

Original article

## Management of cooperative companies. Study of this topic in open access journals

### Gestión de empresas cooperativas. Estudio de esta temática en revistas de acceso abierto

### Gestão de empresas cooperativas. Estudo desse assunto em revistas de acesso aberto

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## ABSTRACT

Cooperativism, since its emergence, has promulgated a way of bringing together producers of various objects or social orders in a type of company that supports the community and the common good of the society it serves. This phenomenon constitutes an emerging research issue in interdisciplinary topics in science. This research is based on the application of theoretical methods and documentary analysis to locate theoretical references on the management of cooperative companies as a theme in the socialization of scientific knowledge. A domain analysis of the topic management of cooperative businesses was carried out to visualize the main journals and authors that address scientific results related to the topic. The Open Access Observatory developed by the University of Pinar del Río was used as a source of information, which compiles academic information from the Directory of Open



Access Journals and facilitates the representation of the information from different parameters. Bibliometric indicators were applied to visualize the most distinctive institutions, authors and countries, it is evident that the topic is poorly socialized in the scientific community, with instability in scientific production existing in the period analyzed (2003-2022). The present research revealed the need to extend the study to other sources of information, with emphasis on the English language. In addition, it allowed to analyze the behavior of publications on the subject, available in open access, specifically those that are framed in the application of topics related to Economic Sciences.

**Keywords:** domain analysis; economic sciences; cooperative business management; open access journals; metric indicators.

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## RESUMEN

El cooperativismo, desde su surgimiento, ha promulgado un modo de aglutinar a productores de diversos objetos o encargos sociales en un tipo de empresa que respalde la colectividad y el bien común de la sociedad a la que se sirve. Este fenómeno constituye un tema de investigación emergente en temáticas interdisciplinarias de la ciencia. La presente investigación parte de la aplicación de métodos teóricos y el análisis documental para localizar referentes teóricos sobre la gestión de empresas cooperativas como temática en la socialización del conocimiento científico. Se realizó un análisis de dominio de la temática gestión de empresas cooperativas para visualizar las principales revistas y autores que abordan resultados científicos relacionados con la temática. Se utilizó como fuente de información el Observatorio de Acceso Abierto desarrollado por la Universidad de Pinar del Río, el cual compila información académica proveniente del Directorio de Revistas de Acceso Abierto y facilita la representación de la información desde diferentes parámetros. Se aplicaron indicadores bibliométricos para visualizar las instituciones, autores y países más distintivos, se evidencia que la temática es poco socializada en la comunidad científica, existiendo en el período analizado (2003-2022) inestabilidad en la producción científica. La presente investigación arrojó la necesidad de extender el estudio hacia otras fuentes de información, con énfasis en el idioma inglés. Además, permitió analizar el comportamiento de las publicaciones sobre la materia, disponibles en acceso abierto, específicamente aquellas que se enmarcan en la aplicación de temas relacionados con las Ciencias Económicas.

**Palabras clave:** análisis de dominio; ciencias económicas; gestión de empresas cooperativas; revistas de acceso abierto; indicadores métricos.

## RESUMO

O cooperativismo, desde seu surgimento, tem promulgado uma forma de reunir produtores de vários objetos ou tarefas sociais em um tipo de empresa que apoia a coletividade e o bem comum da sociedade a que serve. Esse fenômeno é um tópico de pesquisa emergente em áreas interdisciplinares da ciência. Esta pesquisa baseia-se na aplicação de métodos teóricos e análise documental para localizar referências teóricas sobre a gestão de empresas cooperativas como um tema na socialização do conhecimento científico. Foi realizada uma análise de domínio do tema gestão de empresas cooperativas para visualizar os principais periódicos e autores que tratam de resultados científicos relacionados ao tema. O Observatório de Acesso Aberto desenvolvido pela Universidade de Pinar del Río, que compila informações acadêmicas do Diretório de Periódicos de Acesso Aberto e facilita a representação de informações de diferentes parâmetros, foi usado como fonte de informações. Foram aplicados indicadores bibliométricos para visualizar as instituições, os autores e os países mais distintos. É evidente que o assunto é pouco socializado na comunidade científica, com instabilidade na produção científica durante o período analisado (2003-2022). Essa pesquisa revelou a necessidade de estender o estudo a outras fontes de informação, com ênfase na língua inglesa. Além disso, permitiu analisar o comportamento das publicações sobre o tema, disponíveis em acesso aberto, especificamente aquelas que se enquadram na aplicação de tópicos relacionados às Ciências Econômicas.

**Palavras-chave:** análise de domínio; ciências econômicas; gestão de negócios cooperativos; revistas de acesso aberto; indicadores métricos.

## INTRODUCTION

In Cuba, cooperativism has played a significant place in a considerable part of agriculture, which requires a deeper approach to the cooperative model, as it is, first of all, a decisive sphere for the economic and social development of the nation and, secondly, a process articulated to the formation of the new economic paradigm in Cuba. From the results with which companies linked to the

cooperative sector operate, depend the solution, at least a part, of the problems present in the economy.

The Cuban socialist economic model is currently going through a process of improvement where it is not only necessary to resize agricultural cooperatives, but also to strengthen this movement in other sectors of the economy, with the aim of achieving socioeconomic development capable of to raise the levels of economic, productive and social efficiency and effectiveness that contribute to raising the level and quality of life of the population. Cooperativism, in other spheres of the Cuban economy, has the purpose of diversifying production actors and consolidating new forms of management based on the sustainable development of the Nation. Cooperatives, as part of this economic framework, present particularities and are governed by principles and values in correspondence with their socioeconomic essence; however, there are still gaps and problems that affect the impacts expected from them.

The approach to cooperative management is immersed in the debate on its essence as an economic company, with a specific social purpose, with decisive particularities that differentiate it from private and public companies; however, the debate on its specificities has not yet been over. The brief description of the nature, purposes and basic functions of cooperatives shows their social and economic importance, so it is pertinent to investigate the research that has been developed around them to date. The need for the study is revealed with the statement by Cañas Guerrero et al. (2013), who estimate that the best way to analyze a topic is through their scientific publications and, from a methodological point of view, Barbosa Pérez et al. (2020) recommend using bibliometric analysis as a valid procedure to identify trends, authors, journals, and countries where new knowledge originates regarding a specific topic.

The aim is to investigate the topic: "management of cooperative companies" and the socialization of its results from scientific journals. With this perspective, the objective of this article is to analyze the spatiotemporal evolution of scientific production on the topic management of cooperative companies in Spanish, through the analysis of networks of authors, with the purpose of locating the main countries, journals and institutions representative of this scientific domain.

## MATERIALS AND METHODS

To obtain results, methods are applied at the theoretical and empirical levels. At the theoretical level, historical-logical, inductive-deductive and systemic-structural methods were used. At the empirical level, classic documentary analysis was used based on the consultation of specialized sources and databases on the subjects addressed. The technique used that provides the collection of information is the review of documents, this facilitated the location of theoretical references on the topic in question based on an exhaustive documentary analysis. The databases and sources consulted to recover conceptual theoretical references were SciELO, DOAJ, EBSCO, Scopus and specialized journals in the field of areas of knowledge that are responsible for analyzing topics related to the management of cooperative companies.

In the Domain Analysis, the Open Access Observatory developed by the Progingtec group of the University of Pinar del Río (UPR) (<https://sciobs.upr.edu.cu>) was used as a primary information source, which compiles academic information from the Directory of Open Access Journals (DOAJ) and allows a harmonious display of the information. This tool, designed using free software, allows to recognize metric indicators validated by various research (Díaz Pérez et al., 2018; Giráldez Reyes & Díaz Pérez, 2020).

The research orients its analysis to the topic: management of cooperative companies. The search strategy was conditioned by the words: management-company-cooperative in the Spanish language. The recovered records were refined according to the established time period and the closeness of the three terms in the document content. The search is restricted to only articles from scientific journals. The established time period was 20 years between: 2003-2022. A total of 296 records were recovered, of which the sample is restricted to 105 articles from scientific journals in Spanish.

The following metric indicators were used:

- Productivity by: year, authors, affiliation, journals, subjects
- Co-occurrence analysis: authors by subject or authors by journals

## RESULTS AND DISCUSSION

### Theoretical references of research

The International Cooperative Alliance (ICA, 1995) universally defined cooperatives in Manchester in 1995, as: an autonomous association of people, who have united voluntarily to address their common economic, social and cultural needs and aspirations, through a jointly owned, democratically controlled company. At the event itself, and not coincidentally, the ICA added commitment to the community as one of the guiding principles of cooperatives.

This conceptual recognition makes it clear that it is not a society of capital, but rather an "autonomous association of people", who do not come together to make money, but to address their common economic, social and cultural needs and aspirations, and that the instrument they use to do this and to act in the market is "a jointly owned and democratically controlled company" (Schujman, 2020).

Cooperatives are a different and alternative type of association due to their principles, their values (Bastidas Delgado, 2021), their social function, and their roots in the community. And for this reason, cooperative legislation develops a legal type that structurally identifies and differentiates them. Of course, the interpretation of the nature of cooperatives must be flexible and broad, with the aim of adapting it to contemporary reality. Cooperatives must be based on values of self-help, equity and solidarity, without these traits an organization cannot be considered cooperative, in the same way that a company that proposes as a purpose, as a supreme objective, obtaining high profits cannot be considered either. a cooperative.

An element of singular importance in the analysis of the nature of cooperatives is their duality as an economic company with a high social purpose. Most scholars of cooperativism arrive at the conclusion that only cooperatives address the two aforementioned aspects in a very *sui generis* manner.

To define cooperative management, it is essential to consider, according to the features that make up a cooperative, that is, the Cooperative Identity. In cooperatives, each dimension has its own attributes and dynamics. Cooperative Management can be called the synergy of its integral management processes through which its members govern and administer it democratically and appropriately through continuous delegation of powers to appropriate internal and executive units, even in allied organizations through processes of intercooperation, integration and co-responsibility in pursuit of their objectives in accordance with their ethics and strategic guidelines, considering the

Cooperative Act as the axis of their internal relations with the communities, other organizations of the Social Economy and capital companies. or public (Bastidas Delgado, 2021).

The author himself maintains that the double dimension facilitates management, as those who manage are responsible for applying the administrative process concomitantly with the administrative functions. That aims at the objectives and is made up of six subprocesses: planning, direction, coordination, execution and control, while the administrative functions are: product and marketing, technology, production, personnel, finance and administrative-accounting, in addition to other complementary functions such as information and security: the synergy of this process, the functions and the organizational structure adopted with their respective guidelines make up the Management System.

The cooperative, like any other company, must be efficient, competitive on the economic level and also efficient on the social level. Only in this way will the true nature of cooperativism be rescued and business excellence will be combined with the cooperative philosophy as a real alternative to development.

Cooperatives are one of the most important forms of organization of the production of goods and services with a high potential for social inclusion; their capacity to generate income and employment essentially favors the most vulnerable sectors (not only their members).

In this way, the author points out, the cooperative management model is based on the Cooperative Values and Principles, since these represent the fundamental postulates that allow the cooperative identity of the company to be built. It incorporates aspects related to permanent communication, self-management, active participation and the comprehensive development of the people who comprise it on the basis of a Shared Project, defined by its Mission, Vision and organizational values and by its strategic and tactical planning. and operational. Likewise, it promotes the application of business management approaches related to customer orientation, process management, innovation, the development of alliances and involvement with the environment, seeking to obtain socio-business results aimed at the satisfaction of all groups of interest related to the cooperative.

It considers the person as the fundamental axis of organizational functioning, which represents a resounding change, with respect to the model based on the old paradigm, transferring power to the collective, and incorporating people in the management of companies. The model seeks to maximize the integration of the worker in the business and social project, providing the person with meaning,

decision and action, extending their scope of participation to work, management, capital and surplus, according to most authors.

The originality of cooperatives is recognized in relation to other types of companies and it is emphasized that their principles and values require the application of criteria, strategies and techniques typical of the common ownership structure and democratic management, in addition, it follows that employed officials must be imbued with the values and principles of cooperatives to be able to find appropriate practical solutions.

This vision is valued by multiple authors, however the topic of cooperative management presupposes the double condition, detailed by Alfonso Alemán (2011) when stating that the cooperative is a voluntary association of people who come together to create a company of collective ownership and democratic administration, which has its own legal personality to satisfy its economic and social needs, contributing to local development and society as a whole, which determines a peculiar form of management.

For Labrador Machín (2020), cooperative management must balance the needs of its members, their capabilities and resources and make it possible to satisfy the needs of third parties as a way to strengthen its results, including economic ones. These results, which serve as the basis for its evolution, reinvestment, efficiency and effectiveness, constitute a premise that does not violate the cooperative principle, but rather is based on it, for the sake of an external orientation that is supportive, democratic and necessary condition for cooperative social responsibility.

In summary, for the aforementioned authors, the definition itself conditions the particularities of cooperative management, especially its duality as an economic enterprise with a marked social purpose.

Therefore, this problem from different angles requires a deeper search on the topic in pursuit of an updated and coherent systematization of knowledge and learning about the peculiarities of cooperative management, which will contribute to advancing its practical application in a context where Knowledge management, science and innovation constitute an imperative for organizations and governments.



## **Main contributions of Domain Analysis and metric studies of scientific information**

The constructive and evolutionary process of scientific knowledge in modern society requires characterizing the scientific community that obtains it from the concrete or abstract domain of knowledge of the environment that surrounds it. This knowledge has a certain order and limits, although this fragmented vision of scientific thought, since the 20th century, has experienced a turn with the appearance of the phenomenon of interdisciplinarity of science, in the attempt of a better approach to the reality under investigation.

From Information Sciences, the analytical theory of Domain Analysis, proposed by Hjørland and Albrechtsen (1995), delves into the social practices of scientists as a unit of analysis, which allows examining scientific activity from a socio-cognitive perspective. Furthermore, it is an analytical tool that combines different methods and proposes various research approaches to evaluate science.

In this regard, the criteria of Damus and Acuña (2019) are shared, by conceptualizing Domain Analysis as a methodology that shows that scientific development can be tracked and analyzed through the study of traces revealed in academic and scientific publications, as well as the analysis of the behaviors of the scientific community.

The close relationship between domain-discipline is considered in which, like Hjørland himself (2004) outlines, while the discipline is defined by its object of study, the domain is defined by the ontological theories (at the very least, implicit), which explain what objects exist in the world. Therefore, a domain can be made up of different disciplines which have their own objects of study and can interact in a systemic way. Therefore, while the disciplines are closely connected to the specialty, (many times through a dependent relationship) the domains establish analytical spaces that manifest social phenomena during scientific activity.

The interdisciplinarity of science is the reflection of the complexity and universality of the reality itself on which action is taken, rather than a break in disciplinary specialization, a correct systemic interweaving of the specialties is required in order to solve the problems of everyday life (Morin, 1995; Motta, 2002; Rivero Amador et al. al., 2013).

Domain Analysis offers elements to obtain an enriched and more complete view of the community and its performance in scientific activity. In this sense, the study of these communities as domains of knowledge allows to identify the existence and generation of knowledge in social groups or

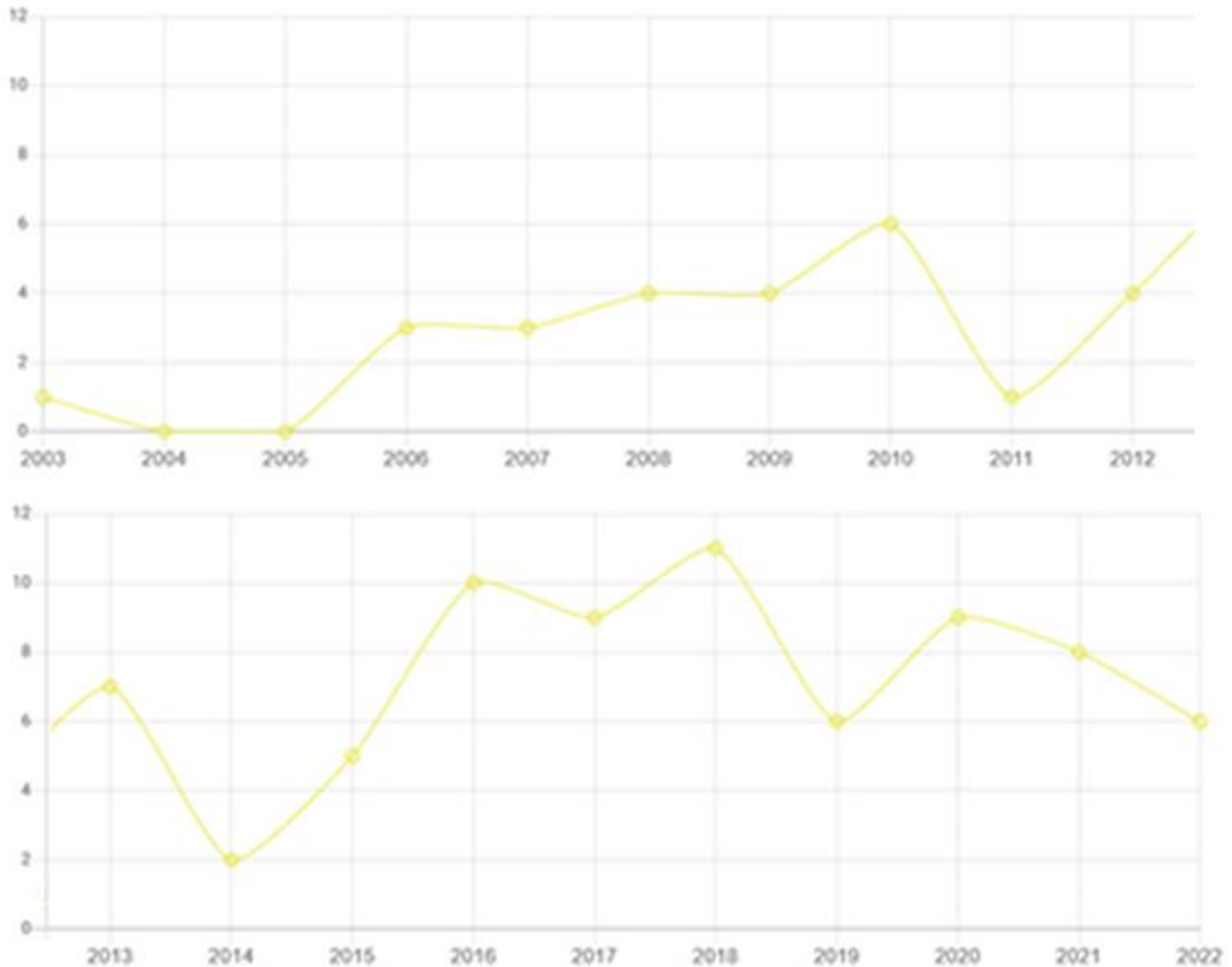
institutional environments. Metrics, as instrumental subdisciplines of Information Sciences, have contributed decisively to the development of new methodologies for the organization and representation of scientific knowledge.

Most knowledge domain analysis research takes into account the potential of metric studies as an approach, method, or tool for the characterization and exposure of connections between individual documents. These connections will represent the explicit recognition of dependence on a field of research, or on a certain epistemological position in the domain studied. In the set of informational disciplines, metric studies reveal an intellectual structure demonstrated in applied research in the last 30 years (Arencibia Jorge et al., 2020).

### **Results of the Domain Analysis of the management of cooperative companies topic**

The UPR Open Access Observatory offers its online services, aimed at searching, retrieving and linking to download full-text scientific articles, up to the pre-established visualization of certain metric indicators on various topics.

This research analyzed the scientific articles that address the management of cooperative companies that have been published in journals belonging to DOAJ between January 1, 2003 and December 31, 2022. This period of time is comprehensive and representative of a domain of scientific knowledge of the subject, the year that begins and ends the period of the selected 20 years is completely included. The domain under research covers articles that deal with the problem of cooperative management as a distinctive type of company, but in correspondence with management *approaches*. After the segmentation of quality criteria to study the recovered documents, they are distributed irregularly, so the productivity indicator is unstable (see Figure 1).

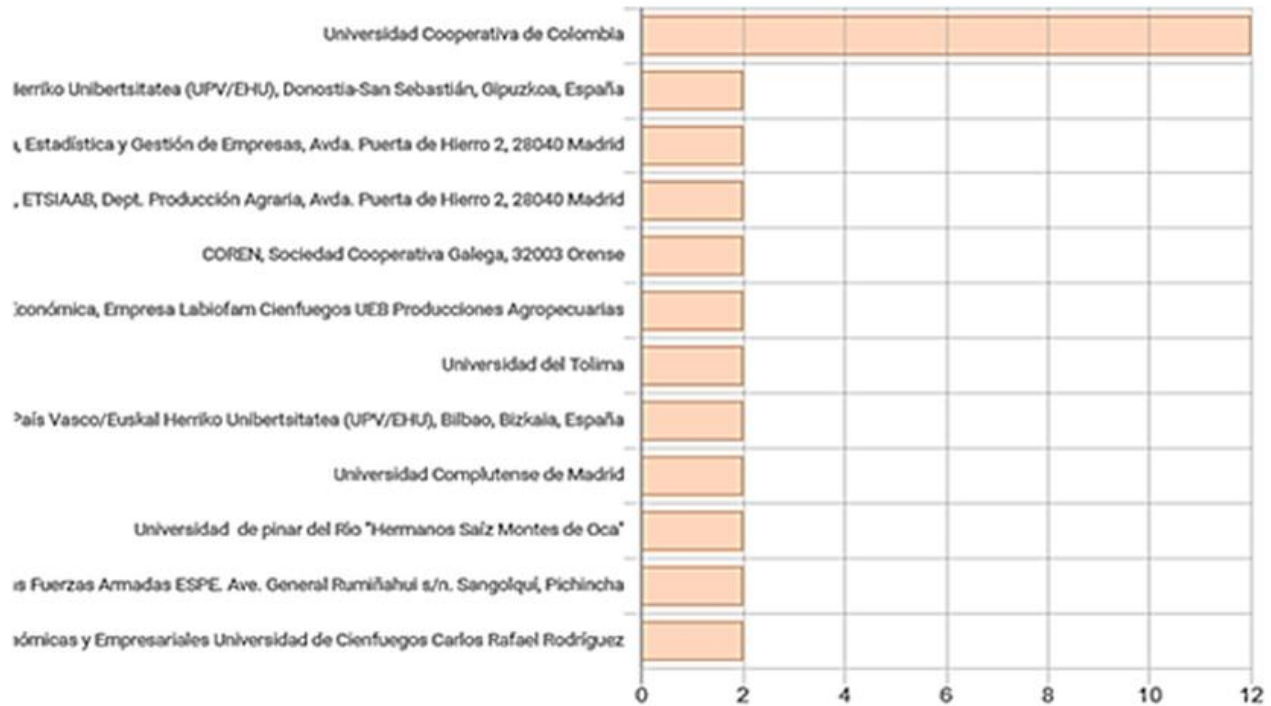


**Figure 1.** Evolution by year of publications on cooperative business management

Source: <https://sciobs.upr.edu.cu>

The most representative years in scientific production are 2005, 2018 and 2020, although there is a decrease in productivity since 2018. This situation can be compared with a similar study carried out by Giráldez Reyes and Díaz Pérez (2020) in which the Thematic: Cooperativism and Development has a rising behavior in a similar period. While in the case of the management of cooperative companies it is shown to be a problem less addressed by researchers on the subject, with a lower productivity index in scientific publication.

Production by affiliation of the authors has a favorable behavior for countries, such as: Colombia, Spain and Cuba. The Cooperative University of Colombia is the institution that has published the most on management problems in cooperative companies, in the period under investigation (see Figure 2).

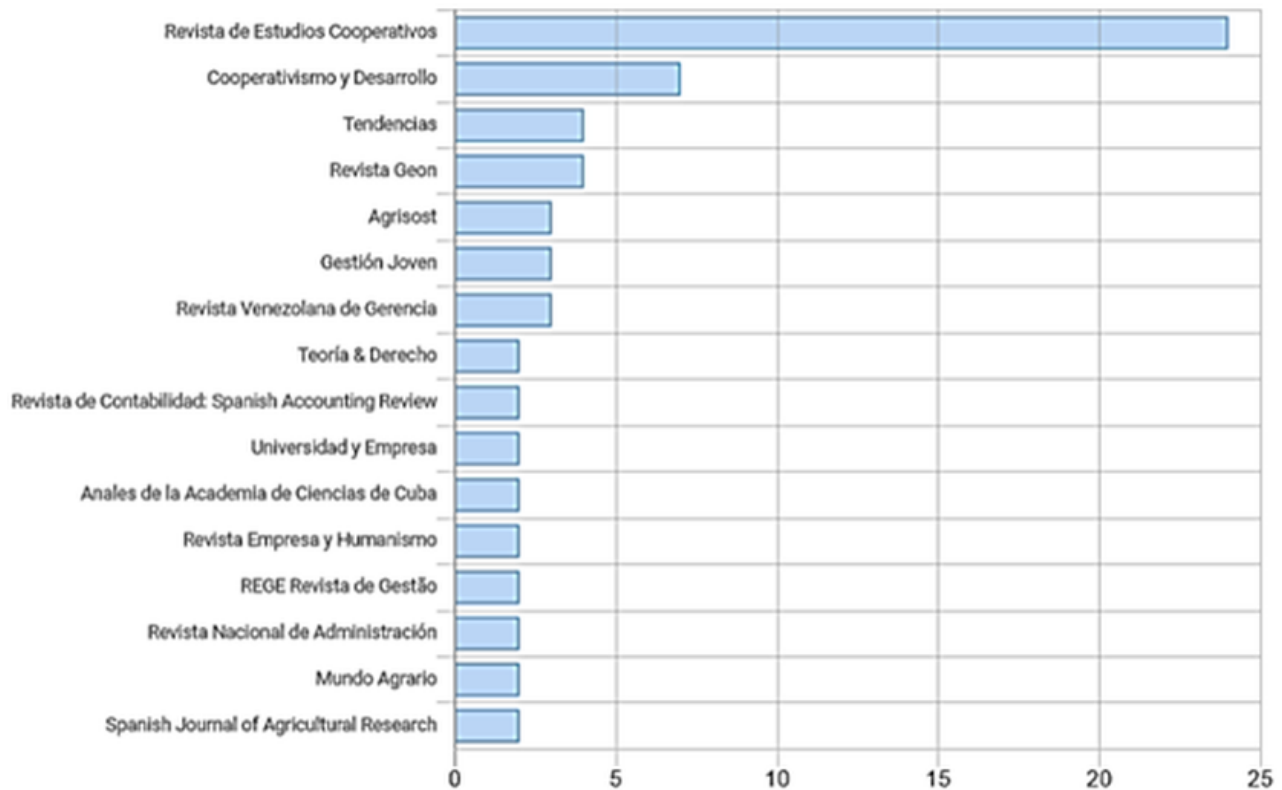


**Figure 2.** Author affiliation

Source: <https://sciobs.upr.edu.cu>

The rest of the institutions that are identified have at least two articles in the selected sample. There is representation from two Cuban institutions: the University of Pinar del Río and the University of Cienfuegos.

The main scientific journals in DOAJ that have published articles related to the management of cooperative companies were identified. The largest production of articles is found in the following: Revista de Estudios Cooperativos, Revista Cooperativismo y Desarrollo, Revista Tendencias, Revista Gestión, Organizaciones y Negocios (GEON) and Revista Agrisostl.



**Figure 3.** Production of journals on cooperative business management

Source: <https://sciobs.upr.edu.cu>

The greatest representation of scientific production is seen in journals related to Economic Sciences. Which means that the topic management of cooperative companies, although it is little treated by the scientific community of the domain being analyzed, is being socialized in sources of information that delve into the economic variables and the use of scientific methods in this area of science.

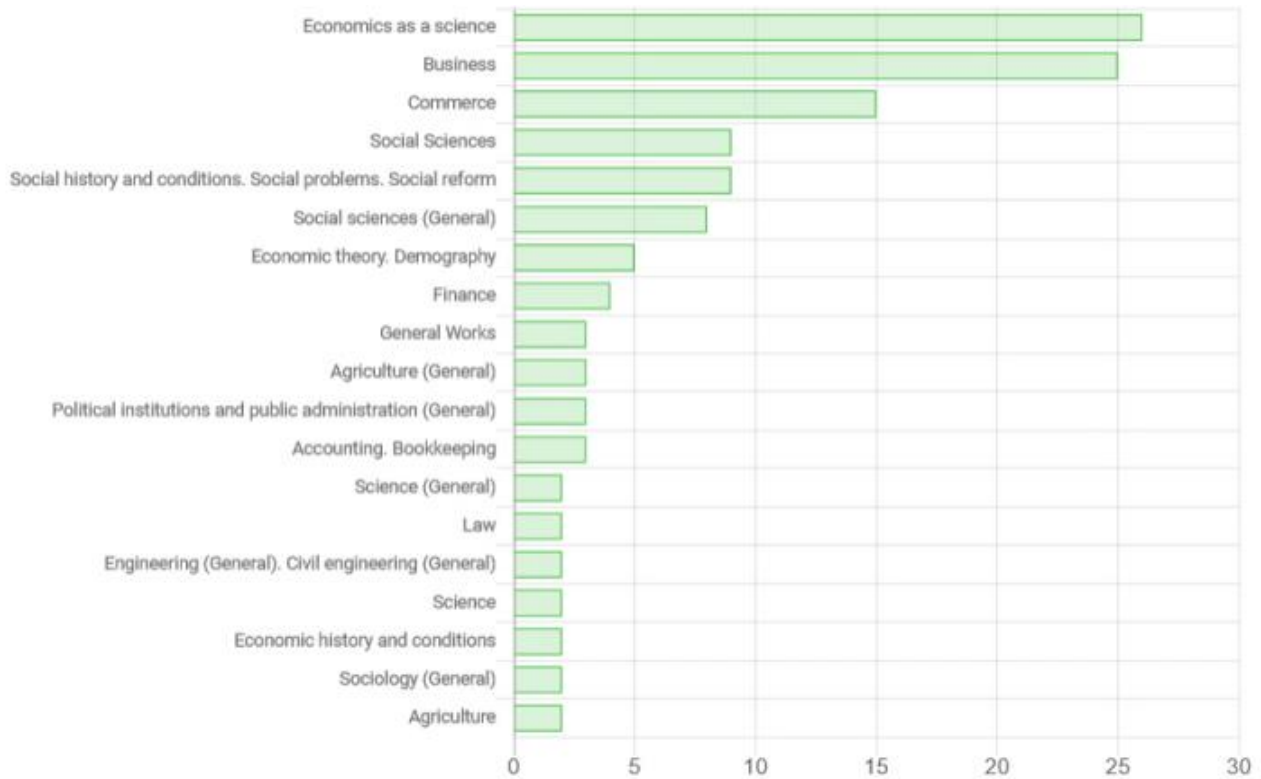
Table 1 shows specific information about the first 5 journals that are distinguished in productivity, within the time period analyzed. Figure 2 shows a graph of the indicator: production by journals.

**Table 1.** Main journals that publish articles related to the management of cooperative companies in the period 2003-2022 indexed in DOAJ

Name	Institution that publishes it	Indexing	Access link
Revista de Estudios Cooperativos	Complutense University, Spain	Scopus	<a href="https://revistas.ucm.es/index.php/REVE">https://revistas.ucm.es/index.php/REVE</a>
Cooperativismo y Desarrollo	University of Pinar del Río, Cuba	SciELO	<a href="https://coodles.upr.edu.cu">https://coodles.upr.edu.cu</a>
Tendencias	University of Nariño, Colombia	SciELO	<a href="https://revistas.udenar.edu.co/index.php/rtend">https://revistas.udenar.edu.co/index.php/rtend</a>
Revista GEON	University of Los Llanos, Spain	ERIHPLUS	<a href="https://revistageon.unillanos.edu.co">https://revistageon.unillanos.edu.co</a>
Revista Agrisost	University of Camagüey	ERIHPLUS	<a href="https://revistas.reduc.edu.cu/index.php/agrisost">https://revistas.reduc.edu.cu/index.php/agrisost</a>

Source: Own elaboration

To contrast the previous indicator, an indicator on the number of articles by subject is calculated. The Classification of the United States Library of Congress is used, it is the one used by the DOAJ platform and also allows a more flexible classification.



**Figure 4.** Production by subject related to the topic management of cooperative companies

Source: <https://sciobs.upr.edu.cu>

The three main subjects in which the recovered articles are classified are: *Economics as a Science*, *Business* and *Commerce*. Likewise, the topic management of cooperative companies has greater emphasis on the disciplines of Economic Sciences, according to the domain analyzed in this research (see Figure 4).

The indicator of author occurrence measures the number of times that the same author publishes in a journal. The journals with the highest occurrence of author publication are: Spanish Journal of Agricultural Research, the Revista de Contabilidad: Spanish Accounting Review and Revista Agrisost (see Figure 5).

Relaciones (min/max): 1/5 Ocurencias (min/max): 2/3 Nodos: 16 Vértices: 11



**Figure 5.** Production of journals on cooperative business management

Source: <https://sciobs.upr.edu.cu>

The first two have an occurrence of two articles per author and the last has 3 articles by the same author in the period under analysis. The journal Estudios Cooperativos only has one author, the rest of its publications from the period have a variety of institutions and authors (see Figure 5).

The most productive authors in relation to the topic being studied are concentrated in the journals mentioned above and they have at least two publications in these journals shown in figure 5. Revista Cooperativismo y Desarrollo does not appear in this figure, although it has a high production of articles on the topic compared to the others because its authors only have one publication in the period analyzed.

In general, this research allowed to photograph over time (2003-2022) the behavior of publications on the topic management of cooperative companies available in open access, specifically those that are framed in the application of topics related to Economic Sciences. Leading scientific journals were identified in the publication of articles related to the management of cooperative companies.



The domain analyzed shows that this topic is not sufficiently addressed in scientific journals. In a way, it is corroborated that it is still an emerging theme, which suffers from the socialization of methodological patterns related to the distinctive management of this business form.

The research distinguishes the relevance of this type of study that, like others related to the application of bibliometric techniques, manages to represent the characteristics of cooperative research as a relevant and objective topic that, although still presents limitations in the socialization of its results scientists, is a relevant issue for the international scientific community.

The potential offered by the UPR Open Access Observatory to monitor specific thematic axis of knowledge is also shown, being able to visualize the behavior of the dynamics of international scientific publications by specific domains and different indicators.

Likewise, the findings obtained through the study of the domain related to the topic of cooperative business management allow to glimpse the current state of this matter with respect to scientific production and its dispersion over time. The analysis of the results establishes a starting point for future research and contributes to the organization and structuring of scientific knowledge of the topic under study from the Economic Sciences.

Meanwhile, in the period analyzed, the publications identified in topics related to the management of cooperative companies are found in journals that address Economic Sciences as a general topic. While a smaller number of publications are found in journals specialized in the topic of cooperativism. The socialization of scientific results is insufficient in favor of specifying methods, tools and management models in cooperative companies.

It is recommended to continue promoting the publication of scientific results on the topic in digital sources, with emphasis on impact journals, with international reach, which can constitute a fundamental documentary base in the development of scientific research on cooperative management, its particularities and place in the socioeconomic context. As an added value, this research opens the possibility of applying domain analysis studies to the area of cooperativism for its study as an economic and social phenomenon, with a broad philosophical dimension that must be valued in each context for its design and modeling.

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### **Conflict of interest**

Authors declare that they have no conflicts of interest.

### **Authors' contribution**

All authors reviewed the writing of the manuscript and approve the version finally submitted.



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