The Role of Motivation in Work Teams

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Abstract – **This article aims to establish the state of the art of motivation in work teams in the scientific literature. The research was of a descriptive type in which a bibliometric review scheme was adapted that includes the stages of recovery, migration, analysis, visualization, and interpretation of information. As a result, 59 research articles were obtained from which it stands out that the United States and China are the main scientific producers on the subject. Likewise, production has been constant and balanced in the 2018-2022 period, with research that mainly addressed aspects such as motivation, leadership, work teams, performance, and human talent, among others. Finally, research that addressed the consequences of motivation on the performance of work teams stands out, as well as the effect of leadership and other moderating variables on the motivation of people in work teams. It is expected that studies related to work teams will continue to grow, especially when work dynamics in today's organizations are strongly oriented towards the creation of competitive, high performance, autonomous, and self-regulated work teams.**

Keywords – **Motivation, work teams, leadership, performance, human resources.**

1. Introduction

Motivation in work teams has been presented as one of the most determining variables to achieve confidence and performance [1].

It is recognized that motivational factors interfere in the performance of teams [2] and constitute a determining factor to achieve their satisfaction [3].

Some studies suggest that high average motivational emotional intelligence improves team integration and performance, while strengthening the motivational emotional intelligence of the weakest team members [4]. Similarly, social motivation is favored by strengthening the levels of awareness of work teams [5]. Motivation is also strengthened by appropriate leadership, and this leadership can help lessen the negative effects of inappropriate communication [6]. Ambidextrous leadership influences the behavior of teams, impacting work motivation [7]. In this line, a leadership focused on relationships is proposed to achieve higher levels of motivation [8]. Similarly, it is considered that leadership practices should focus on motivation, relationships, and collaboration, trying to create a safe environment for workers [9].

Motivation can be intrinsic or extrinsic, where extrinsic motivation is generated by possible rewards and is associated with higher levels of creativity on the part of work teams [10]. Trust in team members contributes to higher levels of intrinsic motivation [11], and enhanced worker motivation contributes to improved work performance and professional development. [11].

The factors that motivate team members are not necessarily the same as those that motivate managers. On the one hand, managers stimulate their motivation with a good work team, rewarding environment in the workplace, and basic salary; on the other hand, team members are motivated by basic salary, supervisor focus, and fair evaluation systems [12]. In the same way, the type of connection marks other differences between the motivation factors of the teams [13], temporary workers have the perception that they have fewer rights than permanent workers, which causes social distances and lower levels of motivation of commitment to the team [13].

Other studies highlight positive changes in performance when there are high levels of motivation [14]. A climate in which the team is at high competitive levels strengthens motivation and with it performance [10], a higher level of autonomy, relationship, and competition benefits intrinsic motivation [11].

Equally important is the solidarity of the teams among their members, since from there higher levels of autonomous motivation are generated [15].

To achieve appropriate levels of motivation in work teams, talent management must leave its axis based on formalities and consider more carefully the involvement of talent and the motivation of its members, all this since worker satisfaction, efficiency, quality and productivity revolve around their motivation [16].

Scientometric Analysis

The production at the research level is based on previous studies that contemplate scientific methods for their development, in this sense, the number of studies worldwide are so extensive that methods are required to analyze these studies, using fewer resources, costs, and time on the part of the researchers, thus, scientometrics makes data analysis techniques available, contributing to the reduction of the workload of researchers [17]. Scientometrics can be described as a technique that allows the analysis of qualitative and quantitative data product of scientific articles, from computer tools [17].

The purpose of this article is to demonstrate the behavior of the motivation of work teams, based on a scientometric analysis of the literature registered during the period 2018 - 2022 in the Web of Science (WOS) and Scopus databases. This analysis is carried out, supported by tools such as Vosviewer and Biblioshiny and focuses on the research question: What is the academic context in relation to motivation and its incidence in work teams? In the same way, answers are given to the following related questions:

1) In which countries does the highest level of interest in motivating work teams tend to emerge?

2) How are the countries that investigate motivation in work teams related?

3) Who are the most cited authors in articles on motivation in work teams?

4) What is the trend of publications in the last five years?

5) What are the concepts or terms most used in studies on motivation in work teams?

6) Which scientific journals are the most cited?

The structure used for the development of this scientometric study contemplates i) the literary context on the motivation of work teams, together with the context of scientometrics and the research questions; ii) the methodology and methodological design that allows obtaining the results achieved in the investigation are presented; iii) the results of the research are shared, and; iv) the conclusions are presented together with the bibliographical references used for the study.

2. Methodology

To carry out the study, the methodology that contemplates the application of scientometrics for medical sciences was adapted [17]. Based on this methodology, five stages are considered that allow the investigation to be based on a rigorous and detailed method to obtain information that generates higher levels of confidence. These stages (recovery, migration, analysis, visualization, and interpretation) are presented in more detail in Table 1.

Table 1. Scientometric analysis methodology

Recovery	Definition of sources of information	Search and choice
Migration	Metadata extraction	Transfer, clean and load
Analysis	Quantitative processing	Indicators and statistical methods
Display	Determination, identification, and parameters	
Interpretation	Description, comparison and contextualization	

In the recovery stage, the most relevant databases were determined, and the search strategy was established to obtain the necessary information, applying the Boolean operators, and the criteria that allow reaching the base of the articles that will be analyzed in the investigation [17].

For the development of the migration stage, the metadata is extracted, the steps to transfer and load the information are followed, the data is cleaned by normalizing it and purifying it using Rstudio [17].

In the analysis stage, the quantitative processing of the articles was carried out, some computer tools are used, bibliometric indicators are obtained, statistical methods are applied and, according to the study, all previously related research questions are answered [17].

In the visualization stage, they present the results with the use of figures to facilitate interpretation, visualization, and analysis. In the same way, the information is presented in such a way that the degree of relevance is guaranteed, and its understanding is facilitated [17].

Finally, in the interpretation stage, analysis and visualization are started with the purpose of facilitating the identification of the different research trends, making known the appropriate interpretation that arises from the concepts analyzed and the influence of the different advances and development that motivation has been presenting in work teams [17].

3. Results

The results are presented below, in accordance with the proposed methodology and in order with the five stages listed in Table 1. Likewise, it is clarified that the analysis results, visualization and interpretation stages are socialized jointly, considering the degree of relationship of these three stages.

3.1. Recovery

The articles selected to carry out the study were obtained in a systematic way, considering search criteria that contemplated the Boolean operators and appropriate terms to guarantee that the articles are related the concepts of motivation and work teams. Table 2 presents in detail each of the search criteria used and the search equation that resulted in the articles product of the study.

Table 2. Criteria for the selection of articles

Search equation ("work teams" and motivation)		
Search criteria	Databases	
	N° Scopus	N° WoS
Initial search	163	60
Last five (5) years	53	40
Papers only	41	35
Subtotal	76	
Repeated	17	
Total	59	

The search criteria were established trying to answer the established research question: What is the academic context in relation to motivation and its incidence in work teams?

3.2. Migration

To achieve the extraction, transfer, cleaning and loading of data, the procedure illustrated in Table 3 was carried out.

Table 3. Data migration procedure

Extraction	Applying the steps established in Table II, the selected articles are downloaded from the Scopus and WOS databases. These are downloaded in bib.tex format.
Transfer and cleaning	The two files in bib.tex format were uploaded to Rstudio.
	Through Rstudio, the articles initially loaded in Scopus and Wos bib.tex format are unified, and those repeated articles are purged.
	A single file in xlsx format is downloaded with all the items from the selection.
	The file in xlsx format is uploaded to the Biblioshiny software, to perform the analyses.
	The xlsx file is converted to TXT format.
	The TXT format is uploaded to the VOSviewer software for analysis.

Thus, the stages of analysis, visualization and interpretation of the 59 scientific articles purified as a result of the stages of search, extraction, transfer, and cleaning of data began.

3.3. Analysis, Visualization, and Interpretation

In the stage of analysis, visualization, and interpretation of the data, the results of the detailed analysis on the refined graphs are shared through the Biblioshiny and Vosviewer programs, taking as presentation criteria each of the research questions according to the adapted methodology.

3.3.1. Countries With the Highest Related Production

As a result of the analysis, Table 4 and Figure 1 illustrate the countries that lead research on motivation in work teams.

The most prominent countries in terms of this scientific production are the USA with 15 published documents and 182 citations, China with 9 published documents and 157 citations, Canada with 6 published documents and 23 citations, and the Netherlands with 6 published documents and 14 citations.

Table 4. Countries with the highest production

Country	Papers	Citations
USA	15	182
China	9	157
Canada	6	23
Netherlands	6	14
South Korea	5	27

Figure 1 makes it possible to confirm with a greater level of detail the dominance in terms of production on motivation in work teams by the US and China, countries that have the highest production and on which the greatest reference is generated by researchers.

Figure 1. Production by country

The heat intensity of Figure 1 allows validating the most cited countries on the scientific production related to the research topic.

3.3.2. Relationship Between Countries With the Highest Production

Figure 2 shows the relationship between the countries that have generated production related to the research topic. You can see the dominance of the USA and China, the relationship of the USA with Germany, Canada and China, the relationship of the Netherlands with Spain and South Africa, and the relationship between China, the European Union, and the USA.
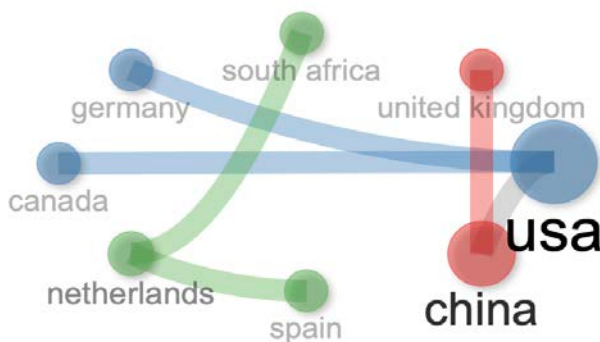

Figure 2. Relationship between countries

On the other hand, Figure 3 is presented where the participation of the countries in research related to motivation in work teams is illustrated, confirming the countries listed in Figure 1 as those with the highest level of related production.
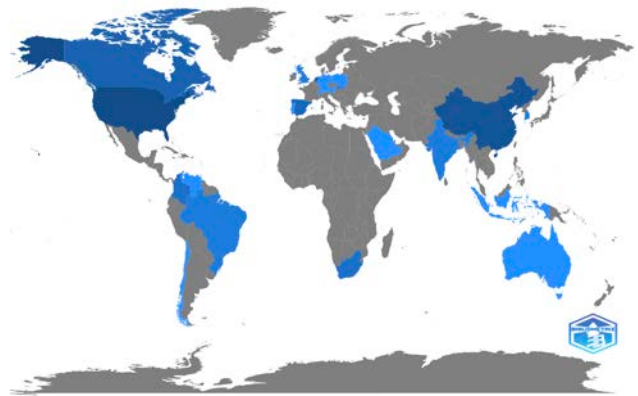

Figure 3. Map of the relationship of publications between countries

3.3.3. Authors With the Greatest Impact

Table 5 highlights the authors with the most cited related scientific production in the period between 2018 and 2022, indicating the number of citations per year.

Table 5. Citation of authors by year

Years	Zhu Y.	Chen W.	Lorincova S.	Figueiredo P.
2018	100	0	0	0
2019	0	31	9	3
2020	0	0	0	0
2021	0	0	0	2
2022	1	1	1	0
Total	101	32	10	5

Appreciating the highest number of citations, Zhu Y. is the most cited author with 101 citations, followed by Chen W. with 32 citations and Lorincova S. with 10.
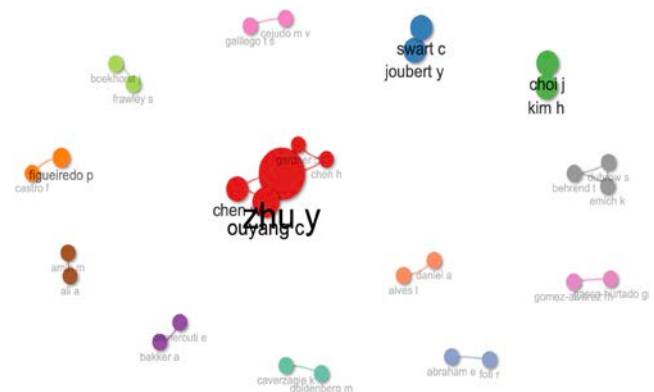

Figure 4. Network collaboration

Figure 4 presents the main associations between authors. It is possible to appreciate the relationship between Zhu Y., Chen W., Ouyang C., Chen H. and Gardner D. as the most representative group of authors.

3.3.4. Evolution of Publications

Of the articles observed, their distribution in publication in the range of recent years is represented in Table 6 and illustrated in Figure 5, as follows:

Table 6. Publications per year

Year of publication	Number
2018	8
2019	14
2020	12
2021	9
2022	14

In the years 2020 and 2021 the production of articles related to team motivation decreased slightly and recovered in 2022.
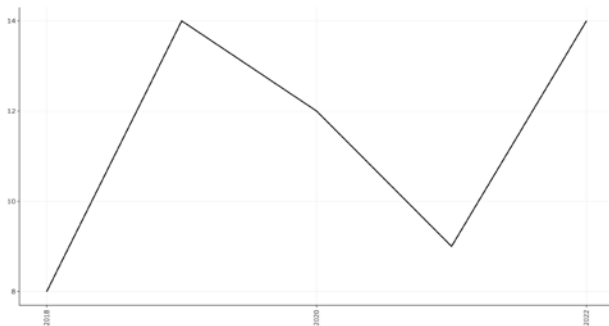

Figure 5. Publications per year

The decrease in production during the years 2020 and 2021 can be explained due to the pandemic, mobility restrictions and the growing and immediate interest in issues such as teleworking and remote work.

3.3.5. Most Used Terms

Figure 6 shows the list of terms most used in research, in which three clusters are identified. The first cluster is led by the term "human" and is associated with "human experience", "learning", "cooperation", "process groups" and "young adults". The second cluster is led by "motivation" and is linked to "organization", "trust", "performance", "work teams", "structure", "impact" and "tasks". Finally, as a third cluster is "leadership" that is related to "employees", "marketing decisions" and "perception".

Likewise, it can be shown that the motivation of work teams is apparently mediated by leadership, human characteristics and, in turn, this has a positive impact on performance.

Figure 6. Co-occurrence of terms

In Figure 7, through the Biblioshiny software, the relationship between the different terms used is presented in greater detail.
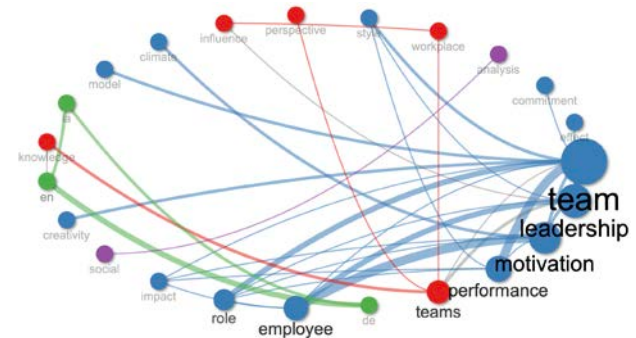

Figure 7. List of terms in a circle

Regarding the development and relevance of each of the terms, Figure 8 illustrates these two criteria related to research.
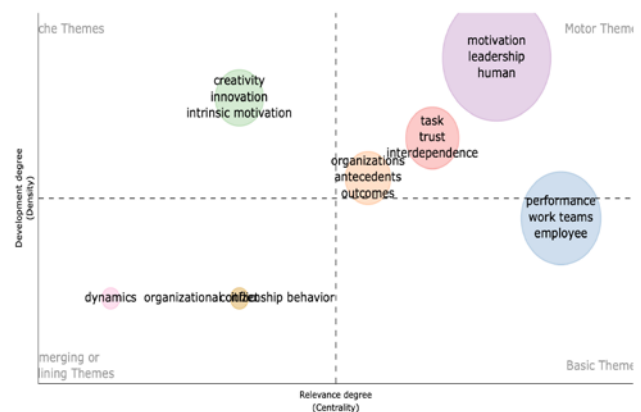

Figure 8. Development and relevance of the variables

It can be seen how creativity, innovation, and intrinsic motivation are highly relevant in the motivation processes of work teams, but their development is still in its infancy and research involving them must be advanced. Similarly, it can be concluded that leadership and human characteristics are in the highest degree of relevance and development at the level of motivation of work teams.

3.3.6. Scientific Journals With the Greatest Impact

In Figure 9, the Journal of Management stands out with 2 documents and 124 citations and the International Journal of Environmental Research and Public Health with 2 documents and 14 citations.

Figure 9. Journals with the greatest impact

Likewise, Figure 10 shows that, even though the Journal of Management presents more citations, it is related to a single author, which allows us to conclude that the degree of citations is not decisive in the journal but rather in the quality of the document published in it.
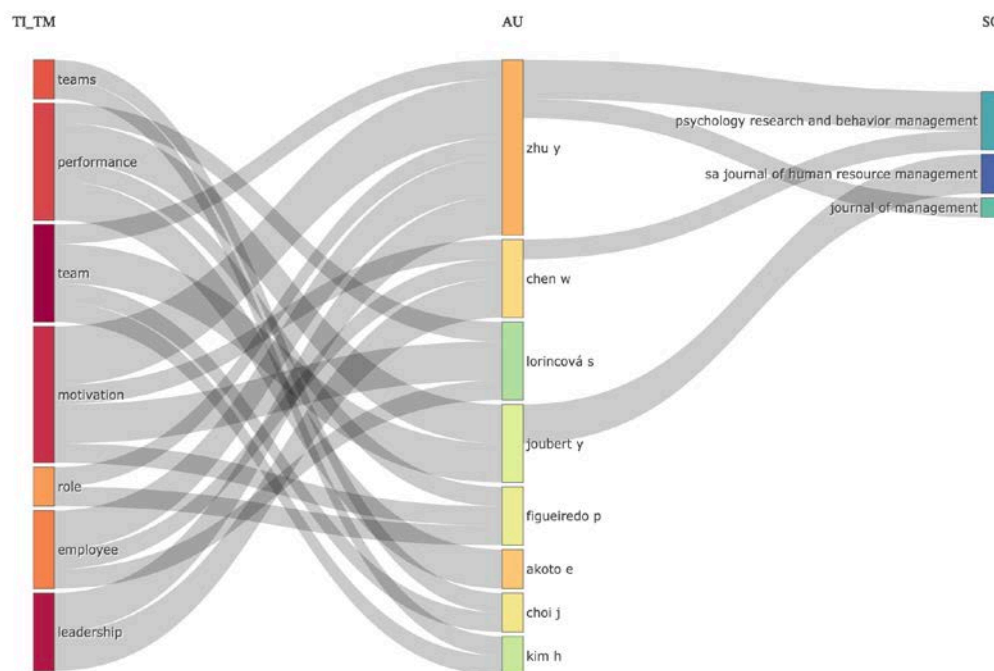

Figure 10. Relevance of the studies

3.3.7. Featured Studies

Zhu et al. [10] studied the relationship between the work environment in the work team, individual motivation, and creativity in technology companies in Taiwan. Among their main findings, they found that extrinsic motivation (especially salary) does not have a significant relationship with creativity – nothing new so far – while intrinsic motivation was significantly related to creativity. However, when the authors discovered intrinsic and extrinsic motivation interact simultaneously in their relationship with creativity, that is, when extrinsic motivation is low, the relationship between intrinsic motivation and creativity becomes stronger, and when extrinsic motivation is high, the relationship between intrinsic motivation and creativity decreases substantially.

On the other hand, Zhu et al. [15] evaluated the power of the work environment as a moderator of the relationship between spiritual leadership and the autonomous motivation of work teams in Chinese manufacturing companies. The researchers found that the existence of a supportive ethical climate moderates the relationship between spiritual leadership and autonomous motivation, that is, a receptive environment can generate an amplifying effect of spiritual leadership practices on people.

Likewise, de Jong et al. [13] analyzed the influence of self-perceptions of power on their motivation and commitment in teams made up of temporary workers, compared to the same phenomenon in teams of permanent workers. The results obtained show that the type of contractual relationship of team members has a moderating effect on the relationship between perceptions of power and certain outcome variables such as intrinsic motivation, which represents a new focus of interest for future research. This is due to the fact that the current literature only contemplates that some individual demographic and psychological factors have moderating roles in the relationship between the perception of power and the behaviors or results achieved by the team.

Teekens et al. [18] evaluated the effects generated by the levels of motivation and a collaborative environment on the commitment variable in work teams made up of university students. Thus, they discovered that the higher the levels of motivation and the presence of a collaborative environment in the development of the tasks, the higher the levels of commitment in continuing higher education. Therefore, motivation alone did not ensure the level of commitment in continuity.

Guedesa et al. [14] analyzed the relationship between motivation and the performance of the production line work teams from the implementation of the Total Productive Maintenance (TPM) program.

The findings allowed us to conclude that there is a significant relationship between the motivation and the performance of the workers in the production line. Likewise, in the teams with a higher level of motivation, the operational performance was higher, so it is inferred that the implementation of the TPM program had a positive impact on the company.

Similarly, Castro et al. [16] evaluated the relationship between motivation and the results obtained by work teams from three production lines of a company, before and after the implementation of a Lean Manufacturing System. Indeed, a strong relationship was found between motivation and the results obtained, so that the greater the motivation, the greater the results obtained and vice versa. This study was considered innovative insofar as it analyzed the factors that can impact the success or failure of the implementation of a management system, since the current literature only abounds in studies that assess the impact of management systems on the organization.

Lee & Song [11] studied the positive influence of work motivation and knowledge sharing within the team on job crafting. In other words, motivated people feel a greater impulse to modify the contents and methods to do their work more effectively, which can lead to innovative routines and stimulate the creativity of the collaborator within the team.

Finally, Lorincová et al. [12] studied the differences between the motivating factors of different groups of workers in furniture companies in Slovakia. The researchers found that workers at the managerial and administrative level highly value aspects such as the work team, the work environment, and basic salary, while workers at the operational level consider aspects such as basic salary, supervision, and a fair performance evaluation system to be motivating. In conclusion, the authors recommend establishing differentiated incentive systems for the levels of employees of the companies analyzed.

4. Conclusions

This study was carried out with the objective of describing the state of the research carried out on motivation in work teams during the period 2018-2022. In this regard, it was possible to establish that the countries with the highest incidence in related research are the US (15 publications and 182 citations) and China (9 publications and 157 citations). Also, these two countries have the strongest research collaboration relationships. On the other hand, in the last five years there has been a disparate trend in the number of publications that could have been influenced by the research priorities caused by the COVID-19 pandemic during the years 2020 and 2021.

Likewise, the most representative terms and topics are related to studying the link between intrinsic motivation and variables such as performance, creativity, and innovation in work teams. Likewise, it is evident that the most representative terms are divided into three clusters, the first led by the term human and associated with the human experience, learning, cooperation, process groups and young adults; the second led by motivation and associated with the organization, trust, performance, work teams, structure, impact and tasks; and the third integrated by the leadership that is associated with the employees, the marketing decisions and the perception.

Acknowledgements

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