A bibliographic analysis of research on framing effect (with an emphasis on goal framing) between 1974 to 2021

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Abstract

The framing effect, discovered by Tversky and Kahneman, is one of the most noticeable cognitive biases, wherein person responds significantly whether a decision is portrayed as a gain or a loss The strength of the framing effect has now been established in a number of circumstances, particularly in organic food market decision making. Although scientific studies have been undertaken to evaluate whether the framing effect has a major impact on customer attitudes and purchase intentions on organic food, no systematic statistical assessment have been examined in this area. By undertaking a bibliometric analysis of 169 works on the framing effect, this study tries to bridge the gap. The analysis showed that the literature focuses on green advertising, sustainability, risk perception as well as purchase intention. India's independent papers account for the largest percentage of all publications. Highly cited scholarly publications have worked upon the particular link between cause-related marketing and customer purchase intentions. The analysis highlights that cause-related marketing increases the likelihood of buyers connecting themselves with marketing promotions. The prospect of establishing a theoretical common framework inside national organizations might provide interesting consequences for marketers, the environment, and consumers. This paper provides a thorough understanding of framing effect and organic food by bibliometric analysis, which can help advance scientific research in this subject. Furthermore, the analysis and integration of interdisciplinary domains might aid researchers.

Keywords: Framing effect; bibliometric analysis; cause related marketing; decision making; cognitive biases

1. Introduction

Tshe fast expansion of the organic product industry has been influenced by current health and environmental concerns (Hwang, 2016; Lee & Yun, 2015; Liang, 2016; Teng & Lu, 2016; Teng & Wang, 2015). Given the considerable desire for organic products, marketers are nevertheless confronted with a number of challenges in attaining organic marketing effectiveness. First, environmentally concerned customers, a market for the possibilities of this product category, are generally dubious of organic product marketing operations and are unwilling to trust that such marketing efforts are genuine (Ayyub et al., 2018; Konuk, 2018; Lee et al., 2020; Tandon et al., 2020; Watanabe et al., 2020; Yu et al., 2021). Second, positive feelings about organic products do not necessarily translate into real purchases (Tarkiainen & Sundqvist, 2009; Vega-Zamora et al., 2014). People are reluctant to buy organic products not just because of the massive cost, and also because of a lack of knowledge, poor

product presentation, and a lack of trust in the organic food business (Aschemann-Witzel & Zielke, 2017; Jarczok-Guzy, 2018; Pham et al., 2019; Rizzo et al., 2020). Marketers have been paying attention to visual communication methods (e.g., product labelling and logos, organic certification) and message framing as a means to solve these challenges (Stibel, 2005).

Framing has been a critical topic in the psychology of judgment and decision-making, and it's commonly thought to have important consequences for the "Rationality Debate" (Djulbegovic & Elqayam, 2017; Mandel, 2014; Sher & Mckenzie, 2011; Stanovich, 2012). Framing effects are cited as instance of human decision-making incoherence and the empirical inapplicability of economics and other social sciences rational individual models. Despite the fact that this is an internal process, it is frequently produced by an external element – either purposefully or accidentally (Boettcher, 2004). The process through which people or groups make meaning of their circumstances is referred to as framing; frames are cultural frameworks that arrange social phenomenon understanding. When identical explanations of a decision making result in consistently different conclusions, this is known as a "framing effect" (Cassotti et al., 2012; Malenka et al., 1993; Uyar & Paksoy, 2020).

Framing effects are classified into three categories by Levin et al., (1998), that are, attribute framing, risk choice framing, and goal framing. In attribute framing, a single feature of a single object is portrayed using either a positively valenced proportion or an analogous negatively valenced proportion (Bizer et al., 2011; Xu et al., 2020). Under a forced choice assignment, respondents are given two alternatives in risk choice framing (Kühberger & Tanner, 2010; Reyna et al., 2014). While in goal framing, people are encouraged to participate in some activity by being given a description of either the benefits of doing so or the drawbacks of not doing so (Lin & Yeh, 2017; Yang et al., 2020). A positively framed communication portrays the outcome of a particular possibility as a win, whereas a negatively framed message portrays the outcome of a certain prospect as a loss (Tversky and Kahneman, 1981). People react differently to varied communication formats: a favourably framed message with a possible benefit causes them to avoid risk, whereas a negatively framed message causes them to take more risks (Meyerowitz and Chaiken, 1987).

The use of the framing effect has been studied by previous researchers from many viewpoints (Galata Bickell, 2019; Gifford & Bernard, 2004, 2006; Jin & Han, 2014). However, when comparing identical no loss- to gain-framed information in a few studies, the opposite reaction was observed, and regulatory focus theory was proposed as an explanation. Furthermore, the majority of researchers have used quantitative descriptors to frame information as gains or no losses (Abrams, 2015), implying that they have used quantitative data (e.g., 75 percent lean meat vs. 25 percent fat). In a similar vein, studies on message framing have found that positively framed communications are more persuading, according to some, while negatively framed messages have more capacity to increase information processing and boost customer attitude and buy intention, according to Van de Velde et al., (2010). The framing of advertising messages has a significant influence on customer attitudes and purchase intentions; hence, the framing of advertising messages is critical (Block & Keller, 1995; Yi-min, 2014; Yimin, 2014). However, no systematic statistical assessment of the Framing Effect's applicability and influence on organic food purchase intention has yet been conducted.

To bridge the gap, our research looked at trends in the framing effect and the organic food industry statistically. A bibliometric method was used to examine the framing effect and organic food industry literature written between 1974 and 2021 for the same purpose. The quantitative and qualitative assessment of accessible scholarly papers for tracing the evolution of a certain research topic through time is known as bibliometrics (Choudhri et al., 2015; Glänzel & Schoepflin, 1999; Subramanyam, 1983; Zupic & Čater, 2015), which was initially proposed by Pritchard (Broadus, 1987; Pritchard, 1969).

The study's main aims are to (1) outline and evaluate knowledge about the various aspects of the framing effect; (2) indicate the general state of the framing effect in terms of cross-disciplines, source of the journals, nations and locations, article citations, and keyword co-occurrence; and (3) to deliver a comprehensive and impartial analysis of the current state of the art, and areas that need improvement, problems, and possible research paths. The focus of this research is to give more comprehensive information to future investigations, allowing them to quickly comprehend the present level of knowledge regarding the framing effect and spur additional research into framing effect-based implementations in strategic planning and other domains.

2. Materials and method

2.1 Bibliometric analysis

The application of the framing effect and its influence on purchase intention on organic food were quantified and visualized in this study using bibliometric analysis, a prominent approach for quantitative analysis of papers released in a certain publication fields (Choudhri et al., 2015; Glänzel & Schoepflin, 1999). It uses a variety of analytical and computational approaches to examine the features of a given topic's literature; authors, institutions, countries/regions, and journals are evaluated, research hot spots are identified, and future research trends are predicted. Analysis of co-authorship, co-occurrence, citations, and co-citations, and knowledge domain mapping are examples of such approaches. The bibliometric analysis in this article was performed with the help of Biblioshiny for bibliometrix. It is a Java programme created by Massimo Aria of the Federico University of Naples. This programme combines the bibliometrix package's capabilities with the convenience of web applications built using the Shiny package environment.

2.2 Preliminary research strategy

The information was gathered from the Scopus database, an invaluable resource for bibliometric study. It includes over 81 million publications from over 7000 publishers in 105 countries, and 17 million profiles of authors. In addition, data reported in present studies were primarily intervened on the basis of the timeline selected from 1994 to 2021. The whole framework was designed substantially based on key terms 'framing effect'; 'goal framing'; 'India'; "Organic"; "Ethical Consciousness"; "Health Consciousness"; "Environmental Concern"; "Subjective Norm"; "Purchase Intention." Besides, key terms were assembled by the utility of "AND" and "OR" Boolean operators. Only publications available in the English language were included in the search.

2.3 Dataset extraction and processing mechanism

We started with a single keyword search – 'framing effect' – to view all the accessible studies in the Scopus database without any year limit to ensure the data was exhaustive. We discovered 1,898 research papers in a variety of areas. We further refined our search by restricting our Scopus search to the years 2010–2021. We identified 1,750 research documents using these parameters. "Business, management, and accounting" was included in our updated research based on Scopus categories. Consequently, we had a total of 368 research papers.

We used the keywords 'framing effect' AND 'India' to further narrow down the document search. There were 692 papers found in this search. "Business, management, and accounting" was included in our updated research based on Scopus categories. We identified 16 research documents using these parameters. To make sure the articles were relevant, we used the terms 'framing effect' AND 'India' AND 'Organic' AND 'Sustainable' AND 'Green' AND 'Ethical consumption' in our document search. Therefore, we had a total of 337 research papers. We narrowed our document search by using the keywords 'framing effect' AND 'India' AND ('Organic' OR 'Sustainable'), which yielded 283 results. We reviewed our data again and weeded out any systematic reviews, review studies, early versions, and articles without citations.

Consequently, we had a total of 169 research papers.

2.4 Network analysis and mapping

The study uses figures and maps to assess research hot zones, research quality, and the features of the framing effect breakthrough, such as a citation network diagram, subject evolution map, and international cooperation network map. Data collection, processing, visualization, and interpretation are all part methodological phases in the analysis. The scientific mapping workflow approach was used in this study, with Zupic & Čater, (2015) five steps as a guide. Figure 1 depicts the five major steps of the technique used in this investigation. The study began by defining the research questions. Following that, the Scopus database's core term was chosen as framing effect. Multiple journals are used to gain a better grasp of the issue under investigation's relevance and scientific depth. Following that, only peer-reviewed scientific

articles were considered. As a result, we utilized Scopus' Document type filter to include just articles. The final sample included 169 peer-reviewed scientific sources. Considering that the investigation is concentrating an underdeveloped issue and the analysis seeks to offer a research trend through time, the researchers opted not to put a time constraint on the research.

The second step involves the analysis using the open-source statistical programme R, which was completed after the research design phase. The .bibfile for the third step i.e., Data Analysis was created during the data collecting stage. Researchers performed a descriptive bibliometric study and created a matrix including all the documents using the programme R and the bibliometrix codes in this step. Biblioshiny was also utilized to create a conceptual map and a network of co-citations. The data reduction approach was used to visualize the knowledge structure during the analysis of the results.
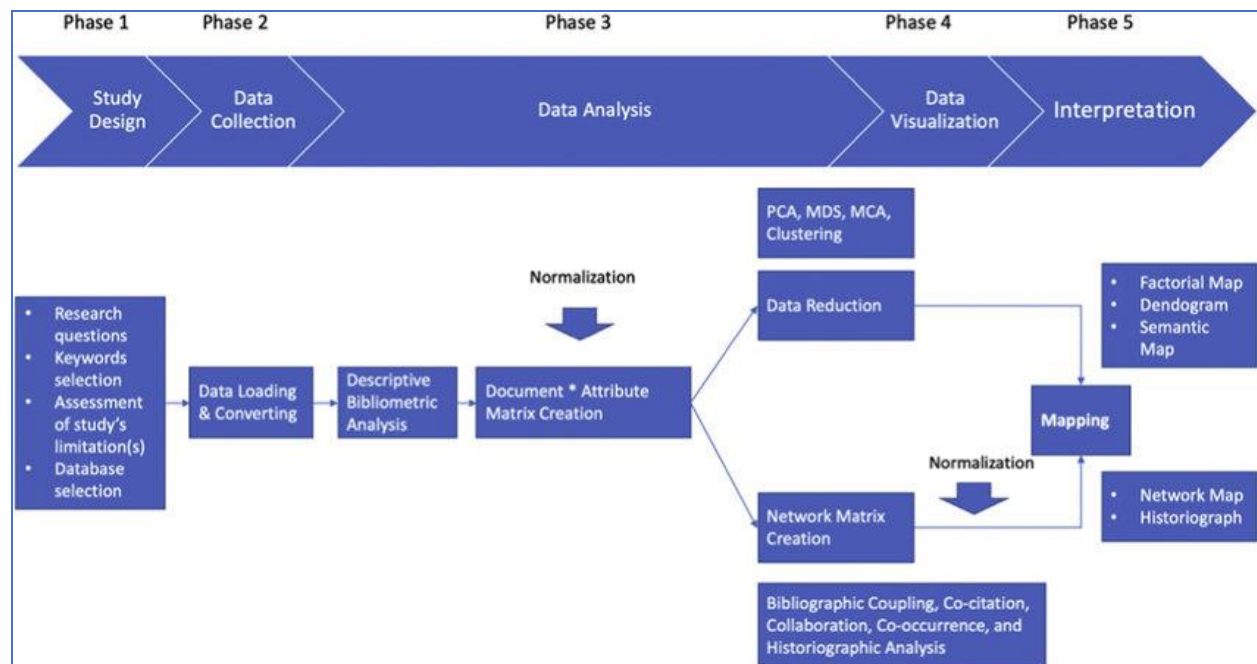

Figure 1: Research Methodology (Aria & Cuccurullo, 2017)

3 Results
3.1 Analysis of research studies

The applied search strategy identified 169 studies from the Scopus database. From the

bibliographic citation database, only original papers were examined in this study. Each publication's complete records were converted to a Scopus BibTex file and imported into Bibliometrix and Biblioshiny throughout the

search. For bibliometric analysis, the article title, author name(s) and affiliation, journal name, number, volume, pages, publication date, abstract, and cited references were retrieved for these publications. The scholarly publications of framing effect over time, as shown in Figure 2, began to increase in 2017 and continued to rise steadily until 2020. The graph depicts an increase in publications from one in 1994 to 43 in 2020, which was spotted as the peak year of publication.
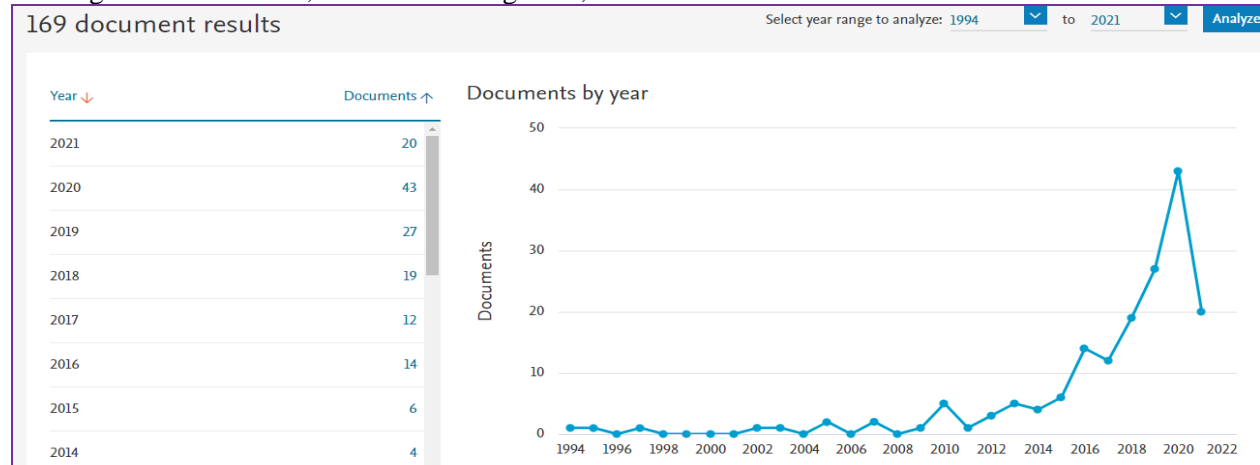

Figure 2: Frequency of publications (1994–2021). Source: Scopus

The most relevant and well-known publications that publish articles on the framing effect have been investigated. Figure 3 illustrates the Scopus database's core collection's ranking of the 20 most fruitful sources in the subject of framing impact. The Journal of Business Ethics, Journal of Conflict Resolution, and Journal of Economic Behavior and Organization are the three most productive publications for the topic of framing effect, as shown in Figure 3.
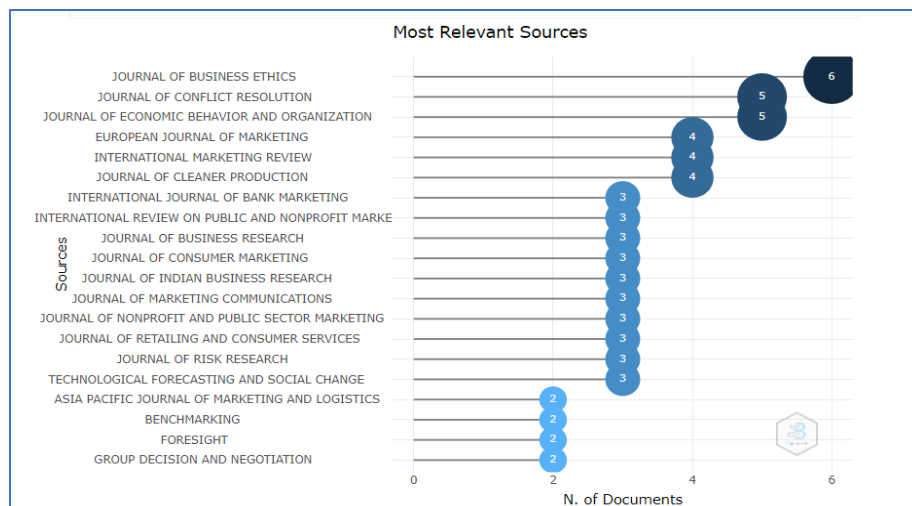

Figure 3: Most productive sources (1994–2021). Source: Bibloshiny

Figure 4 illustrates the journal with the most citations regarding the framing effect from 1994 to 2021. The most cited articles on framing effect (344) have been communicated in the journal "Journal of Consumer Research" from 1994 to 2021. With 304 citations, the "Journal of Business Ethics" is the second most cited journal inferring framing effect. The "Journal of Marketing" has 262 citations, while the "Journal of Business Research" has 252 citations. In addition, the sources "Journal of Marketing Research" and "Journal of Advertising" have a total of 251 and 205 citations, respectively.

Figure 4: Most cited Journals inferring framing effect. Source: Biblioshiny

The article core's high-level summary and refining are the keywords. In a short and straightforward manner, the analysis of important terms in the article, cluster analysis and multiple correspondence analysis, for example, highlight the article's topic and literary approach in the field of framing effect. The software biblioshiny enables data mining and data analysis of high-frequency keywords in research articles. We gathered keywords with those supplied by the authors and produced a frequency distribution, as shown in Figure 5 (a). The terms that appear the most frequently, with frequencies of 4, are consumer behaviour, decision making, marketing, and risk perception. They are followed by agriculture, delphi analysis, India, and research work. While

remaining keywords refer to aquaculture and commerce.

To conduct data mining and data analysis on the high-frequency keywords of the research papers, keywords with a word frequency more than or equal to 10 were selected and created as a Word TreeMap using the programme biblioshiny (Figure 5(b)). The figure demonstrates that consumer behaviour, decision making, marketing, and risk perception are the most commonly used terms in the subject of framing effect, accounting for 4% of all searches. Keywords such as agriculture, Delphi analysis, India, and research work account for 3% of the total. It demonstrates that the framing impact in decision making, marketing, and consumer behaviour has been thoroughly researched.
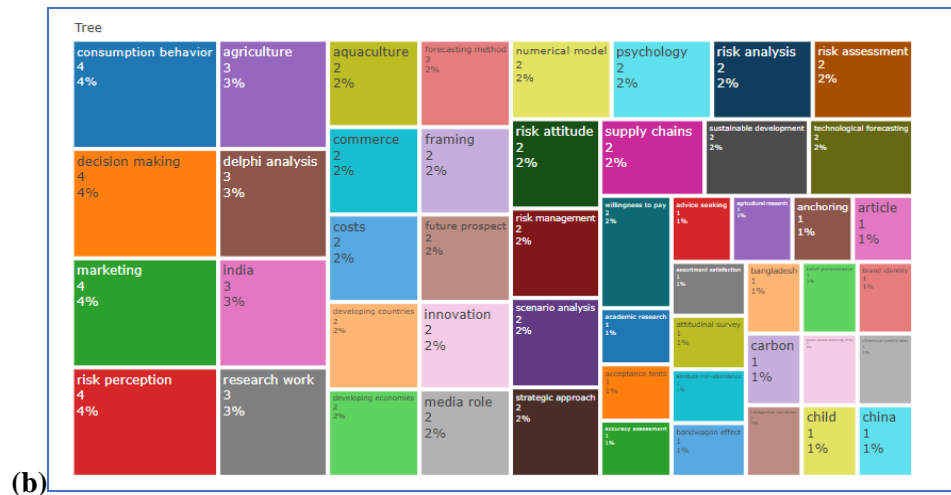

(a)

(b)
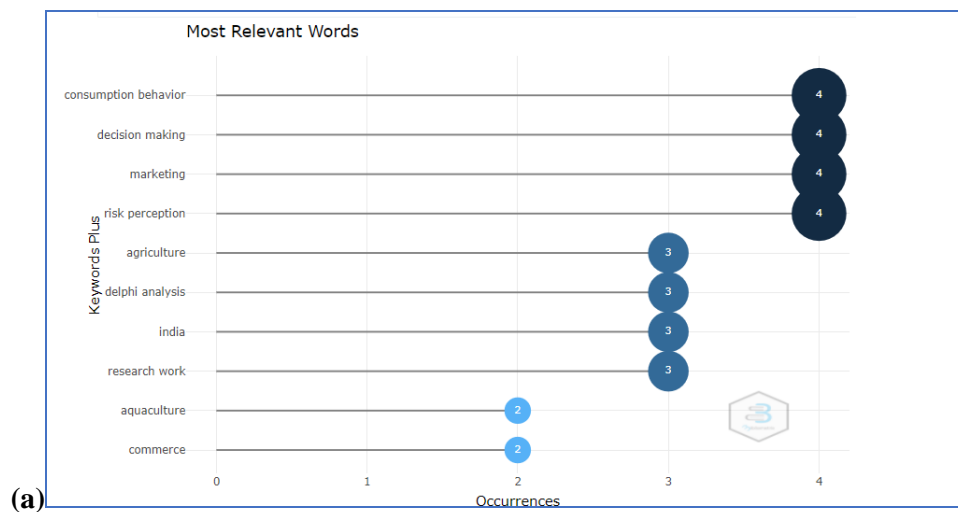
Figure 5: (a) Analysis and (b) Word TreeMap of Keywords inferring framing effect. Source: Biblioshiny

As illustrated in Figure 6, the Word Cloud was created by choosing author keywords. The author keywords are chosen to give insight into the main issues and research trends in the Framing Effect area. Figure 6 highlights the focus of the literature on "Framing" and "India" with the importance of "Green advertising", "sustainability", "risk perception" as well as "Purchase Intention".

Figure 6: Visualization of most frequent keywords. Source: Biblioshiny

3.2 Mapping the scientific collaboration

Figure 7 (a) indicates nations that have a larger number of scholarly papers on the framing effect. The geographical collaboration of the major scientific publication generating countries is depicted on the map. A connecting line connects two nations, showing the status of their collaboration. The line's thickness denotes the degree of collaboration. India, the United States, and New Zealand all demonstrated increased collaboration and interchange among academics. Figure 7 (b) represents the collaborative

network, India's independent papers account for the highest percentage of all publications, this may be linked back to collaborative data in the subject of framing effect from typical nations. Apart from the US, the UK, China, Korea, New Zealand, the Netherlands, and other nations that collaborate internationally, the remainder of the world focuses mostly on independent research.

The global partnerships are depicted in Figure 7 (c). The blue color on the map reflects international research collaboration. The pink band that connects the countries also reflects the level of collaboration amongst the authors. It is fascinating to observe how the countries with the most publications on the framing effect have collaborated in this way. The USA, the UK, India, and Australia have formed the most important international partnerships with nations that are geographically apart. The partnership might result in policy exchange and market collaboration.
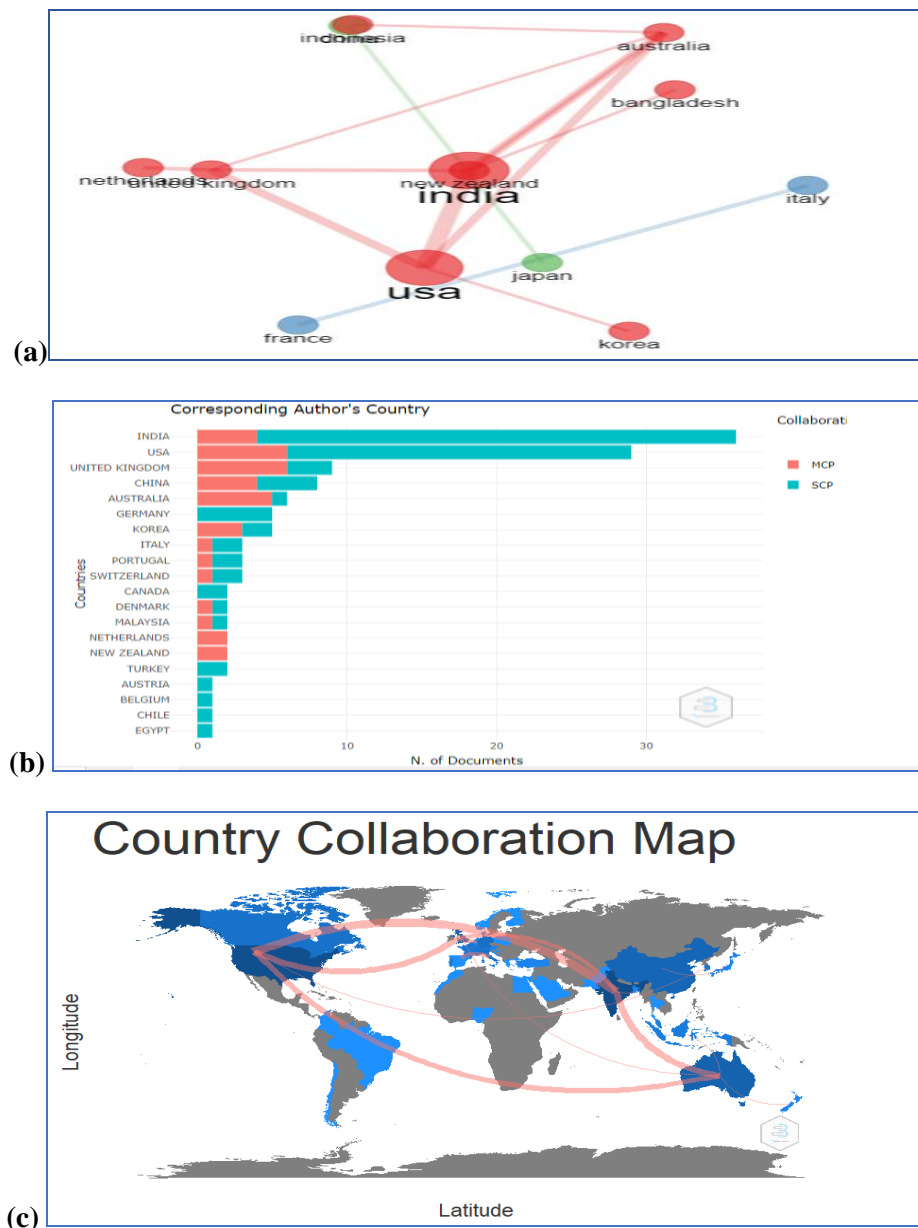
(a)

(b)

(c)

Figure 7: (a) Country collaboration network, (b) Corresponding author's country, and (c) Country collaboration map. Source: Biblioshiny

3.3   Cluster Analysis

Figure 8 depicts a map of co-occurrence facts obtained on "Author Keywords" in publication titles and abstracts. We utilized the same co-occurrence analysis approach as used by Bornmann et al., (2018). We additionally examined co-occurrence mapping with a predetermined number of clusters by a technique called kamada-kawai layout (Kamada & Kawai, 1989).
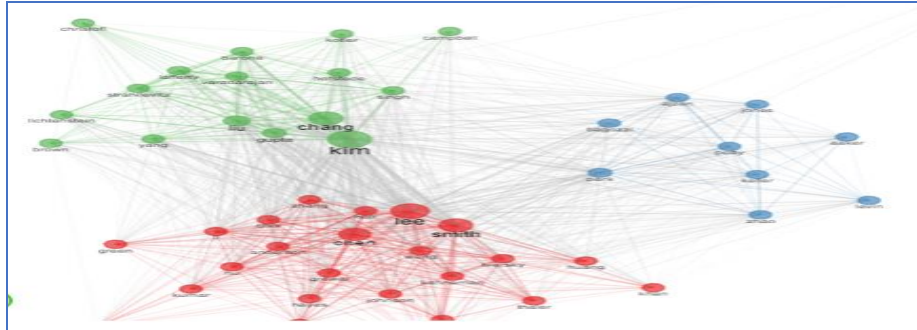

Figure 8: Co-occurrence citation analysis by authors. **Source: Biblioshiny**

A conceptual structure map was developed by mapping the relationship between one phrase and another using regional mapping, offering a portrayal of the contextual structure of each word that appeared often in research publications on the framing effect (Figure 9). Each word was arranged according to the values of Dim 1 and Dim 2. Dim is a bibliometric term for a diminutive particle, resulting in mapping between words with relatively similar values. For our research, we employed multiple correspondence analysis (MCA), which is a crucial tool for dealing with large and complicated datasets. High-dimensional categorical data may be present in complex data that defines the field's conceptual structure, as well as K-means clustering for detecting diverse groupings of texts with similar concepts (Blasius & Greenacre, 2006). When the variables in the analysis are categorical rather than quantitative, principal component analysis is an extension of MCA (Abdi & Williams, 2010). Variables that are negatively associated are situated in opposite quadrants of the plot origin, and positively correlated variable categories are clustered together in MCA. This map is divided into two sections: a red region and a blue area, both of which include words that are connected to one another. The top three most often appearing terms ("framing," "marketing," and "risk") appeared in the red area, which comprised a great quantity and diversity of words, showing that numerous research publications provided links between the words mentioned in this region.
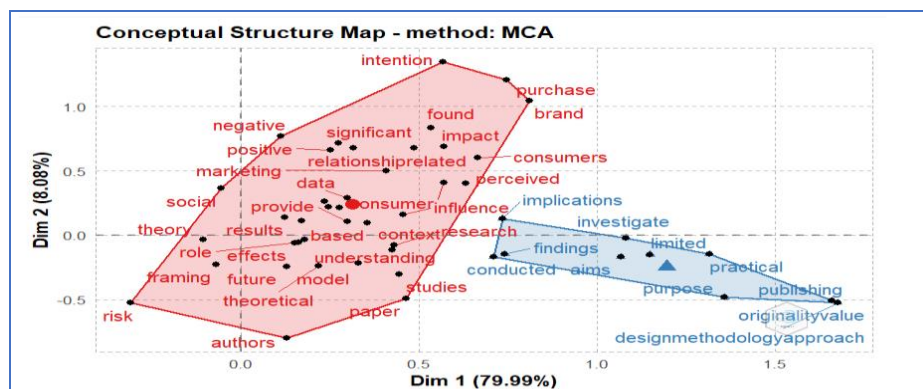

Figure 9: Conceptual Structure Map. Source: Biblioshiny

The hierarchical order and link between the keywords obtained by hierarchical clustering are shown by the topic dendrogram in Figure 10. The vertical lines and the figure's cut make it easier to investigate and comprehend the various groupings. The goal of the figure is not to identify the exact degree of cluster connection, but to figure out how many clusters are there in order to allow future debate. They are split into two major strands when it comes to the framing effect. The first strand focuses on message framing, advertising, consumer behaviour, and green products, while the second strand focuses on literature evaluation and methods and views of different factors related to the framing impact. To establish distinct areas of interest and connections we analyzed the second block,

which likewise has the most divisions. When we analyzed message framing, we see a link between organic consumerism's influence and associated risk. A shift in the organic market has had an impact on regional pricing tactics, notably in India. In this regard, resource optimization and media adoption are linked to the introduction of positive and negative message framing, which influences customer perception and attitude toward organic purchase. These judgments, in turn, have an impact on marketing decisions such as the adoption of various ethics and the launch of new campaigns. The message conveyed through these techniques and strategies is further linked to purchasing intent, biases, decision-making studies, and social choices.
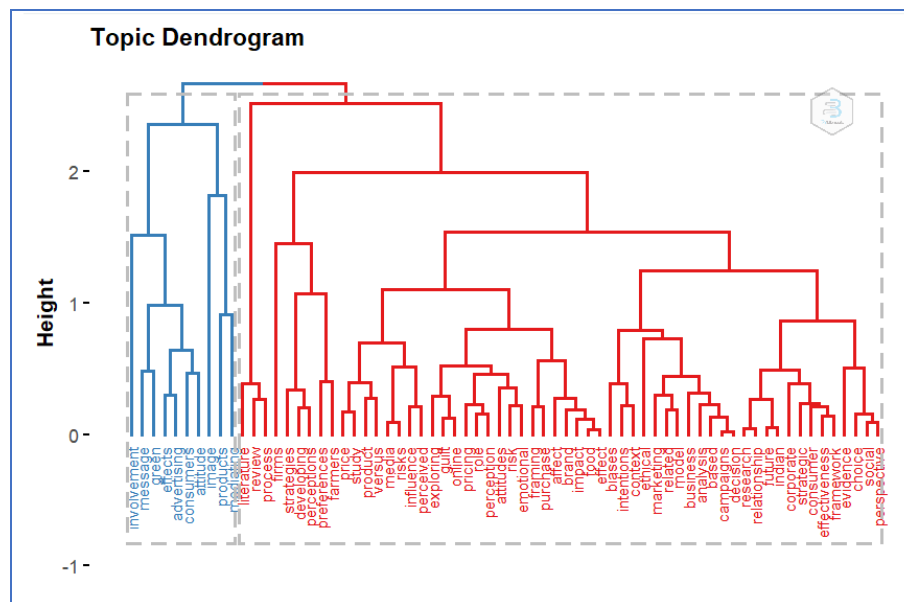

Figure 10: Topic dendrogram. Source: Biblioshiny

3.4   Three Plots Field

The major components of three fields (e.g., authors, keywords, journals) and their relationships are depicted in Figure 11 using a Sankey diagram with arrow width proportional to flow rate. For the top 20 authors, keywords, and sources, three plot fields are created. The essential elements were depicted in a schematic plot made up of rectangles with different colors. The height of the rectangle represents the sum of the relationships that arose between the element represented by the rectangles and the diagram of

the other components. The size of the rectangle determines the number of relationships that each element has. The current analysis revealed which research subjects on the framing effect the researchers had investigated, as well as which resources had they relied on the most. In this paper, the author's keywords were the research subjects. The highly cited authors Chaney P, Tripathi V, and Grandhi B were closely associated with the primary study subjects of "cause related marketing", according to the analysis of keywords, top authors, and sources (Figure 11 (a)).

Furthermore, the data were filtered by country to provide a clearer picture. The three-field plot shows that "cause-related marketing" is the most important node, followed by "framing," which is followed by "India". Figure 11 (b) shows that authors of Indian origin have productive

publications circumventing broad topics of framing effect, which is followed by the UK and the US.
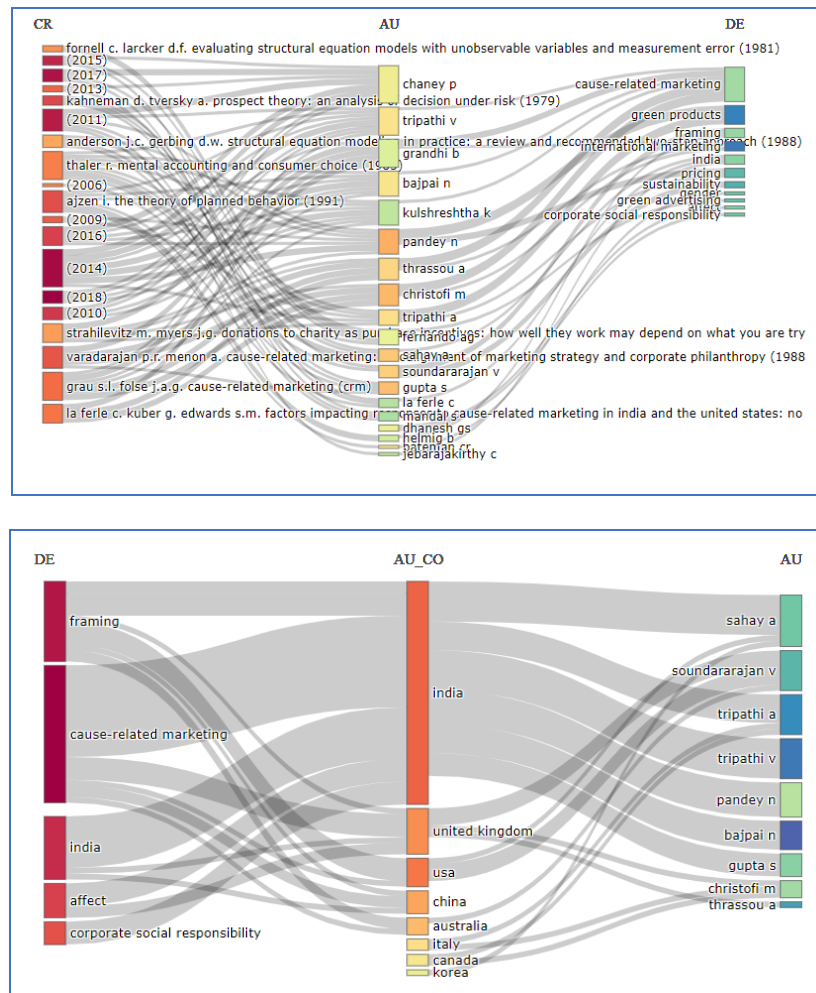

Figure 11: Three Fields Plots (a) authors, references, and keywords; (b) countries, keywords, and authors. Source: Biblioshiny

3.5   Thematic analysis and future trend

Themed maps are generated by stacking layers, with data from each layer plotted to one or more aesthetics (Tennekes, 2018). Thematic evolution analysis is a method for determining evolutionary connections between evolution routes and trends that have evolved over time. In the thematic analysis, the inclusion index weightage by word occurrence was used, with a

minimal cluster frequency of 5 and a minimum weight index of 0.1. Figure 12 depicts the theme analysis in the domain of Framing Effect from 2010 to 2021. It also depicts the structures that emerge throughout time, as well as their strength. The size of each node is equivalent to the number of keywords in the topic.

The "driving" topics in the upper right quadrant, give their relevance for future research, as shown by high density and centrality, they

should be developed further. These topics included "delphi analysis," "research work," "forecasting method," "risk perception," "agriculture," and "aquaculture," as well as a small amount of "decision making" and "India." The upper left quadrant displays particular and under-represented subjects that are yet regions of significant development, as shown by high density but low centrality, such as "media role" and part of "decision making," as well as "India." Concepts that have been used but have

seen a declining tendency, as indicated by low centrality and density, are found in the lower left quadrant; one such topic is "innovation." Finally, basic themes with high centrality but low density are seen in the lower right quadrant; these topics are relevant for investigation as generic topics and include "consumption behaviour," "marketing," "costs," "willingness to pay," "developing countries," "India," "sustainable development," "risk perception," "agriculture," and "aquaculture."
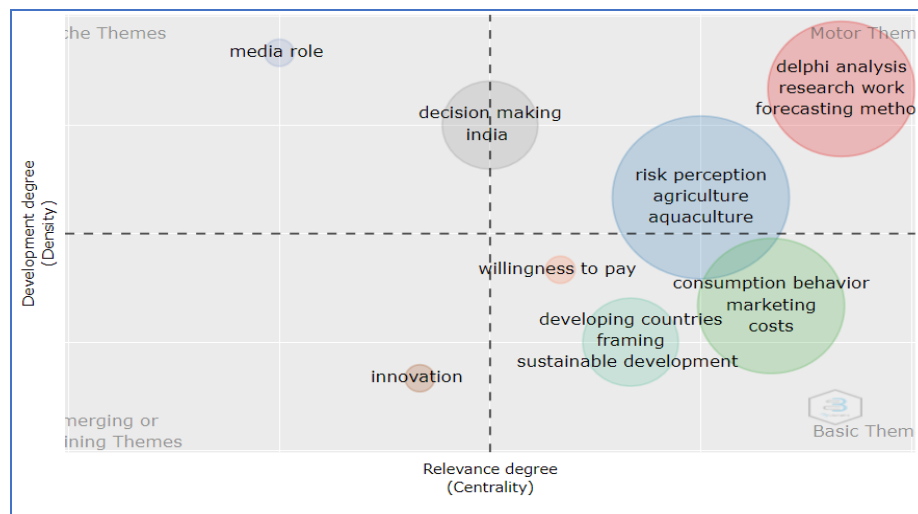

Figure 12: Thematic analysis inferring framing effect. Source: Biblioshiny

4   Discussion

This bibliometric analysis summarizes the overall application status of the framing effect from the viewpoints of cross-disciplines, source journals, regions around the world, article citations, and keyword co-occurrence; and deliver a comprehensive and impartial analysis of the current state of the art, and areas that need improvement, problems, and possible research paths. The authors with the most publications are identified in this bibliometric study, for instance, Chaney P's work focuses more on decision making under uncertain and risky situations. While Tripathi V and Grandhi B's work focuses on cause-related marketing, which is an ever-growing marketing strategy produced by firms that may result in a clinch approach for businesses, non-profit organizations, and society, However, within their mainstream research, the link between cause-related

marketing and customer purchase intentions has been studied in a fragmented manner. The current analysis revealed which research subjects on the framing effect the researchers had investigated, as well as which sources, they had used most frequently.

The scholarly publications of framing effect over time, continued to rise steadily until 2020, which was spotted as the peak year of publication. However, the rate of publication circumventing the framing effect reduced drastically in the year 2021. According to the findings, journals having the greatest number of papers on the themes are Journal of Business Ethics with 6 publications and Journal of Conflict Resolution and Journal of Economic Behavior and Organization with 5 publications each. The contributions focused on the investigation of the framing effect include consumer behaviour, decision making, marketing, and risk perception. The present

work highlights the focus of the literature on "Framing" and "India" with the importance of "Green advertising", "sustainability", "risk perception" as well as "Purchase Intention".

According to collaborative statistics from relevant nations about framing effect, India's independent papers account for the largest percentage of all publications. It's worth noting that the USA, the UK, India, and Australia have developed the most significant international publishing agreements with countries that are geographically apart. This ingrained engagement might lead to policy interchange and market collaboration.

Furthermore, the topic dendrogram depicts two phases of the discussion. The first phase focuses on message framing, advertising, consumer behaviour, and green products, while the second phase focuses on literature evaluation and methods and views of different factors related to the framing impact. A shift in the organic market having an impact on regional pricing tactics could be notably seen with reference to India. Resource optimization and media adoption are connected in this respect to the introduction of positive and negative message framing, which effects consumer perception and attitude toward organic buy. These conclusions, in turn, influence marketing decisions such as the adoption of certain ethics and the introduction of new campaigns. These tactics and approaches are also linked to purchase intent, biases, decision-making research, and social decisions.

5   Conclusion

The goal of this research is to do a bibliometric analysis of the publications on the framing effect with respect to organic food consumerism. Literature evidently lacked bibliometric analysis considering the utilization of framing effect considering organic food consumerism. The study emphasizes the importance of having cause-related marketing model for gaining widespread public awareness and making the cause and organization well-known. It also increases the likelihood of buyers connecting themselves with marketing promotions. The prospect of establishing a theoretical common

framework inside national organizations might provide interesting consequences for marketers, the environment, and consumers. This paper provided a thorough understanding of the bibliometric factors of framing effect and organic food, and it can help advance scientific research in this subject. Furthermore, the analysis and integration of interdisciplinary domains might aid researchers.

In addition, the study identifies untapped areas that scholars might investigate further and address from a policymaking and management standpoint. In terms of future study, we assume that scientifically framed advertising messages can help to develop this issue and influence customer attitudes and purchase intentions, thereby benefitting managers and policymakers. Furthermore, the investigation demonstrates the importance of media as an under-represented issue that is necessary for making key growth decisions in the Indian organic food sector.

6   Limitations of research

There are several limits to our investigation. The usage of the Scopus information base is one of the limits, despite the fact that the web of science information base is highly broad and authentic. Our study was also limited to the English language, as publications in languages such as Spanish, Chinese, and French were not included in the studies. Another issue we encountered was that the most renowned and important writers were ranked according to the number of articles they had; as a consequence, publications with a single document but many citations might be skewed in the results.

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