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Revisiting Cloud Enterprise Resource Planning Systems Implementations through the Lens of End Users

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Abstract

Organisations are successfully navigating Industry 4.0 by migrating from on-premises to cloud solutions, such as cloud Enterprise Resource Planning systems. These solutions allow companies to become more agile and address the current business challenges. Given the diversity and complexity of organisations, a successful implementation is based on a series of vital factors. In the last decade, various studies examined the critical success factors under several theoretical lenses, providing a wide, but scattered set of elements. This paper examines the pitfalls, successful strategies, and lessons learnt in the implementation of one of the most endorsed Cloud Enterprise Resource Planning systems for product and service centric enterprises. Based on an inductive archival analysis focusing on the reflections of end users, the present study goes beyond the limitations of geographical and industry-based factors to provide a comprehensive examination of the topic. The results target five dimensions that should be considered: change management, the implementation approach, research and due diligence, risk management and strategic planning, and support. Therefore, by presenting the most common key success factors, this study provides important insights for practitioners and researchers under the lens of mimetic isomorphism.

Keywords: cloud Enterprise Resource Planning, mimetic isomorphism, critical success factors, inductive research, end users, reflections.

JEL Classification: M15.

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1. Introduction

Driven by the need to stay competitive in the context of Industry 4.0, companies started massively to move from on-premise to cloud Enterprise Resource Planning (CERP) systems, which allows them to exceed the limitations of legacy systems. Therefore, to address the needs of their customers in becoming more resilient and agile, the major developers of CERP solutions are creating strategic partnerships with the IT industry leaders to innovate their products (Dumitru et al., 2023).

Migrating from traditional Enterprise Resource Planning (ERP) solutions to their cloud version continues to be a highly debated subject (Jiang & Wang, 2024; Naveed et al., 2021), although the first consistent attempts to understand the key success factors for adoption started more than a decade ago (Peng & Gala, 2014). By examining the impact of the institutional pressure to digitalise, Bennich (2024) considers that, unlike early adopters, late adoptions might not lead to performance improvement, the companies' decisions being determined mainly by isomorphic processes. Therefore, sometimes the challenges of digitalisation might exceed the expected benefits.

In the last 12 years, scholars have focused on the CERPs' implementation benefits, barriers, and success factors, as shown by Ali et al. (2023), highlighting through different theoretical lenses a wide but scattered range of elements, due to limitations in terms of location or industry. Thus, this research paper aims to investigate, from the perspective of end users, the key elements that lead to successful implementations, overcoming the previously mentioned limitations. To achieve the research objective, we conducted an inductive analysis using the review comments available on the Gartner Peer Insight platform, provided by the users of the most endorsed CERP solution. Starting from the institutional isomorphism (DiMaggio & Powell, 1983), we analysed the experiences of companies with the leading CERP system under the lens of the mimetic isomorphism, where in changing environments, institutions often mirror those perceived as most successful or reputable. Therefore, the present research provides new insights into the critical success factors by leveraging end users' experiences in implementing CERP solutions.

The rest of this paper is structured as follows: the first section focuses on the relevant literature on the critical factors that contribute to the successful integration of the CERP systems; subsequently, we present the methodology employed, providing details regarding the data collection and analysis processes. In the third section, we outline the findings and discuss their implications, while finally, in the last section, we include the conclusions, limitations, and future research directions.

2. Problem Statement

Through the theoretical lenses of technological diffusion and institutional pressure, Bennich (2024) argues that companies are motivated not only by rational choices when deciding to increase their digitalisation level and become more innovative, but also by social expectations. Similarly, in the context of open

innovations, Abhari and McGuckin (2023) note that although the number of companies has increased, they exhibit high failure rates. Given that the most prominent developers of ERP solutions are investing massively in creating cloud versions that will allow customers to build sustainable business networks and discontinuing the support of the on-premises versions (Dumitru et al., 2023), organisations started to implement the CERP solutions.

While the transition from the on-premises to the cloud version of the ERP systems is expected to enhance the organisations' innovativeness, in the absence of a clear understanding of the CERP systems' implementation barriers, Ali et al. (2023) argue that the companies' innovations outcomes could be significantly hindered.

In the early stages of research regarding the factors leading to successful CERP implementations, Peng and Gala (2014) discovered through a series of interviews with IT experts that having well-prepared practitioners, a thorough understanding of the cloud solutions, and reliable third-party business partners can lead to a seamless adoption. Additionally, a series of subsequent studies have focused on the importance of organisational, technological, and human resources (Gupta & Misra, 2016) along with the customisation of CERP, high availability, portability, and innovativeness, and organisational behaviour (Jiang & Wang, 2024; Naveed et al., 2021).

To achieve the expected advantages derived from using a CERP solution, organisations should focus on the perception of the end users, as their experience could have a significant impact in the post-implementation phase. In this regard, based on the Information Systems Success model, Kuo et al. (2023) argue that the users' continuance intention could be affected by a series of factors such as the ease of use, the overall satisfaction, and the degree of security. Moreover, the perceived ease of use seems to be influenced by the level of self-efficacy and convenience, while the satisfaction might be driven by the quality of the system and the information provided, along with the perceived value for money.

Based on the presented literature, the following part of the paper focuses on understanding the vital elements that lead to successful CERP implementations, under a "If you could start over, what would your organisation do differently?" scenario based on the reflections of the end users.

3. Research Questions / Aims of the Research

Through an inductive approach, this study aimed at identifying, under the lens of mimetic isomorphism, the main factors that companies should consider when migrating to a CERP system by leveraging the experience of end users after implementing the most endorsed solution of this type. In order to address the aforementioned objective, the following research questions were formulated:

RQ1: What are the factors that contribute to the successful implementation of CERP systems?

RQ2. What strategies can organisations adopt to include these critical success factors into the CERP systems' implementation approaches?

4. Methods and materials

As the research objective is exploratory, we employed a qualitative analysis based on an archival investigation through CERP systems' end users' reflections.

The selection of the solution was based on two technical reports (Magic Quadrant for Cloud ERP) published by the consulting company Gartner (2023a, 2023b). The first report focused on the most important CERP solutions for product-centric organisations, while the second one targeted CERP systems suitable for service-centred enterprises. In their Magic Quadrant reports, Gartner positions solutions and their providers in four categories: leaders, visionaries, niche players, and challengers, based on the completeness of vision and ability to execute. As per both reports, the Oracle Fusion Cloud ERP solution ranks first in terms of the two factors.

4.1 Data collection

To perform the archival investigation, we used the Oracle Fusion Cloud ERP's end users' reflections available on the Gartner Peer Insights platform. This platform represents a virtual vendor-free community where professionals are sharing their experiences regarding various IT solutions. The reviewers are verified through a multistep process meant to ensure their legitimacy (Gartner Peer Insights, 2024), thus being considered reliable and unbiased sources (Ben-Abdallah et al., 2020; Lavanya et al., 2023).

Each review consists of a series of elements: firstly, the users provide a general overview regarding the solution, followed by the aspects appreciated and disliked, reflections, and insights for potential users. The reflections are provided under the section "If you could start over, what would your organisation do differently?", which represented the base for the dataset of this research.

We collected the reviews published between 2020 and 2023 and during this period the CERP solution was evaluated by 112 end users working for service-centric enterprises and 57 end users working for product-centric enterprises. It is noteworthy that not all respondents provide their reflections along with the general overview, aspects appreciated and disliked. Thus, from the entire dataset of 169 reviews, 53 respondents provided details for the above-mentioned section.

Based on the practitioners' profiles, most of them work in IT (47.17%) or are part of their companies' management (28.30%). Regarding the industry in which the companies operate, the majority activates in the IT field (28.30%), followed by services (non-government) (13.21%), while the rest operates in various fields (14 more industries). Table 1 presents the distribution of the organisations based on their size.

Table 1. Companies' size

Size	50M - 250M	250M - 500M	500M - 1B	1B - 3B	3B - 10B	10B+
Number of companies	20	8	6	8	6	5

Source: own processing based on the collected data.

4.2 Data analysis

Following the collection of users' reflections on the section inquiring about their if-then scenario, we excluded the items that did not pertain to a specific matter (13 statements). These statements were primarily reflecting the end users' satisfaction with the CERP solution. A subsequent stage was to analyse the remaining reviews and divide them into statements if more than one aspect was highlighted by the practitioners. After this step, the dataset consisted of 53 elements which were aggregated into more general categories and clustered into dimensions, as presented in Table 2.

Table 2. Findings overview

Dimension	Category	Number of statements
Change management	Training	5
	Users' resistance	1
Implementation approach	Additional integrations	8
	Processes' re-design	1
Research and due diligence	Comprehensive requirements gathering	9
	Thorough market investigation	5
	Vendor selection and relationships	5
Risk management and strategic planning	Business workflow compatibility	3
	Continuity	2
	Structured approach	9
Support	Support	5

Source: own processing based on the collected data.

5. Findings

The first of the dimensions, **change management**, encompasses the necessity of providing adequate training to the users and addressing their resistance towards the new solutions implemented. In this context, some users emphasise that additional training contributes at decreasing the learning curve and avoid time loss, while others focus on the importance of changing the teams' mindset to improve their level of acceptance so that they can work properly with the solution and grasp the associated benefits. Other reviews point to the necessity of an initial training programme that is adequate. Furthermore, they emphasise that users could benefit from being exposed to a schematic presentation of the benefits and having more in-depth skills.

Although these two key success factors for implementing a CERP system are presented separately, they are intertwined as acquiring new skills can address to a certain extent the employees' resistance to change. Erebak and Turgut (2021) posit

that, particularly in the context of technologies that include automation, such as the CERP solutions (Dumitru et al., 2023), there is a risk that users may perceive these technologies as a threat to their jobs. Similarly, Alsharari (2021) observed that employees may be reluctant to embrace frequent changes when transitioning from an on-premise ERP to a cloud version due to a lack of expertise and a certain level of anxiety caused by job insecurity.

The **implementation approach** dimension pertains to the factors related to the companies' selection of the CERP modules and the additional features, such as RPA solutions, that will enable enhanced benefits that contribute to the overall business performance (Gašpar et al., 2023). The majority of users indicated that they should have adopted a greater number of modules from the start, in order to gain a comprehensive overview of the most critical processes within a unified system.

Such an approach can contribute to ensuring data consistency, reducing potential disruptions in business activities, and simplifying change management efforts, given the intricate nature of these solutions (Demi & Haddara, 2018). Nevertheless, in the case of complex implementations that involve a significant number of modules, there are also additional risks that could lead to failure, especially when various customisations are considered (Hansen et al., 2023).

In terms of the process redesign, one reviewer commented that the implementation strategy adopted focused on the business needs, whereas ideally the company should have considered this opportunity to reconsider and improve the business processes.

The redesign of business processes frequently introduces additional complexity during the implementation phase, which can sometimes be perceived as an adoption barrier (Peng & Gala, 2014). However, if developed adequately, it can improve reporting and reduce costs and redundant activities (Yu & Osathanunkul, 2023).

The third dimension (**research and due diligence**) includes three significant categories of factors that should be considered by companies when migrating to a CERP system. Firstly, by correctly identifying and collecting the requirements of the system and the business, the implementation teams should be able to focus on the processes' specificities and determine if the solution could address the organisation's needs. Although the users work for large entities, which should adhere to such good practices, their experience reveals that this might not always be the case. For example, one business solution manager stated that the implementation team should have spent more time focusing on the specific business cases rather than trying to standardise their processes to match those of the industry, thereby avoiding operational disruptions.

A similar situation was observed by Hagberg and Jonsson (2022), where IKEA, driven by the competitive pressure, failed to conduct adequate research into how the evolution of information technology could address the business needs.

As per the wide range of available CERP solutions, extensive market research is mandatory for selecting the optimal system. Most of the leading developing CERP companies share similar strategies (Dumitru et al., 2023), and some clients, driven

by the need for standardisation and globalisation, are trying to redesign their operations to be more generalisable. Nevertheless, the “one-size-fits-all” approach might not always yield the desired outcomes. We identified in total five statements emphasising the users’ regret at not taking into consideration the alternative options. While some respondents complain about the fact that the solution seems to be less effective than the one used by the company in the past, others reflect on its suitability and on whether an in-house solution would have been more appropriate.

Another important point emphasised by the end users is the selection of a third-party that will help companies navigate through the adoption process. As per the reflections, the main characteristics of the consulting business partners are represented by their availability, responsiveness, and flexibility in terms of the contractual agreements. However, a higher level of dependency might lead to a series of future challenges, as presented by one of the end users.

The **risk management and strategic planning** dimension encompasses the set of elements that should be taken into consideration before, during, and after the implementation. The key aspects emphasised by the end users relate to the existence of a concise strategy, back-end issues management, geographical setup, reduced need for customisations, and the development of the necessary workarounds. One reviewer provides important insights as it manages to capture the importance of the planning stage, while having in mind the organisational needs and constraints. According to the end user, the solution seems to be ideal for organisations that do not require a high degree of automations and, given the fact that the cloud experience differs from the on-premises version, it is important that the potential users understand the system’s capabilities.

Given that in the long term, the CERP systems tend to include as many features as possible to become more innovative and support the customers’ needs in the current highly digitalised environment, it is important for the company to understand how this approach suits it. Consequently, as argued by one of the end users, it is vital to examine the long-term compatibility of the CERP solution with the business workflow specificities.

The continuity refers to the selection of a solution based on the previously positive experience with the company. As per the reflections, this factor is also important as it could decrease the learning curve and reduce the potential operational disruptions.

The **support** dimension refers to the assistance that users require during and after the implementation of the solution. Given that the perceived ease of use represents an important determinant of the intention to continue adopting CERP systems and successful implementation (Kuo et al., 2023), it is recommended that developers and vendors focus on providing an adequate level of support. As argued by the reviewers, it is vital to have a professional team that can assist with on-demand support and provide the necessary guidance.

The three dimensions that capture the main categories of critical factors for successful implementations of CERP solutions have a high degree of interconnectedness. Firstly, by implementing the appropriate change management strategies, companies can navigate more effectively through the implementation

phase and develop strategic approaches to address the potential disruptions. Secondly, the implementation approach should be based on the findings of the research and due diligence activities, which will allow organisations to select the appropriate strategies and define effective risk management frameworks.

6. Discussions

Nowadays, the companies' focus is shifting from economic performance to environmental, social, and governance efficiency. In this context, CERP systems could represent a key element in this change by facilitating the redesign of the operational processes, allowing organisations to support the national and global sustainability objectives.

As outlined by Dumitru et al. (2023), the evolution of the ERP systems enables companies to redesign their processes with the objective of improving the organisations' sustainability reporting by enhancing the continuous monitoring of the ESG performance through the use of different sources of data. In this context, the effective management of the critical success elements of CERP solutions implementations can facilitate the transition to a sustainable economic approach. In addition to these factors, the intangible capabilities of CERP solutions, namely the users' knowledge and skills, can assist organisations in comprehending the associated benefits and enhancing their organisational social performance.

7. Conclusions

The objective of this paper was to identify the key factors that contribute to the successful implementation of CERP systems. An inductive archival analysis was conducted based on the reflections of the end users with regards to the most endorsed solution among large entities. This analysis revealed the existence of five dimensions with 11 categories of elements considered by the practitioners as the most important factors. By examining reviews of the leading solution for both product and service-centric enterprises, the study presents, under the lens of mimetic isomorphism, the critical aspects that can be of interest for all companies targeting the implementation of a CERP system.

The initial finding concerns the interconnectedness of the dimensions. Despite the fact that these were presented separately, as emphasised, there is a high degree of association. By effectively managing changes, examining the available options, and assessing the potential risks, organisations can select the proper implementation path and define strategic planning approaches.

The second finding refers to the variety of elements identified through the reflections of the end users. This result could be explained by the experience of the practitioners, the business needs that prompted the implementation, or industry-specific factors.

The study's objective was limited to the leading CERP system in terms of the developing company's completeness of vision and ability to execute. Although the number of reflections was limited, we were able to identify the most common

factors that should be considered for the implementation of this category of systems. This provides valuable insights for researchers, vendors, and developers. Further studies might also include top performers from other categories of Gartner Magic Quadrant CERP reports.

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