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Major concerns about Enterprise Resource Planning (ERP) systems: A systematic review of a decade of research (2011-2021)

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Abstract

Organizations seek to optimize their business processes and one of the best ways to achieve this objective is to implement an Enterprise Resource Planning system. ERP systems have evolved in recent decades to improve organizations' business processes and increase their performance. These systems have different and flexible characteristics and can provide growth and sustainability opportunities for large companies, but also for small and medium enterprises. This article addresses the major concerns about ERP systems and is supported by a systematic review of the literature over the last decade (2011-2021). The structure and organization of PRISMA 2020 were followed as methodological guide. Based on a systematic review of the literature, the seven scientific repositories surveyed, the number of publications per year, the editors, and authors most cited, the method categories of publications, the lifecycle stages are characterized and analyzed. Finally, the major concerns regarding ERP systems addressed in most relevant studies from the last decade are presented and discussed. The top five concerns that stood out were implementation, integration approaches, user participation, decision making, and risk management.

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1. Introduction

Enterprise Resource Planning (ERP) systems are modular software that allow managing, integrating, and optimizing the business and transaction functionalities of organizations. Since the time the research firm Gartner coined the term “enterprise resource planning” in 1990, the ERP systems continued to evolve until nowadays, allowing organizations to improve their operations and management [1]–[3].

Although there is a substantial amount of research on ERP, review works on this topic are lacking. Furthermore, after nearly three decades since the first reference to ERP systems, it is time to give an update on the main concerns of the Academy about them. Some of the initial concerns may be outdated, and others may have changed or evolved over the years.

This paper will address the major concerns about ERP systems based on a systematic literature review of publications from the last decade, between 2011–2021. The systematic review of the literature that was done allowed discovering and analyzing the most relevant publications of concerns about ERP systems and identifying the major ones on the last decade according to the Academia [4], [5].

This revision was made to be a documental resource for research and consultation of the main concerns about ERP during all life cycle of this type of systems. This review included not only the presentation and analysis of structured data on the main concerns of ERPs, but also on the themes, the years of publication of the studies, the main editors, and the methodology of the selected studies. It also aims to provide an up-to-date bibliography of publications on ERP systems. Through this study we also present trends and perspectives for future work.

This article follows the PRISMA [6] guidelines and consists of five sections. Although there are other approaches as QUOROM, PRISMA has been largely used since 2009 by authors and researchers to make systematic reviews and meta-analyses. It has been updated through the years to guarantee the quality of the publication of methods and results [7], [8]. The PRISMA version that we used in this research was the 2020 one [6]. After the presentation of the theme, the explanation of the motivations of the work and the presentation of the objectives at this introductory section, the second section presents a systematic literature review, which seeks to introduce the fundamental concepts of Enterprise Resource Planning. The third section is dedicated to the methodology. There, the methodology adopted for the development of this review is justified, the issue of systematic literature review is defined and the eligible research criteria that allow the search, collection and selection of publications is described. The fourth section is dedicated to the presentation of the results. The interpretation and discussion of the results obtained are presented in section 5. The conclusions section is where we analyze the research questions and assess the scope of the objectives. Some limitations of the study and proposed possible future research are also identified in that final section.

2. Research on Enterprise Resource Planning (ERP) systems

The global and competitive world demands that organizations can adapt to changing situations in different contexts. It is essential to respond quickly and efficiently to any changes required by customers, partners, or suppliers. ERP systems providers are aware of the need to innovate their products, and, for this reason, they have been updating and improving their ERP systems continuously. ERP systems have the function of aggregating and managing data from all transactions efficiently in real time [5], [9]. The focus of the Academia has been on presenting concepts, enumerating the different types of ERP, identifying the risks associated to implementation and integration, presenting guidelines, developing case studies in companies and emphasizing ERP trends [5], [9], [10]. Some publications have also been dedicated to analyzing the different perspectives of managers, customers, users, or suppliers in the use of ERP. Other publications aimed to present studies on new modules of ERP systems, integration of new applications, new web services and technology integration trends. Analyzes and discussions were carried out on their opportunities and challenges. The flaws, errors and limitations of these systems were identified and the gaps between organizations and between industry and academic researchers were pointed [1], [11], [12]. The continuous evolution of ERP systems, in particular the importance of using the cloud to support these systems, is evident. ERP system providers currently make their systems available as Software as a Service (SaaS) or as Platform as a Service (PaaS) and the number of companies adopting these systems as SaaS is expected to continue to increase exponentially in the future. Implementations of new ERP systems continue to evolve, supporting more automated processes and increasingly

integrating the administrative and operational resources of the business, for example human resources, sales and distribution or finance [2], [5].

3. Methodology

A major concern in the systematic review of the literature on ERP systems that is presented in this article was that it must have been guided by a methodology that reflects established methods for identifying, selecting, evaluating and synthesizing studies. We chose the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to support the adopted methodology.

3.1 Eligibility criteria

As a systematic literature review, it was intended to present relevant data, compare, and analyze them. For this reason, only significant data was considered. We defined and applied an eligibility criterion to select relevant publications for this study. The eligibility criteria used in this work considered publications included in the ACM, EBSCO, IEEE, SAGE, Scopus, Taylor & Francies or Web of Science (WoS) scientific repositories; only in English and between 2011-01-01 to 2021-10-31. Regarding the keywords considered, the logical operator OR was used as follows: “Enterprise resource planning system” OR “ERP trends and perspective” OR “ERP systems challenges” OR “ERP evolution” OR “ERP business process management” OR “Critical Success Factors in ERP” OR “ERP adoption” OR “Emerging ERP”. The following types of documents were selected: article, book chapter, conference paper, journal article, proceedings paper, product review and review. Although not consensual, to value the visibility and influence of publications, the eligibility criteria also included only publications with 50 or more citations validated on Google Scholar. Finally, a set of eligible criteria was added: having an abstract, having more than 4 pages, addressing ERP issues, addressing ERP major concerns or not referring to the ERP only sporadically [6].

3.2 Information sources

The scientific repositories of Scopus and WoS served as a starting point for the research, as both include numerous publications on Information Systems (IS). The selection of seven scientific repositories (ACM, EBSCO, IEEE, SAGE, Scopus, Taylor & Francis, WoS) aimed to reach as many publications as possible. Searching for publications on the Internet has numerous advantages, such as the easy accessibility of documents, the frequent gratuity, the variety of typologies, in addition to being ecologically sustainable. To obtain the number of citations, Google Scholar was manually used to identify the number of citations for each of the publications [6].

3.3 Search strategy

Search strategies were supported by eligibility criteria. Not all scientific repositories have the same search filters. The fields where differences were found in the search filters were document type and method category. Despite the differences, the strategy of choosing similar filters was adopted for each repository, with the objective of collecting significant data, respecting the previously defined criteria. In all searches the OR logical operator was applied between each keyword. The searches for publications began on 01-10-2021 and resulted, at first, in 2610 publications. An updated search based on eligibility criteria was performed between 28-11-2021 and 31-01-2022 with the eligibility criteria systematically applied to obtain the best possible results [6].

3.4 Selection process

After defining the review question, defining the information search and defining the research strategy, the selection of publications was performed. The Microsoft Excel software, from Office 365 package, was used to remove most of the duplicate publications. However, the data from the publications had to be revised again, one by one, allowing the manual removal of those that were duplicates and that had not been previously identified in an automatic way with the help of MS Excel. After comparing significant data from publications, such as authors, titles, dates, or editors, it

was possible to identify and eliminate other duplicate publications. Some duplicate publications on Scopus and WoS were found, with WoS publications being removed. The PRISMA templates were used to record all data included, excluded, and duplicated. The total number of publications was 2610. Then, 105 duplicate publications were eliminated using Excel and 10 duplicate publications were eliminated manually. When all other criteria were applied, 2268 publications were excluded, as shown in the Table 1 [6].

Table 1. Total number of publications by state.

	Included	Excluded	Duplicated	Total
Publications after the eligibility criteria filtering	227	2268	115	2610
Publications after manual review of publications	126	101	0	227

The 227 publications that came from the eligibility and filtering criteria were read and analyzed. After this reading, 101 publications were excluded, considering the contextualization degree of their contents on the theme ERP. At the end of this stage 126 eligible publications remained. They are listed at <https://sites.google.com/view/erp-concerns/home>.

3.5 Data collection process

All data were collected from scientific repositories. These repositories give us the guarantee to identify, collect and select the most significant publications for this study. Data extractions were performed manually, with no use of automated tools that use machine learning. To increase the effectiveness of our systematic search, and to obtain the most relevant and internationally recognized publications, it was preferred to collect only publications written in English. It was not an option to translate publications from other languages into English [6].

3.6 Data items

We defined eligibility criteria that ensured a comprehensive search of ERP in the most varied disciplines. One of the purposes of doing a systematic review of the literature of the last decade is to ensure a broad collection of publications on the main concerns about ERP systems. The keywords were chosen with the aim of collecting as many publications as possible. The OR logical operator used in the search engine of scientific repositories allowed greater flexibility and elasticity in the search, allowing a wide range of publications. Including different types of documents helped to expand the search and collect a greater number of publications. The typologies were chosen according to the filters of each repository and only in English, as it is a universal language and is more easily read and understood by most people [6].

3.7 Study risk of bias assessment

Some risks of bias presented in this study were identified. There was some bias in the process of searching for studies in scientific repositories, as each repository is unique and some of them did not allow defining the same criteria initially defined. There was also a risk of getting documents outside the context of ERP. Additionally, the number of documents was unbalanced in different years and scientific repositories. Some biases were identified in relation to the number of publications selected in the various stages of the ERP life cycle, including the absence of any publication in one of these stages. There was also bias in the data selection after applying the criteria. For example, high-quality publications were excluded, particularly in more recent years, because they did not obtain the minimum number of citations required. The application of the different criteria excluded many publications that, if they had been included, could have eventually allowed for a better balance and lower risk of bias among all the items studied [6].

3.8 Effect measures

Column charts and pie charts were created to allow the analysis of all data. In column charts, the total accounts for

each category from a given analysis point of view are displayed. For example, each of the main concerns was identified and accounted for, creating a column chart where each of the main concerns appears, as well as the number of times they are addressed in the publications studied. Although this work only presents column charts so as not to exaggerate its dimension, pie charts were also created, containing the number of occurrences in percentage, which also helped in reading the results [6].

3.9 Synthesis methods

The decision-making process on eligible publications was defined based on the review question. Reading studies on systematic reviews of the literature also helped to outline the steps and processes inherent to systematic reviews. This study required several phases and the definition of each of the research stages facilitated the collection and processing of data. The processes were divided into information sources, search strategy, selection process, data collection process and data items. Metadata and data were treated exclusively in Excel. Tables were created for the corresponding data and graphs were developed to help visualize each of the results obtained [6].

3.10 Reporting bias

Although some bias was identified, the use of a consolidated methodology was important to reduce this risk. Data was obtained in all searched years. The risk of bias throughout the process of research, collection, and selection of publications was evaluated. The relevant points of the methodology were discussed, and the different methods were reformulated until it was possible to consolidate each one of them. The risk of bias was reduced because data were obtained in almost all the categories of the research carried out [6].

3.11 Certainty assessment

Eligibility criteria provide rigor and certainty about the data collected. Criteria and methodologies were reformulated whenever necessary to consolidate the methods to be used. This consistency allowed us to obtain the most relevant data and thus control the risk of bias. It was necessary to review the data obtained and its treatment several times to obtain consistent and reliable information. This study used systematic research and data collection methods, as well as reading and reviewing all publications. A constant posture of systematic review and analysis of the data obtained was always safeguarded. The various analyses on each of these chapters consisted of improving the imperfections that existed. The study of reference publications on literary reviews helped to understand how all the data and information obtained should be organized, worked on and presented [6].

4. Results

The results are presented using tables and figures. Flowcharts are used to present the research process, the selection of publications and the results.

4.1 Study selection

All records were identified and divided into three levels: identification, screening, and inclusion. The first level is the identification, where the identified records from scientific repositories and registers are retained. The second level is screening, where screened and excluded records are registered, finishing with the Reports Assessed for Eligibility. The last level is the inclusion, where the Studies Included in Review are registered.

At the identification level, the number of metadata searched in 7 scientific repositories was recorded, making a total of 2610 screened records. At the screening level the records excluded were registered. The elimination processes were performed, with 105 duplicate records eliminated with the help of Excel software and 10 manually eliminated. Then, the eligible criteria were applied, and 2268 publications were eliminated. There were 227 reports assessed for eligibility, of which 101 were eliminated after systematic reading of each of the publications. At the inclusion level,

126 publications were included for review. We can observe in Fig. 1 a flow diagram between identification, screening, and inclusion levels, with the databases considered and a summary of record metrics [6].

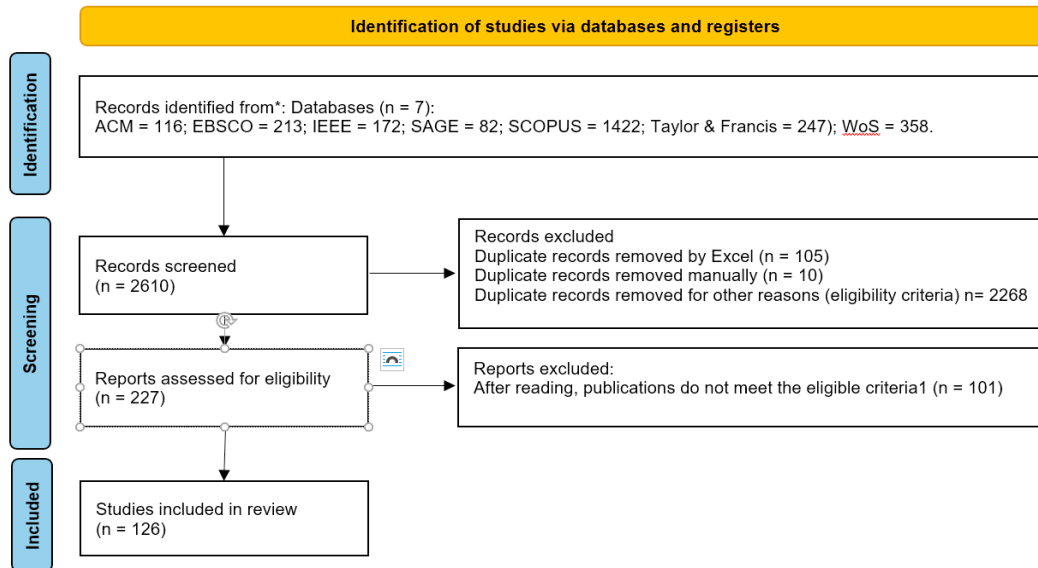


Fig. 1. Flow diagram between identification, screening, and inclusion levels.

4.2 Study characteristics

We can group and organize the 126 publications according to key characteristics. The key characteristics that differentiate the publications from each other are the category of study methods, the lifecycle stages, the major concerns, the document type, the discipline, the number of pages and the abstract. The study methods considered to categorize the publications eligible for analysis were case study, descriptive, design science, experiment, literature review, survey and theoretical. Although initially 7 types of documents were considered, the included studies were differentiated only by two typologies, respectively, journal article and book chapter. Each of the publications included falls into 4 of 5 different stages of the ERP lifecycle. The publications were written in the most varied contexts in different business areas, which enriched the research and analysis. All these publications were collected in scientific repositories appropriate to the topic [6].

4.3 Risk of bias in studies

The adopted methodology was applied systematically and allowed to reduce the global risk of bias. Searches in different scientific repositories have a natural risk of bias. There was a certain risk of bias in the research, collection, and selection of publications for various reasons. The application of a set of eligibility criteria, such as a date range, or the inclusion of some keywords used in the logical expression, might result in including publications that have a specifically time stamped or have a specific focus of analysis. These publications characteristics specificities bring some correspondent bias [6].

4.4 Results of individual studies

Our research resulted in a set of 2610 publications. The 126 eligible publications were obtained from only 5 repositories. The Sage and ACM repositories were left with no eligible publications. The Scopus is the most relevant repository, as it has 103 publications in the last decade, representing 81% of eligible publications. WoS represents 12%, with 14 published studies, followed by EBSCO with 5, IEEE with 2 and Taylor & Francis with 2, achieving

only 8% of publications, as we can see the Fig. 2 (a). There was a significant increase in publications between 2011 and 2013, followed by a sharp drop from 2013 onwards. The year 2016 reversed the trend and ended up being the 2nd year with the highest number of publications. However, as of 2017, we have seen a significant reduction in publications. The year with the highest number of publications was 2013 with 27 publications and 2021 does not present any publications. Most studies were published between 2013 and 2016, representing about 60% of publications, and the remaining years represent 39%, as we can see the Fig. 2 (b).

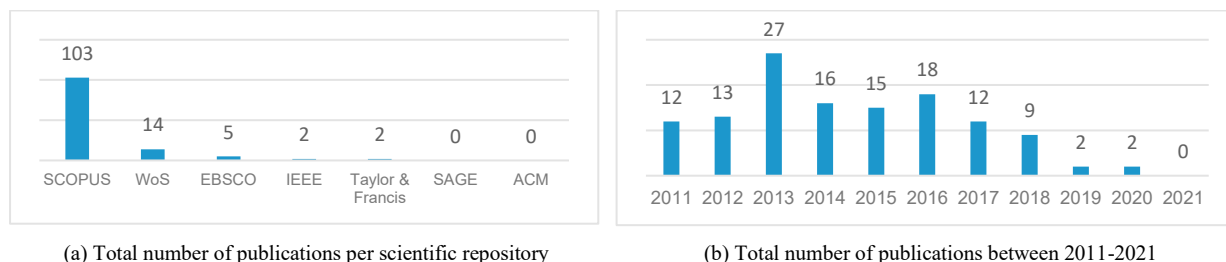


Fig. 2. Eligible publications.

Among the wide variety of publishers that have published ERP studies, the most significant came from Procedia Technology, with 9, followed by the Computers in Industry and the International Journal of Accounting Information Systems, with 8 each, the Computers in Human Behavior and the Information & Management with 6 publications each, representing 29 % of all published studies. Four other editors have 4 publications, six editors have 3 publications, twelve editors have 2 publications, and finally thirty-one editors have 1 publication. Only 1 publication is a book chapter, and 125 are journal articles. These publications were written by 340 authors, some published individually (4%) and others as co-authors (96%). The most relevant author for this research is Storbacka K., with 523 citations.

We can see in Fig. 3 (a), the most significant ERP lifecycle stage covered in the studied publications were implementation (with 50 publications), operation (37) and decision, selection, and planning (35) and the least significant stages were maintenance (4). Retirement stage didn't have a unique publication. The method analysis and categorization of the 126 publications was a time-consuming process and was performed based on the abstracts, introduction, and conclusion of each of the eligible studies. We see that each of the studies is categorized in Fig. 3 (b) by case study, descriptive, design science, experiment, literature review, survey or theoretical. This categorization helped us to understand the importance of each method on the eligible studies. Studies categorized as case study (32.54%) and descriptive (27.78%) are the most popular. Experiment (2.38%) and literature review (0.79%) are the least popular methods.

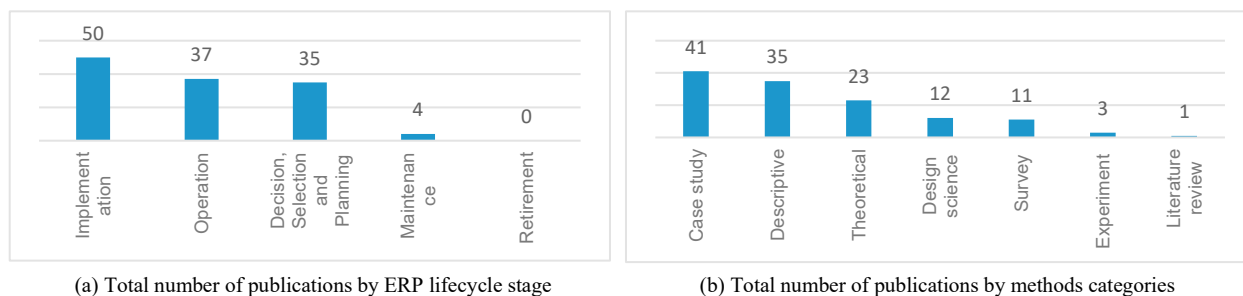


Fig. 3. Results of ERP lifecycle stages and methods categories.

To identify the major concerns, it was necessary to read the abstracts, introductions, and conclusions of the publications. The major concerns were standardized always taking care to avoid misinterpretations in the analysis of documents. There are clearly major concerns that are repeatedly addressed in different publications due to their

importance over the last decade. We can see in the variety of major concerns, 22, and the 10 most studied major concerns in the last decade represent 75% of major concerns, as we can see in Fig. 4.

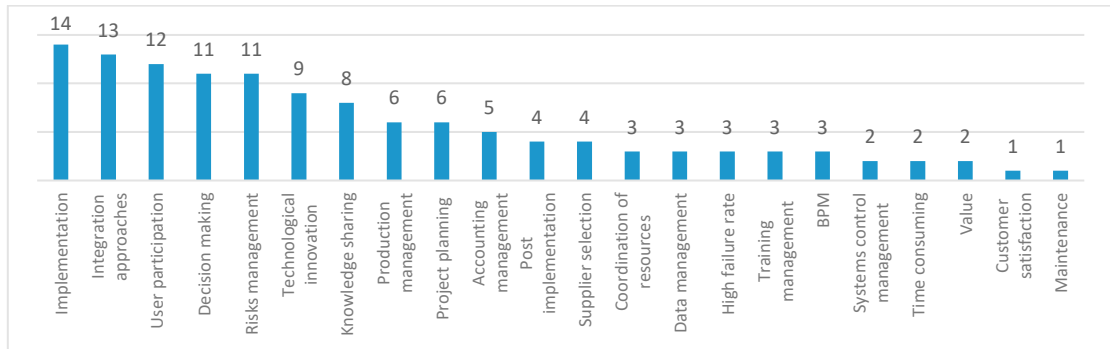


Fig. 4. Number of Major Concerns.

4.5 Results of syntheses

The publications included in this systematic literature review have characteristics that differentiate them from each other. We can observe the main characteristics inherent to these publications in Table 2:

Table 2 Key features of publications.

Key features of publications	
Methods categories	Case study, Design science, Descriptive, Literature review, Survey, Experiment
Lifecycle stage	Decision, Selection and Planning, Maintenance, Implementation, Retirement, Operation
Document type	Book chapter, Journal article
Disciplines	Information technology, Decision Sciences, Engineering, Management, Accounting, Business
Page	≥ 4
Abstract	Yes

The risk of bias existed in all processes in this study. The most effective way to limit risk of bias was to limit our search to a set of concrete criteria. Between the period 2011-2021 we obtained a lot of data (2610), but only 95% of publications were excluded and only 5% (126) publications were included. The data collected, selected, and treated are significant for our study representing relevant results to understand the evolution which are the major concerns of the last decade. As can be seen in Fig. 4, 22 major concerns emerged. Among these, five major concerns stand out: Implementation, Integration approaches, User participation, Decision making and Risks management.

4.6 Reporting biases

There was a lack of data in the results after applying the criteria. We had data shortages, especially in recent years (2018 to 2021), and we still had a significant difference between all scientific repositories, with ACM and SAGE which did not have eligible publications. We also observed a discrepancy between the life cycles, Maintenance had only 4 eligible publications, and Retirement 0. There is also a discrepancy in the method's categories of publications: Literature review, Experiment, Design science, Theoretical and Survey have a much lower number of publications than Case study and the Descriptive.

4.7 Certainty of evidence

The applicability of the methodology and of all the methods helped us to collect data from each of the scientific repositories. The eligibility criteria gave us solid results and a very restricted set of publications. In these publications we can find sure evidence on the most significant major concerns and various perspectives of ERP in the different disciplines of the last decade. The standardization of information becomes relevant to give consistency to the information of the data obtained and to highlight the significance of each of the results, being able to compare them with each other. The eligibility criteria give us the certainty that these are the significant data for we can assess the evolution of ERP over the last decade and undoubtedly identify the main major concerns addressed by the investigators. These publications make it possible to clarify the positioning of ERP in Industry today.

5. Discussion

The discussion of the results seeks to analyse the major concerns of the last decade and to carry out a systematic review of the literature on ERPs. We observed some imbalances between the databases, highlighting Scopus, which included 103 publications, and ACM and SAGE, which, due to the characteristics of their publications, are not cited so often. There is also a very large discrepancy regarding the lifecycle stages covered: the Academia has not spent much time studying Maintenance and Retirement. The Maintenance and Retirement of ERP are important for organizations and there should be a greater investment in their study, as there is clearly a gap in these ERP life cycles. Areas that can be better investigated in Maintenance are usability issues, performance issues, infrastructure management, or system upgrades. Although retirement didn't have any eligible publication, it is equally important because it can explain the causes of an ERP abandonment by organizations. Researchers should dedicate themselves to studying the reasons that lead companies to abandon an ERP. Reasons to abandon an ERP may be due to the emergence of new ERP, problems during the implementation phase or being faced with an outdated system [13].

As for the categories of study methods, the results indicate a strong imbalance, with authors preferring to research based on case studies and just a few dedicating themselves to develop literature reviews. This happens because the case study is interesting. The preference for the case study research method may be related to the fact that it might support a good way to discover some of the best practices of industry [5], [10].

In the first survey 2610 publications were obtained. The research indicates that the investigations on ERP have been increasing on this decade compared with other periods, if we compare with other studies [5], [10], [14]. There is a wide variety of authors and editors dedicating themselves to ERP, especially between 2013 and 2016, this happens because of the antiquity of the publications. We can see the major concerns in Fig. 2 in order of importance. The three most significant major concerns are implementation, integration, and user participation. The interest of authors in studying these three major concerns is evident, because it means that new ways of implementing ERP, integrating other information systems with the ERP and the participation of users in the implementation of ERP are crucial and critical factors for the success of ERP adoption and effectiveness. Successful ERP implementation simplifies and streamlines business processes, benefiting the company through its efficiency and process automation [15], [16]. Integration is the second most significant major concern. The integration of ERP with other systems helps in data management, but also the integration of other systems in ERP implementation brings technological innovation, reliability, availability, scale efficiency and system flexibility. These are concerns that clearly interest researchers [11]. User experience is the third most significant major concern, because it is considered as one of the CFS due to the low tolerance that the end user has towards an ERP. The participation of users in the implementation of ERP can help in their motivation and satisfaction. Users' motivation depends largely on their experience and involvement in the implementation. User training helps them to get involved in projects and increases tolerance for innovation, and this brings satisfaction, acceptance and motivation [17].

6. Conclusion

This document summarizes a systematic review of the literature from a decade of research (2011-2021) on key concerns about enterprise resource planning (ERP) systems. This was done following a well-organized and structured methodology based on PRISMA [6]. The research was carried out in 7 scientific repositories.

There were several limitations during the research and development of the work. Access to scientific repositories was limited, as it was only used those available in the B-on catalogue. However, the scientific repository is very comprehensive and consequently this limitation may not have a significant impact on the results. The PRISMA methodology was a good way to achieve our goals although it has a rigid structure to follow. The large number of publications was also a limitation. The eligibility criteria were a limitation as there were several restrictions that needed to be fulfilled and consequently some other important publications may have been dropped.

This study might have important contributions to the Academia, as it is a complement to other systematic reviews of the literature, evidencing some gaps in the systematic reviews of the literature in this area and contributing with an update of the major concerns of ERP systems. It was clear that there are many publications in the last decade, and 22 major concerns were identified. Another important contribution is that some analysed concerns are linked to best practices which can be seen by Industry managers as good directions to follow. Finally, the most significant concerns were highlighted, respectively, the implementation, integration and user participation. There is a lack of studies about maintenance and retirement stages. Future studies should focus on investigating less-studied major concerns, such as the value of ERP, as well as less-addressed ERP lifecycles, such as Maintenance and Retirement.

References

- [1] R. P. Estebanez, A. Trigo, and F. Belfo, "ERP systems adoption evolution in Iberian companies during the global financial and economic crisis and recession (2007–2014)," in *2016 2nd International Conference on Information Management (ICIM)*, May 2016, pp. 116–120, doi: 10.1109/INFOMAN.2016.7477544.
- [2] A. Amado and F. P. Belfo, "Maintenance and Support Model within the ERP Systems Lifecycle: Action Research in an Implementer Company," *Procedia Comput. Sci.*, vol. 181, pp. 580–588, 2021.
- [3] D. Aloini, R. Dulmin, and V. Mininno, "Risk management in ERP project introduction: Review of the literature," *Inf. Manag.*, vol. 44, no. 6, pp. 547–567, 2007, doi: 10.1016/j.im.2007.05.004.
- [4] M. Ali and L. Miller, "ERP system implementation in large enterprises – a systematic literature review," *J. Enterp. Inf. Manag.*, vol. 30, no. 4, pp. 666–692, 2017, doi: 10.1108/JEIM-07-2014-0071.
- [5] 2011 Addo-Tenkorang R., Helo P., "Enterprise Resource Planning (ERP): A Review Literature Report," *Lect. Notes Eng. Comput. Sci.*, vol. 2194, no. 1, pp. 1126–1134, 2011.
- [6] M. J. Page et al., "PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews," *BMJ*, vol. 372, 2021, doi: 10.1136/bmj.n160.
- [7] 2011 Impellizzeri FM, Bizzini M., "Enterprise Resource Planning (ERP): A Review Literature Report," *Lect. Notes Eng. Comput. Sci.*, vol. 2194, no. 1, pp. 1126–1134, 2011.
- [8] B. Hutton, F. Catalá-López, and D. Moher, "The PRISMA statement extension for systematic reviews incorporating network meta-analysis: PRISMA-NMA," *Med. Clínica (English Ed.)*, vol. 147, no. 6, pp. 262–266, 2016, doi: 10.1016/j.medcle.2016.10.003.
- [9] M. Fakhroleslam, R. B. Boozarjomehry, S. Fatemi, and G. Fiore, "Dynamical Hybrid Observer for Pressure Swing Adsorption Processes," *IFAC-PapersOnLine*, vol. 50, no. 1, pp. 10196–10201, 2017, doi: 10.1016/j.ifacol.2017.08.1769.
- [10] B. R. Schlichter and P. Kraemmergaard, *A comprehensive literature review of the ERP research field over a decade*, vol. 23, no. 4. 2010.
- [11] M. I. Nofal and Z. M. Yusof, "Integration of Business Intelligence and Enterprise Resource Planning within Organizations," *Procedia Technol.*, vol. 11, no. Iceei, pp. 658–665, 2013, doi: 10.1016/j.protey.2013.12.242.
- [12] A. Trigo, F. Belfo, and R. P. Estébanez, "Accounting Information Systems: Evolving towards a Business Process Oriented Accounting," *Procedia Computer Science*, vol. 100, pp. 987–994, 2016, doi: 10.1016/j.procs.2016.09.264.
- [13] M. Haddara and A. Elragal, "ERP lifecycle: When to retire your ERP system?," *Commun. Comput. Inf. Sci.*, vol. 219 CCIS, no. PART 1, pp. 168–177, 2011, doi: 10.1007/978-3-642-24358-5_17.
- [14] Y. Moon, "Mechanical and Aerospace Engineering Enterprise Resource Planning (ERP): a review of the literature," *Int. J. Manag. Enterp. Dev.*, vol. 4, no. 3, pp. 235–264, 2007.
- [15] I. Obłąk and E. Ziemba, "Critical Success Factors for ERP Systems Implementation in Public Administration," *Robot. Comput. Integr. Manuf.*, vol. 29, no. 3, pp. 104–111, 2013, doi: https://doi.org/10.1016/j.rcim.2012.04.019.
- [16] S. C. L. Koh, A. Gunasekaran, and T. Goodman, "Drivers, barriers and critical success factors for ERP implementation in supply chains: A critical analysis," *J. Strateg. Inf. Syst.*, vol. 20, no. 4, pp. 385–402, 2011, doi: 10.1016/j.jsis.2011.07.001.
- [17] Y. Hwang, "User experience and personal innovativeness: An empirical study on the Enterprise Resource Planning systems," *Comput. Human Behav.*, vol. 34, pp. 227–234, 2014, doi: https://doi.org/10.1016/j.chb.2014.02.002.