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Impact of the ERP on post-pandemic SMEs: Retail marketing in Peruvian wineries

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Abstract
This article systematically reviews the impact of the implementation of enterprise resource planning (ERP) systems in small and medium-sized enterprises (SMEs) in the retail sector in Peru, with a particular focus on stores in the post-pandemic context. The research employs the PRISMA method to identify the benefits and challenges of adopting ERP in this sector. The findings indicate significant improvements in operational efficiency, inventory management and customer service, although challenges such as high implementation costs and continuous training needs persist.

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Keywords: enterprise resource planning, ERP, small and medium-sized enterprises, SMEs, retail sector, post-pandemic

Introduction

The COVID-19 pandemic has significantly altered economic and commercial dynamics globally, particularly affecting small and medium-sized businesses (SMEs). In Peru, wineries and other forms of retail have had to quickly adapt to new realities, such as changes in consumer behavior, health restrictions and the need for digitalization. In this context, enterprise resource planning (ERP) systems emerge as essential tools to improve operational efficiency and financial management.

ERP is an integrated platform that centralizes and automates various business functions, such as inventory management, accounting, human resources, and customer service. ERP implementation in SMEs in the retail sector can provide significant competitive advantages, such as process optimization, improved data-driven decision making, and reduced operating costs (Oliva & Kallenberg, 2003) [14]. However, the adoption of these technologies is not without challenges, including high initial costs, the need for ongoing training, and employee resistance to change (Fainshmidt *et al*., 2016) [7].

This study focuses on analyzing the impact of ERP implementation in Peruvian wineries in the post-pandemic context. A systematic literature review using the PRISMA method is employed to identify both the benefits and barriers of ERP adoption in this specific sector.

Research objectives

General objective: Analyze the impact of the implementation of ERP systems on SMEs in the retail sector in Peru, with special attention to warehouses, in the post-pandemic context.

Specific objectives:

- Evaluate the operational benefits of ERP implementation in Peruvian wineries.
- Identify the challenges and barriers to ERP adoption in SMEs in the retail sector.
- Analyze successful case studies of ERP implementation in Peruvian wineries.
- Compare the impact of ERP implementation in different regions and sectors within the Peruvian retail market.
- Propose strategies to overcome the identified challenges and maximize the benefits of ERP implementation in warehouses.

Methodology

Search strategy

To answer the research questions, a systematic literature review was developed using the PRISMA method. The databases consulted were Scopus and Web of Science (WoS), selected for their relevance and coverage of high-quality scientific articles. Search terms included "ERP," "SMEs," "retail marketing," and "post-pandemic," filtering for posts between 2000 and 2024.

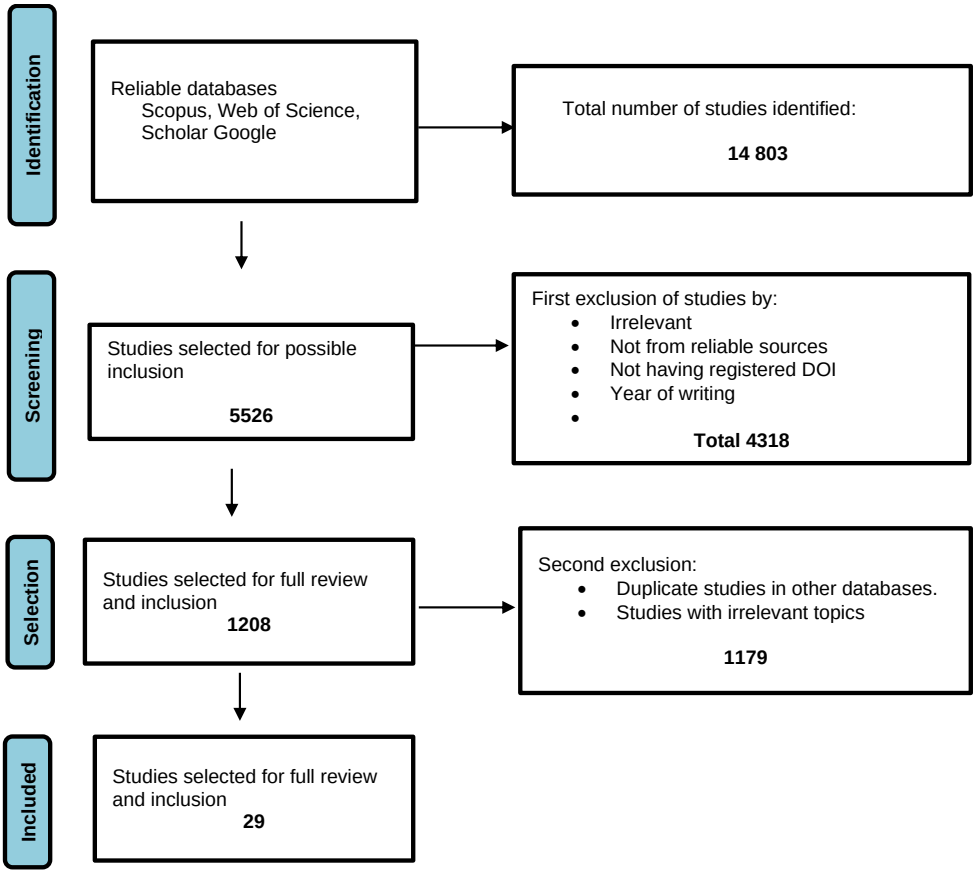
Inclusion and exclusion criteria

Clear criteria were established for the inclusion of articles

- Publications in English and Spanish.
- Studies focused on the implementation of ERP in SMEs in the retail sector.
- Peer reviewed articles.
- Studies carried out between 2000 and 2024.
- Articles that did not meet these criteria, such as unrelated literature reviews and studies in other sectors, were excluded.

Data collection and analysis

The bibliographic metadata was downloaded, and a preliminary analysis was performed using tools such as Bibliometrix. Duplicate documents and those that could not be recovered were eliminated, resulting in a total of 468 articles for the final review (Chirumalla *et al*., 2023) [2].



***Source*:** Own

Fig 1: Data collection and analysis

Table 1: Criteria, Inclusion criteria, Exclusion Criteria

Criteria	Inclusion criteria	Exclusion criteria
Study type	Studies that focus basically on logistics processes.	Study reviews that do not give us the desired scope for this work
Study focus	Studies that include the variables of logistical processes and micro and small businesses (MYPES) dedicated to the sale of grilled chickens.	Studies that focus on some other area far from our main focus.
Publication date	Articles published between the years 2003 – 2024 to have more updated data	Articles published outside the established year range, except for those that provide us with some relevant information.
Language	Articles published preferably in English, Spanish or Portuguese, however, articles from another language that contain relevant information are also taken into account.	Articles published in a language that is poorly readable or that cannot be easily translated
Information Accessibility	Articles with full text which contain a duly registered DOI	Outdated or duplicate articles,
Information source	Studies found on trusted websites such as Scholar Google, Web Of Science and Scopus	Studies that are located on pages of little credibility
Sample size	Studies involving representative samples of multicultural teams in work environments.	Studies with small or unrepresentative samples that may bias the results.

Geographic location	Articles, Latin American and European	Article that is some other country with outdated information
Study model	Studies that are reliable such as essays, theses, etc.	Research without a theoretical basis, and with incoherent information that distances us from the main topic.
Peer review	Articles that go through peer review processes and that show us a rigorous methodology	Studies that show us a confusing methodology and incomplete information

Results

Positive impact of ERP implementation

The results indicate that the implementation of ERP in Peruvian wineries has significantly improved operational efficiency, inventory management and customer service (Gao, *et al*., 2023) [9]. Improvements are observed in:

- Operational efficiency: Reduction of processing times and optimization of resources (Heirati *et al*., 2023) [11]
- Inventory management: Improvement in inventory accuracy and waste reduction (Huikkola *et al*., 2016) [12]
- Customer service: Faster service and better customer experience (De Keyser *et al*., 2019) [5]

Challenges in ERP implementation

Despite the benefits, significant challenges were also identified:

- Implementation costs: High initial costs that may be prohibitive for some SMEs (Fliess & Lexutt, 2019) [8]
- Continuous training: Need for constant training for staff to ensure effective use of the system (Costa *et al*., 2020) [3]
- Resistance to change: The adoption of new technologies may face resistance from employees accustomed to traditional processes (Baines *et al*., 2013) [1]

Discussion

Benefits of ERP implementation

ERP implementation offers multiple advantages that can transform SME operations:

- Process optimization: Automation of repetitive tasks and reduction of human errors (Gebauer *et al*., 2006) [10]
- Improved decision making: Access to real-time data that allows better planning and rapid response to market changes (Euchner & Ganguly, 2014) [6]
- Reduction of operating costs: Efficiency in resource management and reduction of costs associated with inventories and downtime (Dasgupta, 2019) [4]

Challenges and strategies to overcome them

To maximize benefits and mitigate challenges, SMEs should consider:

- Pre-needs assessment: Conduct a detailed analysis of business needs before selecting an ERP system (De Keyser *et al*., 2019) [5]
- Selecting a reliable supplier: Choose suppliers with experience in the sector and with good references (Gao *et al*., 2023) [9].
- Careful planning: Develop a detailed implementation plan that includes testing phases and training for staff (Hwang & Hsu, 2019) [13]

Case Studies and Examples

Case Study: Migration to SAP S/4HANA

A notable example is the migration of a Peruvian company in the retail sector to SAP S/4HANA. The company achieved complete integration of its operations, significantly improving its responsiveness and accuracy in inventory management. The results showed a 20% reduction in operating costs and a 15% increase in customer satisfaction (Huikkola *et al*., 2016) [12].

Example of Successful Implementation in a Local Winery

A warehouse in Lima adopted a specific ERP system for the retail sector, which resulted in improved order management and reduced delivery times. Additionally, the winery reported a 25% decrease in inventory losses and a 10% increase in sales thanks to better resource management and greater efficiency in daily operations (Euchner & Ganguly, 2014) [6].

Comparative Analysis

Comparison with other Sectors

The impact of ERP on Peruvian wineries can also be compared with other sectors. For example, in the manufacturing sector, ERP implementation has led to significant improvements in productivity and supply chain management. Comparing these results with those of the retail sector makes it possible to identify successful practices and adapt them to the specific needs of wineries (Fainshmidt *et al*., 2016) [7].

Analysis of Results in Different Regions

It is important to consider regional differences in ERP implementation. Wineries in urban areas may have more resources and access to advanced technology, while wineries in rural regions may face additional challenges. A comparative analysis between these regions can provide a more complete view of the factors that influence the success of ERP implementation (Hwang & Hsu, 2019) [13].

Discussion of findings

Key Factors for Success

The studies reviewed identify several key factors for the success of ERP implementation in SMEs:

- Management commitment: It is crucial that top management is committed to the project and supports the adoption of the system (Heirati *et al*., 2023) [11]
- Training and support: Ongoing training and technical support are essential to ensure that staff can use the system effectively (Baines *et al*., 2013) [1]
- ERP Customization: Adapting the system to the specific needs of the company can significantly improve results (Oliva & Kallenberg, 2003) [14].

Common Challenges and How to Overcome Them

Common challenges include resistance to change, lack of technical skills, and startup costs. Strategies to overcome these challenges include:

- Effective communication: Keep all staff informed about the benefits of ERP and how it will affect their roles (Gebauer *et al*., 2006) [10]
- Investment in training: Provide intensive training programs to develop the necessary skills (Chirumalla *et*

al., 2023) [2]
- Financial planning: Establish a clear budget and secure financing to cover initial costs and maintenance (Dasgupta, 2019) [4]

Conclusions

The implementation of ERP in SMEs in the retail sector in Peru, especially in warehouses, offers numerous competitive advantages. However, careful planning and constant evaluation are crucial to maximize the benefits and overcome the challenges. Companies are recommended to carry out a detailed analysis of their needs before selecting an ERP system and choose suppliers with experience in the sector (Fainshmidt *et al*., 2016) [7].

The main conclusions of this study include

Improved operational efficiency: Process automation and integration of business functions result in greater efficiency and reduction of errors (Gebauer *et al*., 2006) [10].

Optimization of inventory management: ERPs allow more precise and efficient management of inventories, reducing waste and improving product availability (Heirati *et al*., 2023) [11].

Better decision making: Access to real-time data facilitates informed and strategic decision making (De Keyser *et al*., 2019) [5]

Customer service: Better management of internal resources and processes translates into faster and more efficient customer service, improving customer satisfaction (Euchner & Ganguly, 2014) [6].

Significant challenges: ERP adoption is not without challenges, including high upfront costs, need for ongoing training, and resistance to change. However, these can be mitigated with proper planning, careful selection of suppliers and training programs (Fainshmidt *et al*., 2016) [7].

Recommendations

To ensure a successful implementation, it is suggested

Involve staff from the beginning: Ensure that all employees understand the benefits of ERP and are committed to the change (Costa *et al*., 2020) [3].

Continuous training: Implement regular training programs to ensure that staff are up to date with new system functionalities (De Keyser *et al*., 2019) [5].

Monitoring and evaluation: Conduct periodic evaluations of ERP performance and make adjustments as necessary (Gebauer *et al*., 2006) [10].

Establish clear metrics: Define clear metrics to evaluate the impact of the ERP and make adjustments based on measurable results (Euchner & Ganguly, 2014) [6].

Collaboration with vendors: Work closely with ERP vendors to customize the solution and ensure ongoing support (Gao *et al*., 2023) [9].

Return on investment (ROI) analysis: Perform ROI analysis to justify the initial investment and measure the long-term financial impact (Huikkola *et al*., 2016) [12].

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