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### ABSTRACT

Coffee is a beverage consumed daily worldwide, mainly by the western population, making it one of the most important beverages in the world. The production and agro-industrial chain of special coffee configures an infinite number of possibilities of action in the national and international market for the agents involved in this production chain. Based on this context, the general objective of this study was to conduct a bibliographic survey on the topic of the specialty coffee market in the Web of Science

database, in the period 2017-2021. Methodologically, this study was classified as exploratory research, carried out through a bibliometric study. Data collection was performed on the Thomson Reuters Web of Science platform (main collection) due to the expanding number of journals indexed to it. A research protocol was created using keywords and then a filter by categories and refinement by the most cited articles was carried out. Data collection took place on October 28, 2021, which resulted in 150 articles for all areas of knowledge. We opted for the filter of categories related to the following areas of knowledge: Business, Agronomy, Management, Multidisciplinary Sciences and Economics, where it was obtained in 39 articles. The refinement of the search for the most cited articles resulted in five works on specialty coffees. Finally, this study managed to gather important information about the value chain, about consumers, about the market as a whole and about the relevance of associations, cooperatives, and certifiers, which help attest to the superiority of specialty coffees.

**Keywords:** Special coffee, Agribusiness, Bibliometric study.

## 1 INTRODUCTION

Coffee is a beverage consumed daily by millions of people, mainly by the Western population, making it become one of the most important drinks in the world (DEBASTIANI *et al.*, 2019). This high consumption also makes coffee present a fundamental position in the economy and in the global market, but mainly in the Brazilian economy and market (DEBASTIANI *et al.*, 2019), since coffee production is one of the most relevant in Brazilian agriculture. According to the Brazilian Coffee Industry Association (ABIC, 2021), Brazil produces a third of all coffee produced in the world, being the world's largest coffee producer for more than a century, with Arabica coffee being predominant in the country's plantations. According to Costa *et al.* (2020), already in the 1840s, Brazil was already the largest exporter of coffee in the world and in the final decades of the nineteenth century Brazilian exports represented 80% of the total coffee exports made (COSTA *et al.*, 2020).

Among the Brazilian states, Minas Gerais is the largest producer of coffee, accounting for approximately 50% of the national production (ABIC, 2021). For the year 2021 it is estimated that the

Arabica coffee crop will reach 31.35 million bags and the conilon coffee crop will reach 15.36 million bags (REVISTA BRASIL, 2021). Minas Gerais will be the largest state with Arabica coffee production and Espírito Santo with the largest conilon coffee production, with 20.66 million bags and 10.15 million bags, respectively (REVISTA BRASIL, 2021). The same, justifies the greater plantation and production of Arabica coffee, since it is a type of coffee widely sought by the consumer market given the good quality of the product (SILVA *et al.*, 2015). According to Nakazone and Saes (2004) Brazil is the country that presents a lower cost in the production of Arabica coffee, which together with the great productivity of the country, has conquered more and more growth and space in the international market.

From these numbers it is noted the relevance of coffee production for Brazil and the expressiveness of this front to world production. In addition to significant numbers, it should be noted that Brazilian coffee cultivation is one of the most focused on the production of sustainable coffee, observing social and environmental issues (MAPA, 2017).

In addition to being the largest producer of coffee, Brazil is also the largest exporter to the world market (ABIC, 2021). According to the Council of Coffee Exporters of Brazil (CECAFÉ, 2021) domestic coffee shipments abroad reached 3.012 million bags in June 2021, generating a value of US\$ 423.2 million. Thus, Brazilian coffee exports reached a new record and presented a 13.3% increase when compared to the 2019/2020 export season (CECAFÉ, 2021).

What is observed in the export scenario of coffee produced in Brazil, is the focus on green coffee exports, being much smaller the export of roasted and ground coffee (T &M), but it is also a scenario verified in the world export as a whole. According to the Brazilian Agricultural Research Corporation (EMBRAPA, 2019), in the period analyzed from October 2018 to July 2019, green coffee represented 91.3% of the total exported in the world, soluble coffee represented 8.3% and roasted coffee represented 0.4% of the total exports made.

Dealing specifically with Brazilian exports, Dal Molin (2018) from CECAFÉ data, points out that while the export of green coffee reached 27 million bags exported in the last twelve months of the year, the bags of roasted and ground coffee reached only 20 thousand bags exported. The roasted and ground coffee industry has also consolidated over the last few years, but is focused on the domestic market. Thus, it is noted that industrialized coffee is not the focus of Brazilian exports, but rather the commercialization of green coffee (NAKAZONE; SAES, 2004).

In general, there is some difficulty and lack of interest in exporting on the part of Brazilian companies. This is because the Brazilian domestic market is extensive, in addition to having been architected for a process of economic growth that has as premises the preservation against international competition (VEGRO *et al.*, 2005). In the specific case of coffee produced in Brazil, what is observed

is that when it comes to the green product, exports happen in large proportions, showing no signs of lack of interest in international marketing. The slowdown in exports happens with the industrialized product, either in its roasted form, or roasted and ground, the latter being the product ready for consumption.

Another factor that must be taken into account today is related to specialty coffee. Because it is a product that has a higher quality, it has an added value three times higher than traditional coffee (HERSCKOWICZ, 2017). Still, according to the author, the international market gives preference to higher quality coffees, rejecting coffees that have a lower quality. Thus, when considering the international market, the products that have a better quality have more marketing space (HERSCKOWICZ, 2017).

Regarding the factors that may be unfavorable to the export of roasted and ground coffee in Brazil, the literature states that the consumption of coffee by Brazilians can be a factor of influence, since much of the coffee produced is consumed in the country (DAL MOLIN, 2018). There is also an unfavorable factor, the exchange rate and the lack of knowledge about the international markets in which it is intended to carry out the commercialization (CENTRO DO COMÉRCIO DO CAFÉ DO ESTADO DE MINAS GERAIS - CCCMG, 2020; NAKAZONE; SAES, 2004). Therefore, it is verified that there are factors that are positive for the export of roasted and ground coffee, but as observed by the numbers of Brazilian exports is not what occurs in the country, since the export of green coffee far exceeds the export of the industrialized product. In addition, it is considered the fact that specialty coffee could be marketed on a large scale, given the preference of the international market for high-quality products (HERSCKOWICZ, 2017).

Given the impact that the theme has on the coffee chain, the problem of this study was to raise the bibliography on the coffee market as a whole, especially regarding the specialty coffee market. In this sense, this work sought to investigate how scientific production has approached the field of study on specialty coffees. The *Web of Science* database was chosen to develop this study, characterized as a bibliometric research, which despite the limitations, evaluates the scientific production, as well as allows to identify trends, emerging categories, authors, works and central themes (PRADO *et al.*, 2016). The general objective of this study was to conduct a bibliographic survey on the theme of the specialty coffee market in the *Web of Science database*, in the period 2017-2021.

## **2 THEORETICAL FRAMEWORK**

To complement the bibliographic panorama on the coffee and specialty coffee market, the main concepts that make up the research theme proposed in this work were presented in this section. Thus,

the topic was composed of the following subtopics: production process; coffee production chain; special coffee production chain; Brazilian coffee export and; limits and potential for coffee exports.

## 2.1 PRODUCTION PROCESS

According to Martins and Laugeni (2005) when it is considered that the production of a good provides the transformation of this good from a set of activities, leading to the obtaining of a good that presents a greater utility for people, it is possible to affirm that this activity has been present since the origin of humanity. From the first activities performed by man, efforts in the productive sense were already identified (PEINADO; GRAEML, 2007).

With the industrial revolution there is a milestone for production activities, since from the discovery of the steam engine by James Watt, in the year 1764, began to perform the replacement of human force in the execution of activities related to the production of goods, for the strength of the machine (MARTINS; LAUGENI, 2005). "The Industrial Revolution came to be, of course, considered the initial milestone of the generating process of production management as known today, because it required new managerial techniques of production, specific to the industry" (PEINADO; GRAEML, 2007, p. 55).

With the passage of time, production models have become increasingly modernized and along with the modernization of production processes, the importance of the consumer also grows (MARTINS; LAUGENI, 2005). In this sense, there is a need for the forms of production to be updated with new techniques, which are more effective and efficient, as well as oriented to the needs of the consumer (MARTINS; LAUGENI, 2005).

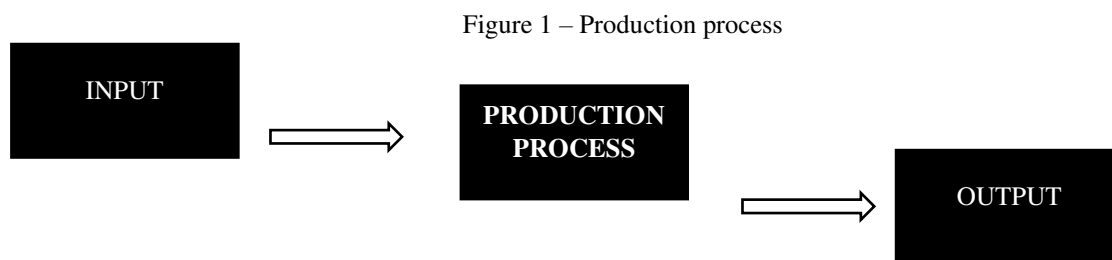
According to Slack, Chambers and Johnston (2009) production is one of the central functions for any organization, because it is because of this activity that the good to be marketed is owned. Peinado and Graeml (2007) also converge in this sense, and point out that in any organization although production is not the only one, nor does it reach the title of most important, since all activities are relevant to the functioning of the organization, production assumes a central role that must be analyzed that due care. Production is then the reason for existence of organizations that aim at the production of a good or product (AYRES, 2009).

According to Peinado and Graeml (2007, p. 52) "the production process, from the operational point of view, involves resources to be transformed and transforming resources that, submitted to the production process, give rise to the final product, that is, to the goods and services created by the organization". Thus, it is understood that production has its main function related to the transformation of inputs into the final product (PEINADO; GRAEML, 2007).

As defined by Ayres (2009) in the transformation process that happens during production, there is a need for the input of *inputs* to the output of the *output*:

By *inputs* are understood all the inputs of the productive process: raw materials, required energies, technologies, labor force, among other inputs. Transformation activities involve the entire production process where physical transformations actually occur in the materials in process. Finally, the *outputs* mean the outputs of the production process, such as finished products and waste (AYRES, 2009, p. 17).

Thus, the production process could be represented according to Figure 1.



Source: Prepared by the author (2021) according to Ayres (2009).

In this sense, given the importance of the production process for organizations, as well as its central function for the production of goods to be marketed, the following topic explores the production process of coffee. With this, it is sought to identify which are the *inputs* that are inserted in the production process, which are the transformation activities carried out, as well as the *output* originated from this productive process.

It is also considered important to elucidate the specific coffee production process because it is the focus of the present work, but also because of the fact that each production process has its own particularities and characteristics, so that it cannot be assumed that every production process has the same sequence of activities (NUINTIN; NAKAO, 2010). Given these factors, the coffee production process is presented.

## 2.2 COFFEE PRODUCTION CHAIN

According to Bassetto and Santo (2016) the coffee production process has five stages, namely: (1) reception and selection of beans; (2) grain processing; (3) roasting; (4) grinding; (5) Packaging and labeling. It is then noted that it is a process that begins after the harvest of the grains, and according to the National Service of Rural Learning (SENAR, 2017, p. 7):

The harvest and post-harvest represent most of the production cost of the coffee crop, and at this time, the producer gets the return on the investments that were made throughout the year. The generation and distribution of income at the time of harvest and post-harvest affect not only those involved in the coffee production chain, but also the entire economy of the municipalities where the crop is installed. This step is known as one of the most important in

obtaining high quality coffees and therefore must be conducted carefully and with attention to detail.

Basseto and Santo (2016) present that, after the harvest of the grains, the process of cleaning them begins, which happens through dry or wet processing, washing, separation and drying. Subsequently, it follows with the separation of the pulp from the fruit, which "consists of the production of natural coffee, pulped or pulped cherry coffee. The drying in turn can be done naturally in a yard or artificially" (BASSETTO; SAINT, 2016, p. 3).

In sequence, the coffee goes to the processing stage, which consists of removing "the bark and parchment of the coffee, making the processing of the beans" (SENAR, 2017, p. 76). According to ABIC (2021) the processing consists of cleaning the grain, removing its shell, but also in the simple classification of the coffee. Also according to ABIC (2021) this process is commonly carried out in cooperatives, warehouses, mobile units or on the property.

The processing is carried out through the use of appropriate machinery for this process and, in addition to removing the bark and parchment of the coffee bean, impurities from the harvest are also removed, such as stones and sticks (SENAR, 2017). Still in the processing stage "the whole and broken grains, as well as those that did not have their shell and/or parchment correctly removed, undergo a new separation process and subsequent classification" (SENAR, 2017, p. 89).

In the next stage of coffee roasting, activities are carried out that subject the already processed coffee beans to a temperature rise, quickly and progressively, with the objective of leaving the beans with an internal humidity of 3% (BASSETTO; SAINT, 2016). The ABIC (2021) defines the roasting of coffee, as a process of heating the green bean, which has as a result the change of the color of this grain, as well as the release of aromas, which confers flavor to the drink.

The authors also point out that this phase is very important when considering the final characteristic of the beverage, because the procedure of roasting the coffee, according to the degree of roasting, can hide certain properties of the bean and/or highlight others (BASSETTO; SAINT, 2016).

Roasters with heat exchange by conduction and convection are used to conduct the roasting. In conduction roasters, heat exchange occurs through the heated metal surface of a vat, with a spherical, conical or cylindrical shape. As for roasters with heat exchange by convection, mixtures of gases or air are used, heated to temperatures close to 450 °C (SILVA; MORELI; JOAQUIN, 2015, p. 397).

After roasting, it becomes necessary for the coffee to go through a cooling process, this being "a successive and rapid process that aims to condense inside the grain the aromatic substances, responsible for the aroma and flavor of the coffee, are two methods normally used: air or water for a time of 5 minutes" (BASSETTO; SAINT, 2016, p. 5). Silva, Moreli and Joaquin (2015) also highlight the importance of cooling, and point out that grains should be cooled below a draught.

Once the procedures related to the coffee roasting stage are completed, the coffee then goes through the grinding stage. According to ABIC (2021, p. 1) the grinding of grains is a "process of grinding the roasted grains for the preparation of the beverage". The grinding performed influences the time of preparation of the beverage, so that the granulometry of the grains should be defined according to the method that the drink is expected to be prepared (BASSETTO; SAINT, 2016; SILVA; MORELI; JOAQUIN, 2015).

Finally, according to the lawsuit filed by Bassetto and Santo (2016), the coffee is then packaged and labeled. The final process through which the coffee passes, is composed of some activities, such as the amount of coffee in each package, which must be weighed to confer quality to the product and, in the case of vacuum packaging, the coffee must first be compressed by a pre-sealing, to later have the air removed from the package in a vacuum chamber (BASSETTO; SAINT, 2016). At the last moment, the validity of the product is marked (BASSETTO; SAINT, 2016).

An important process related to the coffee production chain is the realization of the *blend*. According to ABIC (2021) *the blend is* a stage where the mixture of different coffee beans is carried out, and can be carried out with raw coffee or with coffee already roasted. Basseto and Santo (2016) also point to the possibility of making the *blend* with raw coffee or with roasting.

The reason for the realization of this mixture of coffee beans, is in the difference between the types of coffee. According to Basseto and Santo (2016, p. 6):

Arabica coffee produces better quality drinks, finer and more exquisite, having intense aroma and the most varied flavors, as well as different body types and acidity. And conilon coffee does not have varied or refined flavors and its acidity is lower. The combinations aim to balance and value the best qualities of taste, aroma, body and appearance (BASSETTO; SAINT, 2016, p. 6).

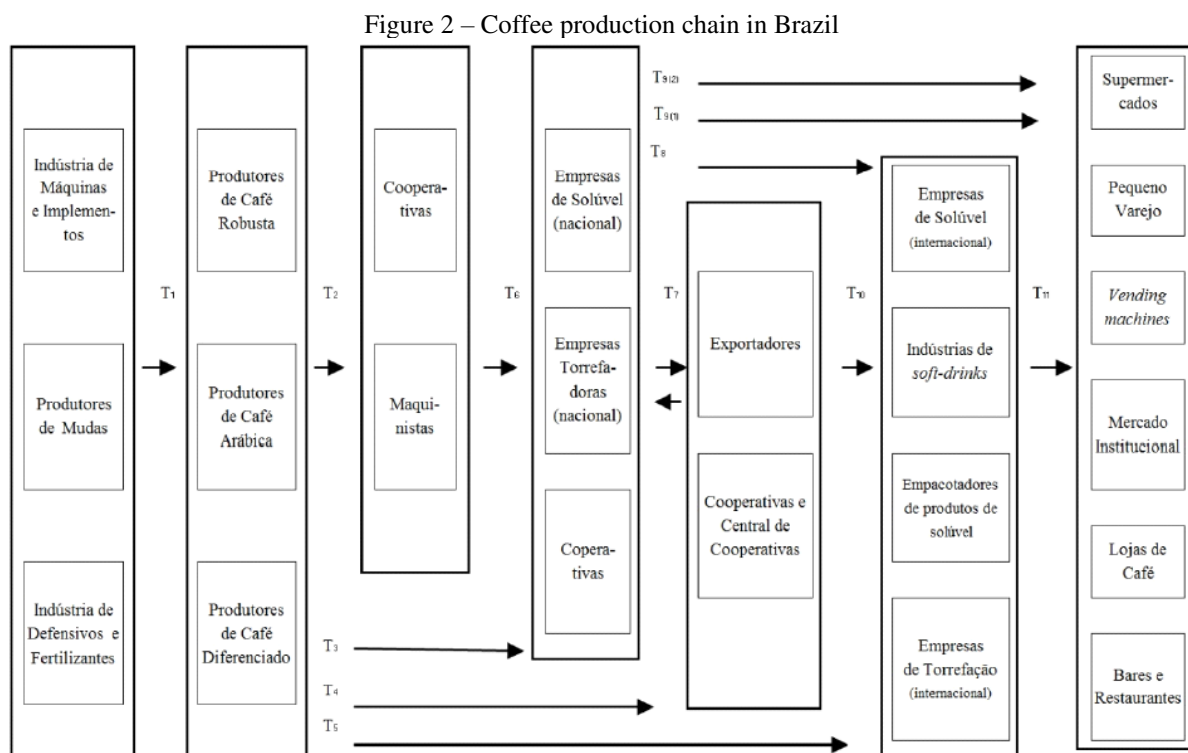
From the realization of the *blend* of coffee beans, the objective is to obtain a better final product, within the characteristics of consumer preference, with this companies can take advantage of the best characteristics of each bean while enriching the final product and reaching a greater number of consumers (SANTOS *et al.*, 2020).

In general, the coffee production process, after harvest, concentrates its main stages as described above. It is understood that the fruit of coffee is the *input* inserted in the production process and this consists in carrying out the activities of processing, roasting, grinding, packaging and labeling. As *output* has the roasted and ground coffee, being this its necessary form for the realization of the preparation and later consumption.

However, when considering the entire production chain, from the producer to the final consumer, the process becomes longer. This is because it turns out that there are more steps and

organizations involved in the chain, where all work as an important link for the final product to reach the consumer.

Bronzeri and Bulgacov (2013) present a scheme that contemplates this totality of the coffee production chain (FIGURE 2).



Source: Saes and Farina (1999, p. 49) and Saes and Jayo (1998, p. 23) apud Bronzeri and Bulgacov (2013, p. 81).

As can be seen in Figure 2, the coffee production chain is broader and encompasses from the inputs necessary for planting, such as the machinery and implements industry, seedling producers and the fertilizer and pesticide industry, going to the buyers who sell to the final consumer, such as bars, supermarkets, among others.

According to the detail of Figure 2 presented by Bronzeri and Bulgacov (2013), according to Saes and Farina (1999) and Saes and Jayo (1998), the transactions (T) that occur in the coffee production chain in Brazil are described.

As can be seen in Figure 2, the first transaction (T1) consists of the passage of inputs, such as machines and implements, seedlings, defenders and fertilizers, to the different producers of coffee, robusta, arabica or differentiated (SAES; Farina, 1999; SAES; JAYO, 1998; apud BRONZERI; BULGACOV, 2013). Thus, the first transaction is the beginning of the coffee production chain, since the products are dependent on the supply made by the input companies, to start or maintain the planting of the coffee crop (SAES; Farina, 1999; SAES; JAYO, 1998; apud BRONZERI; BULGACOV, 2013).

In the second transaction (T2) it is represented by the passage of coffee from producers to cooperatives and machinists. According to Bronzeri and Bulgacov (2013) according to Saes and Farina (1999) and Saes and Jayo (1998) it should be noted that:

These cooperatives can also facilitate the payment of acquisitions with agreements for payment of the debt after the coffee harvest (T2), which can be benefited by service providers (machinists), cooperatives or even large producers, moving on to the second processing (T6, T3) which can occur in several ways: a) through the intermediation of cooperatives that also assume the function of storers; b) intermediation of train drivers, exporters or brokers; c) direct sales from producers to the processing industries; or d) through integration into cooperatives (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013, p. 80).

According to the configuration of the production chain, there is still the possibility that cooperatives also act in the chain by carrying out the roasting and grinding process, going beyond the processing process (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013).

As you can see in Figure 2, transaction three (T3) happens when coffee passes from producers to cooperatives, national soluble coffee companies and national roasting companies. Transaction four (T4), in turn, happens when the coffee goes directly from producers to national coffee cooperatives and exporters. Transaction five (T5) also happens when the coffee passes directly from the producers, but in this case, it already goes straight to the international market, such as soluble coffee companies, *soft-drink* industries, soluble product packers and roasting companies (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013).

When there is no direct marketing between producers with national companies, exporters and / or international companies, the coffee process has more intermediaries. In this way, coffee passes from cooperatives and machinists to national companies, such as other cooperatives, roasting and soluble coffee companies, this being transaction six (T6) (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013).

Transaction seven (T7) occurs in the passage of the coffee of these companies to which it was destined in transaction six, to national cooperatives and exporters. "It is also common to occur an inverse direction in the sale of raw material to the domestic industry, carried out by exporters (inverse arrow of the T7 ratio)" (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013, p. 81).

Transaction eight (T8) takes place in the passage of coffee without the interference of national sellers, going directly from soluble coffee companies, roasting and/or cooperatives to international buyers, such as soluble coffee companies, *soft-drink* industries, soluble product packers and roasting companies. Transactions nine (1) (T9 (1)) and nine (2) (T9(2)), also occur in the direct passage of coffee from cooperatives, soluble coffee companies and/or roasting to retail, whether national (T9(1))

or international (T9(2)). The authors point out that retail can be composed of supermarkets, small retailers, *vending machines*, institutional market, coffee shops, bars and restaurants (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013).

However, it is still emphasized that "most of the production of the roasting and grinding industry is destined to the national retail [T9 (1)], and only an insignificant portion is destined for export [T7, T9 (2)]" (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013, p. 81). However, the authors point out that when it comes to soluble coffee, the opposite happens, since "where a significant portion is destined for export [T7, T8, T9 (2)] and only a small portion is consumed in the domestic market [T9 (1)]" (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013, p. 81).

Transaction ten (T10) consists of the passage of coffee from national sellers, whether exporters or cooperatives to international buyers, being soluble coffee companies, *soft-drinks* industry, soluble product packers and roasting company. Finally, transaction eleven takes place (T11), being the passage of coffee from international buyers to international retail, such as supermarkets, coffee shops, bars, restaurants, among others (SAES; Farina, 1999; SAES; JAYO, 1998 *apud* BRONZERI; BULGACOV, 2013).

Given this image it is possible to know the coffee production chain, as well as each agent that makes up this chain. In addition, it is noted the amount of transactions necessary for the coffee to reach the international market. Considering the totality of the chain and if the coffee passes through all the intermediaries, there is a maximum of seven transactions for the coffee to reach the international retail. In the event that there is any transaction with fewer intermediaries, as in the case of the coffee going directly from the products to international buyers, or in the case of the coffee going from cooperatives, national soluble coffee companies and roasters to international retail, there is a minimum of three and five transactions respectively, so that the coffee arrives at international retail.

### **2.2.1 Specialty coffee production chain**

When it comes specifically to the production of specialty coffee, it should be noted that this is a coffee with a higher quality. This quality is defined from a classification category (GRÃO GOURMET, 2021). The Coffee Quality Program (PQC) evaluates quality levels in three categories: "The category is defined by the final grade from 0 to 10, being: Traditional, grade equal to or greater than 4.5 and less than 6; higher, grade equal to or greater than 6 and up to 7.2; and *Gourmet*, a score equal to or greater than 7.3 and up to 10 (GRÃO GOURMET, 2021, p. 1).

For coffee to be considered special, it is necessary that it reaches a minimum of 80 points on a scoring scale of the Sensory Evaluation Methodology of the *Specialty Coffee Association* (GRÃO

GOURMET, 2021). To this end, coffee is evaluated according to its aroma, uniformity, absence of defects, sweetness, flavor, acidity, body, finishing, harmony and final concept (GRÃO GOURMET, 2021).

In general, it should be noted that not all certified coffee is a specialty coffee, as there are other types of certification. As for example, the ABIC purity certification seal, which attests that the coffee marketed does not have any type of adulteration or mixture (ABIC CERTIFICATIONS, 2021). However, this is a specific certification for purity, not observing other factors inherent in the product. Thus, like this there are other specific certifications, such as for sustainability, quality, process, among others.

The Brazilian Association of Specialty Coffees (BSCA) that certifies specialty coffees points out that, to achieve certification the producer must: send a sample of 2kg of the lot in which he aims to obtain certification, from this the show will be coded and sent to three tasters who are chosen by lottery (BSCA CERTIFICATION, 2021). The samples are then classified by type, color, aspect, sieve and roast, so that if the sample fails any of the aforementioned requirements, it is invalidated and the certification process is not followed (BSCA CERTIFICATION, 2021).

If the sample passes the aforementioned criteria, the roasted and ground grains are evaluated, within the following aspects: "clean drink, sweetness, acidity, body, flavor, remaining taste and general balance. To be certified, coffee must obtain a score greater than or equal to 80 and no parameters equal to zero" (BSCA CERTIFICATION, 2021, p. 1).

In addition, this certification allows the buyer of the coffee batch to track the product through the seal granted (BSCA CERTIFICATION, 2021). This gives even more credibility to the certified coffee, as it allows the buyer to be aware of the certification process through which the purchased product passed, and on what criteria it was evaluated.

Thus, the production of specialty coffee does not differ from the production of other coffees, but throughout the production process some processes are carried out differently. As an example it is possible to mention the coffee roasting process, which must be carried out in a specific way so that the coffee does not lose its sweetness (GRÃO GOURMET, 2021). "In addition to roasting, there are other important factors to extract the best of this coffee in the cup, such as the grinding, preparation method and the water used" (GRÃO GOURMET, 2021, p. 1).

In the production of specialty coffee, it should be observed from planting and harvesting the way these are carried out. This is because the ideal is that coffee is grown in regions that have a temperature between 18 and 22 degrees Celsius, and with a variation of rainfall being greater than 150 mm and less than 1200 mm (UCOFFEE, 2018).

When it comes to the harvest, when it is carried out manually it is a differential for the special coffee, being the special coffee harvested manually more valued than the special coffee harvested through machines (UCOFFEE, 2018). "To obtain specialty coffee, the most adopted process is selective harvesting. Only coffee beans in their perfect degree of maturity are harvested, with care taken to house them in a basket or similar container. Such a method is what promotes 0% impurity" (UCOFFEE, 2018, p. 1).

On the method for removing impurities, the best quality is obtained by the wet way. "In this process, the microorganisms that negatively influence the quality of the product are removed. At this stage, the mesocarp (which is the sugary mucilage) and the peel are removed from the cherry coffee" (UCOFFEE, 2018, p. 1). With regard to drying, the one that produces a more uniform coffee is the drying carried out in the shade, this being the most time-consuming drying process (UCOFFEE, 2018).

In the production of specialty coffee, a roasting that makes the bean lighter is privileged, because in this way a coffee with a lower bitterness and of mild flavor and aroma is obtained, while preserving a marked acidity (UCOFFEE, 2018). It should be noted that the darker roast, used in ordinary coffees, covers up the negative characteristics of coffee, and is therefore considered unsuitable for specialty coffee (UCOFFEE, 2018).

Finally, related to the grinding of coffee, it is indicated that for special coffee the grinding is carried out minutes before the preparation, so that there is the commercialization of special coffee in roasted beans for the final consumer to perform the grinding (UCOFFEE, 2018). But there is also the option of buying the special coffee already ground, in which case "it can be produced through mixtures, and is usually sent to a mechanical roll. The device will then break the selected grains, reaching the ideal granulometry of the product" (UCOFFEE, 2018, p. 1).

At the end of the production process of specialty coffee, it must maintain:

(...) their physical characteristics preserved and the sensory ones pleasant. Coffee should contain perfect and healthy beans, without capital defects, such as green (immature), green black, burnt and black, have a good appearance and a good drought. In addition, it should be a tasty coffee when we drink, with special aromas and flavors (chocolate, caramel, almond, flower, fruit, among others) and mild acidity. The mouth should be clean (aftertaste), especially when enjoyed without sugar or any other additive (TEIXEIRA, 2020, p. 86).

The coffee production chain in Brazil is then shown to be an extensive chain, with many intermediaries until the roasted and ground coffee is marketed in the international market. When it comes to specialty coffee, it is noted that it has its production processes carried out with certain specificities so that the product reaches the necessary quality. However, the Brazilian export of green coffee is the largest in the world, which does not apply to exports of roasted and ground coffee (COSTA

*et al.*, 2020; EMBRAPA, 2019). Thus, it was sought to explore in the topic below the coffee exports of Brazil.

### 2.3 BRAZILIAN COFFEE EXPORTS

According to Coti-Zelati, Coppini and Ghobril (2018) coffee was introduced into Brazilian agriculture in the eighteenth century and quickly became one of the largest and most successful crops, given the favorable conditions for this cultivation, such as the climate. At that time Haiti was the main exporter of coffee on the world market, but "faced a war against France for its independence, which resulted in the fall of its production. Seeing the new opportunity, Brazil increases its production and carries out the first export of grain in 1779" (COTI-ZELATI; COPPINI; GHOBRIIL, 2018, p. 61).

The economies of the world as a whole sought to act in the international trade market from the 1990s, since this was the moment when the event of globalization was verified, as well as a trade increasingly guided by the free market (FRANCK *et al.*, 2016). Nakazone and Saes (2004) point out that during the 90s there were also changes and technological advances, which increased the performance of companies, but also their competitiveness.

With more countries operating in the international market, there was a greater competitiveness and need for adaptation on the part of countries (FRANCK *et al.*, 2016). However, Brazil demonstrated a good adaptive capacity and remained competitive in the international coffee market, as well as maintaining its productivity levels (NAKAZONE; SAES, 2004).

Thus, from the first export to the present moment, Brazil has taken the first place both as a producer and as an exporter of green coffee (COSTA *et al.*, 2020; EMBRAPA, 2019; ALMEIDA; SILVA; BRAGA, 2011). According to Almeida, Silva and Braga (2011) when the country starts a trade in the international market, there is an expansion of the exchange between the countries, consequently increasing the diversification of consumption, employment, income, research aimed at the improvement and development of the market and the product, as well as increasing the efficiency of the financial market.

Thus, it is understood that the Brazilian international commercialization has been maintained over time and presents positive aspects for the country. "Taking as an indicator of competitiveness the degree of insertion in the international market, there is no doubt that Brazil has conquered a significant space in the last ten years, despite the growth of new producing countries" (NAKAZONE; SAES, 2004, p. 41).

According to Almeida, Silva and Braga (2011, p. 325) are factors such as "high competitiveness, coupled with the presence of low production costs, development of cultivation techniques and quality of grains, are among those responsible for the prominence of the country's

coffee culture in the international market". Nakazone and Saes (2004) also point out that Brazil has some competitive advantages in relation to other coffee producing and exporting countries, because it has a diverse and complex coffee park, which enables the production of the most varied types of beverages.

As coffee production and export is of great relevance to the country, Brazil has invested and led the technological development aimed at improving the coffee production chain, being a leader in the development of fertigation and mechanization processes (NAKAZONE; SAES, 2004). Given this scenario, and the factors that make Brazil lead the coffee production and export market, it should be noted that most exports happen from the product in its form called green coffee (CECAFÉ, 2021; EMBRAPA, 2019; DAL MOLIN, 2018).

According to Almeida, Silva and Braga (2011) green coffee is one of the products that most presents importance in international marketing. Franck *et al.* (2016, p. 7) also complement that " coffee is one of the primary products of greater value and commercial dynamism". In addition to being a valued product in the international market, green coffee presents a competitive advantage for its producers, due to its cost of production (NAKAZONE; SAES, 2004).

These factors influence the export of green coffee and make Brazil the largest exporter of this type of coffee. According to Cecafé's June 2021 Report, Brazil has reached a new record for green coffee exports, reaching 30.12 million bags of 60kg (CECAFÉ REPORT, 2021).

Between 2006 and 2016, Brazil had revenues of more than 54 billion dollars, exporting a total of 312,847,451 bags of green coffee weighing 60 kg each (TABLE 1).

Table 1 – Brazilian exports of green coffee

Year	Revenue (in thousand US\$)	Volume (bag 60kg)	Average price (US\$/bag)
2016	4.843.001	30.398.093	159
2015	5.555.415	33.417.234	166
2014	6.041.101	33.108.440	182
2013	4.582.237	28.319.117	162
2012	5.721.758	25.061.900	228
2011	8.000.415	29.853.433	268
2010	5.182.024	29.851.167	174
2009	3.761.605	27.323.200	138
2008	4.131.675	26.115.350	158
2007	3.378.300	24.804.251	136
2006	2.928.605	24.595.266	119
<b>Decade total</b>	<b>54.126.136</b>	<b>312.847.451</b>	<b>1890</b>

Source: ABIC Statistics (2021a).

Also according to Table 1 it is possible to notice that in 2011 green coffee exports reached their highest annual revenue in the period analyzed. However, in 2015 it is observed that the largest export

volume was carried out, which did not influence the year to reach the highest revenue between 2006 and 2016 (ABIC STATISTICS, 2021a).

This indicates, as can also be seen in Table 1, that the price of the coffee bag presented its highest value between the years 2011 and 2012, and until the year 2016 it has presented a decreasing variation (ABIC STATISTICS, 2021a).

Regarding the export of roasted coffee, it is observed in Table 2 that between the years 2006 and 2016 revenues reached a value of more than 233 million dollars, exporting more than 800 thousand bags of coffee of 60 kg each (ABIC STATISTICS, 2021b).

Table 2 – Brazilian exports of roasted coffee

Year	Revenue (in thousand US\$)	Volume (bag 60kg)	Average price (US\$/bag)
2016	12.785	42.302	302
2015	10.079	33.307	303
2014	11.603	31.447	369
2013	15.861	39.944	397
2012	18.376	44.228	415
2011	25.980	71.321	364
2010	22.070	84.569	261
2009	29.573	107.477	275
2008	35.627	132.070	270
2007	26.702	109.183	245
2006	24.473	106.743	229
<b>Total decade</b>	<b>233.129</b>	<b>802.591</b>	<b>3430</b>

Source: ABIC Statistics (2021b).

It can be seen in Table 2 that the highest revenue obtained from the export of roasted coffee was in 2008, reaching more than 35 million dollars in revenue. However, it was also in 2008 that the largest volume of bags was exported, with a total of 132,070 bags of roasted coffee exported that year (ABIC STATISTICS, 2021b).

The highest value of the roasted coffee bag was reached in the year 2012, where the bag came to cost 415 dollars. Although since 2012 the value of the roasted coffee bag has decreased, it is still higher than the value of the bag sold at the beginning of the analyzed period (ABIC STATISTICS, 2021b).

In front of Tables 1 and 2 it is still possible to notice that there is a doubling of the value when comparing the bag of green coffee to roasted coffee. This is punctuated by Rosário (2018) when the author considers that roasted coffee has an added value acquired during the industrialization process, and so there are cases in which the kilo of green coffee is more than doubled for roasted coffee.

It is also noted in Tables 1 and 2 that, although the bag of roasted coffee has a higher value in the international market, the largest commercialization is carried out of green coffee. In 2016, 30,398,093 bags of green coffee were sold, against only 12,785 bags of roasted coffee (ABIC STATISTICS, 2021a; ABIC STATISTICS, 2021b). The largest export of green coffee is widely elucidated in the literature, such as EMBRAPA (2019) and Dal Molin (2018), among others.

When it comes to specialty coffee, it is observed that:

(...) Foreign sales of this type of coffee, in 2019, presented a growth of 23.4%, compared to 2018, and reached almost 7 million bags of 60 kg, a volume that represented 18.6% of all exports of the crop in that year. (...) the foreign exchange revenue obtained from the export of specialty coffees, which generated US\$ 1.1 billion in 2019, which represented 23.5% of the total revenue generated from the exports of Coffees from Brazil in that year (ANUÁRIO DO CAFÉ, 2020 *apud* EMBRAPA, 2020, p. 1).

According to Cecafé Exports (2021) the largest buyer of Brazilian coffee is the United States (TABLE 3).

Table 3 – Exports June/2021 in bag volume

#	Destination country	Arabica	Conillon	Soluble	Torrado	Total	%
1	USA	3.305.280	347.985	338.788	2.476	3.994.529	<b>19,14</b>
2	Germany	3.534.318	176.417	21.577	0	3.732.312	<b>17,88</b>
3	Belgium	1.491.466	15.068	2.266	0	1.508.800	<b>7,23</b>
4	Italy	1.431.037	29.534	1.292	28	1.461.891	<b>7,00</b>
5	Japan	1.040.326	25.678	137.573	1.125	1.204.702	<b>5,77</b>
6	Russia	338.612	102.100	167.585	0	608.297	<b>2,91</b>
7	Colombia	363.821	155.990	28.299	346	548.456	<b>2,62</b>
8	Spain	326.859	106.007	20.214	0	453.080	<b>2,17</b>
9	Turkey	401.196	880	42.663	59	444.798	<b>2,13</b>
10	France	405.035	35.240	1.912	0	442.187	<b>2,11</b>

Source: Cecafé Exports (2021).

As you can see in Table 3, the countries that buy the most Brazilian coffee are the United States, Germany, Belgium, Italy, Japan, Russia, Colombia, Spain, Turkey and France (CECAFÉ EXPORTAÇÕES, 2021). In addition, it is also possible to observe that the largest volume of imports by countries is Arabica and *Conillon* coffee, respectively (CECAFÉ EXPORTAÇÕES, 2021). But both Arabica coffee and *conillon* are imported green.

It is noted that when it comes to roasted coffee the volume of imports by countries is much lower, presenting a marked difference. Only the United States, Italy, Japan, Colombia and Turkey import roasted coffee (CECAFÉ EXPORTAÇÕES, 2021). Germany, Belgium, Russia, Spain and France do not import any bag of roasted coffee in the month of June 2021 (CECAFÉ EXPORTAÇÕES, 2021).

From Table 3 it is still possible to corroborate the data presented in Table 1 and 2, since it demonstrates the receptivity of importing countries and their preference for importing green coffee, which is related to the higher volume of exports of this type of coffee.

With regard to specialty coffee, Cecafé points out that "it is not new that Brazil produces coffees differentiated by their quality and sustainability in production. There is a huge variety of specialty coffees, as we have diverse climates, soil types and altitudes in the 7 main coffee producing states" (CECAFÉ, 2016, p. 13). Thus, Brazil is also considered the largest supplier of this type of coffee in the world (COOPERCAM, 2018).

According to the Coffee Yearbook (2020) it is possible to cite as the main importers of coffee produced in Minas Gerais: United States, Germany, Japan, Italy, Belgium, Canada, United Kingdom, Sweden, Finland and Spain (ANUÁRIO DO CAFÉ, 2020). According to Coopercam (2018), the main importers of coffee produced in Brazil are the United States, Italy, Belgium, the United Kingdom, Spain and Japan. But the main importer of coffee is the United States, which according to ApexBrasil (2021, p. 1) is the "main destination of Brazilian exports" of specialty coffee.

In 2021, according to the monthly report distributed by the Council of Coffee Exporters of Brazil CECAFÉ in June 2021, "National shipments of the product totaled 3.012 million bags of 60 kg in June, generating US\$ 423.2 million. With the performance, the country recorded a new record in the closing of coffee shipments in the accumulated of the 2020/21 harvest, which reached 45.599 million bags, presenting an increase of 13.3% compared to the 2019/20 season and of 10.1% over the 41.426 million bags of 2018/19, until then the best performance. (CECAFÉ REPORT, 2021. p.3)

In addition, there is a growing for the specialty coffee market:

The consumption of specialty coffees grows significantly in Brazil and in the world compared to the market of ordinary coffees. Recent data show that the demand for specialty beans grows around 15% per year, mainly abroad, in relation to the growth of about 2% of *commodity coffee*. The segment now accounts for about 12% of the international beverage market. The current sale value for some differentiated coffees has an average overprice that varies between 30% and 40% of conventional coffee. In some cases, it can exceed the 100% barrier (COOPEAVI, 2021, p. 1).

It is believed that the interest of these countries in importing special coffee is linked to the moment that lives the commercialization of the product, being the consumption of the drink understood as a sensory experience (ANUÁRIO DO CAFÉ, 2020). In this sense, given its higher quality, specialty coffee becomes more valued (ANUÁRIO DO CAFÉ, 2020). "The differentiation, driven by the demands of the foreign market, adds value to the final product and brings new business opportunities, making the specialty coffee market very promising" (CECAFÉ, 2016, p. 13).

According to Teixeira (2020, p. 86) " well-prepared Brazilian coffee has particular characteristics that please foreign consumers. Our coffee has body, flavor of chocolate, caramel, or toasted bread, mild acidity and sweetness that remains in the mouth."

Almeida, Silva and Braga (2011, p. 324) point out that "there are several factors that hinder the participation of countries, with their products, in international trade". According to Freitas (2008) it was a narrative defended by the Brazilian market that, in order to achieve leadership in the production sectors, should use the practices that were also used by the main world industrial markets.

Thus, this has become widely practiced in the country, so that historically the Brazilian agro-industrial system has privileged production to the detriment of industrialization, instead of thinking of a system of marketing industrialized products in a more efficient and profitable way (FREITAS, 2008).

The international trade market is complex. Thus, we sought to explore in the following topic what are the limits and potentialities of Brazilian coffee exports.

## 2.4 LIMITS AND POTENTIAL FOR COFFEE EXPORTS

As pointed out in the previous topic, Brazil exports a large volume of green coffee, but when it comes to roasted and ground coffee this number is much lower. Thus, this topic addressed the potentialities of the export of roasted and ground coffee, as well as the limiting factors for the export of this coffee to be greater, from the literature reviewed.

Regarding the potentialities, and considering the positioning of the companies, Vegro *et al.* (2005) exposes that, among the main benefits for the export of roasted and ground coffee are:

(...) increase in production volume (economy of scale); decrease in the seasonality of sales; decrease in equipment idleness; greater technological training in processes and products; improvement of company management; possibility of scheduling production from the signing of export contracts; risk diversification; improvement of the company's image; receipt in hard currency; contracting of financing facilitated; strengthening of the company in front of competitors national and foreign and achievement of quality certifications or adherence to causes (*RainForest, Utz Kapeh, organic, fair trade, etc.*) (VEGRO *et al.*, 2005, p. 214-215).

Nakazone and Saes (2004) also point out that the high profit margins established by roasted and ground coffee companies from other countries also figure as a potential for national companies, which aim to export roasted and ground coffee (T&M). This is because, if the national coffee enters the international market with a lower price than the one marketed locally, it can gain market through this strategy.

However, the potential goes beyond the benefits that can be obtained by companies. Thus, in addition to considering a way to market industrialized products seeking greater efficiency and greater profits, when it comes to the export of coffee, it should also be considered that customers have been

predisposed to pay a differentiated value for a product that presents a greater added value and differentiation in the market (OLIVEIRA; JESUS; OLIVEIRA, 2004).

"This appreciation starts from a symbolism and an esteemed image of the product. Therefore, the coffee market differentiates itself to meet the tastes and preferences of increasingly demanding consumers in the various importing countries" (OLIVEIRA; JESUS; OLIVEIRA, 2004, p. 4). According to Ponte (2002) the world coffee production chain has undergone a revolution, where consumers are increasingly demanding and can choose a multitude of combinations and varieties of coffee, its origin, the form of roasting and grinding, social and environmental aspects, among others, being willing to pay a higher value for these attributes, which makes the commercialization of T&M coffee even more attractive.

Thus, it would be interesting for Brazil and the exporters of roasted and ground coffee to work on the country's image in international markets, where "support institutions can develop a set of actions aimed at consolidating the positive association of the country's image with T&M, creating an environment conducive to private business achieving success" (VEGRO *et al.*, 2005, p. 224).

In addition, the value of the green coffee bag is lower than the value of the roasted and ground coffee bag, precisely because it goes through an industrialization process. Rosário (2018) points out that the price per kilo of green coffee for roasted coffee more than doubles in value, and it is appropriate to consider a greater possibility of profit, given the added value that the product acquires when going through the industrialization process. Inserting the Brazilian industrialized product on a larger scale internationally is a way of favoring that Brazilian coffee is identified by its quality, causing a better remuneration to the producer (NAKAZONE; SAES, 2004).

Already related to the limitations, there is the consumption of Brazilian domestic coffee. According to the Coffee Trade Center of the State of Minas Gerais (CCCMG, 2020), Brazil, in front of the world market, is the second country that consumes the most coffee, and 95% of the population is a consumer of this beverage, either at home or in restaurants, cafeterias and other environments focused on the branch. The first place in the *consumption ranking* is occupied by the United States (CCCMG, 2020). Dal Molin (2018) also points out that, due to the high demand for roasted and ground coffee, Brazil imported coffee of this type between January and April of the same year.

In addition, the exchange rate can also be a factor of negative influence. According to the CCCMG (2021) the exchange rate influences the trade balance, so that domestic products become more expensive when traded in the foreign market, making it difficult to compete with products produced in the importing country. On the other hand, international products are cheaper in the Brazilian domestic market (CCCMG, 2021).

Export tariffs also hinder foreign trade of roasted and ground coffee, since the import tariff is around 10%, but when it comes to export tariffs these present sharp variations, making predictability difficult, in addition to varying according to the country (CCCMG, 2021). Nakazone and Saes (2004) also point to the tariffs levied on the export of roasted and ground coffee as a barrier to export, and exemplify that in Japan the incident tariff is 20% and 7.5% in the European Union.

Another limiting factor, pointed out by Conceição, Ellery Junior and Conceição (2017) is linked to an impediment coming from the Ministry of Agriculture, Livestock and Supply:

Another point that interferes in the competitiveness of the T&M industries is that, although the country's industries have technology and can make quality products, they are prevented from importing fine coffees in beans, to mix them with different types of Brazilian coffees and transform them into designer products, exportable and likely to generate foreign exchange, by a bureaucratic measure of the Ministry of Agriculture, Livestock and Supply (Map). This has been a constant criticism of ABIC, which claims that imported processed coffee makes unfair competition with Brazilian products (CONCEIÇÃO; ELLERY JUNIOR; CONCEIÇÃO, 2017, p. 28).

Also according to the CCCMG (2021) information figures as a barrier to the commercialization of roasted and ground coffee internationally, since what is noted is a Brazilian difficulty in understanding international markets and relating to its participants. Knowing the market of operation is fundamental for any company to plan and position its product strategically, but when it comes to the international commercialization of roasted or ground coffee, what is verified is that Brazilian companies do not have a concise knowledge about the functioning and rules of the international market (NAKAZONE; SAES, 2004).

### **3 METHODOLOGY**

The present research is classified as being exploratory, carried out through bibliographic research and bibliometric study. The exploratory research seeks to carry out a preliminary study of the main objective of the research that will be carried out, that is, it is widely used to familiarize oneself with the phenomenon that is being investigated, so that subsequent research can be conceived with a greater understanding and precision (GIL, 2008; COLLIS; JUSSEY, 2005). For Sousa, Oliveira and Alves (2021) the bibliographic research is one that is inserted mainly in the academic environment and has the purpose of improving and updating knowledge, through a scientific investigation of works already published. The bibliographic research is the survey or review of published works on the theory that will direct the scientific work which requires a dedication, study and analysis by the researcher who will perform the scientific work and aims to gather and analyze published texts, to support the scientific work.

The bibliographic research of this study was carried out for the elaboration of the Theoretical Framework and used books, dissertations, theses and articles focused on the coffee theme. In addition, it presented an overview related to data on coffee production, consumption and export from institutional sites such as: ABIC (Brazilian Coffee Industry Association), CECAFÉ (Coffee Exporters Council of Brazil), BSCA (Brazilian Special Coffee Association), EMBRAPA, CCCMG (Coffee Trade Center of the State of Minas Gerais).

The bibliometric study, which corresponds to a technique applied to ascertain how scientific knowledge is produced and disseminated. Bibliometrics allows, among others, to analyze the citations, impact factor of the authors, and their influence in the areas of knowledge, as well as the geographical and institutional origin of their works (ARAÚJO, 2006).

According to Pinto, Serra and Ferreira (2014, p. 345) bibliometric studies aim to analyze "[...] trends on a particular subject or discipline, identify the main theories and scientific production of researchers or institutions or identify in mapping the intellectual structure of a discipline or area of study".

In the view of Kobashi and Santos (2008), the bibliometric study deals with a methodology of census of scientific and related activities, through the analysis of data that present the same particularities. Also according to the authors, through this methodology, one can, for example, identify the amount of work on a given subject; published on a precise date; published by an author or an institution or disseminated by a scientific journal, the degree of R&D development and innovation, among others.

By bibliometric means one can, for example, compute data to compare and compare the elements present in bibliographic references of documents representative of the publications. Thus, the bibliometric analysis was used in order to explain, through graphs and tables, aspects of the articles of the present research (KOBASHI; SAINTS, 2008).

Basically, the present study was carried out through secondary data, where the bibliographic research was carried out to construct the literature review, specifically, the theoretical framework of the present study and the bibliometric study presented in the Results and discussion focusing on the articles of the *Web of Science platform*.

Regarding the theme investigated, no similar studies were found in the literature. Data collection was performed on the *Web of Science platform* (main collection) of *Thomson Reuters* due to the expansive number of journals indexed to it. In addition, the database offers a standard of operationalization of searches (PINTO; SAW; FERREIRA, 2014; PRADO *et al.*, 2016).

A search protocol was created with the use of keywords and then a filter was made by categories and refinement by the most cited articles. Data collection took place on October 28, 2021, which

resulted in 150 articles for all areas of knowledge. We chose the filter of the categories related to the following areas of knowledge: Business, Agronomy, Management, Multidisciplinary Sciences and Economics, which was obtained in 39 articles. After using the filter, the search for the most cited articles was refined, resulting in five papers on specialty coffees.

Thus, the search protocol followed the steps: an advanced search was performed on October 28, 2021, in a combined way, in which the field label was TS (topic) and in the search for the keyword: special\*\_**coffee** (special coffee). The \* (asterisk) was necessary, due to the variation of the word *special* for some countries, and the \_ (*underline*), to confirm that it is the specialty coffee product and not another variation. We analyzed scientific articles published in the last five years (2017-2021) in any language and in any area of knowledge, initially obtaining 150 articles.

In a second moment, we started to apply a filter by areas of knowledge (categories), in which only articles that are in some categories in the base were chosen: *Business* (Business), *Agronomy* (Agronomy), *Management* (Management), *Economics* (Economics) and *Multidisciplinary Sciences* (Multidisciplinary Sciences). From the application of the filter, 39 articles were reached. The results of the research list the 39 works by categories and a general analysis of these works was made.

After this process, a refinement of the most cited articles was carried out in order to understand the main trends in research related to the theme of specialty coffees, which has been replicated through the citations of these works. After performing the search, it was possible to arrive at a spreadsheet produced by the *Web of Science* platform with the citation report. The report indicated the number of citations for each of the 39 studies found from the research protocol applied in this study. We chose articles with total citations in the period from 2017 to 2021 above 12. Thus, a total of 6 articles were obtained for analysis.

#### 4 RESULTS AND DISCUSSION

The *corpus* of this study had 39 articles, resulting from the advanced search explained in the Methodology. In general, it can be observed that this theme composes in several categories and areas of knowledge, but when filtering by specific areas of knowledge [*business*; *agronomy* (agronomy); *management*; *multidisciplinary sciences* and; *Economics*, we reached 44 papers, however, five articles are repeated in more than one category – *Business* and *Management*. The *Web of Science platform* did not consider this repetition Figure 3 divides the works: 13 articles are in the business category, 12 in agronomy, 9 in *management*, 5 in multidisciplinary sciences, and 5 in economics.

Figure 3 – Categories of articles



Fonte: *Web of Science*, 2021.

The result indicated by Figure 4 indicates how the theme of the work is present in several niches, especially the business niche. Vieira *et al.* (2001) argues that only from the growth of demand for *commodity coffee* to be slow, the consumption of specialty coffees expands rapidly, signaling a large presence in several competitive markets. According to Fleury and Fleury (2003, p. 130) "the process of business globalization is accelerating the pace of change in terms of how the production of goods and services is being designed and implemented", therefore, in the face of challenges for the sector, the need for discussion on new procedures related to the management and use of new technologies is highlighted.

Table 1 – Article titles by category

<b>BUSINESS</b>	
1	The brand new Brazilian specialty coffee market
	The brand new Brazilian specialty coffee market
2	Values added in speciality coffee: Connecting product and place through songlines
	Values added to specialty coffee: connecting the product and the place through musical lines
3	Lone not lonely: Conceptualising the lone consumer servicescape through speciality coffee
	Solitary, not lonely: conceptualizing the scenario of services to the solitary consumer through specialty coffees
4	The taste transformation ritual in the specialty coffee market
	The ritual of taste transformation in the specialty coffee market
5	Rounton Coffee and Bedford Street Coffee Shop: From rural coffee roaster to urban coffee shop
	Rounton Coffee and Bedford Street Coffee Shop: from a rural coffee roaster to an urban coffee shop
6	Value co-creation in the specialty coffee value chain: the third-wave coffee movement
	Co-creation of value in the specialty coffee value chain: the movement of third-wave coffee
7	Critic-buyer effects on valuation of ambiguously appraised products
	Effects of the critical buyer on the evaluation of ambiguously evaluated products
8	Practices of Third Wave Coffee: A Burundian Producer's Perspective
	Third Wave Coffee Practices: A Burundian Producer's Perspective
9	Quality as a Driver of Sustainable Agricultural Value Chains: The Case of the Relationship Coffee Model
	Quality as an engine of sustainable agricultural value chains: the case of the coffee relationship model
10	The developing speciality coffee businesses of Bangkok, Thailand and Penang, Malaysia. A story of entrepreneurial passion and creativity
	The developing specialty coffee businesses of Bangkok, Thailand and Penang, Malaysia. A story of passion
11	Connoisseurship Consumption Community and Its Dynamics
	Knowledge Consumption Community and its Dynamics
12	An exploratory study of consumers' perceptions: What are affordable luxuries?
	An exploratory study of consumer perceptions: What are affordable luxuries?
13	Leveraging the coffee experience as a tool for engagement with climate change
	Harnessing the coffee experience as a tool for engagement with climate change
<b>AGRONOMY (AGRONOMIA)</b>	
1	Sensory analysis of arabica coffee: cultivars of rust resistance with potential for the specialty coffee market
	Sensory analysis of Arabica coffee: rust-resistant cultivars with potential for the specialty coffee market
2	Classification of Lampung robusta Specialty Coffee According to Differences in Cherry Processing Methods Using UV Spectroscopy and Chemometrics
	Classification of Lampung robusta specialty coffees according to differences in cherry processing methods using UV spectroscopy and chemometrics
3	Beverage quality of Coffea canephora genotypes in the western Amazon, Brazil
	Beverage quality of Coffea canephora genotypes in Western Amazon, Brazil
4	Influence of the pectin-transeliminase enzyme on fermentation times and on the organoleptic quality of robust coffee
	Influence of the enzyme pectin-transeliminase on fermentation times and organoleptic quality of robusto coffee
5	Sensory quality of Coffea arabica L. genotypes influenced by postharvest processing
	Sensory quality of Coffea arabica L. genotypes influenced by postharvest processing
6	Behavior of three cultivars of coffee (catimor, colombia and costa rica 95) in the Valley of el Perene, Junin, Peru
	Behavior of three coffee cultivars (catimor, colombia and costa rica 95) in the Del Perene Valley, Junin, Peru
7	Sensory analysis of four cultivars of coffee (Coffea arabica L.), grown at different altitudes in the San Martin region - Peru
	Sensory analysis of four coffee cultivars (Coffea arabica L.), grown at different altitudes in the region of San Martin - Peru

	Authentication of Ground Roasted Specialty Gayo Arabica Coffee from Aceh using UV Spectroscopy and Chemometrics
8	Authentication of Aceh's Gayo Arabica specialty roasted coffee using UV spectroscopy and chemometrics
	Genetic diversity and population structure of a Peruvian Coffea arabica L. collection
9	Genetic diversity and population structure of a Peruvian collection of Coffea arabica L.
	Exploring the multivariate technique in the discrimination of Coffea arabica L. cultivars regarding the production and quality of grains under the effect of water management
10	Exploring the multivariate technique in the discrimination of cultivars of Coffea arabica L. regarding the production and quality of grains under the effect of water management
	Sensory and physiological quality of arabic coffee under different fermentation times
11	Sensory and physiological quality of Arabica coffee at different fermentation times
	Agronomic management on the yield and quality of coffee (Coffea arabica) Castillo variety in Narino, Colombia
12	Agronomic management in the production and quality of coffee (Coffea arabica) Castillo variety in Narino, Colombia
<b>MANAGEMENT</b>	
	The taste transformation ritual in the specialty coffee market
1	The ritual of taste transformation in the specialty coffee market
	Being different matters! A closer look into product differentiation in specialty coffee family farms in Central America
2	Being different matters! A closer look at product differentiation in specialty coffee family farms in Central America
	Value co-creation in the specialty coffee value chain: the third-wave coffee movement
3	Co-creation of value in the specialty coffee value chain: the movement of third-wave coffee
	Practices of Third Wave Coffee: A Burundian Producer's Perspective
4	Third Wave Coffee Practices: A Burundian Producer's Perspective
	Quality as a Driver of Sustainable Agricultural Value Chains: The Case of the Relationship Coffee Model
5	Quality as an engine of sustainable agricultural value chains: the case of the coffee relationship model
	Defining customer experiential knowledge and its dimensions: a conceptualization starting from a netnographic study of specialty coffee blogs
6	Defining the client's experiential knowledge and its dimensions: a conceptualization from a netnographic study of specialty coffee blogs
	Critical success factors in strategic partnerships between exporters and special coffee producers
7	Critical success factors in strategic partnerships between exporters and producers of specialty coffee
	A rising tide lifts all boats: the origins of institutionalized aesthetic innovation
8	A High Tide Lifts All Boats: The Origins of Institutionalized Aesthetic Innovation
	Connoisseurship Consumption Community and Its Dynamics
9	Knowledge Consumption Community and its Dynamics
<b>MULTIDISCIPLINARY SCIENCE</b>	
	The potential for income improvement and biodiversity conservation via specialty coffee in Ethiopia
1	The potential for income improvement and biodiversity conservation through specialty coffees in Ethiopia
	Climate change and specialty coffee potential in Ethiopia
2	Climate change and the potential of specialty coffees in Ethiopia
	The Potential of UV-Visible Spectroscopy and Chemometrics for Determination of Geographic Origin of Three Specialty Coffees in Indonesia
3	The potential of UV-visible spectroscopy and chemometrics to determine the geographical origin of three specialty coffees in Indonesia
	Comparison of organoleptic quality of coffee (Coffea arabica L.) in Puno - Peru and La Paz - Bolivia
4	Comparison of the organoleptic quality of coffee (Coffea arabica L.) in Puno - Peru and La Paz - Bolivia
	Political architectures in the municipality of Varre-Sai (Brazil): for sustainabilities in 'specialty coffees' production management
5	Political architectures in the municipality of Varre-Sai (Brazil): for sustainability in the management of the production of 'specialty coffees'

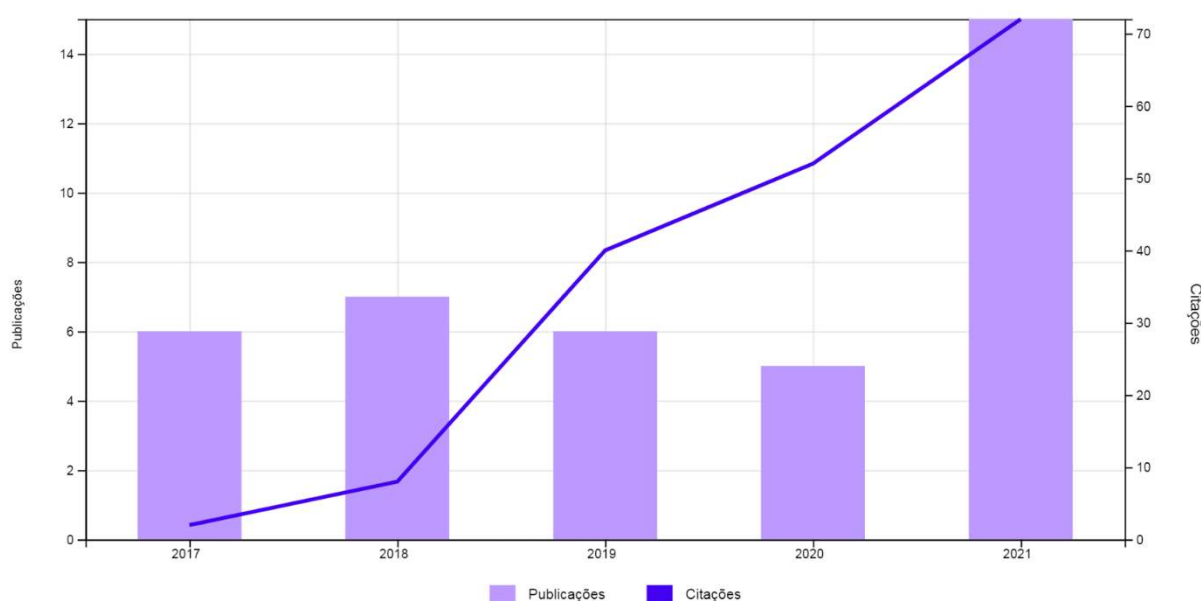
ECONOMICS	
1	Transforming Burundi's coffee sector through strategic value chain investments
	Transforming Burundi's coffee sector through strategic investments in the value chain
2	Explaining coffee price differentials in terms of chemical markers: Evidence from a pairwise approach
	Explaining coffee price differentials in terms of chemical markers: evidence from a peer approach
3	Coffee Berry Borer ( <i>Hypothenemus hampei</i> ) and its role in the evolutionary diversification of the coffee market
	The coffee borer ( <i>Hypothenemus hampei</i> ) and its role in the evolutionary diversification of the coffee market
4	The domestic political economy of upgrading in global value chains: how politics shapes pathways for upgrading in Rwanda's coffee sector
	The Domestic Political Economy of Improvement in Global Value Chains: How Policy Shapes Pathways to Improvement in Rwanda's Coffee Sector*
5	Brand Aid and coffee value chain development interventions: Is Starbucks working aid out of business?
	Interventions for the development of Brand Aid and the coffee value chain: Is Starbucks working with help outside the market?

Source: Research data, adapted from *Web of Science*, 2021.

Chart 1 shows the main themes addressed in the research conducted on specialty coffees for the period from 2017 to 2021 on the *Web of Science platform*, based on the research protocol created. The highlights in gray represent the works that were repeated in the Business and Management categories.

When analyzing the number of publications per year for the 39 articles resulting from the filter by category, it can be seen that in 2017 six papers were published, in 2018 seven articles, 2019 six papers, 2020 five papers and 2021 15 articles on the theme of specialty coffees were published (Figure 4).

Figure 4 – Number of publications per year and citations in the period 2017-2021 on the *Web of Science platform*



Fonte: *Web of Science*, 2021.

Figure 4 also indicates the trend of citations of these 39 articles for the period from 2017 to 2021. It also indicates that these studies have been replicated over the years, representing a positive factor for the theme of specialty coffees.

Below are presented the six most cited articles of the search and later they were described. In addition, it was possible to trace a notion of the themes and which authors have discussed them. In general, the articles that are characterized among the most cited, provide important discussions and are of great relevance to a specific area of knowledge. For this study, we chose to analyze only the studies with total citations above 12 for the period studied (2017-2021) (Figure 5).

Figure 5 – Most cited articles on specialty coffee (*special coffee*) in the *Web of Science* from the research protocol carried out

39 Publicações	Citações: mais citados primeiro	Citações						Média por ano	Total
		< Voltar					Avançar >		
		2017	2018	2019	2020	2021			
	Total	2	8	40	52	72	34.8	174	
1	An exploratory study of consumers' perceptions: What are affordable luxuries? Mundel, J.; Huddleston, P. and Vodemeier, M. Mar 2017   JOURNAL OF RETAILING AND CONSUMER SERVICES 35, pp.68-75	2	5	9	12	12	8	40	
2	Quality as a Driver of Sustainable Agricultural Value Chains: The Case of the Relationship Coffee Model Hernandez-Aguilera, JN; Gomez, M; (...); van Es, HM Feb 2018   BUSINESS STRATEGY AND THE ENVIRONMENT 27 (2), pp.179-198	0	2	9	10	5	6.5	26	
3	THE TASTE TRANSFORMATION RITUAL IN THE SPECIALTY COFFEE MARKET Quintão, RT; Brito, EPZ and Belk, RW Sep-oct 2017   RAE-REVISTA DE ADMINISTRAÇÃO DE EMPRESAS 57 (5), pp.483-494	0	1	7	3	5	3.2	16	
4	The brand new Brazilian specialty coffee market Guimarães, EP; Leme, PHMV; (...); Dos Santos, AC Jan 2 2019   JOURNAL OF FOOD PRODUCTS MARKETING 25 (1), pp.49-71	0	0	3	4	7	4.67	14	
5	The domestic political economy of upgrading in global value chains: how politics shapes pathways for upgrading in Rwanda's coffee sector? Behuria, P Mar 2 2020   Jul 2019 (Acesso antecipado)   REVIEW OF INTERNATIONAL POLITICAL ECONOMY 27 (2), pp.348-376	0	0	0	6	6	4	12	
6	VALUE CO-CREATION IN THE SPECIALTY COFFEE VALUE CHAIN: THE THIRD-WAVE COFFEE MOVEMENT Boaventura, PSM; Abdalla, CC; (...); Arakelian, JS May-jun 2018   RAE-REVISTA DE ADMINISTRAÇÃO DE EMPRESAS 58 (3), pp.254-266	0	0	3	4	5	3	12	

Fonte: Web of Science, 2021.

The six most cited articles based on the results of the applied research protocol indicated that these studies were published in the following journals: *Journal of Retailing and consumer services*, *Business Strategy and The Environment*, *Revista de Administração de Empresas (RAE)* (two papers in this Brazilian journal), *Journal of Food Products Marketing*, *Review of International Political Economy*.

The authors who represented the citations of these articles were: Mundel, Huddleston and Vodemeir (2017), Hernandez-Aguilera *et al.* (2018), Quintão, Brito and Belk (2017), Guimarães *et al.* (2019), Behuria (2020) and Bonaventure *et al.* (2018).

Mundel, Huddleston and Vodemeir (2017), (An exploratory study of consumer perceptions: What are affordable luxuries?) report that the concept of luxury has traditionally been associated with

expensive, hard-to-find and exclusive products, as is the case with specialty coffee is considered an affordable luxury. Although coffee is a readily available product, certain consumers are willing to pay a higher price, to enjoy specialty coffees and the atmosphere offered by specialty coffee shops such as *Starbucks*. At the same time, for the category considered as *millennials* there is a spending limit for these products, but there are those who could "flaunt" from time to time by buying these products. Thus, in this market considered luxury and affordable luxury there are consumers who renounce the price to have a product considered better.

In *Quality as a driver of sustainable agricultural value chains: the case of the relationship coffee model*, two authors Hernandez-Aguilera *et al.* (2018) describes that in addition to increasing the income of producers, specialty coffee markets can help encourage the adoption of agroecological practices and practices associated with high product quality, such as shade cultivation systems and manual harvesting. These practices of specialty coffee markets offer opportunities for production systems involving, mainly, small producers in low- and middle-income countries. It is worth mentioning that the supply chain arrangements are directly linked to roasters and coffee growers, who based on the high quality of the product, can be drivers of sustainable coffee production. However, it is necessary for these producers to participate in high-quality coffee markets to have advantages over traditional certification schemes, as these encompass consumer preferences regarding product quality.

Quintão, Brito and Belk (2017), from the article entitled "The ritual of taste transformation in the specialized coffee market" describe that the context of specialty coffee brings several important features. Among them, coffee consumption in the late 1990s revealed that *Starbucks* increased awareness about coffee and increased the number of coffee appreciation practices. *Starbucks* (with 15,000 stores worldwide) influenced the culture of the market in the 1990s and 2000s. Thus, in the 2000s, some independent coffee shops began to position themselves to serve a growing number of consumers concerned about the quality and variety of coffee. Therefore, these consumers play an increasingly important role in the market, so that today, the consumption practices of coffee connoisseurs are ritualistic leisure activities.

In the work of Guimarães *et al.* (2019), "The brand new Brazilian specialty coffee market" highlighted that in Brazil, specialty coffees are an expanding market, stimulated by products related to events, research and the opening of specialized stores that increase their availability and bring them closer to the consumer. The work identified three different consumer groups: regular consumers, enthusiasts and experts. The differentiation is based mainly on the motivations and criteria for the acquisition of specialty coffees, this classification is considered similar to the perception of the international market organization. Therefore, it can be stated that this work has important managerial implications and can guide decision-making in all links of the specialty coffee chain that, knowing

intimately its target audience, will be able to adopt better strategies to communicate the distinctive characteristics of their products, as well as attract new consumers.

Behuria (2020) in his work "The domestic political economy of improvement in global value chains: how politics shapes the paths to improvement in Rwanda's coffee sector" develops critiques of the economics of international politics, as an interaction between political economies and global economic changes is needed, even more, in relation to the emerging global dynamics within the coffee sector, as these set the parameters for improving development outcomes in countries. Therefore, some countries opt for interventionist strategies, which make it crucial to support larger parts of domestic coffee, as they are being exported to specialty markets. Still, *insights* from the literature on political settlements are needed, so that these can show how public governance policies reflect the domestic coffee political economy and how this can be prevalent in the country.

The article by the authors Boaventura *et al.* (2018), "Co-creation of value in the value chain of specialty coffee: the movement of coffee in the third wave", indicated that Brazil represents approximately 29% of world coffee exports, 15% of which is "specialty coffees". Most of Brazil's coffee exports are composed of *commoditized* green beans, influencing the value chain to be based on the exchange rate paradigm. This scenario began to change with the introduction of specialized coffee shops, coffee capsules for domestic consumption and the demand for a more artisanal product. A paradigm of value creation along the chain drives production processes that aim to differentiate products through superior coffee beans and unique experiences. This study was developed through the content analysis of 1.5 years of news collected in two Brazilian newspapers. In addition, the authors interviewed coffee shop owners, coffee producers, cooperatives, intermediaries, and regulators. The research concluded that the value chain faces challenges in achieving the creation of greater value in use for all actors involved.

Through the six most cited articles in this work, different perspectives can be observed. Coffee is considered a homogeneous product and produced under the format of a *commodity*, supplied to consumers different to tastes and preferences. With this, the price variable remains decisive and greatly shapes the strategies of the sector, delimiting in a certain way its competitiveness. However, the issue of quality as a competitive differential and profitability lever has been shown to be a constant theme in the discussions by the agents of the sector.

The market figures and the national and international commercialization, which justify specific policies for the export of quality coffees, indicate that countries can stop being just a major exporter of *commodities* and prioritize foreign sales of higher added value, such as specialty coffees. Alongside competitiveness, however, the links of the productive chains of the sector face structural problems that,

added to the conjunctural factors of the market, hinder their more expressive participation in the international market with specialty coffees.

Coffee is another economic activity and demands the construction of political networks to achieve conditions that favor the development of skills capable of expanding the regional competitive differential. Currently, the implementation of policies in the coffee chain is dependent on the organizational dynamics of the producing regions. Thus, policies that deny this paradigm are subject to inefficiency and ineffectiveness, as well as demand more public resources to reorient them.

## 5 FINAL CONSIDERATIONS

The aim of this study was to conduct a bibliographic survey on the specialty coffee market. Therefore, the *Web of Science* database was chosen to develop this study characterized as a bibliometric research. In short, this bibliometric analysis on the specialty coffee market shows that this is a theme that has been studied with greater intensity over the years. With regard to research in the areas of *Businesses, Agronomy, Management, Economics* and *Multidisciplinary Sciences*, convergent studies were observed on the transformations of the productive and consumer sector of such a product.

Through the five most cited articles, it is observed the relevance in understanding how the theme is constituted and how it interferes in the whole society. In a complementary way, this study was able to gather important information about the value chain, about consumers, about the market as a whole and about the relevance of associations, cooperatives and certifiers, which help to attest to the superiority of specialty coffees. It is perceived that the specialty coffee market can promote an academic and managerial discussion relevant to the improvement of market relations between the actors who produce, market and consume the beverage.

Regarding the limitations of the research, three main ones stand out: i) the bibliometric study contemplated only one database, which despite being considered broad, privileges the American and European literature, so it is pertinent a review that encompasses the works of the other localities; ii) the analyses assumed a descriptive character, offering a basis for other studies that analyze the gaps and criticisms on the theme; iii) only the five most cited articles were analyzed, albeit briefly, and methodological, ontological and epistemological aspects of the articles were not explored.

As future research suggestions, it is indicated to explore the gaps described above: i) to expand the research bases, including the Brazilian ones; ii) perform an integrative analysis of all articles; iii) map the new elements for the theme discussed by the authors in all articles.

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