them with a list of scientific study fields, this report acts as a road map for anyone considering working on netnography.

## 6. Implications

This study provides significant academic implications based on the outcomes of this investigation. First, unpacking the knowledge clusters provides nomological clarity and helps researchers in comprehending the scope and present boundaries of research in this domain as these knowledge clusters represent the primary streams of research in this field. Second, social network analysis (using co-authorship analysis as an example) can be used to understand social patterns, (such as the form of structural networks between authors, their connected institutions, and countries), the presence of gaps, and the composition of connections that represent the relational traits of collaborators. With the aid of this analysis, researchers might find suitable academic institutions and research partners. Third, the uncovering of knowledge clusters based on thematic analysis offers insights into both established and emerging themes that are helpful for reflecting on the past and gaining an unbiased understanding of the future of netnography research. Prospective researchers might identify significant knowledge gaps in the literature by identifying emerging topics. Researchers could use these findings to highlight research topics that will encourage the use of netnography in business research. Fourth, conducting empirical studies based on our analysis might act as a springboard for encouraging methodological development in subsequent studies. Fifth, metrics (like publishing trend) provide an objective tool to spot anomalies (for instance, an upsurge in publication), which serves as a foundation for additional investigation to shed light on the reasons that led to this descriptive finding.

After highlighting theoretical contributions, researchers now underline the practical contribution of this research. This study can help managers in making decisions about how customers perceive different aspects (for example sustainability) and incorporate them into their consumption behavior. This may result in competitive advantage and business success. Further, the performance indicators (like author, institution and country analysis) used in this analysis offer an objective way to determine social dominance or hidden biases (such as population that is proportionately represented or underrepresented in a geographic or demographic group) which can direct improvement initiatives of research funding bodies to target their grants and research development programs and promote diversity and inclusivity of contributors. Thus, this review study provides significant practical implications to various stakeholders like management and research funding bodies.

## 7. Limitations

The current study has some limitations that could aid future researchers in broadening the scope of their work. As a starting point, information was taken from the Scopus database, one of the most respected databases; however, Web of Science and Dimensions were not reviewed. Additionally, other research areas definitely worthy further investigation may include using other databases or combining the two main bibliometric databases, such as Web of Science and Scopus, given the depth of research in this area and the incapability of a single database to provide a comprehensive picture of a field of study with such a broad global impact. Also, additional important material that was published in several languages and wasn't taken into account in this analysis was limited to research publications that were published in English. Furthermore, this review is completely based on bibliometric information only. As a result, conclusions should be interpreted by keeping these limitations in mind.

## 8. Conclusion

Globally, netnography research has expanded greatly in the last few decades. Researchers examine a dataset of 722 documents using the Bibliometrix tool for bibliometric analysis to determine how academic research on this technique has evolved, whose perspectives are most valuable, and highlighted research aims that are significantly advancing the literature. Analyzing publication trends and patterns can also be useful for determining a field's value and level of productivity. Netnography attracted substantial research interest during the preceding two decades. The number of publications per year was in the single digit and after that publication trend maintains the number of publications in double digits and hit the three-digit number in the year 2022. With this rising trend over the last few years, it is obvious that the netnography technique is gaining interest from researchers. Journal of Business Research is the most selected journal for research employing netnography and publishes the highest number of research articles followed by Journal of Marketing Management and European Journal of Marketing. With an h-index of 21, Journal of Business Research has the highest h-index. Journal analysis could be helpful for researchers in determining the starting point to build their understanding of their field of interest. The article titled "The Field behind the Screen: Using Netnography for Marketing Research in Online Communities" authored by Robert V. Kozinets is the most globally and locally cited article. It provides important knowledge regarding influential research papers that may be seen as the cornerstones of this field of study. This analysis will be useful to upcoming scholars. Mkono M is the most contributing author who is currently affiliated with the University of Queensland. MkonoM authored 16

research articles related to the application of netnography in tourism studies. Articles authored by Mkono have been cited 817 times. Identifying the authors and organizations that have published the most research documents in this area may aid researchers in discovering research collaborators and academic institutions. Cuomo MT, Festa G, Giordano A, Metallo G and Tortora D collaborated to comprise the biggest cluster. Griffith University contributed 23 research articles and stands first in the list followed by Bournemouth University and University of Surrey with 21 and 19 research articles respectively ranked as second and third. The United Kingdom has contributed 277 research articles and ranked as first in the list of most contributing countries. It is followed by The United States of America, Australia, Italy and Brazil. Three significant knowledge clusters important to study utilizing netnography were identified as a result of co-occurrence of network analysis namely, consumer behavior, co-creation in online brand communities and authenticity. Further, niche and emerging themes include sustainable tourism, customer engagement and sharing economy. Based on the review few more themes are suggested for future researchers i.e. netnography in sports industry, netnography and innovation management, netnography and health industry and ethical issues in netnography. This analysis serves as a roadmap for people entering the field of netnography by supplying them with scientific research areas and highlighting the subject's emerging trends.

### Data availability statement

Data has not been deposited into a publicly available repository. Data can be made available upon request.

### Additional information

No additional information is available for this paper.

### CRediT authorship contribution statement

**Rohit Bansal:** Writing – original draft, Validation, Methodology, Conceptualization. **Carla Martinho:** Writing – review & editing, Investigation. **Nishita Pruthi:** Writing – review & editing, Writing – original draft, Resources, Formal analysis. **Deepanshi Aggarwal:** Software, Methodology, Investigation.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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