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From theory to practice: A bibliometric review of AI applications in management sciences

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Abstract---This study seeks to conduct a bibliometric analysis of the scientific literature that is concerned with using artificial intelligence in management, where the study try to treat dilemmas that rely on discovering the prevailing research trends within the field of using artificial intelligence as a helping tool for improving management processes through a bibliometric study. The study conclude the domination of Artificial Intelligence, the emerging importance of big data, and electronic commerce reflect the developing nature of research in response to technological advancements. As well as recommended that future research should aim to address gaps in the literature and foster interdisciplinary collaboration to drive innovation and knowledge creation.

Keywords---AI, Management, Bibliometric study, R.
Jel classification: O33, M21, C80.
UDC: 004.8:005:001.891

Introduction

The world is experiencing an unprecedented digital revolution, where artificial intelligence (AI) has become one of the most important pillars of organizational development and innovation. AI helps develop computer systems and machine learning to mimic human intelligence in problem-solving and decision-making, impacting a range of business processes [1]. Organizations use AI to enhance analysing all data types, improve customer experiences, create content, enhance IT operations for sales,

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marketing, and cybersecurity practices. Trough the development of AI technologies, new applications have emerged for business. AI has gone beyond being merely an advanced technology to an essential and fundamental component of modern management, impacting all management functions to strategic decision-making, big data analysis, and human resource evolution. Recently, leader organizations rely on AI as a major an effective mean that enable them to enhence efficiency, promote the productivity, support the continues innovation, and even it enable them to adapt within unstable and volatile business environment.

Research Problem

Basing on the quicken digital turnovers, artificial intelligence (AI) has turned out to a major mean that helps for both promoting management practices and boosting decision-making processes inwards organizations. Even though the increasing interest of academians about this field, research trends' reality of using AI in management rests comprehensively and systematically unclear.

This reality reflects an important question as follow:

What are the predominant research trends in the field of artificial intelligence and its applications to enhance management processes?

Hypothesis

This study is based on the following hypothesis:

"There is qualitative and quantitative development in research related to artificial intelligence in management. However, this development is accompanied by conceptual and practical challenges that require a bibliometric analysis to understand trends, gaps, and future opportunities."

Importance of the Study

The importance of the study is represented through the following points:

• Knowledge mapping: by identifying key research trends in AI and management.

• Leading decision-makers: displaying some quantitative data about progression of using artificial intelligence in management as a tool that support evidence-based decision-making.

• Bridging research gaps: studying the current literature carefully to identify gaps, and promising future research approaches.

• Improving scientific collaboration: through displaying scientific links that gathers major researchers, institutions, and countries in the studied field.

Objective of the study

The purpose of study is conducting an overall bibliometric analysis about the scientific literature linked to using artificial intelligence in management, aiming at:

• Detrmining predominant research trends.

• Analyzing global connections between authors and institutions.

• Showing the most effective and fitful themes.

• Discovering challenges and opportunities that may accur in the field.

Literature review

The concept of bibliometric studies

Bibliometric studies are the science or research that studies general or specialized intellectual production, i.e., that deals with a specific topic, through quantitative and qualitative studies that often apply mathematical and statistical methods [2].

Bibliometric analysis is the quantitative study of bibliographic resources**.** It provides an overview of research areas that can be categorized by research papers, authors, journals, and number of citations [3].

It is also known as the use of statistical methods to analyze a collection of writings to determine the historical development of subject areas and methods of authorship, publication, and use [4].

Generalities about Management

Defenition

Management can be defined as a set of activities and processes for designing and maintaining an environment in which individuals, working together in groups efficiently , in order to coordinate available resources to achieve selected goals [5].

Functions of management

Business can be defined as the mode of coordinating a set of different resources that an organization possess to achieve determined goals. where management include variety of functions as follow:

A- Planning

Planning reflects the mode of setting specific goals, and draw the best way that helps to achieve them, where activities of planning include:

- **Setting goals**: Identifying the final result that organization desire to achieve it.
- **Analysing the environment**: study the environment whether the internal or external, for determining all of strengths, weaknesses, opportunities and threats.
- **Setting plans**: Identifying the required actions that enable to reach objectives.

B- Organizing

Organization can be considered as the process of classifying and arranging different ressources that an organization possed to guarantee the achievement of objectives ecciciently and effectively. where activities of organization include: dividing work, allocating resources, and building an organizational structure.

C- Leading

It deals with several matters, such as stimulating and motivating individuals to work, leading and guiding them, and communicating with them. Leading aims to mobilize and direct all employees to achieve the main goals.

D- Controling

Control is the process of measuring and evaluating an organization's performance and taking the necessary actions to ensure its commitment to objectives.

Steps and methodology for conducting a bibliometric study

To conduct a bibliometric study on the literature related to the topic of integrating management and artificial intelligence within institutions, a sample of 1733 publications relevant to the study topic was taken. The search was conducted in the Scopus database using keywords related to management and artificial intelligence. All scientific articles and publications were downloaded, and the data was entered into the R statistical software to perform the bibliometric analysis and extract the most important indicators related to the bibliometric study. Then, conducting the bibliometric study passes by the following steps [6, 7] :

1. Define Research Objectives and scope

Outlining in clear way what are the objectives through this bibliometric analysis, in addition to the setting of timeframe and the types of data downloaded. According to the important role that AI has played to develope all organization, starting from management, this research seek to discover the prevailing research trends in the field of artificial intelligence and its applications for improving management processes through 1733 documents that include articles and publications related to the topic of AI and management through the period of 1986 until 2024.

2. Literature of search and Collecting data

Within this phase researchers collect relevant literature from a proper and reputable academic database, like those of Scopus or Web of Science, Google Scholar or even van build own database. Then, develope search queries using relevant keywords, and download all database in a standardized format

(CSV, RIS, or BibTeX). In this study 1733 documents were downloaded from the Scopus database using artificial intelligence and management as key words.

3. Cleaning the collected raw data and Preprocessing it
By ejecting repeated informations, rectifying inconsistencies (author names), also refining the dataset for ensuring reliability and perfetion data can be cleaned and preprocessed, than pass to the analysing phase.

4. Select suitable bibliometric techniques
within this phase the appropriate techniques are required to be picked out relying on research objectives (e.g., co-citation analysis, co-word analysis, bibliographic coupling ..ext).

5. Analysis the data
Starting the analysis through using helpful and specialized softwares like VOSviewer Citespace, R for analyzing the dataset and reveal patterns, trends. For revealing the trends of integrating AI and management the study used the R software.

6. Visualize results
Producing maps, networks, word clouds, or graphs to clarify relationships, collaborations, and thematic clusters to make interpretation easy.

7. Interpretation of findings and Reporting
Trough a developed and comprehensive report that present insights, research trends, influential contributors, and recommendations for further research. This study through the R software many maps, graphs and tables related to the topic were generated and interpreted.

Results and Disscussion

Main information about data
After processing the data obtained from the Scopus database, which pertains to the integration of artificial intelligence applications in advancing management practices, the analysis was conducted using the R statistical software on the selected sample (1733 documents). The consequences of the descriptive statistical analysis for this dataset are shown in the following table.

Table (1): Data descriptive statistics

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	1986:2025
Sources (Journals, Books, etc)	837
Documents	1733
Annual Growth Rate %	2,86
Document Average Age	4,69
Average citations per doc	18,44
References	81105
DOCUMENT CONTENTS	
Keywords Plus (ID)	4970
Author's Keywords (DE)	4214
AUTHORS	
Authors	4208
Authors of single-authored docs	342

AUTHORS COLLABORATION	
Single-authored docs	362
Co-Authors per Doc	2,81
International co-authorships %	25,5
DOCUMENT TYPES	
article	728
book	160
book chapter	285
conference paper	408
conference review	54
editorial	16
erratum	4
note	1
retracted	10
review	67

Source: Prepared by researchers based on the outputs of R statistical program

The table above displays the descriptive statistics of the studied sample, which was extracted from the Scopus database. This sample comprises a total of 1733 publications, categorized as follows: 728 articles, 160 books, 285 book chapters, 408 conference papers, 54 conference reviews, 16 editorials, 4 erratum, 01(one) note, 10 retracted, and 67 reviews. The sample exhibits an annual growth rate of 2.86%, with an average citation count of 18.44 per doc (publication). Collectively, the publications cited accounted a total of 81105 references. The sample contains 4208 authors, of whom 342 authors of single-authored docs. The average co-authorship rate stands at 2.81 authors per doc (publication), with international collaborations accounting for 25.5% of these co-authorships**.**

Publication and Citation Trends

Calculating the annual scientific production enables bibliometric analyses to be dynamic rather than static, improving the understanding of scientific development patterns, effect trajectories, and collaborative behaviors in evolving research fields such as the actual topic of integrating artificial intelligence with management [8].

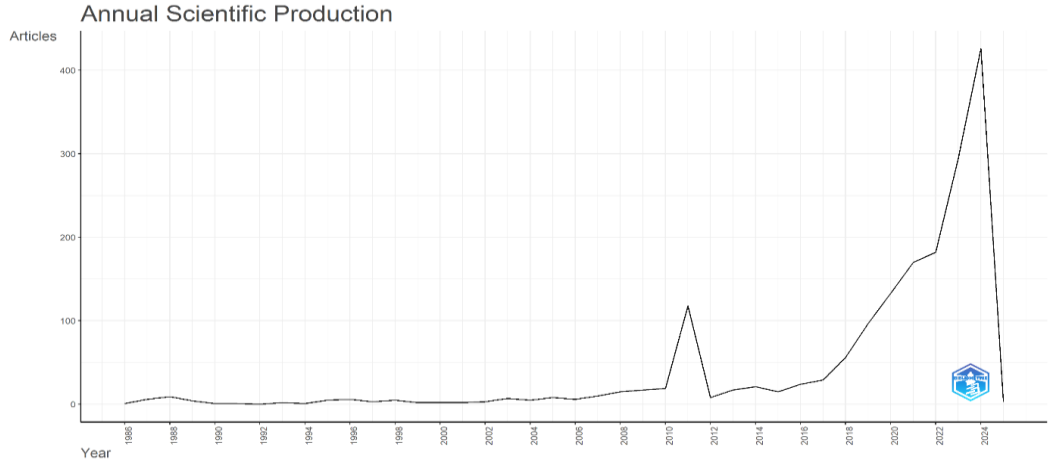

Figure 01: Annual scientific production

Source: Prepared by researchers based on the outputs of R statistical program

The figure above focus on the trends in scientific production over time, which is presented as the "Annual Scientific Production" of management and AI-related publications, The x-axis shows the "Year" (from 1986 to 2024), while the y-axis represents the scientific production "Articles."

Key Observations

- ✓ **Early phase** (1986-2010)

Where the amount of AI publications stayed relatively at the same level from 1986 around to 2010, where the evolution of the line remained close to the 0, which means that there was no scientific production on the subject at the beginning of this period. Then, articles on emerged in the 1990s, but its significance surged due to the rapid growth in data accessibility. There is a spike observed around 2010.

- ✓ **Exponential Growth (2010-2024)**

This period started around 2010, which witnessed a dramatic and sustained rising in the number of AI- and management related publications. The curve begins to arise sharply, suggesting an exponential growth trend, at roughly constant rates over long periods. This confirms a significant jump in research activity about the topic. The publications nearly reached 400 articles.

- ✓ **Recent Trend**

The most recent data points (2023 and 2024) indicate a continuation of the exponential growth trend. where many aplications of AI (AI-powered project and task management tools that help managers optimize workflows, predict project risks, and enhance team collaboration) reflect a great shift toward integrating AI not just as a support tool but as a crutial element of managerial processes to deliver faster, data-driven, and more effective business outcomes in 2024. This suposes that the field of AI research is still rapidly expanding.

Most relevant sources

Using "most relevant sources" in a bibliometric analysis, refers to the key publications, journals, or authors that have the most influencial impact or importance in a such research field. Which are identified based on quantitative metrics such as: High citation counts, frequent occurrence in the references of related publications, and prominence in co-citation or bibliographic coupling networks [9].

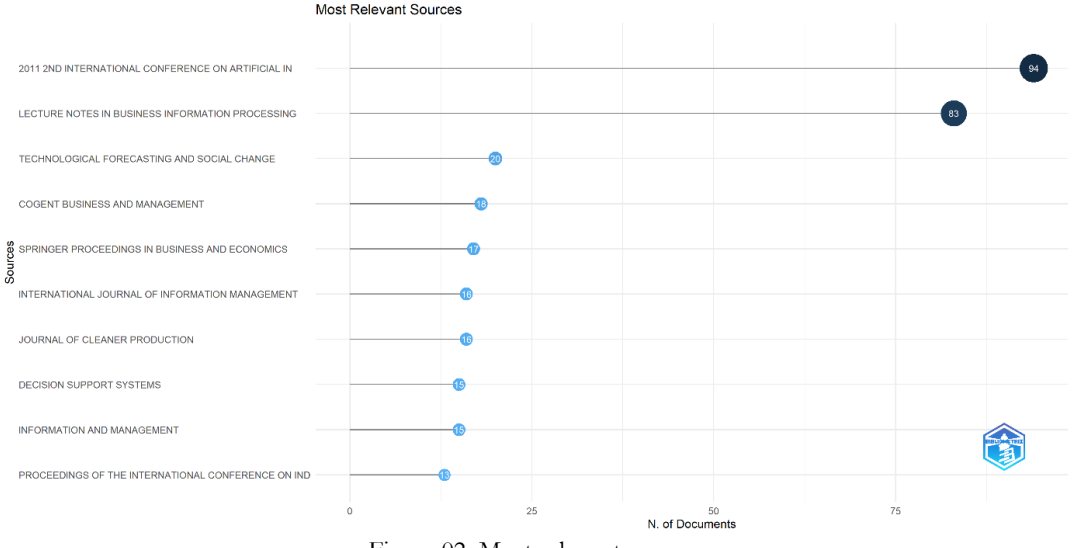

Figure 02: Most relevant sources

Source: Prepared by researchers based on the outputs of R statistical program

The chart above brings a visual comparison about the impact and influence of various sources (most relevant sources) in the field of AI and management.

- Principal observations

- The domination of " 2nd International Conference on Artificial in 2011": This conference on Artificial Intelligence has a significantly high number of documents, where the publications exceed 80, which indicate it's majory in contributing to analyze the research area of AI and management.
- The influencing of "Lecture Notes in Business Information Processing": which represent a highly cited journal, where it has a number of documents all over 83, reflecting its important influence within the research field of AI and management.
- Moderate effect of "Technological Forecasting and Social Change": "Technological Forecasting and Social Change" has a moderate amount of docs, where its publications achieved around 20 ones, which indicate a notable contribution.
- Exustance of Other Sources: Other sources, like "Cogent Business and Management," "Springer Proceedings in Business and Economics," "International Journal of Information Management," "Journal of Cleaner Production," "Decision Support Systems," "Information and Management," and "Proceedings of the International Conference on Ind", all have an existance in the field studied " AI and management", each one represented by a number of publications between 10 and 20.

Production of sources over time

Dealing with metric of" sources'production over time" in a bibliometric analysis helps to examine how the number of published works (such as articles, books, or conference papers) on a such topic or within a research field changes or increases during different time periods [10].

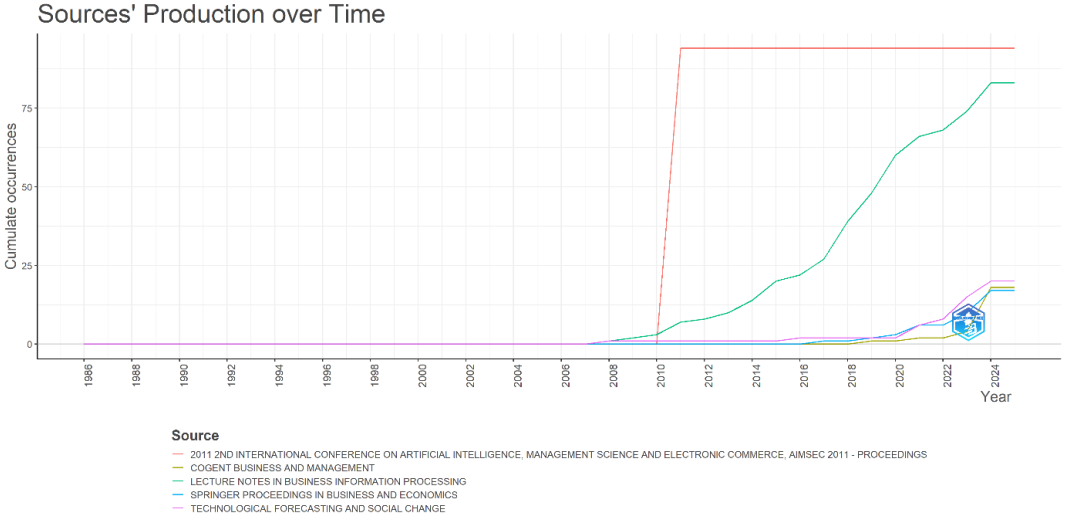

Figure 03: Sources' production over time
Source: Prepared by researchers based on the outputs of R statistical program

The figure above just reshape the two previous figures 01 and 02 " the annual scientific production and most relevant sources, where it indicates the domination of " 2nd International Conference on Artificial in 2011" until the year of 2024.

The production of countries through time

The metric of "country production over time" is used to examine of the volume progression of research publications by different countries over a certain period. This analysis indicates the contribution of each country to the scientific literature in a specific research field or topic [11].

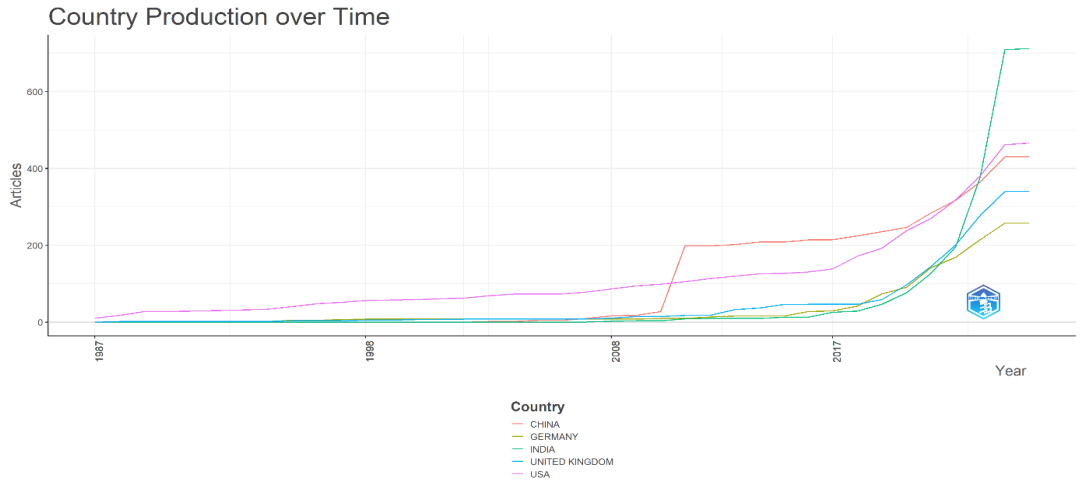

Figure 04: Country production over time
Source: Prepared by researchers based on the outputs of R statistical program

Basing on the figure above that illustrate the country production over time, the result can be analyzed as follows:

- **China**:
  China displays an important increase in producing articles of AI and management, starting nearly by 2008, with a great steep forward trajectory that continues rising sharply through 2017. This trend shows a growing focuses on research output and possibly reflects increased investment in research and development (R&D) initiatives within the country of China.
- **Germany:**
  Germany's scientific production about the field of AI and management stil relatively stable with a gradual improvement over the years, peaking nearby 2008 but still not offering the same explosive growth that happened in China. Which indicates that though Germany keep up a consistent output in the field studied, it may not be maintainingng pace with the fast growth seen in other countries, especially China.
- **India**:
  India's scientific production expreses a moderate increase through time, with a remarkable uptick around 2008, such as that one of Germany but at a lower volume. This indicates a possible growing in research output, although it still behind both China and Germany.
- **United Kingdom:**
  The scientific production of United Kingdom remains relatively flat slightley increased, showing a stable but not fastly expanding research output. This would propose a mature research environment which is not experiencing notable growth compared into emerging economies.
- **USA**:
  The USA indicates a slow consistant raise in scientific production of the studied field all over the years, with a slight increase around 2008.

This trend may reverberate the founded nature of the research background in the USA, where focusing in this field has known a steady growth but not similar to the dramatic growth of China.

Most global cited documents

The tool of "most global cited documents" shows the highest number of citations that research papers or publications have received around the world within a specific field. which indicates theier highly influential or foundational [12].

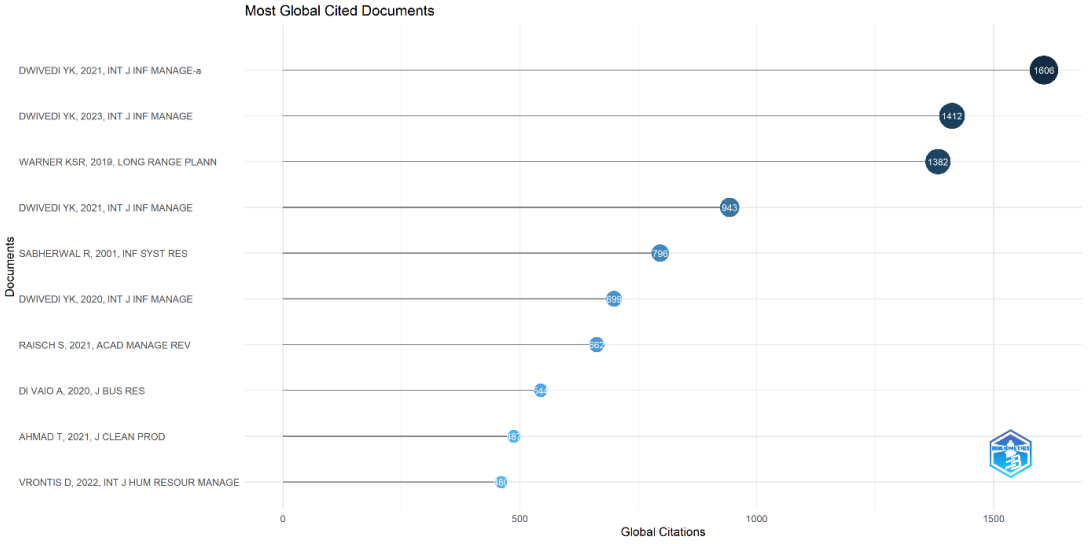

Figure 04: Most cited documents

Source: Prepared by researchers based on the outputs of R statistical program

General view of Most Cited Documents

The presented figure above shows the most globally cited documents in the field of management and AI, displaying the citation computes of various publications. The bibliometric analysis can output the following notes:

- **Leading Publications:**
  The document prepared by Dwivedi YK from 2021 in the International Journal of Information Management emerges as the most cited, where it reach 1,606 global citations. This suggests its significant effect in the studied field.
  Other remarkable sientific works authored by Dwivedi YK from 2023 and 2020 accounts 1,412 and 1,382, citations respectively. This indicates a strong continuous impact of Dwivedi's research in recent years.
- **Diversification of Authors:**
  The figure contains contributions predared by diferent authors, such as Sabherwal R (2001) and Raisch S (2021), saggesting a diverse area of research topics and perspectives within the management domain.
  The existance of articles from various journals, including AI Research and Academy of Management Review, shows the interdisciplinary nature of the research.
- **Citation Trends:**
  The citations indicate a general trend of growing citations over time, especially for more recent publications. This trend possibly reflect an increasing interest in the topics addressed through these research papers, such as data management and AI.
  The lower citation counts for ancient publications, like the ones from 2001, which indicate even thier importance, they may not be cited in current research as the recent studies.
- **Implications for Research:**
  The recent publications are domining the citation counts, which indicate that current research trends are haveily effected by modern issues in management , such as integrating technology, digital transformation and data analytics within management issues.

The higher level of citation counts for particular documents suggest their potential as key references for next research, leading and lighting the pathway for scholars towards relevant topics and methodologies.

Most cited countries

Through the technique of "most cited countries" nations whose published research articles receive the highest number of citations can be recognized. Which indicate that are often seen as the most influential or impactful in terms of their contributions to scientific knowledge [13].

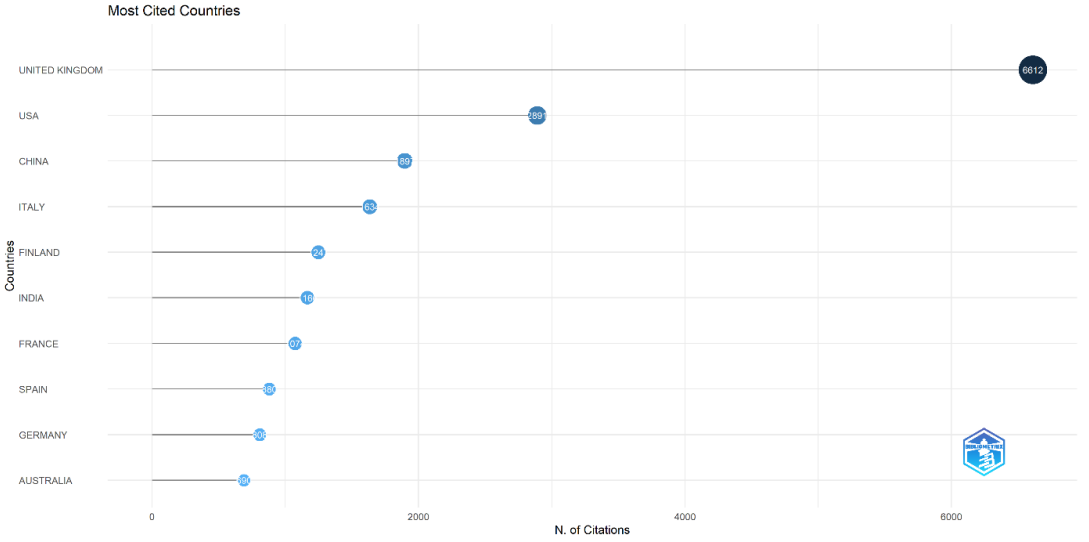

Figure 05: Most cited countries

Source: Prepared by researchers based on the outputs of R statistical program

General view of Most Cited Countries

The analysis of this tool will focus on the following :

- **Domination of United Kingdom**
  The United Kingdom guids with the topest number of citations, where achiev totaling of 6,612 citations. This indicates the prominent role of UK in the studied field.
- **Bright Presence of US**
  The United States is also achieved a high citation number, with 2,891 ones, highlighting a notable contribution from the US research community for the global field.
- **Other countries with High number Citation**
  After both UK and US, China and Italy have remarkable citation counts, with 691 and 634 citations, respectively.
  Then Finland, India, France, Spain, and Germany each one have a significant number of citations as well, highlighting a wide distribution of impactful research globally.
- **The contribution of Australia**
  Australia's is presented by 590 citations, shows its relevance in the studied fieled.

Analysing the Tree map

The Tree map represent a crucial element in bibliometric analysis, where it focus on the distribution and significance of different research topics according to what is represented in the following figure (figure 06) as follows:

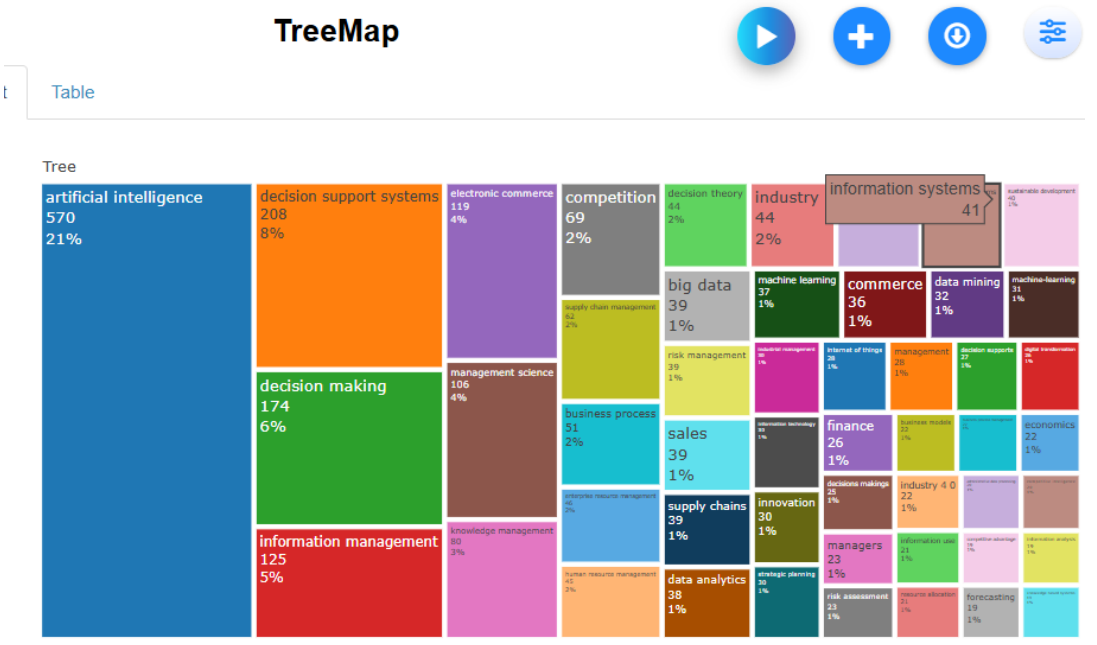

Figure 06: Treemap
Source: Prepared by researchers based on the outputs of R statistical program

The analysis will tackle the following aspects:

- General view of Research Topics
- Top Research Areas
- Trends and Insights
- Implications for Future Research.

General view of Research Topics

According to the treemap, which shows the distribution of research topics based on their publication counts. The topics are classified through their particular contributions to the overall research landscape, with the following key districts showed:

- Artificial Intelligence: 570 publications (21%)
- Decision Support Systems: 208 publications (8%)
- Electronic Commerce: 119 publications (4%)
- Decision Making: 174 publications (6%)
- Information Management: 125 publications (5%)
- Competition: 69 publications (2%)
- Industry: 44 publications (2%)
- Big Data: 39 publications (1%)

Top Research Areas

The analysis apears that Artificial Intelligence the dominante key word in research area, where account for 21% of the total publications. This shows a notable interest within AI across multy disciplines, indicating its transformative effect on both technology and business (management) practices. Decision Support Systems and Decision Making also indicate essential representation, where they achieve 8% and 6% of publications, respectively. This refers to a strong concentration on improving decision-making processes through technological advancements. Information Management carry a remarkable

position with a total of 5% from the publications, highlighting its relevance in managing data and information systems effectively.

Trends and Insights

Devided into **:**

- **Emerging Topic**: The existance of Big Data and Electronic Commerce showss the increasing importance of data analytics and online business models in recent research. The growing number of publications in these areas highlights a transfer towards data-driven decision-making and digital transformation.
- **Interdisciplinary Nature**: The interfere between some topics like Artificial Intelligence, Decision Support Systems, and Management highlights a trend towards interdisciplinary research, where insights from one field improve understanding and innovation in another.
- **Research Gaps**: A lower publication of certain reserach areas such as Industry and cmpetition, instead of other fiels like AI which is well researched, suggest potontial gaps in the literature which future research could address.

Implications for Future Research

Concentration on Interdisciplinary Approaches: Researcher need to keep in thier mindes it will be better to integrate ideas and insights from different fields, like AI and data analytics, to enhence best solutions for complex problems in management and technology.

Exploration of Underrepresented Areas: Researchers have a great opportunity to sleuth deeper some less discoverd topics such as industry and competition, that could produce valuable insights and contribute to establish and new and global knlowledge.

Collaboration Opportunities: The analysis shows that collaboration between researchers from various disciplines could improve and enhence the quality and impact of research results, especially in emerging fields such as AI and Big Data.

Tool of Trend Topics

The shown figure 07 indicates the trend topics in AI and managment research over time, showcasing the frequency of many terms in relation to management. A bibliometric analysis of this figure can indicate the follows:

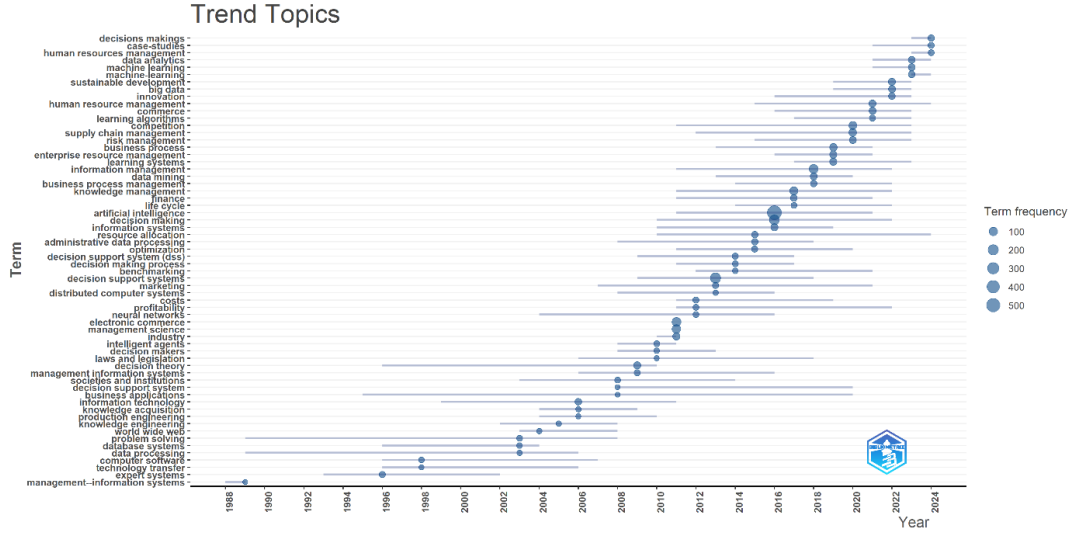

Figure 07: Trend Topics

Source: Prepared by researchers based on the outputs of R statistical program

General view of Trend Topics

- **Emerging Themes**
  The figure emphasize diferent key terms that have acquired importance over the years, like "data analytics," "machine learning," and "big data." These terms reflect the increasing importance of technology and data-driven decision-making in management practices.
  The emergence of terms such as "sustainable development" and "innovation" shows a change towards integrating sustainability and innovative (which represent AI) practices within management domain.
- **Historical Context**
  The timeline indicates that some terms linked to management , such as "decision support systems" and "information systems," have been available since the late of 1980s, but their using has been increased in the 2000s and 2010s.
  At the earlier of 1990s, there was a gradual growing for using terms such as "computer software" and "database systems," which reflect the initial integration of technology into management practices.
- **Recent Trends**
  After the 2010, the using of terms related to technology, such as "data analytics" and "machine learning," witnessed a notable growth, where they have become central to contemporary management discussions.
  The figure above shows that the continues rising of using these terms, suggesting that they are becoming increasingly relevant in current research and practice.
- **Comparative Analysis**
  Some terms in the studied field like "human resource management" and "risk management" indicate consistent usage all over time, saggesting their sustained relevance in the field of AI and management.

The appearance of terms such as "artificial intelligence" and "learning algorithms" in recent years lights the continues development of management practices that influenced by developped technologies.

The distribution of research themes

The distribution of research themes shows the spread out of various research topics and its representation within the body of scientific literature under study. It includes identifying key thematic clusters or groups based on keywords, titles, abstracts, or citation relationships [14].

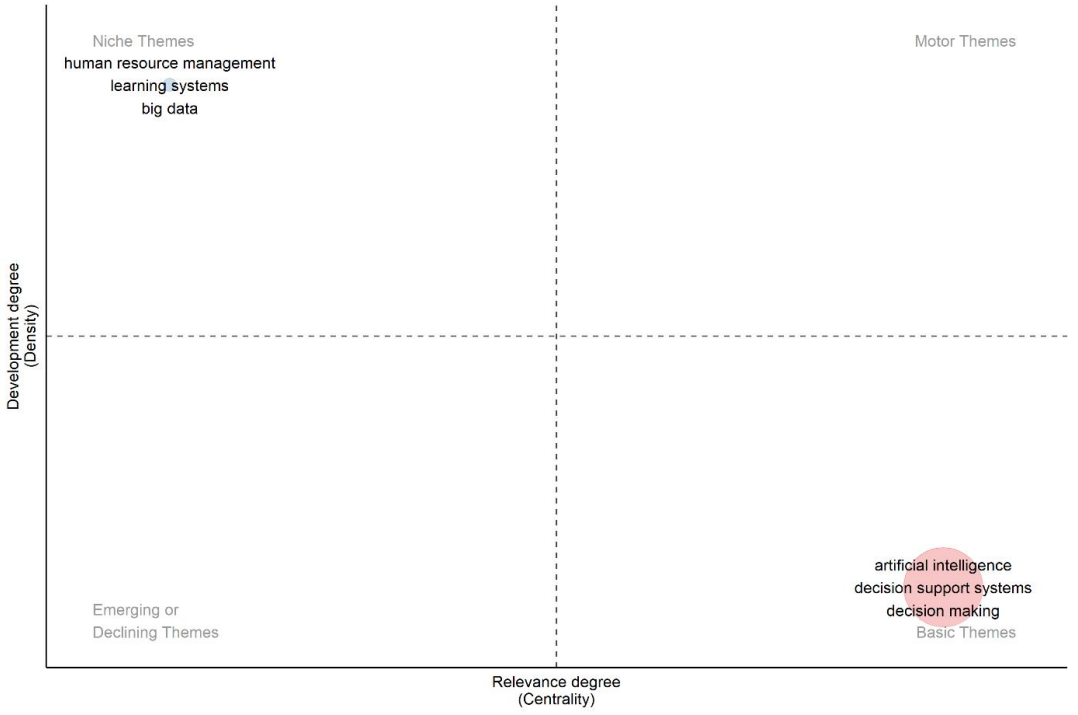

Figure 08: Thimatic Map
Source: Prepared by researchers based on the outputs of R statistical program

This bibliometric analysis tackles the distribution of research themes as represented in the figure above, which regroups themes basing on their relevance degree (centrality) and development degree (density). The analysis will overlay the following aspects:
Overview of Research Themes
Key Insights from the Quadrants

Overview of Research Themes
The research themes had been appeared classified into four quadrants according to their relevance and development:

- **Niche Themes**: which contain "human resource management," "learning systems," and "big data." Lower centrality and density characterize these themes, highlighting their limit in development, instead of that they may have possibility to growth.
- **Motor Themes**: This quadrant is characterized by containing themes which are high relevent and well-advanced, although it is not explicitly populated in the figure.
- **Basic Themes**: This quadrant includes themses that represent the core of the research "artificial intelligence," "decision support systems," and "decision making." Where they are featured by their higher level of centrality and density, indicating they are well-established and widely researched.
- **Emerging or Declining Themes**: This zone is actually unpopulated, indicating it is devoiding of any significant themes that are both emerging and declining at this time.

Key Insights from the Quadrants

- **Niche Themes**: The existance of themes such as "human resource management" and "big data" in the niche quadrant indicates that eventhough they are familiar areas of interest, they

may not yet be well explored or inserted into wider research agendas. This provides an opportunity for researchers to sleuth deeper into these research areas.

- **Basic Themes**: Themes of this quadrant, especially "artificial intelligence" and "decision support systems," suggest a strong establishment of research. These areas are likely to keep attracting attention because of their relevance in several applications, including business, healthcare, and technology.

Bibliometric Analysis of the Countries' Collaboration World Map

This bibliometric analysis displays the collaboration patterns between many countries as as shown in the provided world map (figure 09). The analysis will cover the following aspects:

Figure 09: Countries' collaboration map
Source: Prepared by researchers based on the outputs of R statistical program

Key Collaborating Countries

Based on the map above, various countries stand as key players in international research collaboration:

- **United States**: Usually play a central role in sienctific collaboration, where connecting with numerous countries around the world.
- **China**: confirms its strong collaboration ties, especially with countriesfrom Asia and North America.
- **European Nations**: Some countries such as Germany, the United Kingdom, and France display significant collaboration with both each other and with non-European countries.
- **India:** becomes a part of multiple collaborations, particularly with countries in Asia and the West.

Trends and Insights

- **Increased Global Collaboration**: The map shows a trend towards a growing international collaboration, which reflect the globalization of research and the need for several expertise to trait complexed global challenges.
- **Regional Collaboration axis**: some regions, as example North America and Europe, turn as collaboration hubs, highlighting partnerships with countries in Asia, Africa, and Latin

America. This indicates a network impact where countries with established research infrastructures make collaborations from less developed nations more atrractive.

- **Emerging Economies**: countries of emmerging economics such as brics' countries India and Brazil are increasingly participating in international collaborations, suggesting their increasing importance in the global research landscape.

Bibliometric Analysis of Core Sources by Bradford's Law

This law is known as diffusion and dispersion, formulated by Samuel C. Bradford in 1934, describes how intellectual production on a particular topic is distributed in scientific journals. It posits that a small number of journals publish a large proportion of articles, while a larger number of journals contribute a smaller share [15].

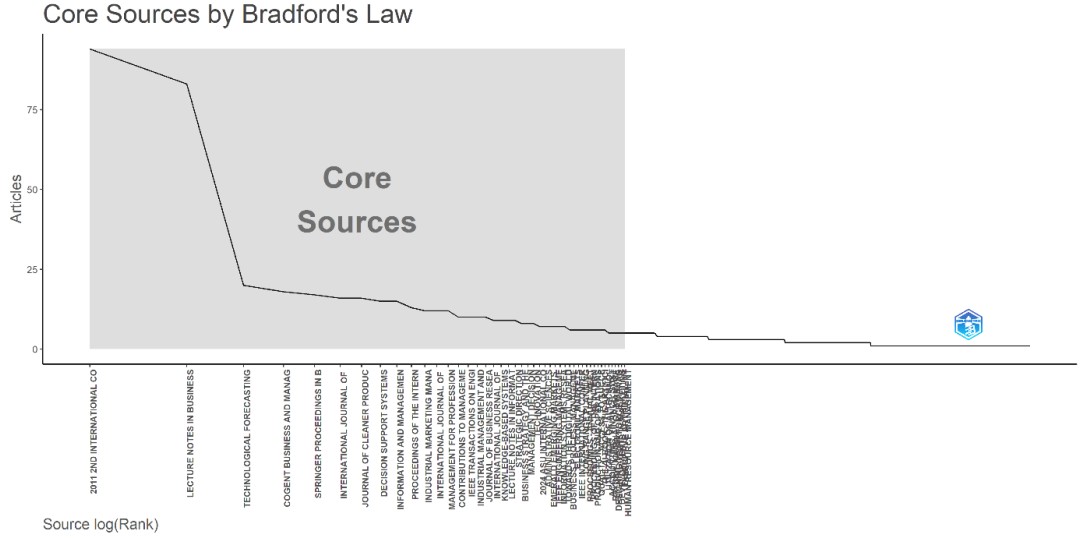

Figure 10: Core sources by law of Bradford
Source: Prepared by researchers based on the outputs of R statistical program

This analysis hubs on the distribution of core sources as showed in the figure above, which clarifies the application of Bradford's Law to the publication of articles across several sources. The analysis will discuss the following aspects:

- Key Findings from the Figure
- Trends and Implications for Future Research

Key Findings from the Figure

- **Core Sources**: The figure indicates a combination of core sources which publish as a whole notable number of articles. Where the obfuscated area labeled "Core Sources" highlights that these journals are crutial and central to the research output in the studied field, aligning with Bradford's Law.
- **Distribution of Articles**: The sharp decline in the articles' number published as one switchs away from the core sources indicates the ecreasing returns of searching for references in less famed journals. This pattern affirms the core-periphery temple described by Bradford's Law.
- **Top Journals**: The figure above lists various journals that are portion of the core sources, suggesting their significance in the field studied. Journals like "Lecture Notes in Business" and "Technological Forecasting" are highlighted, indicating they are key contributors to the literature review.

Trends and Implications for Future Research

This bibliometric analysis of core sources by Bradford's Law shows the important trends in research publication distribution. The identification of core sources extends worthy insights for researchers who aims to enhance their impact and visibility within the academic community. Future research must continue to discover the dynamics of journal contributions and the inclusions for scholarly communication.

Conclusion

There is no doubt that AI has become a crutial tool in daily lif generally, and in organizations particilarly. So, its integration into strategies has gained the lion's share in various organizations seeking to gain a competitive advantage as a winning card in the digital age. As the importance role of AI in reshaping business process and drives innovation, the needs of expert leadership that fruitfully run these changes becomes growinglly apparent. Where this research aimed to draw a mapping of knowledge,through identifying key research trends in the field of artificial intelligence and management according to a bibliometric study , in order to collect and analyze data and identify research trends regarding the role and importance of artificial intelligence in managment process.

The bibliometric analysis of most relevant sources shows a central set of poignant venues for research. Which are crucial for both researchers and interested ones in the field. the actuel analysis provides a background of the recent state of research and points to the most important sources and their impact on the area of management.

The results of the analysis of research trends, both for researchers and countries, indicate the existence of a research gaps, especially in the some managment processes that use of artificial intelligence as a mechanism in administrative processes. These gaps at most come from "incommensurate distribution of prior management processes with (AI) research's in terms of the least number of sector/country-particular studies especially before 2017, scarcity of sound theoretic base/frameworks, more research on routine in some managment sections like HR functions(i.e. recruitment and selection) and significantly lower empirical studies.

The rised citation rate especially after 2010, and significant collaboration indicate a healthy and effictive research area. As well as the relatively elevated percentage of international co-authorship refers to a globalized research network. The document types' distribution is typical for academic publications.

The provided analysis emphasizes the significance of being updated with current literature review for understanding ongoing trends and effects in the studied field. The data itself points future posibilities for research, especially in discovering the implications of the returns from these highly cited works. Also, the analysis can serve as a foundation for furthermore exploration into some trends particularly and their implications for both academic research and empirical applications in management processes.

The most cited countries' analysis highlights a concentricity of impactful research in each of the United Kingdom, the United States, and China. as well as the distribution of citations across several countries shows the global nature of research in management, with diverse contributions of many regions around the world. Where these findings enable to make strategic decisions concerning research collaborations, funding allocation, and identification of research hotspots in the studied field.

According to the treemap figure, all of the domination of Artificial Intelligence, the emerging importance of big data and electronic commerce reflect the developing nature of research in response to technological advancements.

The analysis of core sources through Bradford's Law indicates the significant trends in research publication distribution. As well as, the ambitious researchers who are looking for enhancing their impact and visibility within the academic community, need to deal with the wellidentification of core sources, which provides valuable insights for them.

Recommendations

In light of this bibliometric study, some recommendations can be presented to take in consideration, which may enable researchers to develope scientific collaboration, determine prevailing research trends, and well analyze scholarly networks between authors and institutions especially in the studied field of integrating AI in management. This include the following:

- ✓ Encouraging research trends in various economic fields that rely on adopting the principles of artificial intelligence and promoting its use in managment processes to build and develop institutions capable of competing and utilizing technology within the digital age.
- ✓ It will be better for future research to care about gaps in the literature and reinforce interdisciplinary collaboration to boost innovation and knowledge creation.
- ✓ It is better for future research to continue exploring the dynamics of journal contributions and the inclusions for scholarly communication.

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