Academic Research Related to Consumer Preferences:
Comprehensive bibliometric analysis*

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Abstract

The article deals with the issue of consumer preferences in today's modern world. The aim of the article is to consolidate academic research by performing a bibliometric analysis of contributions related to the topic of consumer preferences using the VosViewer visualization tool. Articles from the Web of Science database were used as input data in this analysis. Knowledge from bibliometrics and informatics has become a part not only of decision-making processes in the evaluation of research, but can also be useful for researchers themselves in their own research activities. The results of the study provide a literary and theoretical overview of the current state of consumer preferences. The article contains a graphic analysis of the number of published articles in the time horizon of the last two decades. The contribution also includes the creation and visualization of network maps showing the interconnection of keywords, countries and the most cited research publications of approximately 17,000 articles dealing with the topic of consumer preferences in various research areas/sectors.

Keywords: bibliometric analysis; consumer preferences; consumer behaviour

Introduction

According to Vysekalová et al. (2011) the main essence of consumer behavior is the satisfaction of some needs. This includes everything related to the process leading to the resulting market activity, taking into account the actual use of the product (Boučková et al., 2003). Consumer behavior represents one of the levels of human behavior. It means the behavior of people - final consumers, which refers to the acquisition, use and storage of consumer products (Koudelka, 2018). It can be investigated from several levels - psychology, sociology, geography (Kunc et al. 2012) and economics. According to Solomon et al. (2006) is the object of a process study that covers a large number of reasons for choosing to buy, using products by individuals or groups in order to satisfy their desires and needs. The term "consumption" is closely related to the consumer, which Kita (2017) characterizes as a diverse and complicated concept. It is also characterized as a never-ending process of use, production, acquisition and destruction of material and immaterial products. Using consumption, it is easier to characterize what consumers require, need, what they are like and what service they prefer. In this case, from the point of view of consumer behavior, it is possible to determine two types of consumer manifestations, which are mentioned by Darpy and Volle (2007), namely macro manifestations: the distribution of income determined for the consumption of the main items determining the nature of consumption (e.g. housing). The consumer's micro manifestations are primarily created by products and services, the purchase of which is actually decided by the consumer himself (e.g. choosing

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a specific brand). Here we can talk about the possible influencing of the consumer through the marketing worker (Kita 2017). Even in the case of various crises, consumer preferences change, this fact is proven by research by authors Steenkamp and Mayden-Olivares (2015), Hampson and McGoldrick (2013), Sarmento et al. (2019) who investigated consumer preferences during an economic recession. Baran (2022) dealt with the impact of the COVID crisis on retailing. Several of the authors' works also focus on the different purchasing behavior of young people. Martin and Turley (2004) were interested in the purchasing attitude of young people (under 25) in cities. They assessed that it is the youth who place the greatest emphasis on shopping and have the greatest demands. It is the environment of shopping centers that creates a sense of security for young people. For young people, it is, so to speak, an ideal space that provides them with comfort and is also very suitable for spending free time, in the form of using game rooms, cinemas, cafes or frequent entertainment events (Spilková, 2012). A study on preferences for contactless services over retail visits among generational cohorts (Millennials and Generation Z) was conducted by Kim et al. (2022). The results show that the characteristics of both generations significantly influence the preference for contactless service, with the exception of security search. The generations also perceive a greater interest in new technologies and the search for security. For age groups, or in general, age, which is related to consumer behavior, was also followed by Solomon et al. (2006) who argue that consumers in different age categories (not only the young) have very different demands and needs for the goods and services that they find in the markets and that they use. Researching these needs will continue to be important and will also be of great importance to business people as well as people involved in the public sector. The same authors also focused on the types of shoppers according to the purchasing opinions of men and women. According to the authors, their differentiation begins at a relatively young age for children, when even diapers for toddlers can be purchased in different colors - pink for a girl and blue for a boy. Despite this, they claim that in the past the question was e.g. buying a car is a purely male affair, which is already changing in the current period. Their claims were followed up by Firat & Venkatesh (1993), who think that the female population is more often observed when shopping, whose purpose is shopping for pleasure and with the intention of taking care of or pleasing others. On the contrary, for the male population, it is mainly about shopping that is convenient, as fast as possible, with discounts and in most cases at the last minute. In his study, Thomas and Garland (2004) dealt with food shopping, which many people do more often than twice a week, and it is not uncommon to encounter daily shopping as well. It is often considered routine, involving a significant amount of habitual and low-involvement behavior. Although it can be fun for some people, for many it is killing or stressful. Due to the fact that in this case it is necessary purchases, their variability is very much determined by several factors such as the amount of income, the number of members in the household, but also the distance of the store from home, lifestyle, way of eating. Like other purchases, grocery shopping is also subject to development. Mainly in the case of residents of urban settlements, the traditional way of shopping is currently being replaced by a modern way of shopping / discount store, supermarket, hypermarket, or shopping center/ (Mitríková 2011). Hes et al. (2010) state that among the main factors influencing consumer decision-making when choosing a shopping place at the present time are the time spent shopping, the quality and freshness of the goods. The customer is influenced by globalization, but his behavior is also influenced by the desire for a healthier lifestyle, partly by local patriotism or growing environmental awareness. However, it cannot be said that food buyers always behave in the same way. Although, according to Reutterer and Teller (2009), two prevailing trends can be observed - the growing power of chain stores and, on the other hand, the decreasing trend of small stores, customers are increasingly using multiple store formats (large-scale stores, but also small and specialized stores), primarily depending from the purchase occasion (large, infrequent purchases vs. complementary and narrow profile purchases). It is obvious that the purchasing process begins even before the actual purchase is made. It is also important to examine the behavior of consumers after the purchase, their reactions to the purchased goods, satisfaction with the purchase, dissatisfaction, and finally, care for the consumer after the purchase must be added (Dzurová et al., 2007).

Methods

Bibliometric analysis is defined as the statistical evaluation of published scientific articles, books or book chapters and is an effective way of measuring the impact of publication in the scientific community. The academic impact of certain research can be measured by the number of citations by other authors (Schubert et al., 1989). Visualization has proven to be an effective approach to analyze a wide range of bibliometric networks, from citation relationship networks between publications or journals to co-authorship networks between researchers or co-occurrence networks between keywords (Majerova et al., 2021). Bibliometrics is closely related to other disciplines such as scientometrics, informometrics, librometrics, webometrics and cybermetrics. All these disciplines examine the quantitative aspects of information using similar methods. Therefore, they often overlap and are confused (Ondrišová, 2011). Scientometrics deals with the quantitative aspects of science as a discipline or economic activity (Tague-Sutcliffe, 1992). Since the main outputs of scientific research are publications, they have become the subject of scientometric research just as they are the subject of bibliometric research. Scientometrics focuses exclusively on scientific publications and uses the results of analysis of publications and citations primarily for the evaluation of science (De Bellis, 2009). In connection with bibliometrics and scientometrics, another term informetrics appears.

Informetrics deals with quantitative aspects of information in any form (not only recorded) in any social group, not only in scientific ones (Björneborn, 2004). With the development of information technology and mainly the Internet, attention shifted to information in its environment. In this context, two disciplines of webometrics and cybermetrics were formed. Webometrics deals with the web, and cybermetrics, as a broader term, also deals with other Internet services such as newsgroups or e-mail. Webometrics examines the quantitative aspects of the construction and use of information resources, structures and technologies on the web, drawing on bibliometric and informometric approaches. Cybermetrics examines the quantitative aspects of the Internet (Van Eck & Waltman, 2017). We perform bibliometric analysis using the VOSviewer tool, which is a software tool for creating and visualizing bibliometric networks. For example, these networks may include journals, researchers, or individual publications, and may be created based on citations, bibliographic links, co-citations, or co-authorship relationships. VOSviewer also offers a text mining function that can be used to construct and visualize co-occurrence networks of important terms extracted from a large body of scientific literature. The input data that we will work with in this software program are more than 17,000 scientific articles published in the Web of Science scientific database. We also briefly analyze the quantity of scientific articles in the mentioned scientific database of the given issue for the period of the last two decades.

Results

Consumer preferences, not only as a concept, but also as an activity representing the purchase of products and services, are in the current environment a highly discussed and topical topic that needs to be paid attention to. Due to the increased rate of publication of scientific-research contributions on various topics from various fields, the correct choice of works whose main feature is value is significant, and this is why bibliometric analysis is used (Van Eck & Waltman, 2017). In order to point out this fact in the presented article, we focus on bibliometric analysis in the context of consumer preferences. We also subjected the records extracted from the WOS database to an analysis of the co-occurrence of the most used keywords related to the topic in question. We performed this analysis in the VOS viewer program, and the output in the form of a network visualization can be seen in Figure 1. Figure 1 represents a network visualization of the connection of keywords related to the topic of consumer preferences, which were most used in this context precisely in the analyzed records extracted from the WOS database. The first step was the collection of data from a database with a number of 17,382 scientific publications, which we then subjected to analysis using the VOSviewer tool. The size of the circle represents the weights, and the larger the circle, the higher the weight of that keyword. The color of the circles determines the cluster to which the keyword belongs. Individual links are links between items. By default, up to 1000 strongest links can be displayed. The distance between the circles expresses the connection of the keywords in terms of correlation links, and the closer these lines are, the stronger the relationship of the keywords (Hallinger & Wang, 2020). In the mentioned bibliometric map, we can see that consumer preferences are indirectly included in all created clusters. These are: 1. influence and behavior (red); 2. consumer attitudes, influence attributes and perception (green); 3. innovations and technologies within the market (blue); 4. satisfaction and preference attributes (yellow); 5. ability or willingness to pay for the requested/offered product (purple). The linking of keywords related to consumer preferences can also be seen in Figure 1. The most used of them is the term preference, which is found in network visualization and in various variations (e.g. preferences). However, it is always the same concept. Other frequently used terms are behavior, impact, model, consumption, quality, or willingness to pay.
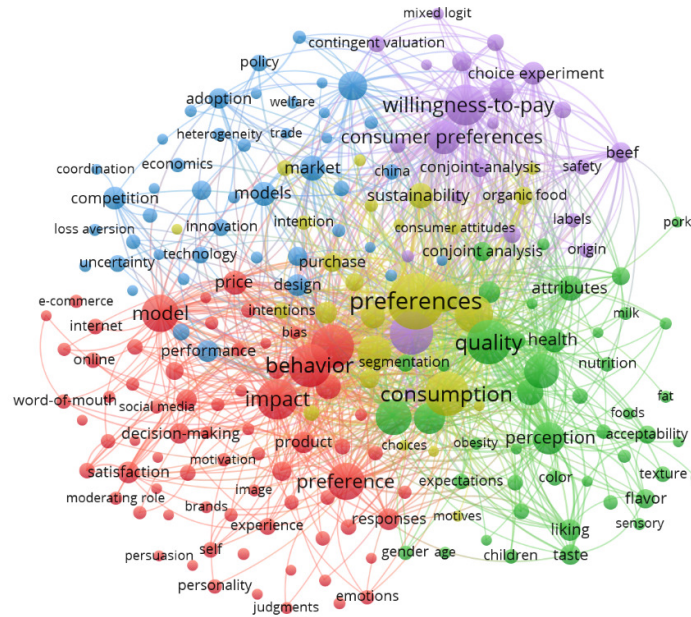
Figure 1: Bibliometric analysis according key words

Source: Database WOS

Figure 2 records a visualization of the item density represented by the countries in which the relevant research papers were published. Due to this, it can be concluded that the topic of consumer preferences was mostly addressed by authors from countries such as China, USA and England during the selected period. We can trace the strong connections between the Anglo-Saxon countries of the USA with Canada, England and Australia.
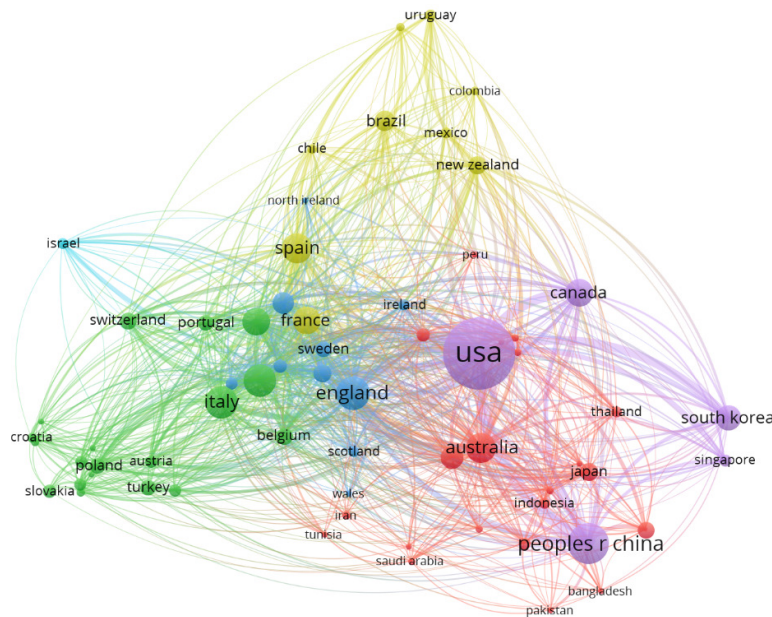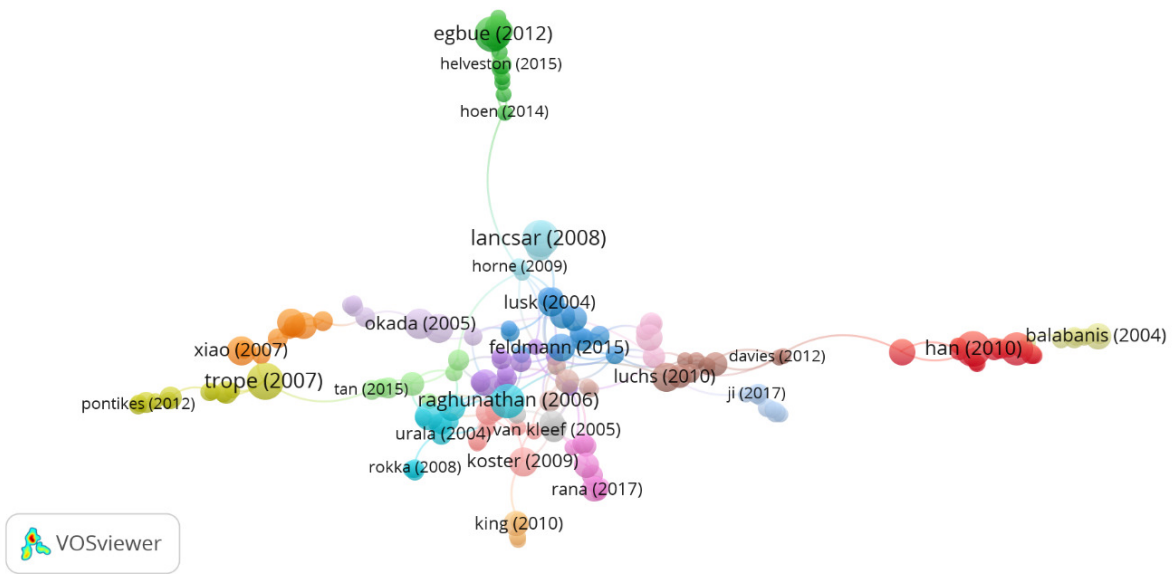

Figure 2. Bibliometric analysis according countries

Source: Database WOS

As part of the bibliometric analysis, we also focused on specific publications of specific authors and the corresponding number of citations, which we considered to be a determinant of the importance and significance of specific articles recorded in the WOS database for the monitored period. In Figure 3, we can see which authors and to what extent, according to the density of publication activity recorded in the WOS database, dealt with the topic of

consumer preferences and in which year their publication was the most significant according to the number of citations. We selected the three most cited works from among all contributions. The most cited publication is the publication entitled: Conducting discrete choice experiments to inform healthcare decision making: a user's guide (852 citations). The paper examines discrete choice experiments. These are regularly used in health economics to capture preferences for health care products and programs. It is increasingly recognized that these experiments can provide more than just information about preferences and in particular have the potential to contribute directly to outcome measures for use in economic evaluation (Lancsar & Louviere, 2008). The second article with the most citations was: Barriers to widespread adoption of electric vehicles: An analysis of consumer attitudes and perceptions (800 citations). This research identifies potential socio-technical barriers to consumer adoption of EVs and investigates whether sustainability issues influence the consumer decision to purchase an EV. This study provides valuable insights into consumer preferences (Egbue & Long, 2012). The third most cited paper was: Signaling Status with Luxury Goods: The Role of Brand Prominence (773 citations). The authors propose a taxonomy that divides consumers into one of four groups according to their wealth and status needs, and also demonstrate how each group's preferences for conspicuously or subtly branded luxury goods correspond predictably with their desire to associate with or maintain distance from members of their own and others. groups (Han, Ňunes & Dreze, 2010). The most cited authors were: Gaston Ares with 113 citations, in second place with 60 citations is Jayson I. Lusk, and third in order is Charles Spencer with 59 citations.

Figure 3: Bibliometric analysis according cited articles

Source: Database WOS

Within the investigated areas in which the most articles on customer preferences were published, we selected 5 with the highest share of all published scientific articles. Individual shares can be seen in Table 1.

Table 1. Fields of published articles

Fields	Record Count	%
Food Science Technology	6 141	18,2
Business	5 830	17,3
Economics	4 790	14,2
Management	2 884	6,8
Environmental Sciences	1 895	5,6

Source: Database WOS

As the last one, we performed an analysis of scientific contributions over a time horizon of two decades (Figure 4), within which we found an increasing interest in examining consumer preferences. An increase in the number of

published articles was recorded especially in 2021 (1938 articles), 2020 (1729 articles) and 2022 (1657 articles). Conversely, the fewest published articles on the topic of consumer preferences were in 2004, with 229 published articles. So far, 155 have been published in 2023. Graphical analysis of the development of the number of published contributions on the topic of consumer preferences still has great potential for current and future research and is an increasingly researched area.
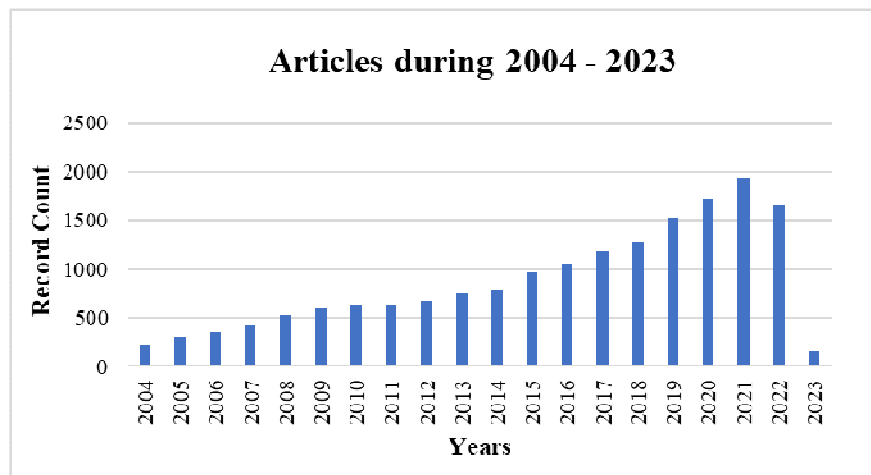
Figure 4: Published articles by time

Source: Database WOS

Discussion

Specifically, the authors Sendhil et al addressed consumer preferences using bibliometric analysis in the food industry. (2022). In this study, they present bibliometric trends based on the results of research on the perception and preference of genetically modified (GM) foods by consumers. A survey was conducted in the field of food science and technology and consumer preferences (Kasemodel et al., 2016). In the case of consumer behavior and communication through eWOM, author Bharej (2022) conducted a bibliometric analysis. The analysis revealed that there has been a significant increase in papers written on this topic in recent years. The USA has 24 papers out of 65 in the Scopus database, which contains 207 citations; China, which is one of the largest online buyers, has 23 publications, while India has 7 articles. There is a missing link between online reviews and websites, purchase intent, source of information, which can be detected as a keyword gap. This article is an attempt to consolidate the research that will contribute in the academic literature and provide insight for researchers and marketers interested in the industrial purchase intention of consumers influenced by eWOM to design their marketing strategy with eWOM in mind. Consumer behavior during the COVID pandemic situation (Cardenaz et al., 2021) was addressed by Karaman & Sarikan (2022), who analyzed 642 available articles. The findings show that the number of studies in this area has increased. According to the country cooperation analysis, there is a strong cross-country cooperation network between the US, China, India, Australia, South Korea and the UK. The most studied thematic groups are ecological consumer behavior, consumer involvement and effective service quality. The three most used keywords are impact, consumer behavior and model. Saibaba (2021) dealt with bibliometric analysis with an impact on the choice and transformation of retail forms by consumers. The analysis of scientific research is intended to be a reference guide for researchers in the academic community to understand the intellectual structure, theoretical foundations of online consumer behavior research (Rita & Ramos, 2022) and to identify knowledge gaps and recommend future research directions. It can also help marketers to understand the dynamic characteristics of online consumers and their purchasing behavior through the various contributions of the scientific literature.

Conclusion

Consumer preferences and their knowledge in the context of consumer behavior is one of the significant factors in promoting a product on a specific market. The individuality of the individual as well as the external environment affects his consumer behavior and preferences when choosing goods and services. Consumer preferences are differentiated on the basis of various attributes, such as generational cohort, gender, different levels of income,

habits, cultural sphere, but also the environment in which they live. The consumer way of life is characteristic of today's modern world. Compared to the past, consumers are offered a large number of consumer goods, products, and services. Today's individual does not always have to be satisfied with every available product. In the field of modernization and improvement of retail, the consumer perceives several factors for which he buys a product or service. The purchasing decisions of consumers shape the seller's market, and the preferences of retail units also contribute to their transformation. In previous years, thanks to the pandemic situation, we could perceive a decrease in the retail sales of some types of consumer goods, which replaced the growth of sales of the same goods via the Internet. If we were to take into account the sale of food, we could register the only decrease in sales within the retail trade, which is carried out in stalls. It is therefore important to address this topic in both levels of research, whether it is research from the point of view of theory or also the practical level. Because knowing the consumer's preference can help sellers transform a one-time, random purchase into a long-lasting relationship with a consumer who shows loyalty to the given seller by making repeated purchases or providing positive feedback.

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