

Keywords

Generational Cohorts, Sustainable Development Goals, Sustainability, Generation Z, Bibliometric Analysis, Network Analysis.

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“Mapping the Intellectual Structure of Research on Generational Cohorts and Sustainable Development Goals: A Global Bibliometric and Network Analysis”

Abstract

The Sustainable Development Goals (SDGs) have emerged as a global set of goals to tackle social, economic, and environmental challenges. At the same time, generational cohorts such as Baby Boomers, Generation X, Millennials, and Generation Z are important drivers of sustainability-related attitudes and behaviours. In this study, the global research landscape at the intersection of generational cohorts and SDGs is explored with a bibliometric and network analysis. The data were retrieved from the Scopus database, and the inclusion and exclusion criteria were applied, which resulted in 1883 journal articles in the English language being retained for analysis. The biblioshiny and VOSviewer software were employed to analyse publication trends, influential authors, journals, countries, collaboration networks, co-citation patterns, and relationships between keywords. The results show a significant increase in publications after 2015, in the wake of the UN 2030 Agenda. The top journal was Sustainability (Switzerland), and the top contributors were from the United States, China, India, and Malaysia. The key research themes are Generation Z, sustainability, consumer behaviour, social media, mental health, and environmental responsibility.

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1. INTRODUCTION

The United Nations Agenda for Sustainable Development, established in 2015, serve as a universal roadmap for addressing pressing global challenges through 17 SDGs and 169 targets (Alfirević et al., 2023). This framework marks a major advancement over the earlier Millennium Development Goals, redirecting global academic and policy attention toward a more resilient and comprehensive approach that unifies social, economic, and environmental sustainability (Díaz-López et al., 2021; Sianes et al., 2022). Although adopted only recently, the SDGs have spurred thousands of research papers, mostly in green and sustainable sciences, as they have become a focal point in global academic discourse (Sianes et al., 2022).

A key factor in the success of the 2030 Agenda is the involvement of a wide range of demographic groups, particularly different generational cohorts. The unique historical and economic contexts of various generational groups, including Baby Boomers, Generation X, Millennials, and Gen Z, have shaped their unique values and behaviours (Hrehorowicz & Makowska, 2025). Recent studies show notable differences in how these generations engage with sustainability; for example, Millennials tend to be more willing to pay higher prices for eco-friendly products, whereas older generations, such as Baby Boomers, often take the lead in conventional practices like sorting waste and cutting energy use (Nazarova et al., 2024). In contrast, although Generation Z is frequently seen as very practical when it comes to planetary health, their actual engagement in environmentally friendly behaviours may fall short of that of older generations, often due to limited financial means or differing priorities (Pinho & Gomes, 2024). The literature on the SDGs and generational dynamics is expanding, but it remains complex and dispersed across various fields. There is a growing demand for a comprehensive bibliometric analysis to chart the intellectual structure at this intersection and pinpoint emerging trends (Donthu et al., 2021). Bibliometric and network analysis techniques, such as science mapping and co-word analysis, allow researchers to visualise the evolution of research fields, identify influential authors, and detect thematic clusters that define the current state of knowledge (Cobo et al., 2011).

This study aims to address this gap by providing a systematic bibliometric and network analysis of global research trends concerning generational cohorts and the SDGs. By analysing data from major scientific databases, we examine publication patterns, collaboration networks, and the intellectual makeup of the domain (Indana & Pahlevi, 2023).

2. Theoretical background

2.1 Evolution of Generational Cohorts

(Rudolph et al., 2021) In his study, he challenged the validity of generational differences and emphasised lifespan and social constructionist perspectives to better understand workplace behaviour and ageing. (Lyons & Kuron, 2014) Critically assessed research on generational differences in workplace factors and concluded that the evidence was scattered and methodologically uneven,

underscoring the necessity for more rigorous, theory-informed, and context-sensitive research on generations in organisational settings. (Vera-Toscano & Meroni, 2021) discovered that generational differences, especially among baby boomers, had a major impact on shifts in family values, views on marriage, gender roles, and religious beliefs in Australia.

2.2 Linking generational cohorts with SDG 8

(Spijkers, 2018) examined that linked the principle of intergenerational equity with the Sustainable Development Goals (SDGs) and examined sustainable development declarations within international law. It concluded that balancing equity between present and future generations, as well as among current social groups, remained a major challenge. (Mishra et al., 2024) investigated the relationship between Sustainable Development Goals (SDGs), socio-economic factors, and unemployment in low-income countries using structural equation modelling. It found that economic growth, education, healthcare, clean energy, and technological access significantly contributed to reducing unemployment and promoting sustainable development. (Kreinín & Aigner, 2022) Critically evaluated SDG 8 from a strong sustainability perspective and proposed a “Sustainable Work and Economic Degrowth” framework to promote welfare and sustainability beyond economic growth. (Gallo et al., 2020) found that Colombian millennials valued job satisfaction, autonomy, inclusion, diversity, and equitable workplace practices in shaping their professional expectations and perceptions of their working lives.

2.3 Linking generational cohorts with SDG 13

(Divasson-J et al., 2025) found notable differences across generations in how they view and respond to climate change, with younger people calling for greater accountability from institutions and corporations. It was also discovered that Baby Boomers prioritised community responsibility, whereas Millennials and Gen Z advocated for structured policies and behavioural shifts to tackle climate crises. (Timmons et al., 2024) revealed that portraying climate change as an issue affecting future generations heightened young people’s concern about it and their sense of how much their peers care. It also showed that addressing misconceptions about older generations’ concern for climate change increased confidence in collective climate action. (Poortinga et al., 2023) revealed that younger generations showed greater levels of emotions, beliefs, and perceptions of risk related to climate change compared to older generations, though the generational gap was more pronounced in emotional engagement than in climate change beliefs.

2.4 Linking generational cohorts with SDG 16

(Mitchell & Wallace, 2025) demonstrated that young people in post-conflict Northern Ireland held varied interpretations of peace, shaped by their generational experiences, underscoring the significance of generational viewpoints in sustaining peace over time. (Lee-Koo & Pruitt, 2025) created an intergenerational peace leadership (IPL) model centred on young women

and discovered that power imbalances between older and younger generations hindered the transformative capacity of inclusive peacebuilding efforts. (Salminen et al., 2012) revealed notable generational differences in ethical views on citizenship, trust, justice, and equality, with younger individuals in Finnish society holding markedly distinct attitudes compared to older generations.

3. Research Gap

Despite the growing body of research on Sustainable Development Goals (SDGs) and generational cohorts in recent years, the literature remains fragmented and scattered across several disciplines, including sustainability, consumer behaviour, marketing, psychology, organisation studies, and environmental sciences. Previous research has mainly focused on specific generations or sustainability aspects, such as consumer behaviour, climate change awareness, workplace attitudes, and green consumption behaviour. But there is a lack of systematic study and analysis of the total intellectual architecture and development of research linking generations with SDGs.

Besides, empirical or conceptual methods have been used predominantly in the past, and more comprehensive bibliometric and network-based analyses have been conducted infrequently in this field. Lack of knowledge on publication patterns, key authors, networks of collaboration, dominant research topics, and new research areas in this interdisciplinary field. Furthermore, few studies have investigated the contributions of various generations to multiple SDGs simultaneously, especially to “SDGs 8 (Decent Work and Economic Growth), 13 (Climate Action), and 16 (Peace, Justice, and Strong Institutions)”.

This study thus aims to address these shortcomings by conducting a comprehensive bibliometric and network analysis to situate the global research landscape, identify influential actors, analyse thematic changes, and identify new research trends that connect generational cohorts and the SDGs.

4. Research Objective

This study, employing bibliometric analysis, aims to examine global research trends on generational cohorts and the Sustainable Development Goals (SDGs).

1. To examine influence documents, citation patterns, and publication trends.
2. To examine important authors, institutions, nations, and contributors in the field.
3. To examine the main subjects and search terms in the field of study.
4. To examine how research topics have changed over time and their thematic structure.

5. Methodology

5.1 Search strategy and Data collection

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework was used in this study to screen and choose the documents. The following search term was utilised. The PRISMA guidelines are used in systematic reviews to ensure the work is reproducible, transparent and clear. The data were obtained from Elsevier's Scopus database, a reliable source for examining publication patterns because it covers most disciplines, adheres to uniform indexing standards, and is widely used in bibliometric research. As both databases are in use and widely cited in bibliometric studies, we decided to use Scopus, since two-thirds of the articles are available in both.

TITLE-ABS-KEY ("generational cohort " OR "generation x" OR "gen x" OR "generation y" OR "gen y" OR "millennial*" OR "generation z" OR "gen z" OR "multigenerational workforce") AND ALL ("SDG 3" OR "good health and well-being" OR "employee well-being" OR "mental health" OR "SDG 8" OR "decent work" OR "economic growth" OR "responsible work practices" OR "fair labor" OR "employment sustainability" OR "SDG 12" OR "responsible consumption" OR "sustainable consumption behavior" OR "green consumer*" OR "SDG 13" OR "climate action" OR "environmental responsibility" OR "SDG 16" OR "peace justice strong institutions" OR "ethical governance" OR "social justice").

The initial search returned 3,866 articles (as of April 21, 2026). After screening, 1,883 were retained for bibliometric analysis. Figure 1 shows the selection process.

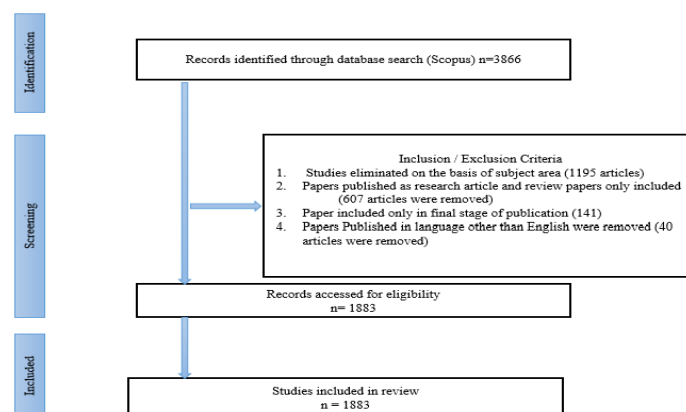


Figure 1: PRISMA Flow Chart

Source: Author's own creation

5.2 Eligible criteria and screening process

The inclusion and exclusion criteria were applied systematically to ensure the relevance and quality of the publications for the bibliometric analysis.

1. A Scopus database search of the study topic returned 3,866 documents.
2. The dataset was filtered to the subject areas of: Social Sciences, Business, Management and Accounting. This refinement resulted in an inclusion of 2671 documents, with 1195 discarded as belonging to other areas of the subject.
3. To ensure quality and consistency of the data, only journal articles and review papers were used for analysis. After applying this criterion, the data set was narrowed to 2,064 documents, omitting the following types: conference papers, book chapters, editorials, notes, and other types (607 documents).
4. The dataset was restricted to documents with a final publication stage to include only research that has been completed and formally published. This step reduced the total to 1,923 documents, with 141 documents excluded because they were in press or other stages of publication.
5. Finally, only publications published in English were included to ensure uniformity of analysis and interpretation. A final dataset of 1,883 documents was

obtained, with 40 non-English publications excluded at this stage.

6. Of the 1,883 journal articles that met all the inclusion and exclusion criteria, 1,881 articles were included in the final bibliometric analysis.

5.3 Bibliometric analysis tools and indicators

The bibliometric analysis was carried out using VOSviewer, as described by (Van Eck & Waltman, 2010) and Biblioshiny, an R-based tool created by (Aria & Cuccurullo, 2017).

These tools produced easy-to-understand visualisations and statistical results that helped users interpret the findings effectively. Different bibliometric indicators were used because the analysis was undertaken at four levels. At the level of the document: Size of publications annually and citation patterns.

Analysis at the author level: identification of the most productive and influential authors based on the h-index, g-index and m-index.

International collaboration networks and trends in global contributions at the country and institutional level.

Analysis at the keyword level: studying keywords in conjunction, theming, emerging research fields, and the temporal dynamics of keywords.

6. Results and Discussion

6.1 Dataset overview and descriptive statistics

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	1974:2026
Sources (Journals, Books, etc)	973
Documents	1883
Annual Growth Rate %	0
Document Average Age	3.76
Average citations per doc	19.19
References	231055
DOCUMENT CONTENTS	
Keywords Plus (ID)	1942
Author's Keywords (DE)	5677
AUTHORS	
Authors	5220
Authors of single-authored docs	238
AUTHORS COLLABORATION	
Single-authored docs	250
Co-Authors per Doc	3.15
International co-authorships %	23.42
DOCUMENT TYPES	
Article	1883

Source: Author's own creation threw biblioshiny

The main features of the bibliometric data analysed are presented in the table below. A wide range of research was found, of 1,883 articles from 973 different sources between 1974 and 2027. The dataset is highly cited, with 231,055 citations, and an average of 19.19 citations per document. The field is relatively young with an average document age of 3.76 years, indicating that it is still in its infancy. Moreover, the publications were written by 5,220 authors, giving an average of 3.15

co-authors per publication, meaning that the authors conducted joint research. There was significant international collaboration, with 23.42% of the total co-authored with international researchers.

6.2 Annual scientific production and citation trends

This table shows the number of research articles published each year. The early years, up to about 2010, saw steady, almost flat scientific research output, indicating little research activity in the field. Since 2015, the number of publications has increased steadily, indicating growing scholarly interest. It is clear that there is a rise after 2015, with the highest publications between 2023 and 2024. This rapid expansion shows that the area is an active research field of considerable interest recently. The end of the decline could be due to missing data for the last year rather than a decrease in publications.

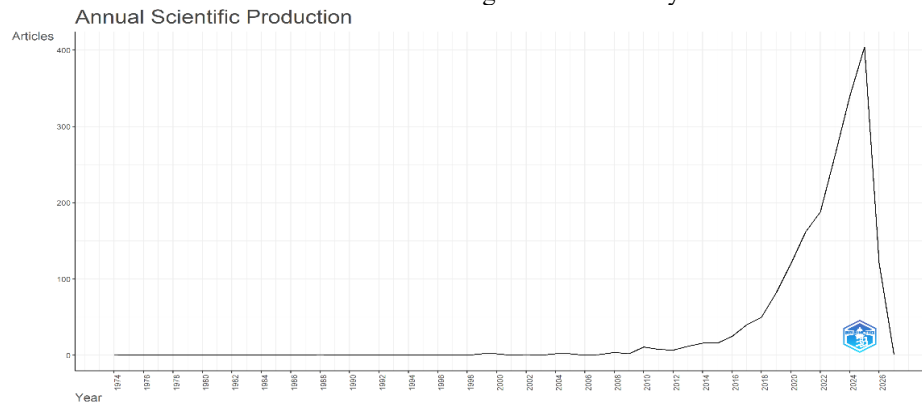


Figure 2: Annual Scientific Production

Source: Author's own creation threw biblioshiny

5.3 Core journals and source performance

5.3.1 Most productive journals

The figure labelled "Most Relevant Sources" shows the leading journals in the selected field of study. This is reflected in the leading journal Sustainability (Switzerland), which has published the most papers, namely 123, thereby establishing its prominent position in this field. Cogent Business and Management is second with 40 publications, and Young Consumers is next with 29. Other prominent journals include the Journal of Islamic Marketing, Journal of Retailing and Consumer Services and Behavioural Sciences. The figure reveals that while several other sources have a moderate amount of studies, most of the research is focused in a handful of highly productive journals. The distribution, including sustainability, consumer behaviour, marketing, retailing, and management, highlights the research's general interdisciplinary nature.



Figure 3: Most productive journals by article

Source: Author's own creation

6.3.2 Performance analysis of core journals

Table 2: Journal Citation Index

Source	h_index	g_index	m_index	TC	NP	PY_start
Sustainability (Switzerland)	36	52	3.6	3103	123	2017
Young Consumers	18	36	1.636	1359	38	2016
Journal Of Retailing And Consumer Services	17	22	2.125	1457	22	2019
Cogent Business And Management	10	16	1.667	279	27	2021
Journal Of Cleaner Production	10	11	0.909	1433	11	2016
Journal Of Sustainable Tourism	10	10	1.667	510	10	2021
Journal Of Islamic Marketing	9	14	1.8	272	14	2022
International Journal Of Consumer Studies	8	9	0.727	388	9	2016
Journal Of Consumer Marketing	8	12	0.471	525	12	2010
Business Strategy And The Environment	7	10	1.4	507	10	2022
Journal Of Fashion Marketing And Management	7	13	0.389	317	13	2009
Sage Open	7	12	0.5	281	12	2013
Sustainability (Switzerland)	7	10	1.75	126	10	2023
Asia Pacific Journal Of Marketing And Logistics	6	10	0.545	177	10	2016
Behavioral Sciences	6	12	1.2	148	13	2022
Cleaner And Responsible Consumption	6	10	1.2	171	10	2022
Foods	6	8	1	206	8	2021
International Journal Of Contemporary Hospitality Management	6	7	0.857	311	7	2020
International Journal Of Organizational Analysis	6	6	1.2	81	6	2022
Journal Of Business Research	6	9	0.857	197	9	2020
Industrial And Commercial Training	5	7	0.833	96	7	2021
International Journal Of Bank Marketing	5	5	0.5	73	5	2017
International Journal Of Retail And Distribution Management	5	5	0.625	313	5	2019
Journal Of Business Economics And Management	5	5	1	104	5	2022
Journal Of Hospitality And Tourism Management	5	6	0.833	125	6	2021

Source: Author's own calculation using Biblioshiny

The performance analysis of core journals has been conducted using bibliometric indicators such as h-index, g-index, m-index, total citations, and publications, which will help identify the most productive and influential sources in the field. The journal Sustainability is the most impactful journal over the past five years, ranking number one in publications (123), citations (3103), h-index (36), and g-index (52) since 2017. The high citation rate of Young Consumers and the Journal of Retailing and Consumer Services, together with their high standards of quality output, are further indications of the research impact of these journals. The increasing importance of sustainability, ethical consumption, and marketing research is evident in publications such as the Journal of Cleaner Production, the Journal of Islamic Marketing, and Business Strategy and the Environment. For some journals, higher m-index values indicate rapid scholarly recognition. Overall, the table illustrates the interdisciplinary nature of the field, integrating insights from sustainability, consumer behaviour, hospitality retailing, tourism, and management, all areas that significantly influence the expansion of current research literature.

6.3.3 Source growth trends

The chart titled “Sources' Production over Time” illustrates the cumulative number of publications released by the key journals within the specified research domain across the years. The x-axis represents the year of publication, while the y-axis indicates the number of occurrences or the total count of articles published across the years. The graph shows that the number of research article publications remained very low until 2015, after which it rose sharply. Sustainability (Switzerland) has seen the steepest growth, sharply increasing in publications after 2019 and achieving the highest cumulative occurrence by 2025 across all sources. This means the journal has emerged as the medium for communicating research in the field. Other journals show moderate trends in publications, such as Cogent Business and Management, Journal of Islamic Marketing, Journal of Retailing and Consumer Services, and Young Consumers. The number of journals has increased, indicating growing academic interest in the subject and research activity. The overall figure shows the changing roles of various journals, as well as the most active and influential journals over the last few years.

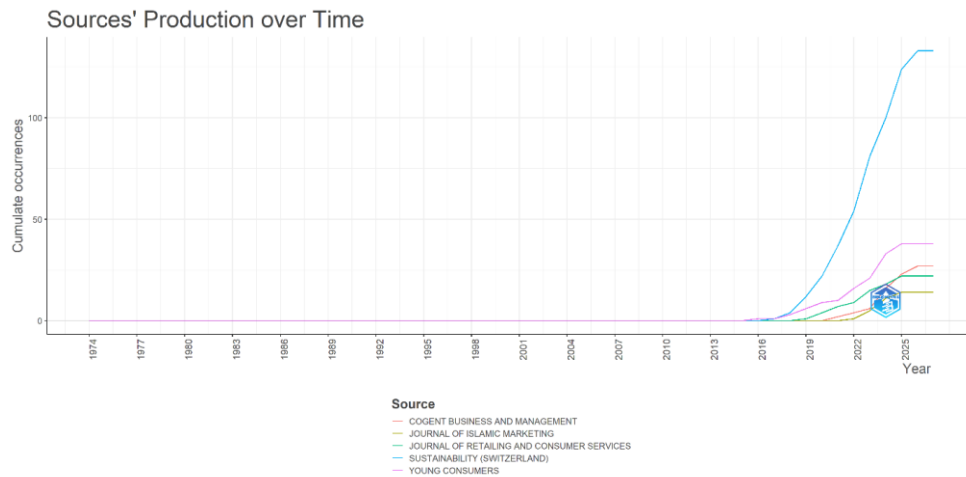


Figure 4: Source Productive over time

Source: Author's own elaboration

6.3.4 Bradford Law and core zone identification

According to Bradford's Law (Bradford, 1934), journals are divided into three zones according to the distribution of articles (Brookes, 1977). It helps determine a core group of journals that make the greatest contributions to the field. The separation into core, intermediate, and peripheral zones according to publication volume is depicted in Figure 5:

Zone 1: Core Journals (shown in red): These are the most productive or frequently published journals that make a substantial contribution to the field of study. Despite being fewer in number, these journals are regarded as primary sources due to their high productivity.

Zone 2: Intermediate/mid-tier journals (shown in blue): These are medium-frequency publications that serve as secondary sources in the field and contribute a moderate number of articles. This suggests that a moderate number of articles are published by more journals.

Zone 3: Peripheral Journals (shown in green): These are infrequent publications that add to the variety of research despite publishing few articles. As a result, very few articles on generational cohorts and the SDGs are published in most journals. Nonetheless, their inclusion has broadened the scope of research and shown how studies on generational cohorts are growing in a variety of academic fields within the framework of sustainable development.

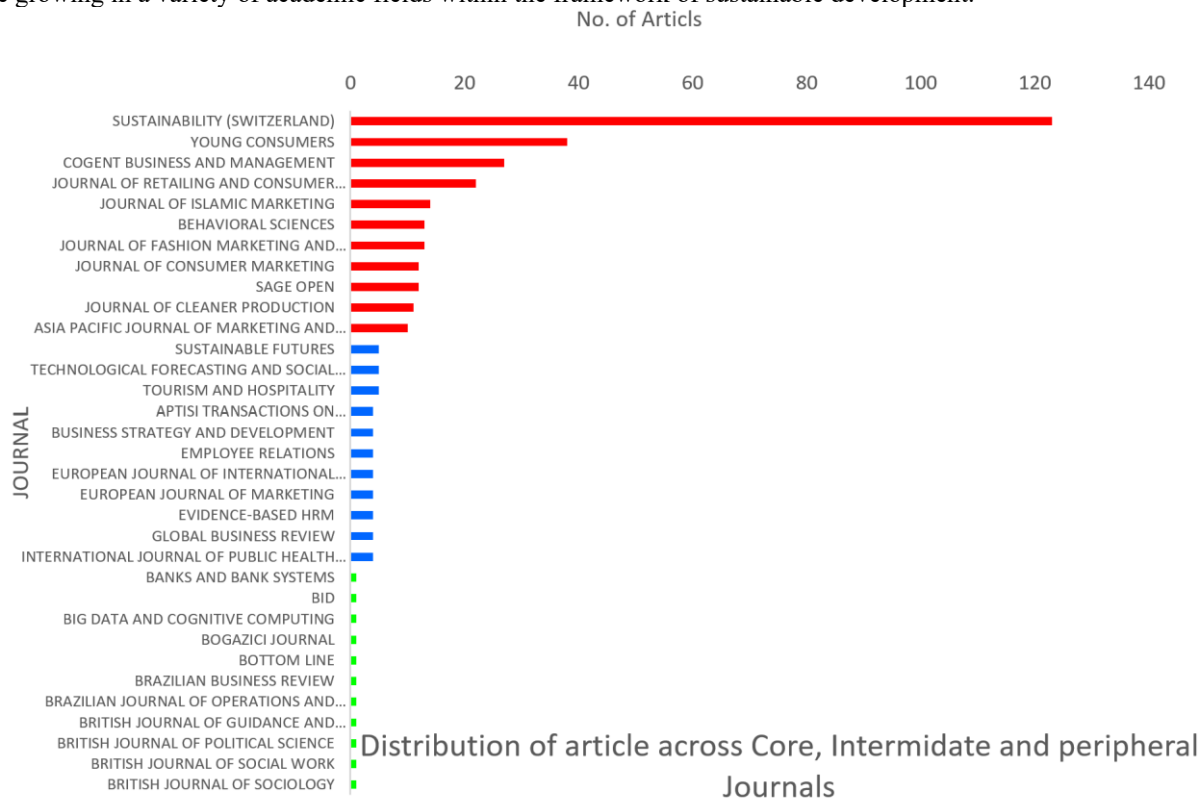


Figure 6: Distribution of article across Core, intermediate and peripheral journal based on Bradford's Law.

Source: Author's own work

6.4. Author contribution and collaboration pattern

6.4.1 Most productive author

This means that the journal has emerged as the medium for communicating research in the field. Other journals show moderate publication trends, including Cogent Business and Management, Journal of Islamic Marketing, Journal of Retailing and Consumer Services, and Young Consumers. The number of journals grown is indicative of the growing academic interest in the subject and the growing research activity. The overall figure shows the changing roles of various journals and also the most active and influential journals during the last few years.

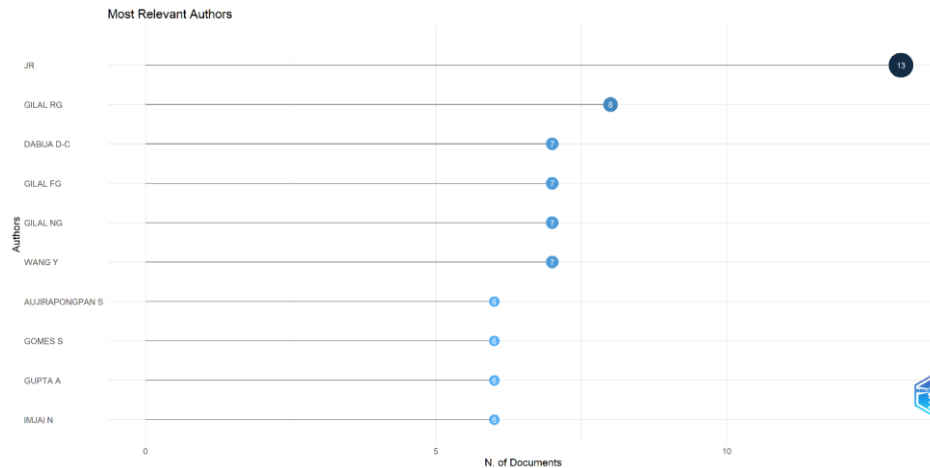


Figure 7: Most Relevant author based on publication

Source: Author's own elaboration

6.4.2 Most cited author

The "Most Cited Author" chart shows how many of the top journals or publications cited the author in the field of study. The number of citations that each source has received is highlighted by bars, which show the influence they have had on scholarship and research. Sustainability is cited the most among all sources with 3103 citations, making it more influential and prominent in the industry. With 1,457 and 1,433 citations, respectively, the Journal of Retailing and Consumer Services and the Journal of Cleaner Production also demonstrate significant influence. Young Consumers received 1,359 citations, highlighting its significance in consumer-related research. Other journals with moderate citation counts between 500 and 525 include the Journal of Consumer Marketing, Business Strategy and the Environment, and the Journal of Sustainable Marketing. Publications such as the Journal of Islamic Marketing and Cogent Business and Management receive fewer citations. Overall, the chart highlights the most influential academic publications in the research domain.



Figure 8 : Most cited author

6.4.3 Authors' impact metrics

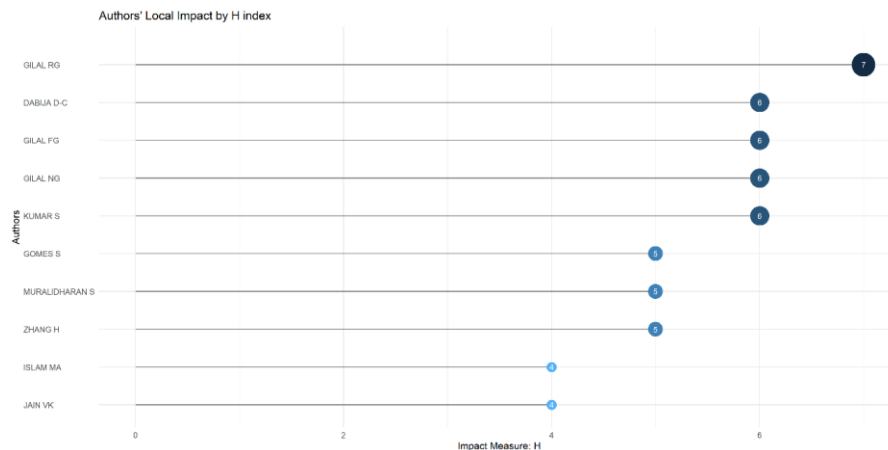


Figure 9: Author impacted by H Index

Source: Author own creation

The authors' impact indicators (calculated by the H-index) present the relative scholarly influence of the most productive researchers in the field. Among the listed authors, Gilal RG has the highest H-index of 7, indicating the greatest impact and citation performance. The H-index for each author is high, with Dabija D-C, Gilal FG, Gilal NG and Kumar S having values of 6. Significant academic contributions are indicated by the high H-index of 6 for each of the authors Dabija D-C, Gilal FG, Gilal NG, and Kumar S. Gomes S, Muralidharan S, and Zhang H have an h-index of 5, indicating moderate influence. Islam, MA, and Jain, VK have an H-index of 4. Overall, the results indicate that Gilal RG is the most influential author in this area of research.

6.4.5 Lotka's law

Lotka's Law, a bibliometric law, was introduced by (Alfred J, 1926). It shows the distribution of authors' productivity. Lotka's Law states that a few authors write many papers, and most authors write few papers. From a mathematical point of view, the number of authors that have published n items is roughly inversely proportional

to n^2 . The law is widely applied in bibliometric analysis to examine the distribution of publications and the productivity of authors within a research domain.

The graph labelled “Author Productivity through Lotka's Law” shows the proportion of authors contributing to a collection that follows this pattern. The horizontal axis is the number of documents created, and the vertical axis is the percentage of authors. The observed distribution of authors' productivity is shown by the solid line, and the dotted line represents the theoretical distribution predicted by Lotka's law. The highest number of authors (and the highest percentage) made a single publication, as indicated in the graph. As the number of publications grows, the percentage of authors drops off quickly. For very few authors, a large number of documents were produced. The close match between the observed and theoretical curves indicates that the publication pattern in the study generally follows Lotka's Law. This suggests a highly skewed distribution of research productivity, with a small number of authors accounting for a large proportion of the total research volume, whereas most authors publish only from time to time.

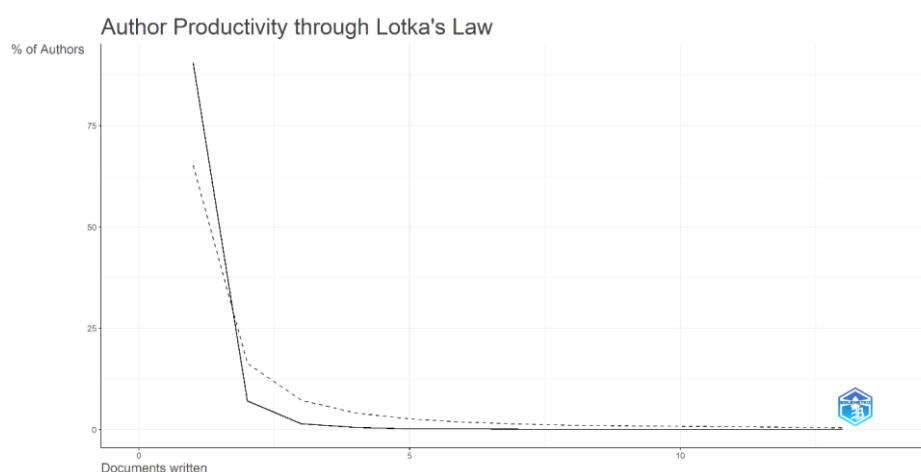


Figure : 10 Author Productivity through Lotka's Law

Source: Author's own creation

6.5 Institutional analysis

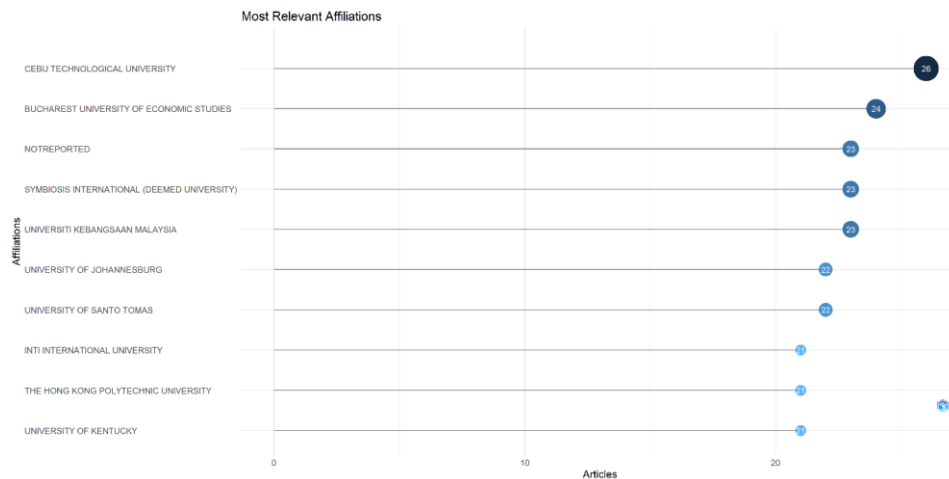


Figure 11: Most relevant Affiliation

5.6 Analysis of country wise

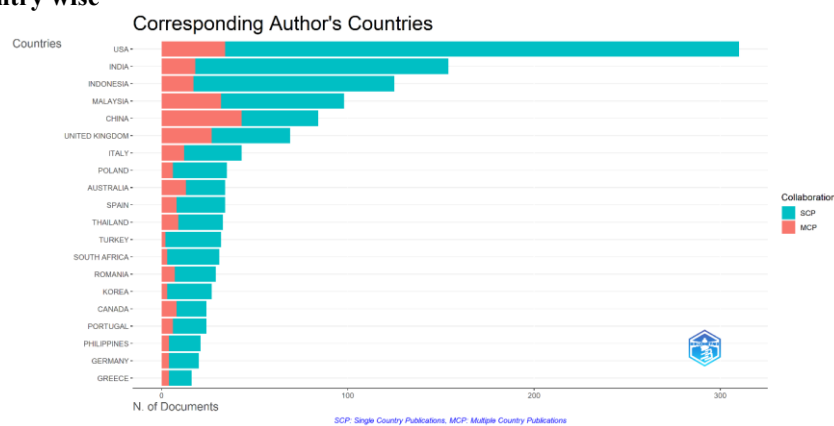


Figure 12: Corresponding author's Countries

Source: Author's own creation

The figure distinguishes between Single Country Publications (SCP) and Multiple Country Publications (MCP) and shows the contribution of corresponding authors by country. The USA produces the most research, followed by China, Malaysia, Indonesia, and India. Strong domestic research collaboration within nations is demonstrated by the majority of publications being SCPs. Nonetheless, the existence of MCPs indicates growing international collaboration in research. Compared with other nations, the United Kingdom and Malaysia exhibit higher levels of international cooperation. Overall, the graph shows that while international cooperation is crucial for increasing research visibility and scholarly knowledge exchange, global research productivity is concentrated among a small number of top nations.

6.6.1 Top cited countries

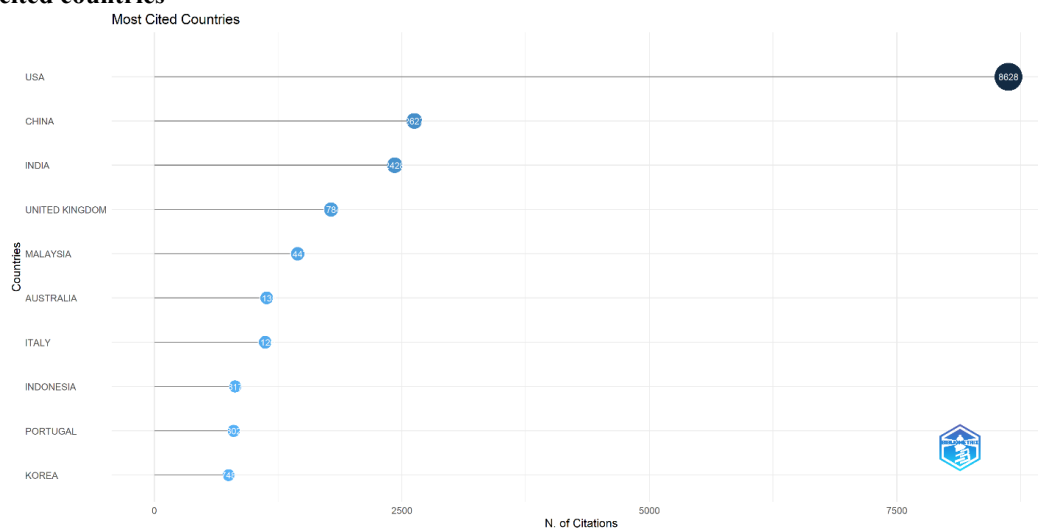


Figure 13: Most cited countries

Source: Author own work

Figure 13 displays the "Most Cited Countries" in the selected research area, highlighting the effect of scholarship on a global scale, based on its citation count. The results show that the United States (USA) has the highest citation influence with 8,828 citations, significantly outperforming the other countries. This shows the importance, visibility and recognition of research work from the United States of America.

The next two countries are both major contributors to the world's research productivity, with China coming in second with 2,627 citations, and India at 2,422 citations. The country with the highest citation impact is Malaysia, and the UK, reflecting the quality and international reach of publications.

In contrast, countries that have relatively low numbers of citations include Australia, Italy, Indonesia, Portugal, and Korea. The overall trend in the graph shows that the research effect is limited to a few leading countries, and citations suggest the quality of research as well as its reach among academics globally.

6.7 Citation metrics and document analysis

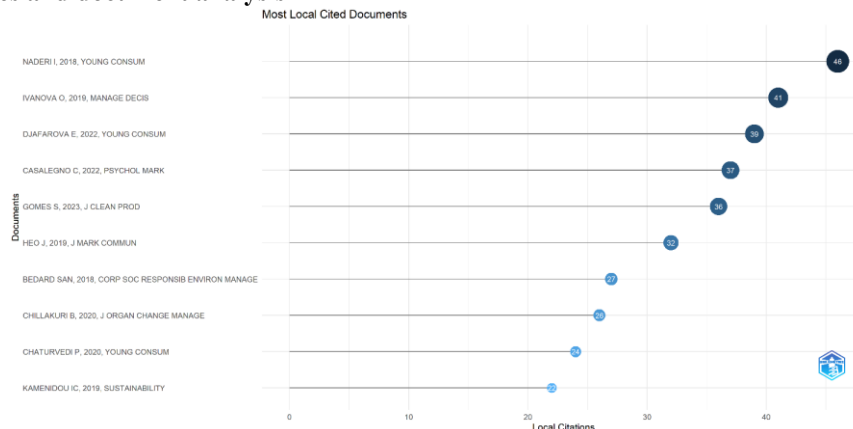


Figure 14: Most locally cited documents

Source: Author own work

6.8 Co-citation network analysis of cited reference

Minimum number of citations of a cited reference is 25, number of cited references to be selected is 24. Cluster 1 (Red) – Generational Theory and Consumer/Behavioural Studies.

The main emphasis of the red cluster is on generational cohorts, consumer behaviour, and studies of behavioural intention. Key references like those of Strauss W., Millennials Rising; Dimock M., Defining Generations; Fishbein M., Understanding Attitudes; and Ajzen I., Theory of Planned Behavior suggest that this cluster is based on theories that explain human attitudes, intentions, and generational differences. The use of qualitative research approaches is further supported by thematic analysis to understand generational behaviour in the context of the book: Clarke V., Using Thematic Analysis. In general, this cluster focuses on the effects of generational traits on attitudes, behavioural intentions, workplace behaviour, and consumer decision-making.

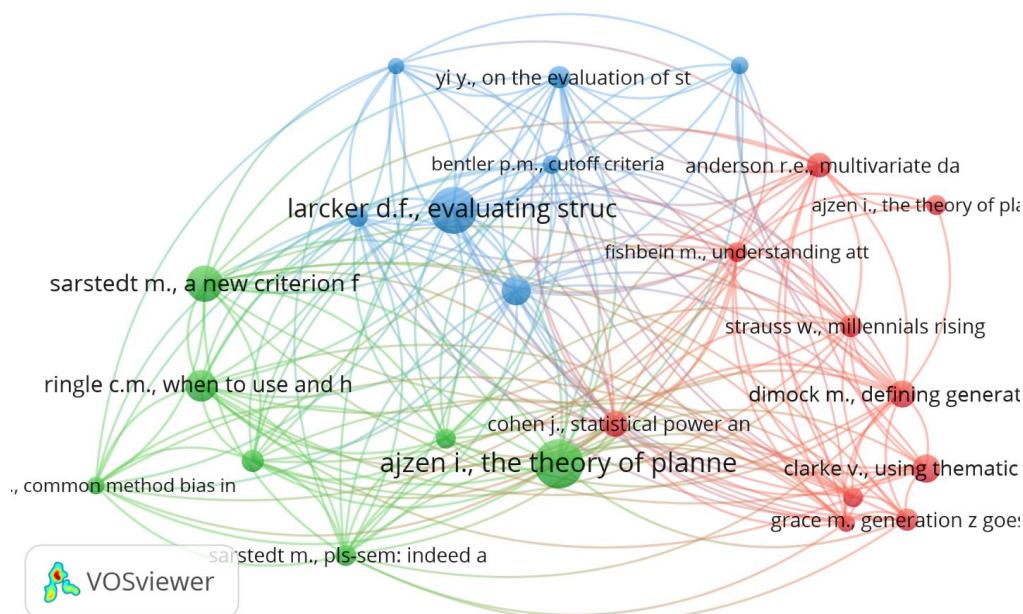


Figure 15: Network visualisation of co-cited references

Source: Author own Creation

Cluster 2 (green) refers to the PLS-SEM Methodology and the Statistical validation.

Studies related to Partial Least Squares Structural Equation Modelling (PLS-SEM), research methodology, and statistical assessment techniques** are shown in the green cluster. Sarstedt M. (2015), Sarstedt M. (2015), and Ringle C.M. (2016) are key references that guide the use and reporting of PLS-SEM. These works are well-known for providing guidelines for application, evaluation, and reporting of the PLS-SEM in social science research. There are also many references on common method bias and statistical power, reflecting a methodological orientation within the cluster. This cluster is indicative of the growing use of sophisticated quantitative skills to test complex theoretical models in management and behavioural research.

Cluster 3 (Blue) – Structural Equation Modelling and Measurement Evaluation.

The blue cluster emphasises structural equation modelling (SEM), model fit and construct evaluation. This cluster is dominated by influential references such as "Larcker D.F., Evaluating Structural Equation Models", "Bentler P.M., Cutoff Criteria", and "Yi Y., On the Evaluation of Structural Models". These studies offer basic guidelines for assessing reliability, validity, discriminant validity, and goodness-of-fit in SEM. The interdependencies of the cluster elements underscore the need for statistical rigour and measurement validation in empirical research. This cluster thus extends the theoretical and analytical basis for field testing quantitative models.

6.9 Keyword occurrence analysis

Minimum number of occurrences of the keyword is 25
Out of 6979 keywords, 44 meet the threshold limit and the number of keywords to be selected is 44.

Cluster 1 (Red) The red cluster is dominated by keywords like 'generation z', 'gen z', 'sustainability', 'consumer behaviour', 'purchase intention', 'marketing', 'perception' and 'environmental concern'. These terms suggest that researchers are becoming increasingly interested in the implications of sustainability, ethical consumption, and environmental awareness for Generation Z consumers' purchasing decisions. This cluster also emphasises the importance of marketing strategies in shaping the perceptions and behavioural intentions of Gen Z. At a broader level, the cluster demonstrates a shift in academic focus towards understanding the socially engaged and sustainability-motivated nature of Gen Z consumers.

Cluster 2 (Blue): This cluster focuses on social media use, generational differences, and attitudes at work. The keywords are: social media, Generation Y, Generation X, millennial, job satisfaction, and generation. This cluster may include studies on the relationship between various generations and their use of digital technologies and social media, and their impact on attitudes in the workplace, communication, and employee satisfaction. This cluster represents the growing intermingling of social media and generational research in organisational and behavioural research, especially in the context of Millennials and Generation Y workers.

Cluster 3 (Green): The green cluster denotes research in the fields of Mental health, Psychology, Demographic analysis and human behaviour. Commonly used terms involve human, humans, mental health, psychology, gender, male, female, adult, education, cohort analysis, and so on. The cluster has a highly interdisciplinary focus and brings together psychological and demographic approaches to explain the behaviour of various population groups. The presence of the terms 'COVID-19' and 'young population' indicates that recent research has shifted to the psychological and social health of younger generations, both during the pandemic and in its aftermath.

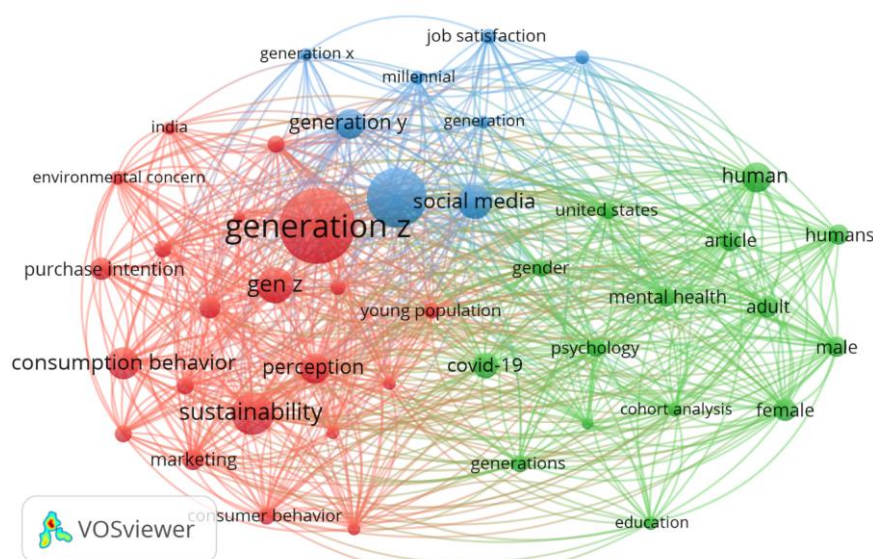


Figure 16: Keyword occurrence

Source: Author's own Creation

7. Conclusion

This study offers a thorough bibliometric and network analysis of global research trends on generational cohorts and the Sustainable Development Goals (SDGs) to help gain a better understanding of the nature of the relationships between these. The results show that research in this field has grown significantly in recent years, including after 2015 after the United Nations 2030 Agenda was established. The number of publications, citations, and collaborative studies have grown, reflecting an overall increase in the academic interest of understanding the role of different generations in efforts to achieve sustainability-related objectives and society transformation.

Sustainability (Switzerland), Journal of Retailing and Consumer Services and Young Consumers were identified as the most influential sources of publications in the field. The predominance of sustainability, consumer behaviour, management and marketing oriented journals indicates the interdisciplinary nature of the research domain. In addition, the United States, China, India, and Malaysia emerged as significant countries in terms of publication volume and impact on the citation process, reflecting the international significance of generational and sustainability research.

The co-citation and keyword analysis identified some significant themes. Two main clusters were identified: one on generational theory, consumer behaviour, and behavioural intentions, and the other on the use of increasingly sophisticated quantitative research methods such as PLS-SEM and structural equation modelling. Additionally, through the keyword analysis, it was found that some of the most visible and emerging research themes are Generation Z, sustainability, consumer behaviour, social media, and mental health. The results show that younger generations, particularly Millennials and Gen Z, are increasingly at the heart of the sustainability discussion and the implementation of the SDGs.

In conclusion, the study builds on the existing body of knowledge by systematically depicting the intellectual structure, prominent individuals, networking, and prevailing trends in the field. The results offer solid ground for further research that will benefit from the interdisciplinary approach for investigating the impact of generational cohorts on the attainment of SDGs.

8. Practical implications

The findings of this study have crucial practical implications for policymakers, teachers, businesses, and researchers pursuing the Sustainable Development Goals (SDGs). Results indicate that there are differences in attitudes, behaviours, and levels of engagement across generational cohorts towards sustainability issues. Hence, policies and sustainability awareness campaigns may be developed at the level of generations to increase the participation in SDG related activities. For the younger generation, educational institutions can be a platform for promoting sustainable behaviour through sustainability education initiatives in education and training programs. These insights can help businesses and marketers create sustainable products, green marketing initiatives, and socially responsible branding strategies that resonate with

Millennials and Gen Z consumers. Further, it is possible to increase employee engagement by embedding sustainability values in workplace culture and CSR programs. Researchers can use bibliometric results to gain a structured overview of prominent research themes, authors, and journals, enabling them to identify research gaps and future research directions.

9. Managerial Implications

This research study has important managerial implications for organisations and business managers in the integration of sustainability and workforce and consumer management. The research indicates that there are differences in values, expectations, and attitudes towards sustainability, work culture, and ethics across generational groups. Organisations should therefore embrace generation-specific leadership and create inclusive policies to cater for the likes and dislikes of Baby Boomers, Generation X, Millennials and Generation Z employees. Supporting flexibility, diversity and social responsibility and practicing environmentally responsible working, can have a positive impact on employee satisfaction, engagement and retention. The results also suggest the increasing impact of digital platforms and social media on younger generations. These channels can be used by managers to share sustainability programs, enhance brand perception and encourage sustainable consumer habits. In addition, companies that integrate sustainability objectives with the expectations of different generations can reap competitive benefits by leveraging their organisation's reputation, customers, innovation and sustainability in the global market.

10. Limitation of the study

The study has some limitations that need to be considered. First, the analysis is restricted to documents indexed in major scientific databases and will not include relevant documents from regional journals, books, conference proceedings, or non-English-language documents. Thus, the results cannot fully represent the whole range of literature on generational cohorts and SDGs from around the world. Second, the research primarily uses bibliometric tools, including citation counts, co-citation analysis, and keyword analysis. These techniques can be useful for detecting publication trends and revealing intellectual structures, but are not necessarily suitable for describing the theoretical level and/or practical relevance of individual studies.

Third, it is quantitative and descriptive research and has not been followed by a qualitative interpretation of the contextual factors which affect generational behaviors towards sustainability. Future research can include systematic literature review, content analysis, and empirical research to gain a more in-depth understanding of the behavioural and cultural aspects.

Fourth, as sustainability and generational research is a dynamic field, the publication trends and thematic patterns in sustainability research might vary from year to year. Future research directions may be affected by emerging technologies, social changes, global crises, and policy changes that are not covered in this analysis.

Lastly, the study focused on selected SDGs, including SDG 8, SDG 13, and SDG 16. Future studies can be conducted on other SDGs, including quality education, gender equality, responsible consumption, and reduced inequalities, as well as on the relationship between generations and other SDGs, to provide a broader picture of the dynamics towards sustainable development.

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