SemeAd 2025
XXVIII Seminários em Administração

10, 11, 12, 13 e 14 de novembro de 2025
ISSN 2177-3866

REVIEW ON CONSUMERS OF ORGANIC PRODUCTS COMPARED WITH THE SET OF STUDIES ON ORGANIC AGRICULTURE

RICARDO CERVEIRA
UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

CHRISTIANO FRANÇA DA CUNHA
UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

REVIEW ON CONSUMERS OF ORGANIC PRODUCTS COMPARED WITH THE SET OF STUDIES ON ORGANIC AGRICULTURE

ABSTRACT

This article reviews the scientific literature on consumer behavior regarding organic products, aiming to analyze the representation of studies focused on these consumers compared with the broader universe of research on organic production. The study used bibliometric analysis applied to the Scopus and Web of Science databases, covering the period from 1999-2023. The methodology involved creating four groups of articles: studies on organic product consumers (G1), organic production (G2), conventional food consumers (G3), and conventional food production (G4). The initial search of both databases resulted in 15,735 articles related to conventional food production, of which 14,346 were considered relevant, whereas 14,827 articles related to organic production were found, with 11,846 considered relevant. In terms of consumer behavior, 605 articles dealt with conventional food consumers, and 46 articles addressed organic product consumers. After removing duplicates and refining the results' relevance, the study revealed that only 0.3% of the articles on organic production in the database focused on consumer behavior, whereas 4.13% of the studies on conventional foods dealt with consumer behavior. The methodology also included the use of word cloud generated from the 32 most-cited articles on organic product consumers, highlighting recurring themes such as "willingness to pay," "consumption behavior," "consumer acceptance" and "organic production." The most influential articles focused mainly on how consumers' perceptions of health, sustainability, and animal welfare influence their purchasing decisions. Temporal analysis revealed a moderate increase in the number of studies on organic consumers, with peaks in years such as 2010 and 2020, of studies showing growing interest in the topic over time, although it remains underexplored. The results underscore a significant gap in research on consumer behavior regarding organic products, which may limit the growth of this sector. While the conventional food market has attracted much more academic attention, studies on organic products remain relatively scarce. The conclusions suggest an urgent need to expand research in this area, focusing on understanding consumer motivations and barriers, as well as promoting marketing strategies that enhance the perceived value of organic products. The study also proposes interdisciplinary collaborations to better integrate marketing strategies with sustainable production practices.

Keywords: Organic Consumer Behavior; Sustainable Marketing; Willingness to Pay; Bibliometric Analysis

1. INTRODUCTION

The premise of the present study is to consider that for the establishment of a consolidated market in some economic sectors, there is a vast universe of studies and research on the sector, from technical production actions to managerial and marketing actions. In addition, research on consumer behavior is widely recognized as fundamental for the development of effective marketing strategies for any economic sector, enabling companies to adjust their products and services to meet the demands and expectations of the consumer market (Kotler & Keller, 2016). These investigations provide valuable *insights* for organizational success, as serving the consumer is an essential condition for achieving competitive advantage and market sustainability (Olson & Reynolds, 2001).

Studies of consumer behavior are widely established in the economic field, and through these analyses, companies structure their marketing strategies, products and services to better meet the needs and desires of consumers (Schiffman et al., 2011). In this sense, an in-depth understanding of how consumers make purchase decisions has been directly associated with business success, especially in competitive and growing markets, such as the organic products sector (Solomon, 2020).

In view of this aspect, intrinsic to traditional world economies, it is expected that there will be considerable significant proportion of scientific publications that address not only organic production but also studies focused on the consumer behavior of organic products (Rodrigues & Carlos, 2009). Consumer behavior, particularly in the context of organic products, involves a few complex factors, such as environmental awareness, health concerns and ethical values, which have been increasingly studied as drivers of the consumption of these products (Grunert & Juhl, 1995; Michaelidou & Hassan, 2008).

To show whether studies related to the organic production sector in relation to the consumer are at the same level as studies aimed at the traditional market, this article seeks to answer the following question: what is the percentage proportion of studies related to the consumer of organic products? compared to published studies on the organic sector in general? In addition, a comparison will be made between studies on the consumer behavior of organic foods to unravel changes in the profile and consumption pattern, as well as to identify any specific characteristic in the behavior of this consumption segment.

2. LITERATURE REVIEW

2.1 Organic Production as an Element of Sustainability and Market Attractiveness

Organic production has gained global attention because of its potential to contribute to environmental, social and economic sustainability. In the context of a world increasingly concerned with the environmental impacts of conventional agricultural practices, organic agriculture has emerged as a sustainable alternative characterized by the limited use of synthetic inputs and by the promotion of biodiversity and the well-being of ecosystems. According to Grunert & Juhl (1995), organic agriculture is aligned with the principles of sustainable development, offering an approach that minimizes negative environmental impacts and preserves natural resources for future generations.

In addition, organic agriculture stands out for its appeal to the consumer market. The growing awareness of health and the environment has driven public interest in organic products. Michaelidou & Hassan (2008), consumers who choose organic products are usually motivated by a combination of factors, including health concerns, preferences for natural foods and aversion to the use of pesticides and other chemicals. This group of consumers also tends to be more aligned with sustainable consumption practices, seeking products that cause less environmental impact.

The growth of the organic products market reflects a change in consumption patterns and in consumer expectations regarding the environmental responsibility of companies. “Green” marketing and consumer behavior in relation to sustainable products, such as organic products, have become central themes in the field of marketing (Kumar & Polonsky, 2017). Companies that position themselves as environmentally responsible and that offer products that address consumers’ concerns about health and sustainability tend to be more successful in the market (Cunha et al., 2011).

Organic production, in addition to attracting consumers due to its health and environmental benefits, is also associated with a set of public policies that promote sustainability. Government policies in several countries have encouraged the adoption of organic agricultural practices through subsidies and certifications, creating a favorable environment for the growth of the sector. This institutional support, together with the growing interest of consumers, has driven the expansion of the organic market, making it a promising segment within the global food industry (Ormond et al., 2002).

Thus, the appeal to sustainability, together with the growing concerns of consumers about health and the environment, has made organic production an attractive alternative for both producers and consumers. However, despite the growth of the sector, there are still challenges in terms of production scale and accessibility, which makes the study of consumer behavior essential for understanding how to expand this market efficiently (Rodolfo & Lima, 2018).

2.2 Consumer Behavior and Its Relationship with Sustainability and Health

Consumer behavior has been widely studied in recent decades, particularly with respect to its relationship with sustainability and health. According to Kotler & Keller (2016), contemporary consumers are increasingly aware of the implications of their consumption choices for the environment and their own health. This increase in awareness reflects a significant change in purchase motivations, with a growing demand for products that are simultaneously beneficial to the consumer and the planet.

In the case of organic products, consumers often associate these items with superior health benefits, such as the absence of harmful chemicals, and with a lower environmental impact, given the more sustainable production method (Schiffman et al., 2011). In fact, the purchase behavior of organic products is closely linked to ethical and environmental concerns, with consumers willing to pay a *premium* price for products they consider healthier and more environmentally responsible (Solomon, 2020). This reflects a transition from consumption guided purely by price and convenience to more evaluative consumption, in which consumers consider factors such as animal welfare, environmental conservation and social justice in their purchase decisions (Fetscherin & Heinrich, 2015).

Studies have shown that consumers who choose organic products are motivated by several factors, including concerns about health, family well-being, and the environmental impact of their consumption choices (Grunert & Juhl, 1995). In addition, these consumers tend to be more engaged in conscious consumption practices and value brands that demonstrate a commitment to sustainability (Michaelidou & Hassan, 2008). This suggests that choosing organic products goes beyond simple economic transactions and involves deep psychosocial aspects related to the consumer’s lifestyle and values.

However, there is a growing need to better understand how different consumer profiles behave in relation to organic products, since the consumption of these products is still relatively limited to niche markets in many countries (Kumar & Polonsky, 2017). Price barriers, for example, are often cited as limiting factors for the adoption of organic products by low-income consumers. In addition, the lack of clear information about the benefits of organic products may prevent less informed consumers from making this transition.

Therefore, understanding the factors that influence consumer behavior is crucial for the development of more effective marketing strategies aimed at expanding the organic market and making it accessible to a wider audience. The identification of consumer segments most likely to adopt sustainable consumption behaviors, as well as the understanding of the barriers that prevent this adoption, are essential for the continued growth of the organic sector.

2.3 Bibliometrics as a Technique for Survey of Studies on Organic Products and Consumer Behavior

Bibliometrics has been consolidated as a fundamental methodology for the mapping and analysis of scientific production in various areas of knowledge. According to Zupic & Čater (2015), bibliometrics allows a quantitative analysis of academic publications, facilitating the identification of trends and gaps in the literature. In the context of this study, bibliometrics was used to analyze the proportion of studies on the consumer behavior of organic products in relation to organic production compared with scientific production on the consumer behavior of conventional foods.

The technique of bibliometric analysis involves the collection of quantitative data on academic publications, such as the number of articles published, the impact of these publications (measured by citations), and the frequency with which certain topics appear in the literature. Studies such as that of Aria & Cuccurullo (2017) demonstrate how bibliometrics can be used to compare research subgroups within a larger theme, allowing a detailed analysis of how different study areas evolve over time.

Bibliometric analysis also allows the use of visual techniques, such as the creation of word clouds, which help to identify emerging patterns and trends in the literature, offering a clear view of the main research focuses on this field. Fetscherin & Heinrich (2015), the importance of tools such as these to map scientific production and identify the most relevant and emerging themes in specific areas of study should be highlighted.

In addition, the metadata analysis of each article allows the creation of a detailed record, which helps in the understanding of the main methodological and theoretical approaches used by the authors who study the consumer behavior of organic products. This type of detailed analysis is essential for identifying not only the current state of research but also the gaps that need to be addressed in future studies.

3. METHODOLOGY

The present study was conducted through a systematic quantitative review of the literature using bibliometric protocols. The systematic review is characterized by the systematization of the search and the careful analysis of the material, which ensures greater precision and reliability of the results obtained (Prodanov & Freitas, 2013). In the field of administration and marketing, bibliometrics has proven to be an essential tool for the survey and analysis of scientific publications, allowing quantitative comparisons between different topics and approaches (Zupic & Čater, 2015).

In this study, a systematic review was performed on large secondary databases, namely, *Web of Science* and *Scopus*, which are internationally recognized for indexing high-quality journals and for being widely used by researchers in several areas (Moed, 2005) . The choice of these databases is justified by the wide range of topics and the quality of the journals indexed, thus ensuring the relevance of the results.

The search process was structured to generate four groups of references, as described below:

1. **Studies on organic production that involve consumer research**: In this group, the focus was on articles that specifically address the behavior and profile of consumers of organic products, which will allow the assessment of the proportion of these studies within the literature on organic production (Group 1–G1).
2. **Total number of studies on organic production**: This group included all studies related to organic production, regardless of their focus. This set served as the basis for calculating the percentage proportion of consumer-focused studies within the universe of studies on organic production (Groups 2–G2).
3. **Studies on conventional food production that involve consumer research**: For comparative purposes, this group addressed consumer behavior in the conventional food sector, providing a parallel between the literature on organic and conventional consumers (Group 3–G3).
4. **Total number of studies on conventional food production**: This group included all studies related to conventional food production, regardless of focus, serving as the basis for comparing the proportion of studies on conventional consumers (Groups 4 - G4).

The searches were performed via Boolean operators and keywords related to "market", "production", "production chain", "microeconomics", "retail" and "agriculture", both in the organic and food sectors. conventional systems, as detailed above. For each group, we applied filters to exclude studies of an agronomic or biological nature, focusing only on research of a managerial and administrative nature, as proposed by Fetscherin & Heinrich (2015) in their studies on the comparison of thematic approaches within a specific field.

The following table describes the search strings with Boolean operators (both in Portuguese and English) for the combination of search terms.

Table 1: Search strings

Group	Search strings (Portuguese and English)
G1	*(mercado OR comercialização OR produção OR (cadeia produtiva) OR microeconomia OR varejo) AND (agricultura OR produção) AND (orgânic* OR biológic* OR biodinâmic* OR agroecologic* OR regenerativ* OR natural) AND (consumidor OR comprador OR cliente)* *OR* *(market OR marketing OR production OR (supply chain) OR microeconomics OR retail) AND (agriculture OR production) AND (organic OR biological OR biodynamic OR agroecology OR regenerative OR natural) AND (consumer OR buyer OR customer)*
G2	*(mercado OR comercialização OR produção OR (cadeia produtiva) OR microeconomia OR varejo) AND (agricultura OR produção) AND (orgânic* OR biológic* OR biodinâmic* OR agroecologic* OR regenerativ* OR natural)* *OR* *(market OR marketing OR production OR (supply chain) OR microeconomics OR retail) AND (agriculture OR production) AND (organic OR biological OR biodynamic OR agroecology OR regenerative OR natural)*
G3	*(mercado OR comercialização OR produção OR (cadeia produtiva) OR microeconomia OR varejo) AND (agropecuária OR agronegócio OR aliment*) AND (consumidor OR comprador OR cliente)* *OR* *(market OR marketing OR production OR (supply chain) OR microeconomics OR retail) AND (agriculture OR agribusiness OR food) AND (consumer OR buyer OR customer)*

G4	*(mercado OR comercialização OR produção OR (cadeia produtiva) OR microeconomia OR varejo) AND (agropecuária OR agronegócio OR aliment*) OR (market OR marketing OR production OR (supply chain) OR microeconomics OR retail) AND (agriculture OR agribusiness OR food)*

3.1) Calculation of Indicators

Based on the data collection, an indicator was developed to assess the proportion of studies on organic consumers within the universe of studies on organic production, dividing the number of studies in Group 1 by the number of studies in **Group 2**. Similarly, a second indicator is calculated by dividing the number of studies in **Group 3** by the total number of studies in **Group 4** to compare the relevance of consumers in the conventional food market. This type of comparative analysis between research subgroups within a larger theme is often used in bibliometric studies, as shown by Moed (2005) and Zupic & Čater (2015), who used similar methods to identify trends in specific scientific topics.

3.2) Keywords and metadata analysis

In addition to the quantitative analysis, a qualitative analysis of the most cited articles on organic consumers was performed via the **stArt** software (Zamboni et al., 2010). This software allowed the generation of a word cloud with the most frequent keywords in the 32 most cited articles on the subject. Recent studies, such as that of Kumar & Polonsky (2017), highlight the importance of tools such as word clouds to identify emerging patterns in the literature and to understand research trends in a visual and intuitive way.

On the basis of the articles identified, a detailed file was prepared for each document, considering aspects such as the focus of the study, methodology, main results and contributions to the field (Moreno et al., 2024).The filing of these articles provides a comprehensive view of what has been studied about the consumer of organic products around the world, allowing the identification of gaps and new research opportunities, as suggested by Zupic & Čater (2015) in his work on bibliometrics applied to management.

4. ANALYSIS AND DISCUSSION OF RESULTS

4.1) Systematization of searches in the Scopus and Web of Science databases

The survey of articles for this review was conducted in the *Scopus* and *Web of Science* databases, considering the period from 1999--2023. The choice of 1999 as the starting point for the analysis was based on the seminal article by Cerveira & Castro (1999), which marked a turning point in research on consumers of organic products in Brazil. The year 2023 was chosen because it was the last full year available for analysis, allowing for an up-to-date view of the scientific production related to the subject.

Owing to the high number of initial results, the search was limited to the **titles** of the publications instead of broader fields such as abstracts or the body of the article. This refinement was necessary to ensure greater precision and relevance of the results. Even with this filter, the initial survey presented some articles that were not directly related to the research topic, such as studies involving natural gas, which appeared in surveys on organic production. Thus, an additional cleaning was performed, removing irrelevant publications. That is, when articles not directly related to the topic were excluded, only those that adhered to the focus of the study remained, such as those that dealt specifically with the study groups. Finally, duplicate articles were removed from each database, resulting in the final number of valid articles for analysis, presented in the table below.

Table 2: Search steps in *Scopus* and *Web of Science.*

Basis	Group, year filter, search filter	Result gross	Relevant only	Free of Duplicates
Scopus	*Group 01- Organic Consumer, 1999-2023, Title*	*46*	*37*	*37*
	Group 02- Organic Production, 1999-2023, Title	*14,827*	*12,577*	*11,846*
	Group 03- Consumer of food in general, 1999-2023, Title	*605*	*605*	*593*
	Group 04- Food in general, 1999-2023, Title	*15,735*	*15,681*	*14,346*
	Proportion of the survey of organic consumers	***0.31%***		
	Proportion of consumer survey in general	***4.13%***		
Web of Science	*Group 01- Organic Consumer, 1999-2023, Title*	*41*	*35*	*35*
	Group 02- Organic Production, 1999-2023, Title	*12,353*	*11,209*	*11,102*
	Group 03- Consumer of food in general, 1999-2023, Title	*444*	*444*	*435*
	Group 04- Food in general, 1999-2023, Title	*12,010*	*12,007*	*11,083*
	Proportion of the survey of organic consumers	***0.32%***		
	Proportion of consumer survey in general	***3.92%***		

The final numbers of searches for each group, according to Table 2, were as follows:

In the ***Scopus*** database, the search for **Group 01**, which addresses consumers of organic products, initially resulted in 46 articles. After being filtered for relevance, 37 articles were considered relevant, and this number remained after the exclusion of duplicates. For **Group** 2, which focused on organic production, 14,827 articles were identified, of which 12,577 were relevant. After removing duplicates, 11,846 articles remained. In **Group 03**, for food consumers in general, the initial survey returned 605 articles, all of which were relevant, with 593 articles remaining after the exclusion of duplicates. In **Group** 4, which addressed foods in general, 15,735 articles were returned, of which 15,681 were relevant, with 14,346 final articles.

In the ***Web of Science*** database, for **Group 01**, 41 articles concerning consumers of organic products were found, with 35 considered relevant and the same number after the exclusion of duplicates. The initial search for **Group 02**, which focused on organic production, resulted in 12,353 articles, of which 11,209 were considered relevant to the focus of the study after the necessary refinement. After the removal of duplicates, 11,102 articles remained. In the context of food consumers in general, **Group 03,** the search identified 444 articles, all of which were relevant, and after elimination of duplicates, 435 studies remained. Finally, the analysis of food production in general revealed a high number of studies, with 12,010 articles returned initially. After the refinement process and exclusion of duplicates, 11,083 articles remained in **Group 04**.

These data, compared with each other, indicate a significant disparity: there is a predominance of studies focused on production, whereas consumer behavior, whether of organic or conventional foods, remains underexplored. The *Scopus* database reflects a similar trend to that observed in the *Web of Science*, where studies on food production dominate the scenario, leaving an important gap for more detailed research on consumers.

In fact, the percentage share of studies on traditional consumers compared with organic consumers was calculated, assessing the number of articles and publications of both groups returned in relation to the research groups on foods in general and organic production., respectively. The calculations, presented in Table 2, indicate the following:

• **In the *Scopus* database**, the proportion of studies on **consumers of organic products (G1)** in relation to studies on **organic production (G2)** is **0.31%**. The proportion of studies on **food consumers in general (G)** compared with studies on **food in general (G4)** is **4.13%**.

• **In the *Web of Science* database**, the proportion of studies on **consumers of organic products (G1)** in relation to studies on **organic production (G2)** is **0.32%,** and the proportion of studies on **consumers of food in general (G3)** in relation to studies on **food in general (G4)** is **3.92%.**

The diagram presented in the figure below clearly and systematically summarizes the analysis process of the articles collected for this review.

Figure 1: Representative diagram of the bibliometric review of the study.

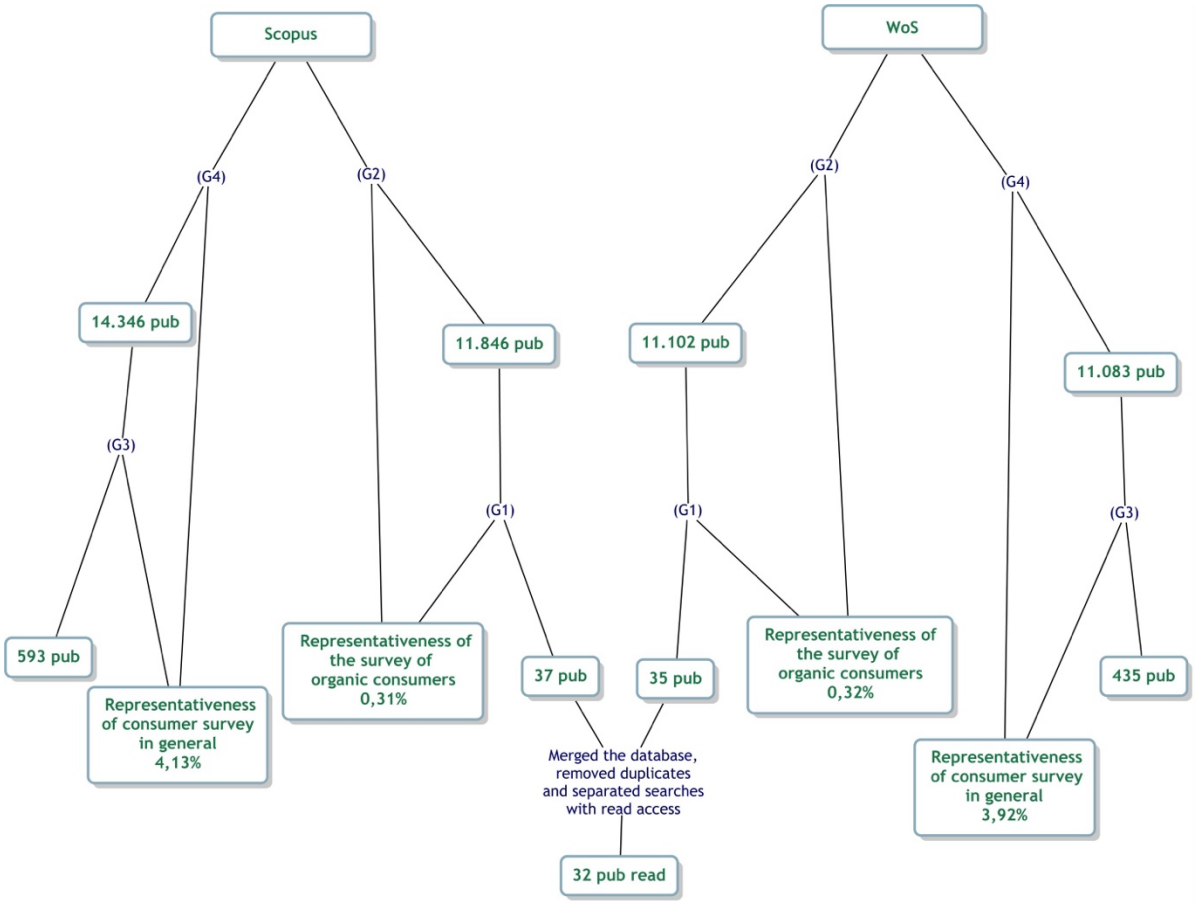


Figure 1 shows the process of selecting and analyzing articles from the *Scopus* and *Web of Science* databases. Initially, searches were performed for four main groups: organic production (G2), organic consumption (G1), food in general (G4) and food consumption in general (G3). The total publications identified for each group was initially large, especially for organic production and food in general, both in *Scopus* and in the *Web of Science*. After this refinement process, the next step involved the exclusion of duplicates after the union of both bases and the selection of articles that were available for reading. This resulted in the selection of **32 publications**, which were read and registered for further analysis in the next stage.

Based on the proportion of studies obtained from the *Scopus* and *Web of Science* databases, a significant disparity in the number of studies focused on consumers of organic

products compared with consumers of traditional foods is evident. The figures indicate that studies on **consumers of food in general** account for approximately **4%** of the articles on food production, whereas studies on **consumers of organic products** represent only **0.3%** of the studies on organic production. This means that the volume of research focused on consumers of conventional foods is, on average, **13 times greater** than that dedicated to consumers of organic products.

This difference can be attributed to a few interconnected factors. First, the organic products market, although growing, still represents a relatively small share of the global food sector. The conventional food market, on the other hand, is consolidated and large scale, naturally attracting greater academic and scientific interest. This fact may directly influence the number of studies conducted on consumer behavior, as companies and research institutions tend to focus on larger and more established markets.

Another point to be considered is that organic food production still faces challenges in terms of scale and distribution. Organic production involves higher costs, rigorous certification processes and a longer time to obtain the expected results. This means that the focus of research is often on improving production efficiency, the development of sustainable agricultural techniques and the economic viability of production, relegating the study of organic consumer behavior to the background.

In addition, the consumer profile of organic products is characteristically more niche, considering that the studies show specific concerns such as health, the environment and sustainability, factors that differ from the motivations indicated in studies with conventional consumers. Research on conventional consumer behavior is traditionally broader and more consolidated, as it involves variables that have already been widely explored, such as price elasticity, convenience and traditional marketing strategies.

Another factor contributing to this difference is the relatively recent growth of the organic market. The organic sector, although expanding, has begun to develop more robustly in the last two decades. In contrast, the market for conventional foods and research on traditional consumers already have a much longer trajectory. Thus, the volume of scientific production accumulated over conventional consumers tends to be naturally greater.

There is also an issue related to the policies and subsidies that have historically favored conventional agriculture. Although organic agriculture has gained support in several recent public policies, it still does not have the same level of incentive and funding as conventional agriculture. This directly impacts the volume of research focused on consumers of organic products, given that public policies and investments influence the focus of academic research (Rocha et al., 2020).

Finally, organic consumer behavior is multidisciplinary and still an emerging area. The motivations of this group involve ethical, environmental, social and health aspects, making research on this profile more complex. This may result in a smaller number of studies, as investigating this type of behavior requires broader and more complex methodological approaches, which may explain why the proportion of studies on organic consumers is so low.

The disparity observed between the number of studies focused on consumers of conventional and organic foods reflects the reality of a market where conventional production and consumption still dominate, both in terms of size and economic relevance. However, with the continued growth in demand for organic products and the increasing awareness of sustainability, it is possible that soon, this gap will begin to decrease, as more research is directed to the study of consumer behavior related to products. organic.

4.2) Content analysis

4.2.1) Word Cloud

With the 32 articles selected in the previous stage (Figure 1), the second stage of the study consists of a detailed analysis of their content via the **StArt** software (Systematic Analysis Review Tool) (Zamboni et al.,2010). The first step was the creation of a **word cloud** based on the abstracts of the selected articles, allowing the identification of the main themes and recurring keywords. This stage is essential for highlighting the central topics that guide the content analysis of the studies. The figure below shows the returned word cloud.

Figure 2: Word cloud of the 32 selected articles

The word cloud (Figure 2) generated from the abstracts of the 32 selected articles presents a visualization of the most frequent words, which indicate the main themes and concepts discussed in these publications. This technique facilitates the identification of trends and focuses of the analyzed studies. Below is a detailed interpretation of the most prominent keywords in the cloud.

• ***Human***: The word "human" is highlighted, indicating that most studies focus on human behavior in relation to organic products, which is expected given the emphasis on consumer behavior. Studies on human motivation, values and attitudes toward the consumption of organic foods seem to be central.

• ***Willingness-to-pay***: "Willingness to pay" is another recurring theme, suggesting that many of the articles investigate how much consumers are willing to pay for organic products. This concept is often associated with purchasing behavior and the perception of the added value of organic foods compared with conventional foods.

• ***Organic production*** *and* ***organic farming***: Terms related to organic production are also widely mentioned, reflecting the interrelationship between the analysis of consumer behavior and the production structure itself. This suggests that, in addition to purchasing behavior, many studies also explore organic production practices and how these practices influence purchasing decisions.

• ***Consumption behavior***: Consumption behavior is a central concept, highlighting the focus of the articles on understanding how consumers choose and consume organic products. The word also reveals an emphasis on the analysis of dietary habits and the motivations behind the choice of organic foods.

• ***Consumer acceptance***: "Consumer acceptance" is present as an important dimension, suggesting that studies explore how consumers accept or reject organic foods, considering factors such as price, taste, perceived quality and health benefits.

• ***Organic food***: This term is strongly present, as expected, reflecting the direct focus of studies on the consumption and production of organic food. The strong presence of this expression in the cloud demonstrates the centrality of this type of product in the studies analyzed.

• **Agricultural worker** and **environmental impact**: Some terms, such as "agricultural worker" and "environmental *impact*," indicate that some studies are also concerned with working conditions in organic production and with the effects of the environmental impacts of agricultural practices. These topics are relevant, especially within a broader approach to sustainability, which encompasses not only the consumer but also the production chain.

• ***Female***: The presence of the word "female" suggests that some of the studies investigated gender differences in consumption behavior, possibly exploring whether women tend to consume more organic foods than men do, which is a common theme in studies on consumers of sustainable products.

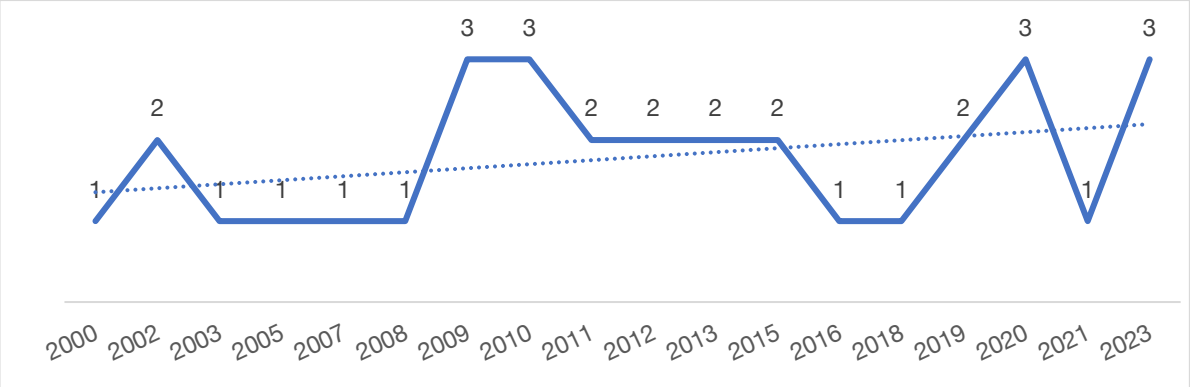
The word cloud indicates that the 32 selected articles have a clear focus on themes related to willingness to pay, consumer behavior and organic production. The intersection between these areas highlights how research is exploring the connection between production (agricultural practices and sustainability) and consumption (values, health, and consumer acceptance). The recurrence of terms such as "human", "organic food", and "willingness-to-pay" shows that the central objective of these studies is to understand the dynamics of choosing organic foods, as well as the willingness of consumers to invest more in organic products. that they perceive as better for their health and the environment.

Another relevant point is the consideration of the environmental impact and the role of agricultural workers in the organic production chain, indicating a concern with sustainability issues not only from the consumer's point of view but also in relation to production.

4.2.2) Time Analysis

Initially, the following graph shows the temporal distribution of the articles, considering the search interval between 1999 and 2023:

Graph 1: Temporal distribution of selected articles



Source: survey data

Graph 1 shows the **temporal distribution** of the 32 articles over the years. The analysis reveals a concentration of publications in years such as 2010 and 2020, with peaks of 2 to 3

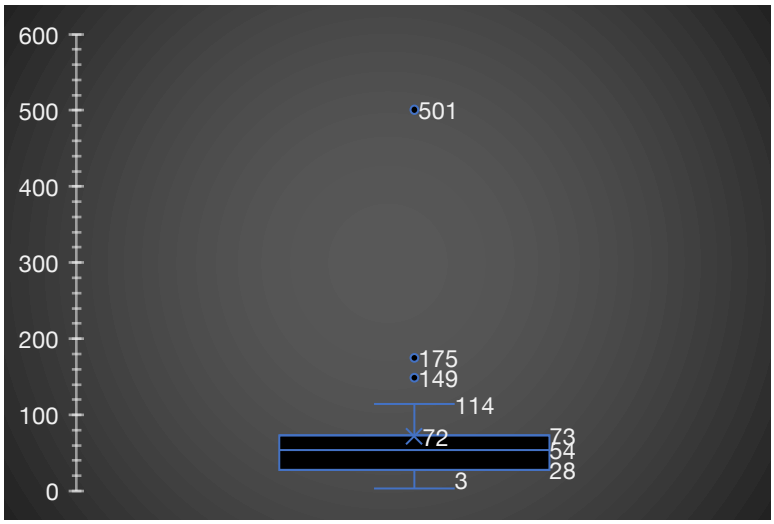
articles in certain periods. This evolution indicates a growing interest over time, especially in the last 20 years, as shown by the dotted line that demonstrates the trend regarding the production of studies in the area.

The peaks in 2010 and 2020 may indicate important moments of advancement or greater attention to research on consumers of organic products and sustainable eating behavior, possibly linked to changes in environmental policies or increased public awareness of sustainability. However, in view of the very small annual number of publications compared with organic production studies in general, they do not allow any effective statement regarding this increase in interest.

4.2.3) Academic impact

Regarding academic impact, the aim was to evaluate the impact of articles since the citations received, identifying which studies are most influential in the field. The following graph shows the distribution of citations during the study period:

Graph 2: Box plot of the citations of the selected articles



Source: survey data

Graph 2 summarizes the **distribution of citations** of the 32 articles selected for this review. This analysis **is** essential for understanding the academic impact of studies in the field of the consumer behavior of organic products. half exceeded this value. The **first quartile (Q1)** has 28 citations, suggesting that 25% of the articles have fewer than 28 citations, whereas the **third quartile (Q3)** has 73 citations, which indicates that 75% of the articles have fewer than 73 citations. The interquartile range (IQR) is therefore between 28 and 73 citations, reflecting the core of articles with moderate academic impact.

In addition, some “outliers” are clearly highlighted in Graph 2, with 501 citations, which is well above the average, indicating exceptional academic impact. This article, by Harper & Makatouni (2002) stands out as the most influential in the field, contributes significantly to the literature on consumer perceptions of organic food production. Two other articles with 175 and 149 citations are also identified as outliers but with a less discrepant impact than the most cited article. The analysis of the outliers suggests that, despite a central tendency toward moderate impact, some articles have attracted a substantial amount of academic attention, positioning themselves as central references for future studies in this area.

Most articles focus on a relatively modest number of citations, with an average of 72 citations. This suggests that although the area of study is of growing interest, the number of citations is concentrated in a few key studies that have great relevance in the field, while most articles have not yet achieved such a significant impact. The range between 28 and 73 citations reflects that most articles receive moderate attention, which is consistent with studies in relatively recent or developing fields, such as the consumer behavior of organic products.

The analysis of the distribution of citations reveals a growing area of study, with some articles playing central roles in the construction of the literature on consumers of organic products. The *outliers* with the highest number of citations should be considered important milestones in the field, probably introducing concepts or results that have great academic repercussions. The central tendency of approximately 72 citations suggests that most articles are in a moderate impact stage, but the presence of outliers indicates the potential for more articles to achieve significant impact as the field continues to evolve.

4.2.3) Thematic trends

Each of the articles was read, allowing for a systematic analysis of the methodologies, results and main conclusions of the studies. This process provided a broader understanding of the gaps in the literature and emerging trends, serving as a basis for deeper discussions on the behavior of consumers of organic products. In view of this in-depth reading, the 5 most cited articles stand out, which clearly indicates academic interest, as shown in the following table:

Table 3: List of the most cited articles about organic consumers

	Article 1	**Article 2**	**Article 3**	**Article 4**	**Article 5**
Title	Consumer perception of organic food production and farm animal welfare	Effect of information about organic production on beef liking and consumer willingness to pay	Consumer choice and suggested price for pork as influenced by its appearance, taste and information concerning country of origin and organic pig production	Hormones in international meat production: biological, sociological and consumer issues	Foundations of production and consumption of organic food in Norway: Common attitudes among farmers and consumers?
Year	2002	2010	2005	2002	2003
Citations	501	175	149	114	109
Authors	(Harper & Makatouni, 2002)	(Napolitano et al., 2010)	(Dransfield et al., 2005)	(Galbraith, 2002)	(Storstad & Bjorkhaug, 2003)
Research Question	The study examines how consumer perceptions of animal welfare on farms influence the decision to purchase organic food, analyzing the relationship between the perception of ethical production	The study investigated the impact of information on the organic production system on the acceptance of beef by consumers and their willingness to pay for organic meat compared to	The study seeks to determine how the appearance, flavor and information about the pig production system (organic or conventional) and the country of origin influence the choices and the price consumers are willing to pay for pork in	The study examines the use of hormonal compounds in international beef production, focusing on their biological implications, risks to human health and sociological issues related to the international meat trade.	The study investigates common attitudes among producers and consumers of organic and conventional food in Norway, analyzing issues related to the environment, animal welfare and the use of gene technology.

	practices and the choice of organic products.	conventional meat.	different countries. Europeans.		
Object of Study	64 UK consumers, most of whom were already familiar with organic products and aware of the ethical issues related to animal welfare.	190 consumers composed of people who consumed beef regularly, being men and women, aged between 20 and 59 years, and varying levels of education	The participants in this study were 375 regular consumers of pork.	Literature review and international policy analysis.	967 consumers and 822 farmers (split between organic and conventional).
Location	United Kingdom	Italy	France, Denmark, Sweden and the United Kingdom	United Kingdom	Norway
Conclusions	Consumers perceive organic products as more ethical options, mainly due to practices that promote animal welfare and environmental sustainability. For many, the willingness to pay more for organic products is strongly associated with ensuring that animals are treated humanely. However, there is an ongoing concern about the transparency of certifications and information about products.	Information about the organic production system has a significant positive impact on consumers' acceptance of beef and their willingness to pay for organic products. The study suggests that effective communication about animal welfare practices and sustainability may be a crucial strategy to differentiate products in the meat market and justify the higher price of organic meat.	Organic pig production, especially when associated with the "outdoor" system, was widely preferred by consumers in all countries studied. Although there were no significant sensory differences between meat from organic and conventional pigs, willingness to pay was substantially higher for organic products. This suggests that consumers' perception of the environmental and ethical benefits of organic production is a key factor in product acceptance.	The production of meat using hormones remains a controversial practice in international trade, with questions about health risks and public acceptance being central to the debate. The review highlights the need for more studies on the effects of hormone residues in meat and the importance of strict food safety policies.	The study highlights that organic farmers and consumers share similar attitudes toward the environment and animal welfare, clearly differentiating themselves from their conventional peers. Rejection of the use of gene technology was a common feature among all groups. Support for organic consumption and production in Norway reflects growing concern about the impacts of agricultural industrialization.

Article 1, as shown in Table 3, is the most cited among the 32 analyzed. Explore **consumers' perceptions** of organic food production. This study investigates how consumers perceive the quality, health benefits and environmental impacts associated with organic foods. The main focus is to understand the motivations behind the choice of these products, highlighting the growing concern of consumers with respect to animal welfare and sustainability. The high number of citations reflects the relevance of this study in the construction of a solid theoretical basis on the relationship between conscious consumption and the organic market.

Article 2 examines how the information provided to consumers about organic production can affect their **purchase preferences.** The study is based on the hypothesis that the more consumers know about organic production processes and their benefits, the greater their willingness to pay for these products. This study stands out for experimentally testing how transparency in production practices influences purchasing behavior, suggesting that educational campaigns can increase demand for organic products.

Article 3 addresses **consumer behavior** in relation to organic products of animal origin, particularly pork. The research analyzes the relationship between the suggested price and consumer choices, focusing on how the perceived value of organic products can affect the purchase decision. The analysis of price *versus* behavior is essential for understanding the economic barriers that still hinder access to organic products, especially in markets where cost is a key consideration.

Article 4 discusses the **biological, sociological and consumer issues** associated with meat production at the international level, focusing on the use of **hormones** in animal production. This study addresses the biological effects of the use of hormones in animal husbandry, as well as consumer perceptions on this topic. The study also investigated the impact of hormones in meat on consumer confidence and willingness to pay for more natural alternatives, such as organic and hormone-free meat.

Finally, article 5 contains a study that examines the factors that influence organic production and how these factors affect **consumer preferences**. It comprehensively analyzes the challenges faced by organic producers, such as production costs and certification and distribution challenges, and correlates these challenges with **consumer willingness to pay** more for products with organic certification. This study highlights that more efficient and accessible organic production can increase consumer adherence.

These five most cited articles focus on **consumer behavior**, especially with respect to the **perception of value** and **willingness to pay** for organic products. They also explore the impact of information provided to consumers on production practices and perceived benefits, with a strong influence on marketing strategies and communication policies aimed at sustainable products. These studies have been fundamental for the development of strategies that aim to increase the consumption of organic products since consumer education and transparency in production practices. They also highlight the economic challenges and barriers that still need to be overcome so that the market for organic products can grow sustainably.

5. CONCLUSIONS

This study aimed to analyze the proportion of studies focused on consumers of organic products compared with those focused on organic production and the consumption of conventional foods. The results indicate a clear disparity in the attention given by the academic community to research consumer behavior in relation to organic products. While the focus on **organic production** and consumers of **conventional foods** is expressive, research on consumers of organic products is still limited.

The analysis of bibliometric data revealed that only **0.31%** of the studies on organic production focus on consumers, whereas approximately **4.00%** of the studies on conventional foods address consumer behavior. This scenario points to a **significant gap** in the literature, suggesting that the **behavior of consumers of organic products** has not received enough attention. Given that the final consumer is essential for the functioning and growth of any market, this lack of detailed studies on their motivations, perceptions and barriers may limit the growth of the sector.

In addition, the **modest growth** of studies related to organic consumption also raises questions about the **lack of interest or lack of knowledge** of the academic community regarding this segment. The collaboration between **researchers in the marketing area** and **researchers in the production area** could be an effective strategy to fill this gap. Knowing the consumer better is crucial for the creation of marketing and communication strategies that promote the increased consumption of organic products.

The most cited articles reinforce commonalities, such as **willingness to pay** and the **perception of the value** of organic products but also highlight **gaps** in areas such as the study of nonfood products and the differences in behavior among consumers in emerging markets. This suggests that although there is a solid base of knowledge about some aspects of the consumer behavior of organic products, **further research** is needed to expand our understanding and support the growth of the market, such as **expanding the databases** used, including platforms such as Google Scholar and regional bases; **deepening the study of consumers in emerging markets**, which still lack more detailed analyzes; investigating **consumer behavior in relation to nonfood products**, such as cosmetics and organic clothing, which represent a growing area; and promoting **interdisciplinary collaborations** between marketing and production researchers to better align market strategies with consumer expectations and needs.

Regarding limitations, the analysis focused on articles published in the *Scopus* and *Web of Science* databases, which may have excluded relevant publications indexed in other databases, even though these were small databases. In addition, by restricting the search to the titles of the articles, relevant studies that address the behavior of the organic consumer may have been left out in their abstracts or body text but not necessarily in the titles.

With the **continued growth in demand for organic products** and greater awareness of sustainability, there is a significant opportunity to expand research on consumer behavior, contributing to both **market expansion** and **global sustainability**.

6. PRACTICAL INTERVENTION AND CONTRIBUTION

The bibliometric indicator proposed here offers a **diagnostic tool for policymakers and supply-chain managers** seeking to align research agendas with market needs. By quantifying the *proportion* of consumer-focused studies within the broader organic-production literature, the indicator highlights **gaps that hinder evidence-based marketing, certification design and consumer-education programmes**. Managers can employ these findings to prioritise funding toward under-represented themes—such as willingness-to-pay and socio-demographic segmentation—while academic editors may adopt the metric as a **benchmark for balanced special issues**. Ultimately, the study delivers a replicable monitoring framework that can be updated annually to track how research responds to evolving sustainability and health demands.

7. BIBLIOGRAPHIC REFERENCES

Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*(4), 959–975.

Cerveira, R., & Castro, M. C. de. (1999). Consumidores de produtos orgânicos da cidade de São Paulo: características de um padrão de consumo. *Informações Econômicas*, *29*(12), 14.

Cunha, C. F. da, Spers, E. E., & Zylbersztajn, D. (2011). Percepção sobre atributos de sustentabilidade em um varejo supermercadista. *Revista de Administração de Empresas*, *51*, 542–552.

Dransfield, E., Ngapo, T. M., Nielsen, N. A., Bredahl, L., Sjödén, P., Magnusson, M., Campo, M. M., & Nute, G. R. (2005). Consumer choice and suggested price for pork as influenced by its appearance, taste and information concerning country of origin and organic pig production. *MEAT SCIENCE*, *69*(1), 61–70. https://doi.org/10.1016/j.meatsci.2004.06.006

Fetscherin, M., & Heinrich, D. (2015). Consumer brand relationships research: A bibliometric citation meta-analysis. *Journal of Business Research*. https://www.sciencedirect.com/science/article/pii/S0148296314002070?casa_token=hSOCBCBMiMYAAAAA:ex-YhWn2IK6rpop6oORtaB8yRCkwpablMo4EtZvi7-lUhRbhh9ohZrDXneF6VRc6sLUaDSqxqqLp

Galbraith, H. (2002). Hormones in international meat production: biological, sociological and consumer issues. *NUTRITION RESEARCH REVIEWS*, *15*(2), 293–314. https://doi.org/10.1079/NRR200246

Grunert, S., & Juhl, H. (1995). Values, environmental attitudes, and buying of organic foods. *Journal of Economic Psychology - Elsevier*. https://www.sciencedirect.com/science/article/pii/0167487094000348

Harper, G. C., & Makatouni, A. (2002). Consumer perception of organic food production and farm animal welfare. *British Food Journal*, *104*, 287 – 299. https://doi.org/10.1108/00070700210425723

Kotler, P., & Keller, K. L. (2016). Marketing management 15th global edition (Global). *Harlow: Pearson Education Limited*.

Kumar, P., & Polonsky, M. J. (2017). An Analysis of the Green Consumer Domain within Sustainability Research: 1975 to 2014. *Https://Doi.Org/10.1016/j.Ausmj.2017.04.009*, *25*(2), 85–96. https://doi.org/10.1016/J.AUSMJ.2017.04.009

Michaelidou, N., & Hassan, L. (2008). The role of health consciousness, food safety concern and ethical identity on attitudes and intentions towards organic food. *International Journal of Consumer*, *32*(2), 163–170. https://doi.org/10.1111/j.1470-6431.2007.00619.x

Moed, H. F. (2005). *Citation analysis in research evaluation* (Vol. 9). Springer.

Moreno, J. J. O., Cerveira, R., & Cunha, C. F. da. (2024). Tools for measuring carbon sequestration in rural environments: a bibliometric review. *Brazilian Journal of Business*, *6*(1), 116–123. https://doi.org/10.34140/BJBV6N1-008

Napolitano, F., Braghieri, A., Piasentier, E., Favotto, S., Naspetti, S., & Zanoli, R. (2010). Effect of information about organic production on beef liking and consumer willingness to pay. *FOOD QUALITY AND PREFERENCE*, *21*(2, SI), 207–212. https://doi.org/10.1016/j.foodqual.2009.08.007

Olson, J. C. ., & Reynolds, T. J. . (2001). *Understanding consumer decision making : the means-end approach to marketing and advertising strategy*. https://books.google.com/books/about/Understanding_Consumer_Decision_Making.html?hl=pt-BR&id=kjB5AgAAQBAJ

Ormond, J. G. P., Paula, S. R. L. de, Faveret Filho, P. de S. C., & Rocha, L. T. M. da. (2002). *Agricultura orgânica: quando o passado é futuro*.

Prodanov, C., & Freitas, E. De. (2013). *Metodologia do trabalho científico: métodos e técnicas da pesquisa e do trabalho acadêmico-2ª Edição*. https://books.google.com/books?hl=pt-BR&lr=&id=zUDsAQAAQBAJ&oi=fnd&pg=PA4&dq=Prodanov,+C.+C.,+%26+Freitas,+E.+C.+(2013)&ots=ddZ4few8GQ&sig=w3d9lUuUwj9wJNBXy91ZRHRGEtc

Rocha, P. B. B., Pereira, R., & Baretta, C. R. D. M. (2020). Políticas públicas voltadas à conversão ecológica sob a luz da economia ecológica. *Revista de Direito Econômico e Socioambiental*, *11*(3), 110–141. https://doi.org/10.7213/REV.DIR.ECON.SOC.V11I3.26785

Rodolfo, A., & Lima, D. E. (2018). *Um estudo da percepção dos consumidores frente aos atributos do selo orgânico Brasil em alimentos*. https://repositorio.unesp.br/handle/11449/154811

Rodrigues, R., & Carlos, C. (2009). Attitudes and factors that influence the consumption of organic products in retail. *Search.Proquest.Com*. https://search.proquest.com/openview/654a349b2c8b91714fbf964e2e1fa60f/1?pq-origsite=gscholar&cbl=496312&casa_token=14wxHT3JoKgAAAAA:STXpf8L5dmb_QwICPj0W5YPoOKL3JHZ9v9kSrDbdGsMluHxPEy-mt-lH0tjJS4TCtAyB8OvC

Schiffman, L. G., Wisenblit, J., & Kumar, S. R. (2011). *Consumer Behavior | By Pearson*. Pearson Education India.

Solomon, M. (2020). *Consumer behavior: Buying, having, and being*. https://thuvienso.hoasen.edu.vn/handle/123456789/11671

Storstad, O., & Bjorkhaug, H. (2003). Foundations of production and consumption of organic food in Norway: Common attitudes among farmers and consumers? *AGRICULTURE AND HUMAN VALUES*, *20*(2), 151–163. https://doi.org/10.1023/A:1024069627349

Zamboni, A., Thommazo, A. D., Hernandes, E. C. M., & Fabbri, S. C. P. F. (2010, September). StArt uma ferramenta computacional de apoio à revisão sistemática. In Proc.: Congresso Brasileiro de Software (CBSoft'10), Salvador, Brazil (pp. 91-96). UFBA

Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, *18*(3), 429–472. https://doi.org/10.1177/10944281145626290