

Innovation and Human Resources Motivation: A Bibliometric Analysis

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Abstract

The aim of this paper is to present a bibliometric overview of the academic research on the establishment of motivation and Human resources practices and their influence on innovation, which has gained a wide acceptance in the scientific community. This analysis uses two main approaches, namely performance analysis and scientific mapping. The first uses a range of bibliometric measures and indicators to assess the importance, impact and quality of publications in a particular field. While the second aims to complete the analysis of performance using techniques from a time perspective.

We have included performance analysis and science mapping of the Human Resources Motivation Field using the R language and R-STUDIO software to map the bibliographic material. We firstly have compiled a list of 1513 articles selected from the Web of Science database. Then we identified the most global relevant documents in the field according to authors, journals, articles, institutions and countries. Based on the results obtained during the analysis of these articles, it turned out that research in the field of human resource management tends much more towards digitization and the use new technologies when it comes to its link with innovation.

Our conclusion is that research in this field has made significant progress in the past five years, China is the country with the greatest influence in all aspects of this field. However, it is important to consider that science is constantly advancing in this field, and data will change rapidly over time. Therefore, this work plays an informative role, showing that most of the basic research on human resources motivation is in the business and management fields.

Keywords: Human resources; Motivation; Innovation; Organizational performance; Innovation capacity.

JEL Classification: O39

Paper type: Theoretical research.

1. Introduction

In recent decades, interest in the topics of the Human Resources Motivation (HRM) and its connection with innovation has gained wide acceptance in the scientific community and management literature (Gupta, 2020). For companies the challenge today is to grow up in an environment in perpetual evolution. In the same context, motivation has become an undeniable competitive advantage allowing an organization to distinguish itself from others. Research on a variety of personal motivations suggests that practices that foster employee commitment, loyalty, learning, and intrinsic motivation are conducive to innovation (Seeck and Diehl, 2017). To enhance this innovation, it becomes important to introduce the concept of motivation and its link with creativity of employees, which is a major focus of research in the organization sciences. As a result, these two concepts allow the company's level to increase a competitive advantage, save time and avoid recurring errors (Christofi and al., 2019), especially since the process of the companies in question is mainly based ICTs, and today's generation of individuals are growing with innovative technologies are built into their daily lives.

These individuals are connected via mobile technology and can collaborate a lot at the same time, so they can use digital information to enhance their day-to-day activities (Mivehchi and Rajabion, 2020). Overall, this results in an improvement in the innovation of the company through the dissemination of best practices.

The development of information and communication technologies has opened up new perspectives for sharing information, experiences, the organizational and managerial dimensions remain essential to grasp a true culture of employee-level innovation which has become an integral part of organizations' business strategies, along with helping organizations to grow in the market, and gain competitive advantage (Gupta, 2020). As part of this context, this work aims to focus on the establishment of motivation and human resources practices and their influence on innovation through a bibliometric analysis.

The literature on innovation considers that creativity and innovation in the workplace are decisive for the survival of organizations. This postulate implies that the process of generating ideas and implementing innovation constitutes one of the major sources of competitive advantage for the latter (Potočnik and Zhou, 2014; Montani and al., 2015). Innovation is a huge field of research both for management sciences and for other scientific disciplines, especially since the framework of globalization (Ben Mahoud-Jouini and al., 2016) offers decisive advantages for innovative organizations.

The deployment of innovation within the organization presupposes that the factors of innovation are identified before the innovation process takes place, which consists of introducing and implementing relatively new ideas at the level of the task, work team or organization (West and Farr , 1990). This process is therefore strongly linked to the innovative behavior of employees, which ultimately involves identifying the factors of innovative behavior of employees.

These factors are located at several levels, from the culture of the organization (Scott and Bruce, 1994) to the relations with management (Janssen, 2005), the characteristics of the task (Shalley , 2008) or the relations within the working group (Hülshager and al., 2009) to differences between individuals (Raja and Johns, 2010). Each of these factors influences, directly or indirectly, individually or collectively, the motivation of employees to innovate.

In general, this research work will take a progressive path, based on three major axes. First, we will expose a theoretical framework dealing with the relationship between the motivation of the personnel and the innovation. Secondly, we will discuss the methodology to adopt. Finally, we compiled a list of 1513 selected articles from the Web of Science database. Then, we will identify the relevant documents in the field according to several criteria, more particularly the

authors, the journals, the articles, the institutions and the countries. To map these, we will use the R-STUDIO software using the R language.

2. Theoretical background

Steer and Porter (1991) defined the concept of work-related motivation as a process that feeds, directs and sustains behaviour in the organization. To analyse this process, it quickly became apparent that it was necessary to distinguish intrinsic motivation from extrinsic motivation.

Intrinsic motivation is defined as coming directly from the job itself. The latter appears when the employee seeks a sense of accomplishment in his work, the response to a challenge or obtaining satisfaction in his work (Aletraris, 2010; Amabile, 1996; Farzaneh and Boyer, 2017). In contrast, extrinsic motivation results from factors outside the job itself. An employee is extrinsically motivated by his work when it allows him to achieve objectives outside of work, such as a satisfactory salary, material and immaterial rewards or a promotion (Amabile, 1997). Amabile (1997) laid the bases of the model of innovation in organizations. She postulated that the expertise, the creative capacity and the intrinsic motivation of the employees are at the source of individual innovation, while advancing that the organizational motivations to innovate, the available resources and the management practices determine the innovation in organizations.

Researchers examined Individual employee motivation factors according to five criteria: psychological states, personality, goals, values, and thinking style (Farzaneh and Boyer, 2017). Many studies have focused on the effects of affect, mood or job dissatisfaction on innovation. The results are contradictory. Amabile and al., (2005) showed that positive affects increase creativity whereas George and Zhou (2002) had previously found that, under certain conditions, negative affects also had a positive effect on creativity. As for Fong (2006), he showed that emotions, whether positive or negative, had no effect on creativity, leading George and Zhou (2007) to suggest that a combination of positive moods and negative favored innovation.

Studies of the relationship between individual personality and innovation (George and Zhou, 2001; Madjar, 2008) have simply found that the relationships between personality and innovation are complex, to the extent where they depend on contextual variables.

Studies on the objectives of employees have remained fragmented, while showing that the objective of the employee has an impact on innovation, which remains however dependent on the context of the organization. This is how Hirst and al., (2009) found that learning objectives, or better mastery of the job, had a positive effect on employee innovation.

Comparatively, the role of values in the motivation to innovate has been rarely examined with the notable exception of the work of Zhou and al., (2009) who showed that the most innovative employees were the least conformist and had an extensive social network.

Researchers have established links between thinking style and the ability of employees to innovate. Clegg and al., (2002) showed that the intuitive style of thinking was positively related to the suggestion of ideas. Miron-Spektor, and al., (2011) showed that creative and conformist employees participated more strongly in the innovation process than employees attentive to details.

A few studies have encompassed all of the above factors in order to explain the psychological mechanism of motivation. We can cite the work of Zhang and Bartol (2010) and Yuan and Woodman (2010) who analyzed the motivational antecedents of innovative behavior. In addition, it appeared that these individual factors, likely to explain the intrinsic motivations of employees, were related to extrinsic factors.

According to research on the extrinsic motivational factors of employee innovation, the motivational factors of the employee to innovate are related to the work context which reinforces or, on the contrary, weakens the manifestation of individual characteristics related to innovation (Farzaneh and Boyer, 2017).

The work context is largely determined by management's attitude towards innovation. A consensus among researchers logically establishes that management support for innovation has a positive effect on it (Zhang and Bartol, 2010). Top management's involvement in innovation is linked to their management style, which produces direct effects on the teams' capacity for innovation (Bledow and al., 2009).

The work context is also determined in part by the functioning of teams, Hülsheger and al., (2009) showed that the composition and structure of teams had less impact on innovation than might be assumed a priori. More specifically, the effects of team atmosphere on their ability to innovate reveals the importance of the role of social and relational processes on team innovation (Perry-Smith and Shalley, 2003) and especially the effects of atmosphere within working groups (Choi and al., 2011). Concerning more specifically the role of an employee's conflicts with his colleagues, Janssen (2003) showed that these conflicts were positively related to the innovative behavior of the latter, when his work commitment was high.

Finally, the employee's motivation depends on the stage of the innovation process in which he intervenes. Thus, specifically at the end of the innovation process, Madjar and Ortiz-Walters (2008) showed that customer trust had a direct and positive impact on creativity in services, but few studies have yet been devoted to mechanisms linking innovative employee responses to external evaluations, with the notable exceptions of Yuan and Zhou (2008) and Stobbeleir and al., (2011).

According to Farzaneh and Boyer (2017), the effects of the environment on the motivation of employees to innovate require taking into account:

- The interaction between the environment and the characteristics of the employee.
- The effects of the nature of the work, in particular its complexity, on the creativity of the employee.
- Management support, through its management style, for employee commitment to innovation.
- The effects of the atmosphere within the work group, in relation to the commitment of the employees vis-à-vis their tasks, on the innovation of the employees within the teams.
- The link between the stage of the innovation process, whether it is that of designing, realizing or implementing the innovation, and the nature of employees' motivation to innovate.

Since the motivation of employees to innovate is rooted both in the psychology of the employee and in the characteristics of the organization in which he works, or even in those of the society to which he belongs (Elenkov and Manev , 2005). It is logical that this wide range of factors has generated an immense theoretical corpus which still seems insufficient, despite its achievements, to fully and coherently explain the innovative behavior of employees.

3. Research methodology

A Bibliographic analysis is a good approach to get an overview of the available literature in a particular research area, which facilitates the identification of gaps in current research, suggests areas for further research, and to explore all of the references discovered, to select the most pertinent references to read. In this synthesis paper, we have divided the process of narrowing the field of investigation into three main parts: (1) Planning, (2) reading, and (3) reporting. Research Motivation and innovation represents a very large corpus of data. A simple search in a journal on "Motivation", "Innovation" "Innovation capability" provides more than 3152 documents. It is therefore important to restrict the range and the timespan of research to obtain useful state of art and results that may suggest future research on a specific topic.

To this end, we put all reference materials in the electronic resource library. We chose Zotero as a reference management tool, which helps us collect all documents in an orderly manner.

Also, we chose Zotero because it is free and open-source, and we took a Ph.D. course on its processing and operation. It can easily manage bibliographic data and research documents. The problem in this study was used to build a search chain that could be used on an electronic database. By adding synonyms and alternative words, we chose Web of Science that is known as the most recognized database and which has advanced features that make searching more efficient.

A scientific collection of references is the core base of an article because it allows filtering based on what is essential to read. This study constitutes a bibliometric analysis of the literature in the human resources motivation field, to derive factors that affect the innovation such as Intrinsic and extrinsic motivation.

From among the 1512 studies from Web of Science, conducted or carried out at this stage and to understand and explain this result, the literature review is the most widely used, followed by the choice of the case study method in the context of qualitative research to deepen basic knowledge by focusing on specific cases. This method has been the subject of two studies. In this perspective, the researchers attempted to use SPSS software, LISREL parameterization methods, and quantitative methods to explain hypotheses on the role of motivation to increase an innovative work behaviour. The Delphi method is also used, which highlights a well-defined group of experts by gathering their opinions on specific topics (Tab 1).

Table 1 : Research Methodology Used

Literature Review	395
Quantity PLS SEM	314
Qualitative	293
LISREL	265
Quantity SPSS	152
Delphi	94
Total	1513

Source: Author’s processing

Our collected references include (Tab 1) a few review articles to understand the structure of writing a scientific manuscript, a few proceeding papers that Motivation in a detailed way, a few chapters including the contribution of authors among others who collaborate in a shared book. Also a wide range of scientific articles, which are particularly the basis for this paper.

After that, we downloaded our entire bibliography and transferred it to R-STUDIO software for a bibliometric analysis (Tab 2).

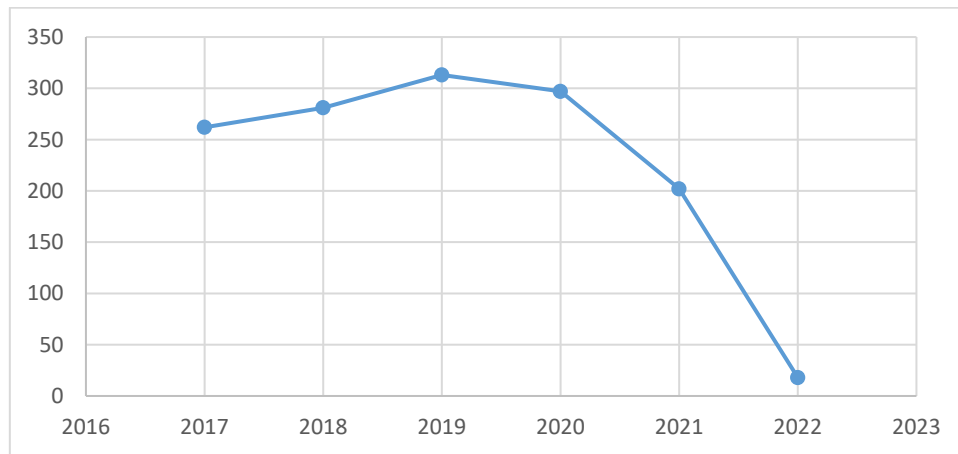
Table 2: Selection criteria for the bibliography

Keywords	Date of publication	Database	Indexation	Language
Motivation, Innovation, innovation capability	2017 > 2022	WOS	Q1-Q2-Q3-Q4	English

Source: Author’s processing

The library of scientific articles is very rich and even diversified, it includes all the work published from 2017 until 2022, and represents a portal towards 6 years of research in the field of human resources, Innovation and Innovation capability (Fig 2).

Figure 1: The references collected by year of publication



Source: Author's processing

Most studies claim this by pointing out that motivation is being adopted as a good indicator to improve innovation in different sectors. We obtained about 1512 references on this topic, from Web of Science, 1024 in the field of management, 656 in the field of business, 72 in the field of information science and 349 in the field of economics...etc (Tab 3).

Table 3 : Extraction by fields

Fields	Total
Management	1024
Buisness	656
Economics	349
Environement studies	37
Regional urban planning	47
Eductional	55
Psychology applied reasearchs	66
Engineering industrial	50
Information science	69
Total	2353

Source: Author's processing

4. Findings and discussion

In this section, we are going to work on an analysis performance based on bibliometric information, such as the most relevant documents, based on the number of citations received or the number of h-index... Bibliometric analysis is a statistical method used to assess the scope of qualitative and quantitative research collected in areas of interest (Ellegaard and al., 2015). There are several bibliometric methods and tools that can be used to study the work that has been solved in any research field; they are very important for researchers to assess trends, gaps, and research directions in a particular field (Donthu and al., 2021).

4.1. The most relevant publications and citations

Through the text analysis of the full text, a condensed template was developed, through which a comprehensive analysis can be generated. A bibliometric analysis involves analysing selected documents, where the most frequent words in the abstract, or at least 3 keywords listed. The literature review allows us to link HRM with Innovation.

Table 4 : Most relevant publications and citations

Paper	Title	Total Citations	TC per Year
Singh and al., (2020)	Green innovation and environmental performance: The role of green transformational leadership and green human resource management.	185	61.67
Constantinides and al., (2018)	Platforms and Infrastructures in the Digital Age	166	33.2
West and Bogers (2017)	Open innovation: current status and research opportunities	119	19.83
Zhu and al., (2017)	Inside the sharing economy Understanding consumer motivations behind the adoption of mobile applications	103	17.17
Seeck and Diehl (2017)	A literature review on Human resources management and innovation - taking stock and future directions	93	15.5
Rajalo and Vadi (2017)	University-industry innovation collaboration: Reconceptualization	84	14
Vrontis and Christofi (2021)	R&D internationalization and innovation: A systematic review, integrative framework and future research directions	81	40.5
Cao and al., (2017)	Identifying and contextualising the motivations for BIM implementation in construction projects: An empirical study in China	73	12.17
Zhu and al., (2018)	Relationships Between Work Team Climate, Individual Motivation, and Creativity	70	14
Bos-Nehles and al., (2017)	Human resources management and innovative work behaviour: a systematic literature review	69	11.5
Ma and al., (2017)	Why do high-performance human resource practices matter for team creativity? The mediating role of collective efficacy and knowledge sharing	56	9.33
Eggers and Kaul (2018)	Motivation and ability? a behavioral perspective on the pursuit of radical invention in multi-technology incumbents	52	10.4

Orth and Volmer (2017)	Daily within-person effects of job autonomy and work engagement on innovative behaviour: The cross-level moderating role of creative self-efficacy	51	8.5
Miscenko and al., (2017)	Am I a leader? Examining leader identity development over time	50	8.33
Brem and al., (2018)	How crowdfunding platforms change the nature of user innovation - from problem solving to entrepreneurship	47	11.75
Russell and Smorodinskaya (2018)	Leveraging complexity for ecosystemic innovation	47	9.4
Lyngsie and Foss (2017)	The more, the merrier? women in top-management teams and entrepreneurship in established firms	46	11,667
Acar and al., (2019)	Creativity and Innovation Under Constraints: A Cross-Disciplinary Integrative Review	46	11.5
Mahmood and al., (2019)	The influence of transformational leadership on employees' creative process engagement A multi-level analysis	43	10.75
Audenaert and al., (2019)	When employee performance management affects individual innovation in public organizations: the role of consistency and LMX	41	10.75
Afsar and Umrani (2020)	Transformational leadership and innovative work behaviour The role of motivation to learn, task complexity and innovation climate	39	13
Tsinopoulos and al., (2018)	Process Innovation: Open Innovation and the Moderating Role of the Motivation to Achieve Legitimacy	38	7.6
Douglas and Prentice (2019)	Innovation and profit motivations for social entrepreneurship: A fuzzy-set analysis	36	9
Acar (2019)	Motivations and solution appropriateness in crowdsourcing challenges for innovation	35	8.75
Feng and al., (2018)	Just the Right Amount of Ethics Inspires Creativity: A Cross-Level Investigation of Ethical Leadership, Intrinsic Motivation, and Employee Creativity	35	7
Hansen and Pihl-Thingvad (2019)	Managing employee innovative behaviour through transformational and transactional leadership styles	34	8.5

Soda and al., (2019)	Network Structure, Collaborative Context, and Individual Creativity	33	8.25
Andreeva and al., (2017)	When the fit between HR practices backfires: Exploring the interaction effects between rewards for and appraisal of knowledge behaviours on innovation	33	5.5
Ahmadi and al., (2017)	Are Managers Motivated to Explore in the Face of a New Technological Change? The Role of Regulatory Focus, Fit, and Complexity of Decision-Making	33	5.5
Gope and al., (2018)	The effect of human resources management practices on knowledge management capacity: a comparative study in Indian IT industry	32	6.4
Delmas and Pekovic (2018)	Corporate Sustainable Innovation and Employee Behavior	31	6.2
Suifan and al., (2018)	The impact of transformational leadership on employees' creativity The mediating role of perceived organizational support	30	6
Petelczyc and al., (2018)	Play at Work: An Integrative Review and Agenda for Future Research	29	5.8
Azim and al., (2019)	Linking transformational leadership with employees' engagement in the creative process	28	7

Source: Author's processing

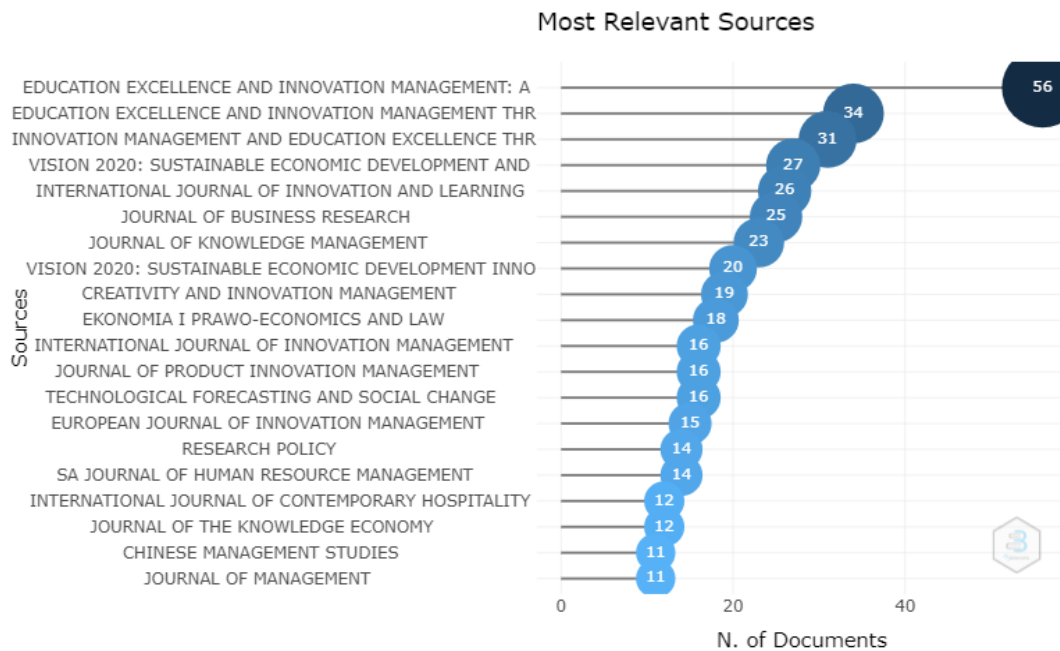
Table 3 represents the list of the 34 most cited works in the human resources and Innovation fields in the last five years, obtained from the Core Collection of Web of Science, among which we find “Green innovation and environmental performance: The role of green transformational leadership and green human resource management.” (Singh and al., 2020) with, “Platforms and Infrastructures in the Digital Age” (Constantinides and al., 2018) in the first place with more than 185 citations as the highest number of citations, followed by the work of (West and Bogers 2017) titled “Open innovation: current status and research opportunities” with 116 citations. Highlighting through the number of citations of these works is the best way to determine the importance and the influence of a field of research.

4.2. Most relevant sources

Articles on Human resources motivation and Innovation issues are published in various journals. Significant progress has been made in this field, so it has a broad academic resource structure, including a series of specialized journals. In addition, theoretical frameworks in the field of HR Motivation research are increasingly used to explain certain business phenomena, such as green innovation and organizational performance (Singh and al 2020) therefore, various journals in the field of business and management publish articles based on Innovation to explain their research phenomena.

In order to classify journals and their publications in the field of HR Motivation and Innovation, Fig 4 lists the 20 most productive and influential journals in this field. It should be noted that journals are sorted according to their productivity.

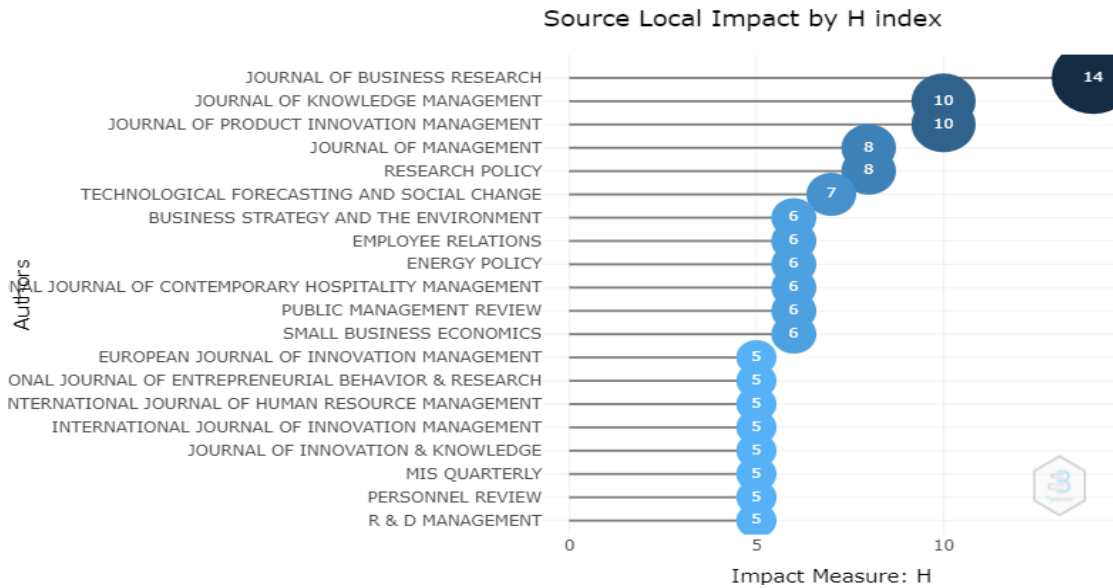
Figure 2: Most Relevant Sources



Source: Author’s processing

“International Journal Of Innovation and Learning” is the most popular journal for publishing studies on Innovation and its links with HR (26 articles). Followed by “Journal Of Business Research” (25 articles); and “Journal Of Knowledge Management” (23 articles) in third place (Fig 4).

Figure 3 : Most Relevant Sources using H-Index



Source: Author's processing

In terms of H-Index we find that “The Journal of Business Research” “is in first position, followed this time by “Journal Of Knowledge Management” and “Journal of Product Innovation Management” (Fig 5).

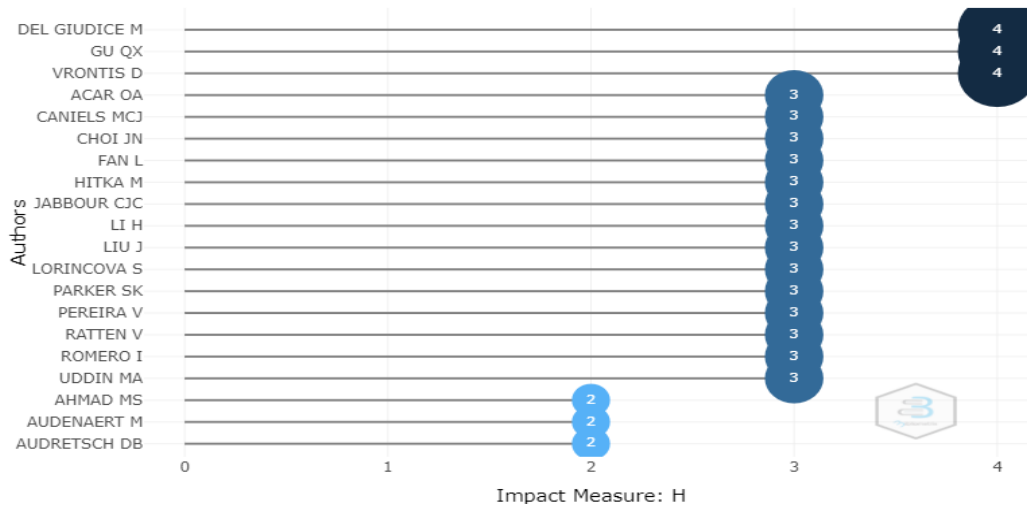
4.3. The most productive and influential authors in the last five years

Since its inception, the field of HR Motivation has been characterized by continuous growth and the participation of a large number of researchers. According to (Vrontis and Christofi, 2021), HR Motivation is a very attractive field, and contributions from academia and professionals are welcome. An important issue when obtaining an overview of motivation and Innovation research is to identify the most productive and influential authors in the field.

Without forgetting to note that the number of articles is an indicator that should be analysed carefully, as several limiting factors must be considered, including the length of each paper, journal quality and the number of authors per work (Merigó and al., 2015). In addition, it is necessary to consider that due to the nature of this classification, certain known authors may not appear which may be the result of the year of the journal indexation in Web of Science.

The author with the best combination of productivity and influence in the Innovation and HRM literature in the last three years is Rick (H.L.) Aalbers, with an h-index of 4 whom is a well-known author on issues related to innovation and has used theoretical frameworks from Motivation to explain how to improve innovation. The second author on this list is Jarle Aarstad who has an h-index of 4. It is important to note that Milos Hitka is the most productive author in the human ressource management field in the last five years with 84 total citations. Milos Hitka is in eighth place, with an h-index of 3.

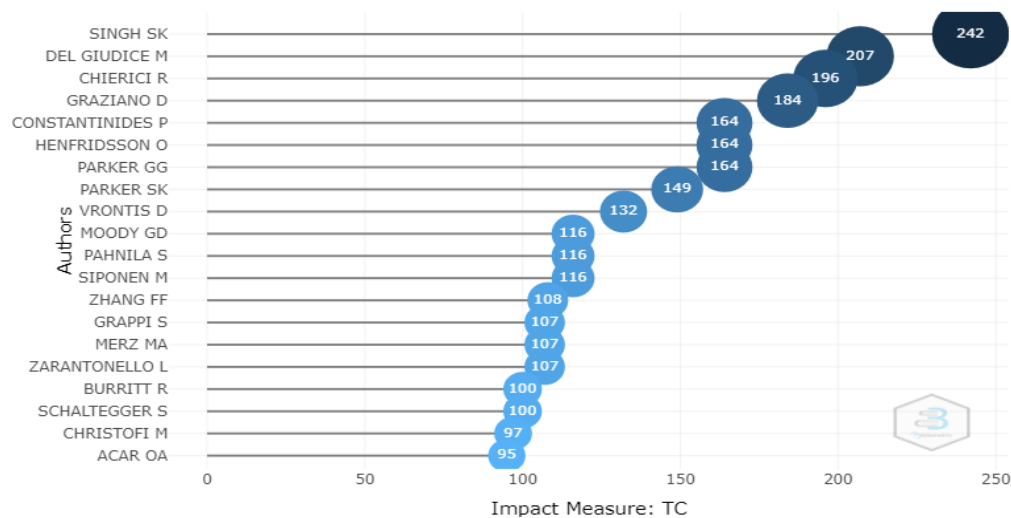
Figure 4 : most productive and influential authors by H-index
 Author Local Impact by H index



Source: Author's processing

To obtain a more complete picture of the most relevant authors in the last five years, we are going to expose the authors local impact citation Index, among which we find S.K. Singh ranked first with 242 total citation, and Marco Del Giudice ranked second with 207 citation (Fig 7).

Figure 5 : Most productive and influential authors by Total citations
 Author Local Impact by TC index



Source: Author's processing

4.4. Most relevant affiliations

The human resources management and its links with innovation has become a rather attractive and productive discipline of study. In the last five years, the authors aimed to establish human resources management's unique identity as an academic field recognized by various actors, including academic institutions (Serenko and al., 2010).

These institutions are primarily charged to promote the development of various research areas. In this sense, it is interesting to conduct an analysis of human resources management research conducted at different universities. Table 4 presents this analysis. It is interesting to note that most of the corresponding authors belong to institutions from Romania and China. Each country represents institutions, and the University of Bucharest ranked first (Tab 5).

Table 5: Most Relevant Affiliations

Affiliations	Articles
Bucharest Univ Econ Studies	20
Wuhan Univ Technol	15
Sch Management	14
Erasmus Univ	13
Univ Indonesia	12
City Univ Hong Kong	11
Univ Manchester	11
Univ Sains Malaysia	11
Bocconi Univ	10
Copenhagen Business Sch	10

Source: Author's processing

4.5. Countries scientific production

Based on the assumption that research promotes economic development and growth, countries are now increasingly investing in these activities (Becker, 2015). In order to obtain a complete picture of the HR Motivation and its links with innovation, we are going to analyse the geographic origin these topics. Note that peculiarities can be observed within a country as some researchers often move internationally, especially between the United States and China (Merigó and al., 2015).

Consequently, an author may have publications in two or several countries. Therefore, the country analysis is referring to the country in which the author was working while publishing. Table 6 presents a ranking of the top 10 countries in HRM research.

The table 6 shows the countries where HR Motivation and Innovation have resonated. China tops the list of countries with the most articles on HRM (485). They are followed by USA (364), UK (220), Germany (143) and Australia (108).

Table 6: Countries Scientific Production

Country	Freq
China	485
Usa	364
Uk	220
Germany	143
Australia	108
Italy	102
Poland	102
Spain	102
Russia	97
Indonesia	86
Netherlands	84
France	82
India	74
Malaysia	71
Portugal	68
Romania	64
Czech Republic	62
South Korea	59
Pakistan	52
Slovakia	48

Source: Author's processing

5. Discussion

The purpose of this work is to present an overview of research on Human Resources Motivation and its links with Innovation through a bibliometric analysis. This analysis uses two main approaches, namely performance analysis and scientific mapping. The first one uses several bibliometric measures and indicators, such as h-index, number of citations, and productivity to assess the importance, impact, and quality of publications in a particular field.

The second one aims to complement performance analysis by using co-citation techniques and keyword co-occurrences in a temporal perspective. This analysis was performed using R-STUDIO software. In order to obtain a broader view about this field, these bibliometric methods were used considering various dimensions of analysis, including journals, articles, authors, institutions and countries. The results were obtained through the use of Web of Science, which is a bibliographic database widely considered the most influential in the scientific community. In the final analysis, the results established do not really allow us to conclude that an autonomous scientific field has emerged. All we can do is to grasp some indications of the constitution of a field and to confirm the fragilities that threaten this theoretical scaffolding.

From a general perspective, this research shows that HRM research in business and management fields has grown considerably in recent years. China is the absolute leader in HRM research and has the best indicators of influence and productivity in all aspects we analyzed.

This result was predictable, as China is generally among the absolute leaders in research in other scientific fields. USA also showed considerable productivity and influence in HRM, with the UK in third place. However, many other countries have increased their productivity and influence in HRM due to the emergence of various research groups around the world. For example, although they have been in the field for some time, countries such as Germany, Australia, and Italy have experienced remarkable growth over the past Five years and are now among the top ten most productive countries in knowledge management research.

As far as institutions are concerned, China, USA and Romania again have the largest number of universities, and their influence in the field is therefore quite dominant. In general, the most influential universities are located in North America and Europe. Although there are several influential and renowned Asian researchers in this field, universities in this region have not been able to position themselves strongly in the field.

In the term of scientific cartography, more specifically the analysis of Co-citations of authors and documents, corroborates and gives strength to these results. During the last three years, we have also found quite productive and influential researchers, including Rick (H.L.)

Regarding journals, we found that the literature on HRM has been published in a large number of scientific journals with different theoretical orientations. “International Journal of Innovation and Learning” and “Journal of Business Research” are the most influential journals in this field, given their high volume of citations.

The ambition of this research was to highlight certain currents of thought emerging in human resources management and innovation, and to identify the nature and consistency of some of the knowledge and ideas that feed the disciplines. The results confirm the vitality of human resources management but also the ambiguities of a discipline that proceeds largely by borrowing and suffers from a chronic lack of conceptualization.

While conducting a bibliometric study using conventional bibliographic software was an intriguing and provocative procedure, it was constrained in a number of ways:

- Many if not most databases are created alike. The experiment presumes that publications published in journals are appropriately documented. However, the scope of the inaccuracy in record generation became clear as soon as the R-STUDIO algorithms used to conduct the studies were screened for duplicates and then manually inspected for false finds, etc. There is also no universal standard for record formatting among database services. Because the researcher cannot control the quality of the records in the first place, the capacity to make reliable thematic conclusions from the data is hampered, especially when depending on abstracts to capture the meaning or significance of an article overall.
- The exercise is structurally rich but tectonically poor. Looking for density patterns and the extensiveness toward which literature and research reference each other by reviewing headlines and articles, keywords, or even abstracts provides an excellent overview mapping of just how vast a field appears to be, as well as how much field coincide or do not coincide, but the interpretive or theme analysis of what is proceeding on underneath is restricted. As a result, while the exercise provides an accessible and relatively rapid approach to survey a topic, a more classic (and manually) citation analysis would've been necessary to identify where the influences across literature actually pay off.

6. Conclusion

During the first axis, devoted to the conceptual genesis and theoretical meanings of personal motivation via its two intrinsic and extrinsic dimensions with innovation, we presented the evolutionary theories likely to provide concrete definitions before highlighting the links that can possibly be detected. We then presented the methodological choices and approaches adopted.

The rest of the work was devoted to the analysis of these articles and the discussion of the results obtained. In this wake, we used the recent developments of the R-STUDIO software using the R language. The results of the analysis allowed us to draw conclusions underlying the subject.

The research project was selected according to a two-step procedure. First, filter the search results by title, then by an abstract (Bibliographic analysis using WoS database), and then narrow them down according to strict inclusion and exclusion criteria. Those excluded studies

are titles and abstracts rather than subject abstracts. Other studies were selected for full-text search, and they were thoroughly read and understood.

According to the discussion above, based on the results obtained during the last five years, it should be noted that the trends of research work on HRM are much more oriented towards digitalization and the use of new technological tools when it comes to its link with innovation. Indeed, the majority of the works have linked the implementation of Information System and its influence on the HRM within companies, by the possession of the latter of infrastructures and technological tools.

Overall, this work is beneficial in obtaining an overview of the state of the art in HR Motivation and its links with innovation in business and management fields. The conclusions and results of this work can also bring management benefits to the scientific community.

Essentially, the goal is to provide researchers with a way to highlight the main points by considering the following elements. Taking into account the results of this research, these elements can increase the chances of success for projects related to the integration of innovative tools to improve human Resources Motivation. Finally, we hope this work can find more fruitful research in the discipline of HRM and its connection with innovation, which is a potentially fruitful field of scientific research.

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