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# Overview of the academic production on Family Farming: A study under the accounting and managerial approach

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**ABSTRACT**
Family farming has economic and social relevance in the Brazilian context. However, the use of accounting and managerial practices in these enterprises has been unexploit. The application of management techniques in the rural properties aims to facilitate the insertion of the producer in consumer market, as well to contribute to profitability and continuity of the enterprise. The objective of this research was to analyze the academic production on management and accounting as a subsidy for decision-making in rural properties related to Family farming. Through a systematic review of the literature, carried out in the Web of Science database, 52 articles related to management and accounting in Family farming were selected. The investigations revealed a gap in terms of the number of journals and publications. Based on a critical analysis of the selected studies, it was possible to identify six main categories of difficulties reported in relation to decision-making in small rural properties.

**Keywords:** Accounting, Management, Family Farming, Bibliometric.

## 1 INTRODUCTION

Family farming in Brazil corresponds to a unique social category marked by great heterogeneity in relation to access to land, productive resources, as well as the way properties are managed. Given its relevance, in 2017 the United Nations (UN) declared the period from 2019 to 2028 as the Decade of Family Farming, in order to focus the efforts of the international community with a view to working, collectively, in the formulation and implementation of economic, environmental and social policies aimed at creating a conducive environment and strengthening family farming.

Despite the social, environmental and local development relevance of the communities in this category, management practices in rural properties of family agriculture are still little explored, much of it due to technological limitations, infrastructure, qualified personnel and technical assistance. Related studies have already pointed out that most small farmers do not use planning instruments and

control of rural property accounts. It is understood that information about the property for managerial decision-making constitutes a critical success factor in agricultural enterprises, especially in family farming (Zidora, Rocha Jr, Santoyo & Uribe-Opazo, 2021).

Thus, it is defined as the guiding question of the research: What are the contributions and use of rural management and accounting in subsidizing decision-making in properties related to family farming? As a main objective, it is intended to raise in the national and international literature the main factors and/or characteristics that hinder the process of management and control of small rural properties or family farmers.

The theme of accounting management and control is considered relevant both from the aspect of guarantee for the continuity and prosperity of rural businesses and for tax and accountability purposes. Therefore, it is important to know the subjects addressed in the scientific productions specifically focused on the reality of family farmers, in view of their representativeness for the country's economy and to enable inferences about the organizational situation of the entities that use such management practice. Previous studies have sought to analyze the profile of publications on accounting and costs focused on agribusiness (Foguesatto, Artuzo & Machado, 2006; Souza, Barros, Araújo & Silva, 2012; Guimarães, Ribeiro & Brandão, 2019).

At the time of the research, no study focused specifically on management practices in family farming was identified. The study on the profile of research on the theme of management and accounting in family farming aims to systematize and analyze the recent evolution in this field.

Recognizing the importance of the analysis of studies that address the theme of management in family farming, this review study contributes with the following results: a) the construction of a panorama of studies that dealt with the subject; b) identify the characteristics regarding the place of data collection and collection, and c) perform a descriptive analysis of the main difficulties listed by the analyzed articles, with regard to the financial management of family farming.

## 2 THEORETICAL FRAMEWORK

### 2.1 MANAGEMENT IN FAMILY FARMING

Managing a rural enterprise in the environment of family farming requires from its administrators skills to deal with the diversities focused on the production carried out in this environment. According to Guilhoto, Ichihara, Silveira, Diniz, Azzoni & Moreira. (2007), the family agricultural sector is always remembered for self-consumption in which the social function is focused more than the economic function, in view of its lower productivity and technological incorporation.

Family farming is an economic sector of great relevance for society in general, as it has an important role that is to provide products for the consumption and feeding of the population. According to Altafin (2007), family farming has brought significant contributions, especially in its social role by

providing large volumes to the food market and the ability to meet the demand of society.

Ploeg (2014) mentions that family farming is far beyond food production. This branch of activity controls the main resources of the property and, in the combination of these, creates productive, sustainable, receptive, flexible, innovative and dynamic agricultural practices.

Family agriculture faces a series of obstacles to conduct its economic activity, and in addition to carrying out its production, seek to conserve the environment, which is the main resource used in rural activity. In this context, the importance of this enterprise structure for society as a whole is perceived.

Unlike commercial and industrial companies, the family business, commonly known as family farming, deals with the difficulties of this type of management, which depends directly on environmental resources. Thus, management needs to be adapted to this business reality, in which characteristics are involved that are not found in other business branches, such as the diversity of the climate in line with the production carried out.

For this reason it is important that this activity is understood, so that a management is adopted that suits the needs of this family business structure, continuously, according to the environment that is inserted, seeking strategies for the day-to-day problems faced by this community.

Thus, family farming should seek to adopt management tools, translated from the business environment to the rural environment, to be used by this type of enterprise, so that strategic and operational planning can be carried out, as well as a monitoring and evaluation of the decisions taken in this context.

Rural management, for Breitenbach (2014, p.721), represents "the study that considers the organization, the operation of a rural property/company, aiming at the most efficient use of resources to obtain compensating results". Management when better planned and executed can bring significant positive results to the economic growth of this segment.

Family farming has its importance due to its great role of producing food. In this sense, to have profitability and sustainability it is important that there is the advice of trained professionals to assist them in this management, because important managerial decisions such as, for example, about what costs the family business will have when producing these products or how soon the company will be able to return with the investment made in the plantation. Evaluating decisions like these helps the farmer to manage his enterprise in the best possible way, meaning better profitability.

Silva and Andrade (2017) consider as limitations of the small producer: the absence of diversified activities, capital limitation and the small amount of land for cultivation. As activities become more complex, accounts and records on agricultural activities cease to be simple, increasing the need for greater management and control over the resources employed in production.

In many places, the development of family farming took the form of processes such as: form

of colonization, land valuation and difference in profitability of small and large scale, taking into account the specificities of each product (Guilhoto *et al*., 2007).

With the great productive potential and with the skills inherent to this family farming, which has the practice, the knowledge in the productive process, it can be identified the great differential in this segment, needing as a priority, the help in the financial and economic management of your enterprise.

According to Guanziroli & Cardim. (2000), family farming has enormous advantages when compared to large rural properties. For Costa, Rimkus & Reydon (2008), family farming better serves the social interests of the country, in addition to being more productive, are economically viable, with the concern with the preservation of the environment as the main priority.

According to Borges, Guedes & Castro (2015), the incorporation of management in the rural enterprise, facilitates the insertion of the producer in the market and allows to establish a communication between the producer and the final consumers, through the agro-industries and the distribution channels.

The authors also state that in the family model producers sell the production directly to consumers, through the retail segment and this in turn, drain this production usually to an association or cooperative that will direct the sale of the production to the agro-industries that will sell the production to the consumer market.

## 2.2 ACCOUNTING IN FAMILY FARMING

According to Federal Law No. 11,326, of July 24, 2006 (Brasil, 2006), the family farmer is the one who practices activities in the rural environment, using the family's own labor in the economic activities of his enterprise.

For Nantes & Scarpelli (2007), the rural enterprise at the time of its implementation, must fit into three stages: the first, must verify the resources available for production, then have vocation to produce a certain product and finally, verify the market conditions related to the economic growth of the selected product.

It is essential that this rural producer makes some kind of association or partnership, which will provide increased opportunities in the rural enterprise, especially in the flow and sale of the cultivated product, assisting in economic development and in the obstacles inherent in conducting this type of business (Nantes & Scarpelli 2007).

To assist in this management it is important that there is the use of a technique that assists in all stages of this process. In this aspect, there is accounting, which according to Montoto (2015), is a science that studies the patrimony of an entity, with the objective of obtaining organized records, of the phenomena that affect the patrimonial and financial situation.

For Coliath (2014, p.157) "accounting arose from the need of the human being to obtain information about the control of his wealth". This technique enables companies to know the patrimonial, economic and financial situation and assists their managers in making decisions relevant to its continuity and growth.

In this way, this tool can be used to assist companies with regard to the registration, control and evaluation of economic and financial results. Accompanied by other areas of knowledge such as financial management, strategic management and costs, accounting can be of great contribution to the decision-making process.

In addition, accounting is the only technique, which records, controls and evaluates the management of an entity. Its main objective is to provide economic, physical, productivity and social information relevant to decision-making to make judgments safely (Iudícibus, 2010).

Accounting can be applied to all economic segments and is classified into several segments, such as commercial accounting that is applied in commercial companies; industrial accounting that is applied in industries; accounting applied to the public sector which is the branch of accounting applied to public bodies, and so on. In rural management, there is rural accounting, which according to Marion (2016), is a technique that can be used both in agricultural activities, in livestock and also in agro-industries.

Accounting in the rural area occurs in a differentiated way, obeying the particularities inherent to this branch of activity. To exemplify one of these differentiations, in this type of activity, the fiscal year does not coincide with the calendar year (Marion, 2016). In commercial, industrial and public enterprises, for example, the fiscal year comprises periods of equal duration in which the company operates. It usually lasts for one year, coinciding with the calendar year (Souza, 2010).

In rural activity, agricultural production is essentially seasonal, concentrating in a certain period. After the sale of the harvest, in this case, the end of the agricultural year is obtained, which can be defined as the period where the planting, harvesting and sale of this harvest takes place. If, for example, the agricultural year ends in March, the fiscal year can be calculated at the end of this month or until next month (Marion, 2016).

In this aspect, there is an accounting standard that must be taken into account in this type of management that is of paramount importance so that the enterprise can perform its tasks with greater reliability and security. This instrument is called Technical Pronouncement CPC 29, issued by the Technical Pronouncements Committee (CPC), which describes the standards focused on the Biological Asset, agricultural products and products resulting from post-harvest processing carried out in rural activities.

This pronouncement is part of a list of standards published by the Accounting Pronouncements Committee, which aims to, "the study, preparation and issuance of technical documents on accounting

procedures and the disclosure of information of this nature, to allow the issuance of standards by the Brazilian regulatory entity, aiming at the centralization and standardization of its production process, always taking into account, the convergence of Brazilian Accounting to international standards" (CFC, 2005).

CPC 29 does not deal with activities arising from the processing of agricultural products, such as the processing of grapes into wine or oranges into juice, but, this refers, the rules related to biological assets and agricultural products that are objects arising from rural management.

According to this standard, Biological Active is everything that involves, birth, growth and death of animals from breeding and beef herds, in addition to temporary and permanent crops, as well as agricultural activity that refers to the management of biological transformation and the harvesting of biological assets for sale. (CPC, 2009).

By way of example, it can be considered according to CPC 29, as a Biological Asset, in agricultural activity, the trees of a plantation, the plants the shrubs, the vines, the fruit trees. Arising from these biological assets can be cited as examples of products wool, wood, cotton, harvested sugarcane, coffee, leaves, grapes, harvested fruits.

In addition to agricultural activity, this CPC covers activities arising from animal husbandry, such as the creation of various types of livestock such as beekeeping, poultry, rabbit farming and livestock. According to Marion (2016), cattle refers to the raising of animals in the field, for farming services, domestic consumption or for industrial and commercial purposes.

In animal husbandry, animals raised in the field are considered according to CPC 29 as biological assets. As examples arising from this type of biological asset, one can cite, milk, carcass, cuts of meat, wool.

According to CPC 29, when it can be measured reliably, the biological asset should be measured at fair value minus the selling expense at the time of initial recognition and at the end of each accrual period. Fair value "is the importance for which an item could be exchanged or agreed between willing and knowledgeable participants in an arm-length transaction" (Iudícibus & Martins, 2007).

Usually in rural activity, the fair value that is realized through the market value and is taken into account at the time of sale of their products and not always, the rural owner, knows with certainty, the costs incurred in this production, much less, the expenses arising from this sale. Chaves, Paula, Quaresma, Schimith & Gomes (2019) mentions that the farmer does not make any kind of record of the tasks of his production, keeping the information, which is of paramount importance, only in memory.

With regard to market value, its valuation is also very subjective. Often the value that is being practiced at the time of sale prevails. Such oscillation can compromise the profitability of the enterprise.

It is important for the family farmer to know the revenue, expense and costs of his enterprise, so that the uncertainties of this type of information can be reduced, which will only be possible through the effective records of administrative events, arising from rural management through accounting technique.

## 3 METHODOLOGY

In order to analyze the scientific production on accounting and management applied in family farming and to raise the main factors that hinder the decision-making process, the study proposes a systematic review of the literature. The research of the systematic review type is one that uses as a source of data the literature on a given topic and is characterized by the use of methodology with scientific rigor and greater transparency, in order to minimize the bias of the researcher (Denyer & Tranfield, 2009).

The literature reviews aim to concentrate results of several studies in a single work, delimiting the frontier of knowledge, and are important given the amount of information produced in several areas (Figueiredo Filho, Paranhos, Silva Júnior, Rocha & Alves, 2014).

As for the approach to the problem, the research is classified as qualitative and quantitative. As for the procedures, a documentary search was used by searching the Web of Science database. As a unit of analysis, national and international articles published in indexed scientific journals were adopted (abstracts, book chapters, annals of events, editorials, patents, etc.) were excluded. Such bibliometric procedures of collection and literary review have already been considered in previous researches such as Engel (2016) and Horz, Frare and Gomes (2019) who sought to raise the literature on the subject, focusing on management and agribusiness, respectively.

To proceed with the initial stage of the literature review, the initial stage consists of the selection of articles, in order to ensure that all relevant data are extracted, minimize the risk of errors in transcription, ensure accuracy in checking information and serve as a record (Souza, Silva & Carvalho, 2010).

Chart 1 describes the initial procedures for selecting the articles that make up the sample used in this study. All the criteria for selecting articles provided for alignment with the objective of the research, seeking specific articles that related three themes: cost management and control, rural accounting and family farming.

Table 1: Stages of the Selection of the Bibliographic Portfolio on management and accounting in family farming.

| **Phase 1** | **Phase 2** | **Phase 3** | **Phase 4** | **Phase 5** | **Phase 6** | **Phase 7** |
|---|---|---|---|---|---|---|
| Identification of databases | Definition of keywords | Search for articles in the bases | Filtering for title alignment | Filtering by summary | Filtering by full-text alignment | Analysis and interpretation of results |
| *Web of Science* | *Accountancy; management; rural accounting; cost; family farm;rural firms;agrobusiness; small farms; family agriculture* | 518 selected articles | 438 articles selected by the conformity criterion | 168 articles selected by compliance criteria | 52 articles selected by compliance criteria | 52 articles composing the final sample |

Source: Own elaboration.

For data collection, searches were performed in the Web of Science database, using the following descriptor: TS=((ACCOUNTANCY OR MANAGEMENT OR FINANCIAL ADMINISTRATION OR FINANCIAL CONTROL OR CONTROL OR RURAL ACCOUNTING OR COST) AND (FAMILY FARM OR RURAL FIRMS OR AGROBUSINESS OR AGRO OR SMALL FARMS OR FAMILY AGRICULTURE))

With the choice of descriptors, we delimited the search strategies in the database that have as object of study family farming, or similar terms, prioritizing financial, accounting (rural or cost) or control aspects related to family producers. For the phase of analysis and interpretation of the results, we sought to select studies that met the following criteria: 1) dealing with predominant samples of family farmers; 2) the object of study is focused on topics related to accounting and/or financial management.

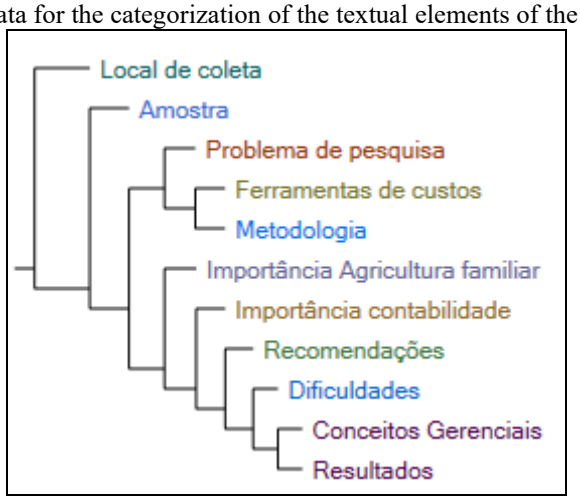
The searches were performed without time cut, considering the entire period available in the database and resulted in 518 articles that were analyzed title and abstract (abstract). After a new round of reading, 438 articles that did not meet the proposed criteria were eliminated. The selected articles were then downloaded (Phase 6 of Chart 1) for the alignment of the full text. After a new reading phase, 22 articles were again excluded, 16 of which did not deal with topics related to management or accounting and family farming, 4 bibliometric studies or meta-analysis and 2 teaching cases. The final sample consisted of 52 articles from 22 journals, in the period between 2006 and 2020.

In the data analysis (7th stage), we chose to select the main findings using the following programs: (1) Microsoft Excel for the preparation of spreadsheets and data tabulation; (2) NVIVO-12 Pro for the content analysis of articles and categorization of the main themes. During the exploration phase of the articles, it was decided to create a word cloud (feature of Nvivo 12 Pro) for each document analyzed, in order to detect the subjects most addressed by each one and to obtain the first insights on the subject.

According to Bazeley (2013), the coding phase of the material is used to represent and access

the contents of the data, facilitating the comparison with similar data. In the software used to perform the content analysis, the codes created were described as shown in Figure 1.

Figure 1: Initial data for the categorization of the textual elements of the analyzed articles



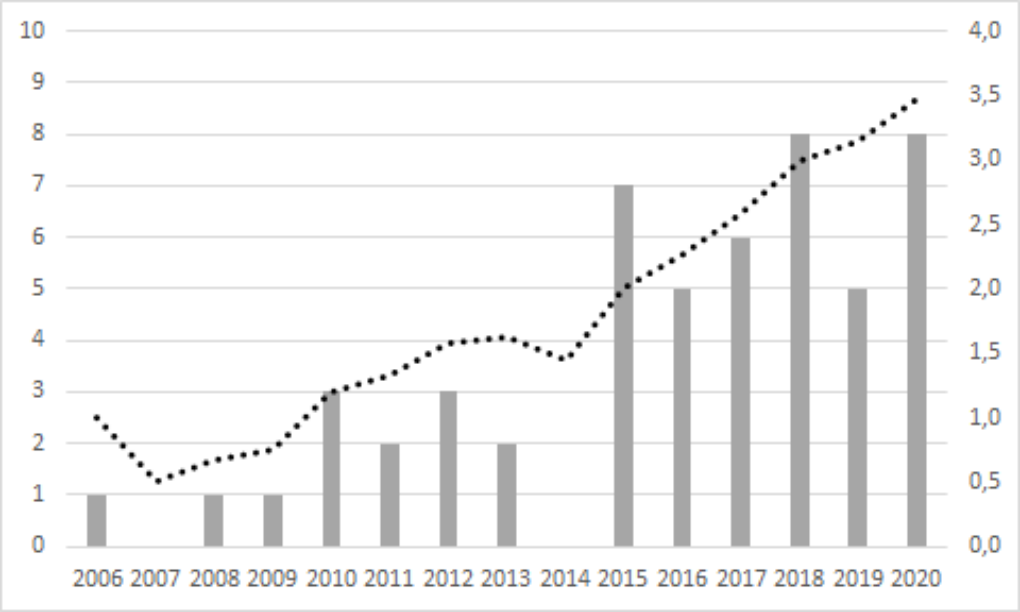

Source: Research data processed in Nvivo 12 Pro.

# 4 RESULTS

## 4.1 DESCRIPTIVE ANALYSIS OF THE ANALYZED ARTICLES

As described in the methodological step, the final sample consisted of 52 articles selected from the *Web of Science database*. The period analyzed by the selected publications comprised the years 2006 to 2020, representing 15 years of scientific dissemination. The distribution over the period is shown in Figure 2. Only in the years 2007 and 2014 did not present published articles. It is found that the years 2018 and 2020 were the years with the highest volume of publications related to the selected theme, with eight articles each year. There is an increase in the amount of research published from the year 2015, increasing the average number of publications in the period to 4 articles per year in 2020.

Figure 2. Distribution of Articles by Year (left) and moving average of publications (right)

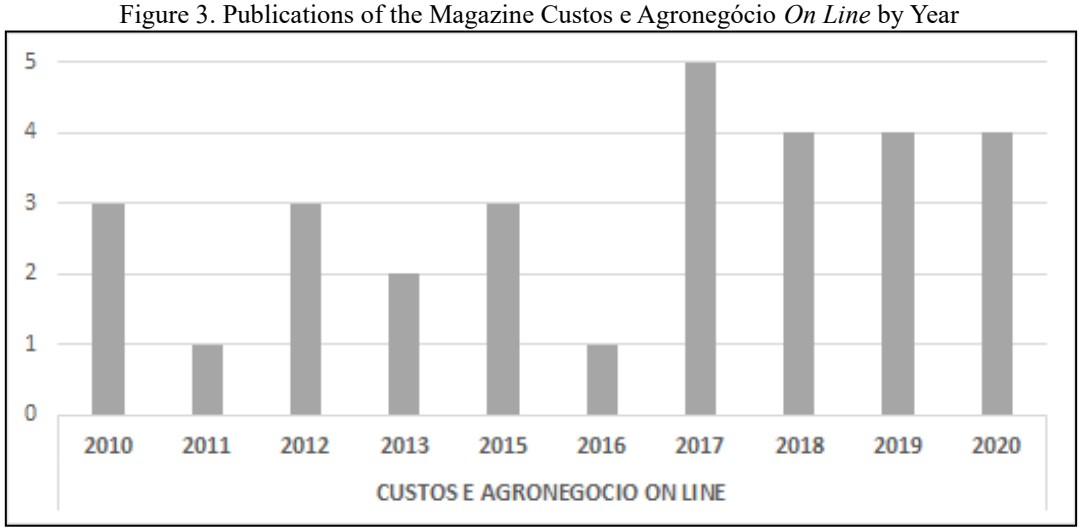



Source: Survey data (2021)

Regarding the dissemination vehicles, 22 journals were identified, 17 of them international. The Journal Custos e Agronegócio *On Line*, published by the Federal Rural University of Pernambuco (UFRPE) published 30 articles related to the theme of Family Agriculture, representing 58% of the sample. On the other hand, 20 journals published only once in the period, identifying a little adherence of the journals to publish on the specific theme.

Figure 3 below shows the distribution of articles collected in the Custos e Agronegócio Journal by year of publication. It is noted that the publications in the journal began in 2010, maintaining a certain regularity in the disclosures of works, and in the years 2010, 2012 and 2013 the articles published represented the total of articles selected in the sample extracted in the *Web of Science database*.

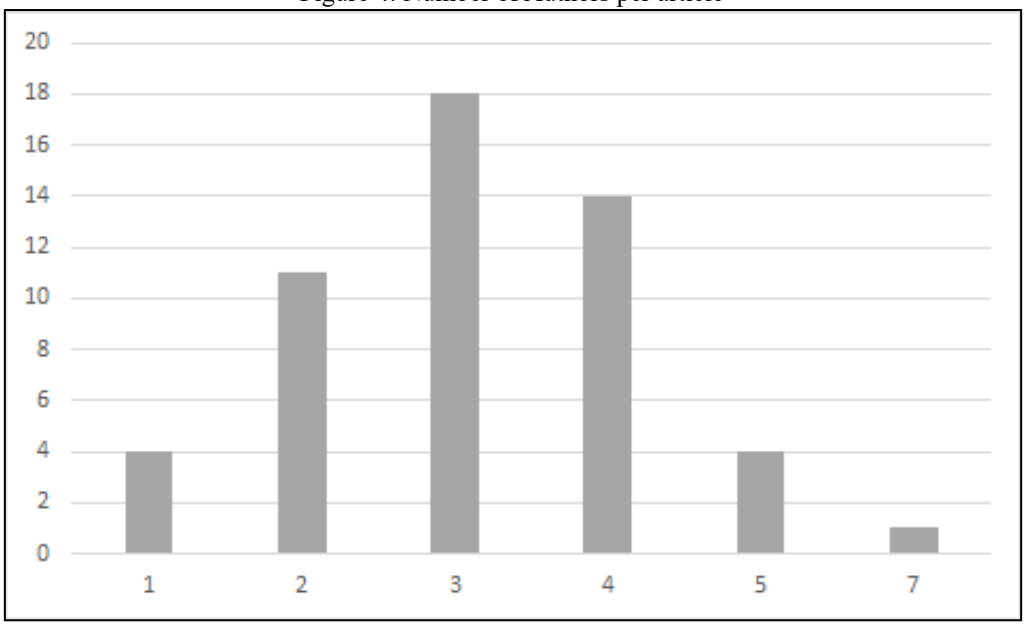
Figure 3. Publications of the Magazine Custos e Agronegócio *On Line* by Year




Source: Survey data (2021)

As for the authors, 154 researchers were identified, and 148 (96%) of them published only once, also representing low continuity of the research line. Figure 4 below shows the number of authors per selected article. Note the preference for studies in partnership with other researchers and/or students. Only 4 articles (7.69% of the sample) were performed by only one author.

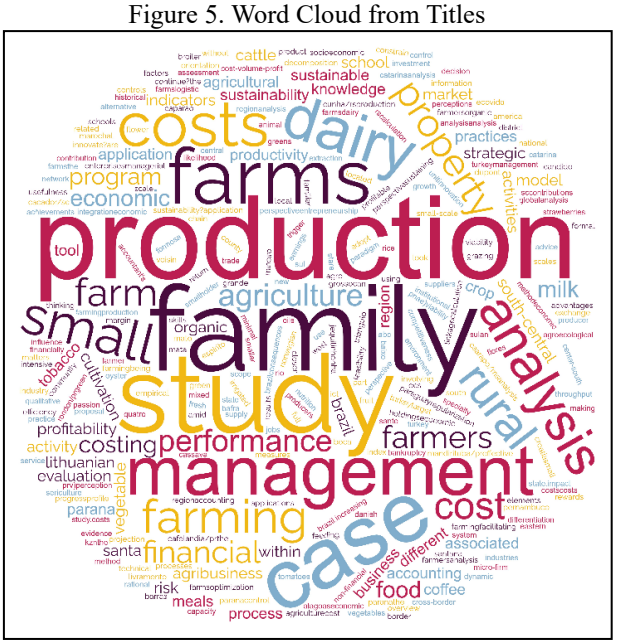
Figure 4. Number of Authors per article




Source: Survey data (2021)

In order to identify the main themes addressed by the researches, a survey of the frequency of words in the titles was conducted. As expected, the mentions of Family Farming and agricultural production in the article titles were more representative.

Figure 5. Word Cloud from Titles




Source: Survey data (2021)

The words Costs and Management were also highlighted, identifying the relevance of the theme for the management and analysis of the economic and financial viability of small rural properties in the family farming model, which was also corroborated in the final reading of the articles. Dairy cattle farming stood out among the main activities developed in the articles.

## 4.2 CRITICAL ANALYSIS OF THE ANALYZED ARTICLES

Considering the region of study of the analyzed articles, the composition of the sample reveals that in addition to Brazil, 19 other countries make up the selection, comprising studies conducted in Norway, Lithuania, Pakistan, Benin, Denmark, Switzerland, Israel, Nigeria, Ireland, Ecuador, Poland, United Kingdom, Egypt, Turkey, United States, Paraguay, Guatemala, Honduras and Nicaragua.

With regard to the studies carried out with Brazil as the object of study, there is a prevalence of research conducted in the southern region of Brazil (36.2%), with 9 articles for the state of Santa Catarina, 6 for Paraná and 4 for Rio Grande do Sul. The second region with the highest representation of studies is the southeast, with the state of Minas Gerais (3 studies), Rio de Janeiro (1) and Espírito Santo (1). The northeast region is still represented by the states of Bahia (2), Alagoas (1) and Maranhão (1). The northern region of the country was only represented by a survey conducted in the state of Rondônia, which shows a large concentration of research in a single region of the country.

Regarding the form of data collection, the analyzed articles are predominantly *survey* (24 articles in the sample), using open and closed questionnaires to collect opinions, level of understanding or financial characteristics of family farmers. The second most used methodology are single case studies (15 articles) and multiple case studies (6 articles), which allow a more detailed level of information about producers. The methodological approach of action research is used by 3 studies and the survey made by governmental and/or documentary databases is 4 articles in the sample.

In the surveys that use the *survey approach* for data collection, the average number of respondents to the questionnaires applied was 81 respondents, with a maximum of 235 producers and a minimum of 6. Among the family farmers studied in the articles, the most researched activity was livestock, with a focus on the production of milk and dairy products.

Through the content analysis performed, it was also noticed that the themes addressed in the research problems and proposed objectives consisted predominantly of: 1) Analyze the level of understanding of producers about accounting, control and management aspects; 2) Identify and distribute production costs through a costing method; 3) Analysis of the financial viability of the rural enterprise with calculation of accounting profitability indices; 4) Analyze management practices and controls; and 5) Other financial aspects related to risk factors and productivity.

In order to raise in the national and international literature the main factors and/or characteristics that hinder the decision-making process in the management of small rural properties or

family farmers, this article synthesized, using the qualitative analysis software Nvivo 12 Pro, the main difficulties reported in the researched articles.

It is then observed that according to the coding stage of the material analyzed, six types of difficulties in the management process identified with regard to family farming are listed in Chart 2: 1) Difficulties in the process of family succession; 2) Productive seasonality and subjection to climatic factors; 3) Lack of economic and financial training; 4) Deficiency of control and accounting records; 5) Lack of knowledge of the result of the period by activity; 6) Non-compliance with tax legislation and difficulty in generating information on an ongoing basis.

Table 2 – Difficulties related to the management process in family farming.

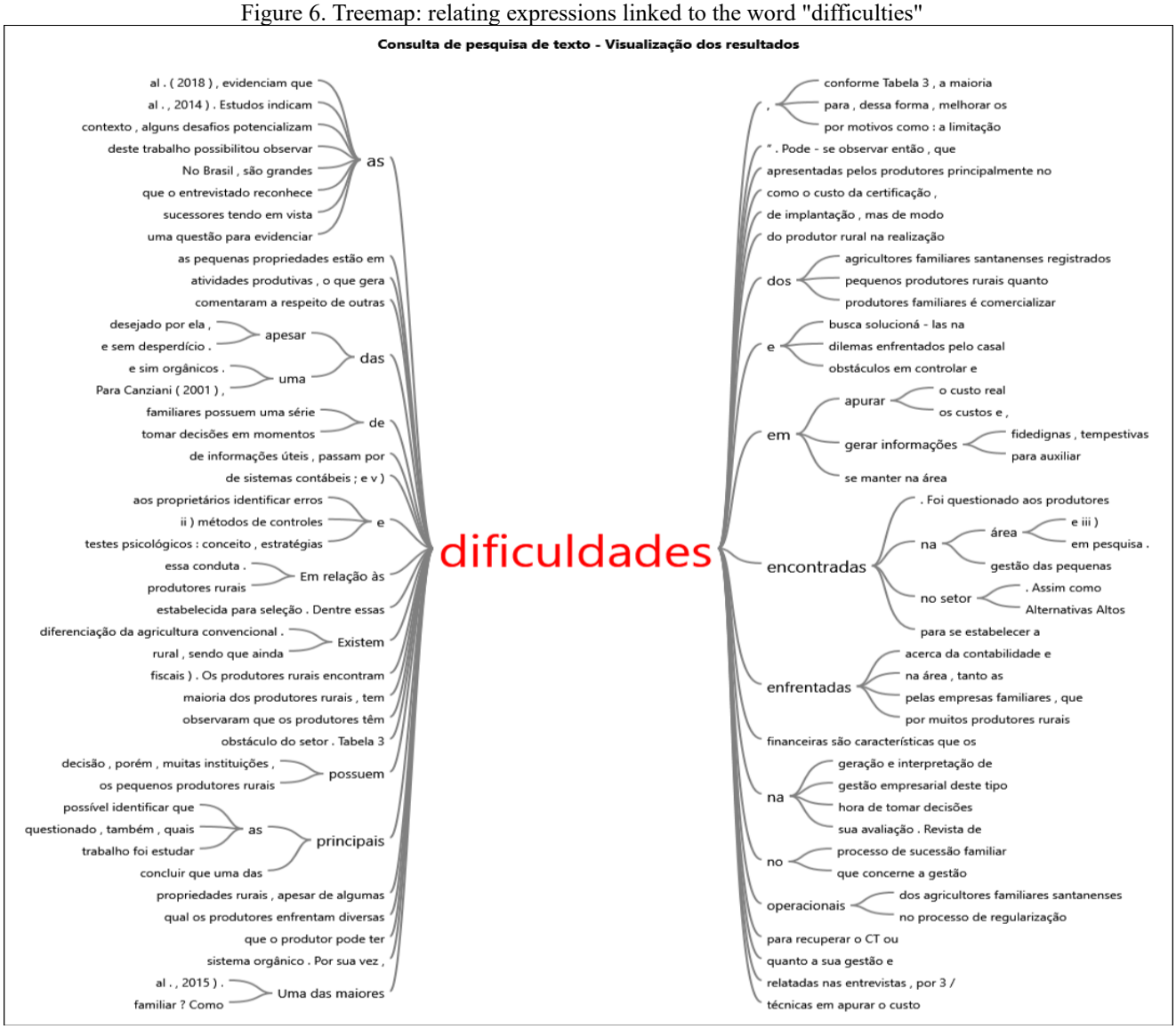
| **Difficulties listed** | **Possible consequences for the management of family farming** | **Authors** |
|---|---|---|
| Difficulties in the process of family succession | Compromise the continuity of rural businesses, especially in food production | Kruger *et al.* (2018) |
| Productive seasonality and subjection to climatic factors | Natural dependence of rural activity on climatic events and abrupt price variations, aspects considered little controllable by the farmer. This dependence interferes with farmers' financial planning and programming. | Oliveira *et al.* (2018) |
| | The climatic and productive threats (pests and infestations), the abrupt variations in the prices of the products interfere in the financial result of the period. | Balzan & DallÁgnil (2017) |
| | External events mean that in the rural sector there is no common management model for all Brazilian regional realities, due to the climate, price variation, soils and different cultures. | Oliveira *et al.* (2020) |
| Lack of economic and financial training | The author uses the term "economic illiteracy" and claims to refer to the accounting problem identified in the current management control systems used by Danish farmers that prevent the construction of a functional economic reality. | Jakobsen (2017) |
| | Management does not take into account the costs of the production process. The lack of knowledge found causes discouragement and dissatisfaction in relation to the results they obtained with their productions. | Medeiros *et al.* (2012) |
| | Small producers are unaware of the economic viability of their productions, which prevents financial resources from being applied in a way that provides the desired profitability. | Oliveira *et al* (2018) |
| | Small producers tend to be more concerned with the technical side of production and totally leave aside administrative issues (management), financial and accounting controls. | Oliveira *et al.* (2018) |
| Deficiency of control and accounting records | Decision makers determine logistics costs without using a methodology consistent with reality. | Silva, Leitão & Silva (2018) |
| | Decision-making is based not only on an informational system, but on a rationality that comes as a result of social satisfaction or even the subsistence of the family. | Silva, Santos, Santos (2019) |
| | The low availability of technologies appropriate to the reality of family farming and the lack of technical assistance hinder the changes necessary for the growth of the sector. | Tito & Peres (2019) |
| | Limitation in the growth of activity. | Silva & Malachi (2020) |
| | The informal character predominates in the way management is carried out. Some farmers consulted used notebooks or spreadsheets to record technical or economic data. | Silva & Malachi (2020) |
| | Technical difficulties in determining the cost of the activity. Most do not use digital instruments, they store the information only in memory. | Silva & Malachi (2020) |

| | | |
|---|---|---|
| | Most rural producers do not use management reports to analyze the costs, results and investments of the activities. | Zanin *et al.* (2014) |
| | A consequence of the lack of control is the uncertainty as to the true results generated by each product, which makes decision-making more volatile, increasing the risks of the business. | Balzan & DallÁgnil (2017) |
| | Difficulty in the process of ascertaining the results of the different crops and the property as a whole, in addition to also hindering the perception of other cultivation opportunities. | Clemente *et al.* (2012) |
| Ignorance of the result of the period by activity | Lack of control of revenues, costs and expenses of activities. | Ribeiro *et al.* (2019) |
| | Difficulty in pointing out the results from each of the activities developed, causing a disorganization in the cash control of the property. Lack of separation between the family assets of the enterprise. | Saggin *et al.* (2018) |
| | Information is scarce, incomplete or non-existent, and the degree of uncertainty inherent in the activity is high. | Clemente, Souza & Taffarel (2011) |
| Non-compliance with tax legislation and difficulty in generating information on an ongoing basis | The managerial and financial difficulties are aggravated when one seeks to keep the records of the technical-productive itinerary and/or wishes to obey the organic legislation, since there is a legal obligation to perform such procedures. | Becker *et al.* (2020) |
| | In the Income Tax, the small and medium producer does not have the obligation of regular bookkeeping in accounting books, having the option of using only the cash book. Most farmers have difficulties in generating reliable, timely and useful information for the decision-making process. | Assis Neto & Junior Robles (2020) |

Source: Survey data (2021).

Figure 6 is the result of a feature of the Nvivo 12 Pro software that lists the main expressions found in the articles searched, related to the word "difficulty". It is observed that most of the difficulties and problems described can be related to the deficiency and/or absence of rural accounting controls.

Figure 6. Treemap: relating expressions linked to the word "difficulties"




Source: Research data processed in Nvivo 12 Pro.

Some of the intrinsic characteristics of producers that usually have more than two generations are: family succession in the rural business; the diversity of cultivated products and informality in the registration and decision-making about the business. In all these characteristics, it is perceived that the problems related to management tend to worsen when combined with the lack of managerial controls.

For example, diversification and products is a way to optimize the space available in small family properties, reduces the fixed cost per product, decreases idleness and increases the profitability of the business (Balzan & DallÁgnil, 2017). However, as producers do not adequately control their costs, the complexity brought by diversification makes the accounting monitoring process even more difficult.

The lack of training on management issues in the midst of family farming also contributes to perpetuate the difficulty reported by Jakobsen (2017) and Oliveira *et al*. (2018), making the decision about which culture to invest in, which project to prioritize or which suppliers to use, tends to be based

much more on experience and tradition than on economic calculation. This preference in choosing experience and tradition and without consulting data and accounting records may also be the result of low investment in technology, which for small producers, tend to be rare and residual (Clemente *et al*., 2012).

## 5 FINAL CONSIDERATIONS

Considering the importance of family farming for the Brazilian economy, this research sought, through a systematic literature review, to analyze the scientific production and synthesize the difficulties listed by national and international studies that proposed to investigate the management and costing process related to the accounting of these organizations. Other research has conducted similar reviews, without necessarily focusing on the context of family farming.

The analysis of the analyzed theme reveals a theoretical gap with regard to the number of journals and publications that address the theme, which goes against the participation and importance of the sector in the Brazilian Gross Domestic Product. The theme of management and analysis of economic and financial viability of small rural properties in the family farming model, emerges as the most used concepts in the researched articles. Dairy cattle ranching stood out among the main activities analyzed in the articles.

With regard to the critical analysis of the analyzed articles, six categories of difficulties reported in the articles in relation to decision making and the way farmers manage their businesses were listed: 1) Difficulties in the family succession process; 2) Productive seasonality and subjection to climatic factors; 3) Lack of economic and financial training; 4) Deficiency of control and accounting records; 5) Lack of knowledge of the result of the period by activity; 6) Non-compliance with tax legislation and difficulty in generating information on an ongoing basis.

Family farming, because it has less access to financial and technological resources to manage and maximize its results, tends to suffer great impact and variation in income, increasing the exposure of farmers to external factors (climatic, regional and price fluctuations). Despite the social programs that are dedicated to providing subsidies and support to small producers, there is still a lack of public policies that seek to train and offer financial support. This support is seen as crucial to promote the development of national agriculture more broadly, and it is necessary to stimulate the professionalization and entrepreneurship of the farmer, especially the family (Embrapa, 2018).

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