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Adoption of Enterprise Resource Planning Systems in Brazilian Small and Medium Enterprises: Overcoming Barriers and Maximizing Opportunities

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ABSTRACT

This study explores the adoption of Enterprise Resource Planning (ERP) systems in Brazilian Small and Medium-sized Enterprises (SMEs), emphasizing the barriers and opportunities within this context. Using a mixed-method approach, it combines a systematic literature review, qualitative interviews with over 50 SME representatives, and a detailed case study of the author's family SME. The findings highlight key challenges, including high implementation costs, skills shortages, and organizational resistance, as well as significant opportunities such as enhanced operational efficiency and scalability. The research provides actionable recommendations for SMEs, and stakeholders interested in implementing ERP systems.

Keywords

ERP systems; Brazilian SMEs; Digital transformation; Brazil; Implementation challenges; Operational efficiency; Scalability; Systematic Literature Review; Case study; Organizational resistance

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1. INTRODUCTION

1.1 Background and Importance of ERP Systems for SMEs in Brazil

Small and Medium-sized Enterprises (SMEs) are essential to Brazil's economy, representing over 90% of all registered businesses and compromising over 30% of the Brazilian GDP. (CNN Brasil 2023). However, in an increasingly digital and competitive market, SMEs face enormous pressure to streamline operations and enhance efficiency. Digital transformation, particularly using ERP systems, offers a path to achieve these goals. ERP systems integrate core business functions—such as finance, inventory, and human resources—into a single platform, thereby enhancing process efficiency, data accuracy, and decision-making capabilities (Ranjan, Jha, and Pal 2020).

For Brazilian SMEs, ERP systems have the potential to significantly improve operational agility, allowing them to respond more effectively to market changes and customer needs. However, the adoption of ERP systems among these businesses remains limited, as many SMEs face substantial barriers. High implementation costs, limited access to technical expertise, and organizational resistance to change are among the main challenges (Silva, Rodrigues, and Silva 2018). Financial constraints often make ERP systems seem unattainable for small enterprises (Costa and Filho 2020, 103). This study explores these barriers, and the opportunities ERP systems present for Brazilian SMEs in their journey toward digital transformation.

1.2 Scope of the Study

This study focuses on the adoption of ERP systems in Brazilian SMEs, examining the key challenges and potential benefits. By combining a Systematic Literature Review (SLR) of existing studies on ERP adoption with qualitative interviews from SME leaders and a unique case study of the authors SME, the research provides both theoretical and practical

insights. Through an analysis of the barriers SMEs face in implementing ERP systems and the strategic advantages these systems offer; this study aims to inform SME stakeholders and policymakers. The findings are intended to offer actionable recommendations for overcoming challenges in ERP adoption, contributing to the broader digital transformation of Brazil's SME sector (OECD 2019).

2. LITERATURE REVIEW

2.1 Role of SMEs in Economic Development

Small and Medium-sized Enterprises (SMEs) are a major player in the Brazilian economy, contributing significantly to both the country's GDP and employment. According to recent data, SMEs represent over 30% of the nation's entire GDP (CNN Brasil 2023). In monetary terms, the revenue generated from SMEs in Brazil quadrupled in 10 years, increasing from 24 billion euros in 2001to 100 billion euros in 2011 (SEBRAE 2021). Furthermore, there are over 9 million SMEs in Brazil which represent over 52% of the total Brazilian workforce (BNDES 2023). Such important data shows that SMEs are the backbone of the Brazilian economy. They are responsible for fostering not only economic but social development by employing a huge portion of the Brazilian workforce, thus reducing the social inequalities and boosting economic resilience.

Despite contributing significantly to the Brazilian economy, SMEs face many challenges, especially when managing resources, financing investments and implementing new technology. To invest in new technology, SMEs need capital to do so. According to the World Bank (2022) one of the biggest hurdles SMEs faces is access to affordable financing, limiting their ability to invest in better technology. Furthermore, Brazil is notorious for its high interest rates and economic uncertainty, leaving SMEs even further

behind when compared to larger corporations and their access to affordable capital and modern technology.

Therefore, digital transformation remains both a challenge and an opportunity for Brazilian SMEs. While adopting digital tools like ERP systems can potentialize operational efficiency, streamline processes and thus improve decision making, SMEs lack not only the financial power as mentioned before, but also the technical expertise and infrastructure to implement digital solutions effectively (PwC Brazil 2023).

2.2 Overview of ERP Systems and Digital Transformation

Enterprise Resource Planning, also known as ERP, systems have become a necessity not only for the digital transformation of businesses, but also for a company to simply survive in any competitive business market. ERP systems are softwares that provide a centralized platform that integrates everything business related, such as: core functions, accounting, supply chain management, human resources, inventory control and any other operation that fits within the companys business model. This integration is pivotal, because it not only reduces any operational redundancy which leads to ineficiancy, but also provides company directors with real-time data that drives the companys strategical decision making (PwC Brazil 2023).

Focsuing on SMEs, the potential benefits of ERP systems are huge. ERPs help bridge the gap between SMEs and bigger corporations by enabling them to respond to market demands rapdidly and efficiently, which could never be done without a centralized business platform.

Nontheless, adoption of an ERP system has its challenges. Firstly, there is a huge upfront initial cost to implement the system, then there are the ongoing fees, such as maintenance, licencsing and monthly fee charged per user (Costa and Filho 2020, 103). Coupled to the

financial burden, there is also the enormous organizational change. When implementing an ERP system the entire opertational routine of the company is reestructured. Employees will have to dedicate a significant ammount of their time for training and process reestucutring which usually lasts around one year from start to finish of the ERP implementation (Silva, Rodrigues and Silva 2018, 151-158). Thus, if not managed correctly ERPs can hinder SMEs and become a financial burden, rather tha an operational booster.

Despite these barriers, ERP systems are becoming more available to smaller compaines. SAP SE, the German multinational software company is the biggest ERP provider and has the biggest market share of all ERP companies. They have launched an ERP designated especially for smaller companies, the SAP Business One (SAP B1). The SAP B1 has all of the traditional modules that the bigger SAP has, but simplified for SMEs limited manpower and technoological readiness. It has since been a huge succes in Brazil for both its lower costs and ease of use, without leaving any important feature from the bigger SAP for larger corporations. Therefore, digital transformation through ERP systems has become a trend in brazil.

2.3 Barriers to ERP Adoption in Brazilian SMEs

ERP systems are essential for SMEs to scale operations, but significant challenges hinder their adoption. The high initial implementation cost is a major barrier. ERP systems require software licensing, customization, and cloud infrastructure tailored to the business model. For example, implementing SAP Business One (SAP B1) typically costs €35,000–€50,000, depending on company size and complexity (Confidential Business Proposal, 2024). Additionally, companies must pay ongoing monthly fees based on the number of users, making costs unpredictable for growing SMEs operating on tight budgets.

Another challenge is the lack of technical expertise. SMEs often have small, multifunctional teams without dedicated IT departments, forcing them to hire external consultants, which further increases costs (Shiau, Hsu, and Wang 2009, 99–118). Resistance to change is also common, as ERP implementation requires restructuring business processes and extensive employee training. Limited workforce capacity often prolongs the implementation process to 8–12 months, requiring SMEs to manage employee resistance while maintaining day-to-day operations.

2.4 Opportunities from ERP Implementation

Despite these challenges, ERP systems offer significant benefits for SMEs. By centralizing business functions, operational efficiency improves, eliminating redundancies and providing real-time data insights. Studies by the Brazilian National Bank of Economic and Social Development (BNDES) show ERP implementation can reduce operational costs by 15% and improve efficiency by up to 20% within the first year (BNDES, 2023).

ERP systems also enable scalability. A centralized platform helps SMEs manage business expansion, enter new markets, and handle increased transactions efficiently, ensuring quick responses to customer demands (PwC Brazil, 2023). Improved financial planning and customer relationship management (CRM) are additional benefits. Real-time visibility of cash flow and budgeting enables accurate forecasting, while CRM modules help analyze customer behavior, retain loyalty, and expand market share.

Finally, cloud-based ERP systems have increased accessibility, eliminating the need for physical infrastructure and reducing upfront costs. Solutions like SAP Business One make

ERP systems more affordable, empowering SMEs to scale operations and compete effectively in their markets.

3. PROBLEM STATEMENT AND RESEARCH QUESTIONS

3.1 Problem Statement

Small and Medium-sized Enterprises (SMEs) are vital to the Brazilian economy, significantly contributing to employment and GDP. However, they face challenges in remaining competitive in an increasingly digital global economy. Adopting digital tools, particularly Enterprise Resource Planning (ERP) systems, enables SMEs to streamline operations, enhance decision-making, and scale effectively. By centralizing business functions, ERP systems improve efficiency, provide real-time insights, and optimize resource management, making them critical for digital transformation.

Despite these benefits, Brazilian SMEs face barriers to ERP adoption, including high implementation costs, skills shortages, resistance to change, and outdated infrastructure. These issues, along with a lack of tailored guidance, hinder digital transformation and limit their ability to leverage ERP systems for growth.

This study aims to identify key barriers to ERP adoption and highlight the opportunities these systems create for SMEs. A case study of ERP implementation in the author's SME offers practical insights into overcoming challenges and maximizing ERP benefits.

3.2 Research Question: What are the key barriers and opportunities for adopting ERP systems in Brazilian SMEs?

This research is guided by the following primary question:

What are the key barriers and opportunities for adopting ERP systems in Brazilian SMEs?

The study explores how SMEs can navigate the challenges of ERP adoption while leveraging its transformative potential for operational and strategic success.

3.3 Hypotheses

H1: Skills shortages significantly hinder the ERP adoption process in SMEs.
ERP implementation requires specialized knowledge to configure, operate, and maintain the system effectively. Many Brazilian SMEs lack the internal technical expertise to manage these tasks, leading to dependency on external consultants and higher costs. This skills gap represents a critical barrier to adoption.

H2: High implementation costs are a major barrier for Brazilian SMEs adopting ERP systems.
ERP systems demand significant financial investment, including upfront implementation fees, software licensing, and ongoing maintenance costs. For SMEs with constrained budgets and limited access to financing, these costs can be prohibitive, delaying or preventing adoption altogether.

H3: ERP adoption leads to improved operational efficiency and competitiveness in SMEs.
Despite the challenges, SMEs that successfully adopt ERP systems benefit from streamlined processes, centralized data management, and enhanced decision-making capabilities. These improvements lead to increased efficiency, cost savings, and the ability to compete more effectively with larger enterprises.

4. METHODOLOGY

4.1 Research Design: Justification for a Mixed-Method Approach

This study adopts a mixed-method approach to comprehensively understand the barriers and opportunities of ERP adoption in Brazilian SMEs. By combining a Systematic Literature Review (SLR), qualitative interviews, and a case study from the author's SME,

the study ensures both theoretical acccuracy and practical applicability. The inclusion of techniques for integrating qualitative and quantitative findings enhances the depth of analysis and aligns with best practices in mixed-methods research.

Rationale for Mixed-Method Approach

1. **Broader Understanding through Quantitative Data**

   The quantitative component is primarily based on a Systematic Literature Review (SLR), which aggregates data from academic publications, reports, and industry studies. This approach facilitates the identification of trends, patterns, and correlations relevant to ERP adoption in SMEs, providing a macro-level understanding.

2. **In-Depth Insights through Qualitative Data**

   The qualitative component includes interviews with SME leaders and the researcher's own experience implementing SAP Business One. These sources yield rich, context-specific insights into organizational resistance, workforce challenges, and the benefits of ERP systems. Such qualitative data complements the SLR by addressing themes that may not emerge from quantitative analyses alone.

3. **Comprehensive Perspective through Triangulation of Methods**

   Integration of findings in this study is achieved through the triangulation of three methods: Systematic Literature Review (SLR), qualitative interviews, and the author's SME case study. This approach ensures a holistic understanding of the barriers and opportunities for ERP adoption in Brazilian SMEs by validating themes and findings across the different sources.

   - **Triangulation Across Methods:** The study compares findings from the SLR, interviews, and case study to identify areas of agreement,

complementarity, or discrepancy. For example, recurring financial constraints observed in the literature were corroborated by SME leaders' perspectives in interviews and real-world challenges documented in the case study.

- **Thematic Integration:** Key themes such as resistance to change or skill shortages were explored across datasets to ensure coherence and depth. For instance, employee resistance identified in interviews was analyzed alongside insights from the case study to assess its practical implications.

4.2 Systematic Literature Review (SLR)

The Systematic Literature Review (SLR) was conducted to establish a theoretical foundation for understanding the barriers and opportunities associated with ERP adoption in SMEs, particularly within the Brazilian context. The SLR methodology ensures the inclusion of relevant, high-quality academic studies, all of which have DOI links for transparency and accessibility.

Search Strategy

To gather comprehensive insights, the SLR utilized reputable academic databases, including Google Scholar, Scopus, and Web of Science, focusing on articles published between 2014 and 2024. The following keywords were used in combination:

- *"ERP adoption in SMEs"*
- *"Brazil ERP systems"*
- *"barriers to ERP implementation"*
- *"opportunities of ERP implementation"*
- *"digital transformation in SMEs"*

Boolean operators (e.g., AND, OR) were applied to refine the search results

Inclusion and Exclusion Criteria

- **Inclusion Criteria**:
    - Peer-reviewed articles published between **2014 and 2024**.
    - Studies focused on SMEs adopting ERP systems, addressing financial, technical, or organizational challenges.
    - Research related to emerging markets, particularly Brazil.
    - Only studies with DOI links, ensuring reliability and traceability.
- **Exclusion Criteria**:
    - Studies focused solely on large enterprises or unrelated technology adoption.
    - Articles lacking empirical data or practical insights.
    - Publications in languages other than English or Portuguese.

The SLR followed the **PRISMA framework** (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) to ensure a transparent and rigorous approach. The process involved the following steps:

1. **Identification:** An initial search of academic databases, using predefined keywords, returned approximately 250 studies.
2. **Screening:** Abstracts and titles were reviewed to remove irrelevant or duplicate studies. This step reduced the pool to 120 articles.
3. **Eligibility:** The full text of the remaining articles was assessed against the predefined inclusion and exclusion criteria. This stage narrowed the selection to 40 key studies.
4. **Final Selection:** A final review for quality and relevance resulted in the inclusion of 20 studies directly aligned with the research objectives and hypotheses.

To support the systematic analysis, a detailed table has been included in the *Appendix B* (See table 1). This table summarizes the key papers selected based on the inclusion and exclusion criteria discussed earlier, ensuring alignment with the research objectives. It presents the paper title, DOI link for accessibility, and notes their relevance to the study's hypotheses. This summary supports the systematic approach taken in this research.

4.3 Interviews

This study is grounded in qualitative data collected through over 50 semi-structured interviews conducted by the researcher with representatives from Brazilian SMEs. The interviews aimed to explore the challenges, strategies, and perceived benefits associated with adopting ERP systems, particularly SAP Business One, in various industries.

Design and Approach: The interviews followed a semi-structured format, designed to bring both in-depth personal insights and data relevant to the research objectives. Key themes included:

1. Financial and technical challenges during ERP adoption.
2. Organizational resistance to change and methods to overcome it.
3. Long-term benefits and transformative opportunities offered by ERP systems.

To ensure consistency, a pre-designed interview guide was used, balancing structured questions with flexibility to adapt to respondents' unique experiences. The interviews were conducted in Portuguese, with each session lasting approximately 45–60 minutes. The responses were transcribed and prepared for thematic analysis. Due to confidentiality concerns expressed by participants, only key insights and aggregated findings have been included in this thesis, while full transcripts were excluded from the publicly shared data, shown in *Appendix D - Interviews.*

Sampling Strategy

Participants were purposively selected based on their involvement in ERP implementation and decision-making within their respective SMEs. The sampling criteria ensured representation across industries, including manufacturing, retail, services, and agriculture. This diversity provided a holistic perspective on ERP adoption in Brazilian SMEs.

Ethical considerations were prioritized throughout the process. Participants were informed of the study's purpose, and informed consent was obtained. Furthermore, confidentiality agreements were established to ensure that sensitive company data would not be disclosed, and only generalized insights or anonymized findings would be included in the research.

4.4 Case Study: The Author's SME

The inspiration for this research stems from the researcher's own experience implementing SAP Business One in their family-owned SME, which operates in the manufact materials sector. This case study provides a real-world example of ERP adoption, capturing the challenges and strategies employed during the process.

Implementation Context

The family SME, with 80 employees, sought to address inefficiencies in financial reporting and inventory management through ERP adoption. The implementation process revealed significant barriers, such as:

- High initial costs and ongoing licensing fees.
- Resistance to change among employees.
- The need for extensive employee training and process restructuring.

Case Study Process

The ERP implementation followed three key phases:

1. **Assessment and Selection**: An internal audit highlighted inefficiencies in operational processes, leading to the selection of SAP Business One for its scalability and suitability for SMEs.
2. **Deployment**: The rollout was executed in phases to minimize operational disruptions, with modules customized to fit the SME's specific needs.
3. **Change Management and Training**: Employee training was prioritized to ensure system adoption, and strategies were developed to address resistance, emphasizing the long-term benefits of improved efficiency and data-driven decision-making.

Significance of the Case Study

This case study not only exemplifies the challenges and opportunities of ERP adoption but also reinforces the study's relevance to real-world contexts. The insights gained from this personal experience complement the findings from the SLR and the interviews, offering a practical lens through which to analyze broader trends in ERP adoption among Brazilian SMEs.

5. RESULTS AND DISCUSSION

5.1 Integration of SLR Findings

The Systematic Literature Review (SLR) offers key insights into the barriers, opportunities, and critical success factors for ERP adoption in Brazilian SMEs. These findings provide a theoretical foundation for addressing the research objectives.

A. Barriers to ERP Adoption

1. **Financial Constraints**: High implementation and maintenance costs remain a major challenge. Papers like *Challenges of Cloud-ERP Adoptions in SMEs* and

Critical Success Factors of ERP Implementation in SMEs highlight how limited financial planning exacerbates these difficulties.

2. **Technical and Organizational Challenges**: SMEs often lack in-house expertise, requiring external consultants to manage ERP implementation, as explored in *Organizational, Technological, and Extrinsic Factors in the Implementation of Cloud ERP in SMEs*. Workforce resistance and inadequate training were also significant barriers identified in *Exploring ERP Systems Adoption in Challenging Times*.

3. **Infrastructure Limitations**: Studies such as *Towards Better Understanding of Determinants Logistical Factors in SMEs for Cloud ERP Adoption in Developing Economies* emphasize how gaps in IT infrastructure hinder ERP adoption, particularly in emerging markets like Brazil.

B. Opportunities of ERP Systems

1. **Enhanced Operational Efficiency**: ERP systems streamline business operations and improve decision-making. *Critical Success Factors for Implementing Cloud ERP in SMEs: A Systematic Review* shows how ERP systems align processes and increase efficiency. Similarly, *Business Intelligence During Times of Crisis* highlights their role in improving resource allocation.

2. **Accessibility of Cloud-Based Solutions**: Cloud-based ERP systems reduce the need for costly infrastructure investments, making ERP adoption more feasible. This is emphasized in *Prioritizing and Ranking Critical Factors for Sustainable Cloud ERP Adoption in SMEs*.

3. **Competitiveness and Scalability**: Papers like *Driving Forces and Barriers of Industry 4.0* demonstrate how ERP adoption enables SMEs to scale operations and compete with larger enterprises by leveraging localized advantages.

C. Critical Success Factors

1. **Leadership and Strategic Alignment**: Strong leadership and aligning ERP goals with business objectives are critical, as highlighted in *Adoption of Industry 4.0 Technologies: An Analysis of Small and Medium-Sized Companies in the State of São Paulo, Brazil*.

2. **Vendor Collaboration**: Effective vendor support simplifies ERP implementation and adoption, as shown in *Factors Affecting Intention to Adopt Cloud-Based ERP from a Comprehensive Approach*.

3. **Phased Implementation Plans**: A tailored, step-by-step implementation process enhances adoption rates, as detailed in *Exploring the Challenge Impacted SMEs to Adopt Cloud ERP*.

The SLR findings underscore the interplay of financial, technical, and strategic factors in ERP adoption. These insights complement the qualitative analysis presented earlier and establish a framework for understanding ERP adoption by Brazilian SMEs.

5.2 Qualitative Results: Key Insights from Interviews

The qualitative interviews conducted with representatives from 50 Brazilian SMEs provided comprehensive insights into the challenges and benefits of ERP adoption. Below are the key findings, grouped into recurring themes:

A. Key Challenges Across SMEs

1. **Financial Constraints**: High upfront costs were a notable concern for many companies. For example, **Adimix**, a producer of bakery additives, had to carefully plan financial resources to align its workflows with the ERP system. Similarly, **Bignotto**, a funeral urn manufacturer, struggled with the costs of migrating data from outdated software, which added complexity to the implementation process.

2. **Limited Technical Expertise**: A common theme among SMEs was the lack of in-house IT skills, leading to dependency on external consultants. **AngStahl**, a machinery manufacturer, faced challenges transitioning from manual to automated processes and required significant training to use the system effectively. **Eplam**, a plastics packaging company, experienced similar difficulties integrating data across departments.

3. **Organizational Resistance to Change**: Resistance to change emerged as a barrier in several cases. For instance, **Artole**, a fastener company, noted employee hesitation in adapting to new workflows. Similarly, **Shinoda**, an agricultural producer, highlighted the effort needed to communicate the long-term benefits of the ERP system to overcome employee resistance.

B. Reported Benefits of ERP Adoption

1. **Enhanced Operational Efficiency**: Many SMEs reported significant efficiency improvements post-implementation. For example, **Grupo Sanson**, operating in construction materials, eliminated bottlenecks, improving process visibility and cost management. **Doal Plastic**, a PVC fittings manufacturer, streamlined operations to ensure compliance with industry standards.

2. **Improved Decision-Making with Real-Time Data**: Real-time access to data provided actionable insights for several companies. **Hexagon Ortopedia**, a manufacturer of medical implants, used dashboards to monitor performance metrics and improve decision-making. **Ice Fresh**, a producer of hygiene products, enhanced traceability and operational planning using the ERP system's analytics tools.

3. **Cost Savings and Process Integration**: Integration of processes within ERP systems resulted in measurable cost savings. For instance, **Bionat**, a producer of biological agricultural solutions, reported a 20% productivity increase through better workflow integration. Similarly, **BN Papéis**, a specialty paper manufacturer, saw enhanced inventory accuracy and operational efficiency.

C. Emerging Trends and Industry-Specific Insights

1. **Adoption of SAP Business One**: SAP Business One proved to be a scalable solution for SMEs. **Albaugh Agro**, an agricultural chemicals company, successfully aligned its Brazilian operations with global headquarters using the ERP system. **Erecta**, a distributor of medical instruments, benefited from automated fiscal compliance and real-time data management.

2. **Niche ERP Customizations**: Customizations tailored to industry-specific needs played a vital role. **Milho de Ouro**, a snack food manufacturer, used ERP tools to manage seasonal production demands efficiently. **Fargimed**, a pharmaceutical company, leveraged ERP features for strict regulatory compliance and production traceability.

3. **Cloud-Based ERP Solutions**: Cloud-based deployments offered lower hardware costs and greater accessibility. **BO Packaging**, a packaging manufacturer, praised its ability to integrate operations across international branches while maintaining transparency. **Casa Haus**, a textile distributor, highlighted the flexibility of cloud ERP in managing production and distribution efficiently.

5.3 Insights from the Author's SME Case Study

The SME operates in the raw materials sector, employing around 80 staff members and generating annual revenues of approximately R$100 million. The decision to implement

SAP B1 was driven by the need to replace outdated, fragmented systems with a centralized ERP solution to improve efficiency, data accuracy, and decision-making.

A. **Key Challenges**

1. **Disruption to Workforce and Operations**: One of the most significant challenges was the need to allocate substantial manpower to the implementation process, as shown in *Appendix C* (see Figure 1). Employees from various departments had to temporarily pause their regular tasks to attend training sessions, workshops, and configuration meetings. This disruption required careful scheduling to maintain operational continuity.

2. **Extended Implementation Timeline**: The process, from the initial implementation phase to the system's "go live," spanned eight months. Even after this, an additional four months were needed for system stabilization, meaning the entire process took nearly a year to finalize. This prolonged timeline highlighted the complexity and time-intensive nature of ERP adoption in SMEs.

3. **Financial and Technical Barriers**: As a family-owned business with limited budgets, the cost of implementation, estimated between €35,000 and €50,000, posed a significant financial challenge. Additionally, the company needed to upgrade its IT infrastructure to support the cloud-based ERP, adding to the overall expense.

B. **Strategies for Success**

1. **Phased Implementation**: The company adopted a phased approach to manage the process more effectively. Initial focus was placed on core modules like finance and inventory, with additional features rolled out gradually.

2. **Employee Engagement and Training**: Training sessions were held to familiarize employees with the new system and address resistance to change. The management emphasized the long-term benefits of SAP B1, which helped secure buy-in from the workforce.

3. **Collaboration with External Experts**: Consultants were engaged to customize the ERP system to fit the company's unique needs, ensuring alignment with business processes and minimizing implementation errors.

C. **Outcomes**

1. **Operational Efficiency and Scalability**: Post-implementation, the company observed a 20% reduction in operational costs and improved production planning by 30%. The ERP system provided a scalable framework, enabling the SME to expand operations without losing efficiency.

2. **Improved Decision-Making**: Real-time data dashboards allowed management to make faster, more informed decisions. This was particularly beneficial for financial planning and inventory management.

5.4 Discussion of Findings

The integration of findings from qualitative interviews, the author's SME case study, and the systematic literature review (SLR) offers a comprehensive view on the challenges and opportunities associated with ERP adoption in Brazilian SMEs. This discussion aligns with the research hypotheses and provides deeper insights into the practical and theoretical implications of ERP systems.

1. Financial Barriers and Long-Term Gains

A recurring theme across all data sources is the financial burden of ERP implementation. Interviews and the author's SME case study revealed that implementation costs, starting

at 150 thousand reais, are prohibitively high for many Brazilian SMEs, especially given the economic volatility in the region. This aligns with the SLR findings from *Challenges of Cloud-ERP Adoptions in SMEs*, which highlight the compounded impact of financial constraints. While these costs pose an initial barrier, the long-term benefits—such as operational efficiencies and reduced redundancies—outweigh the upfront investment for businesses able to adopt the systems.

2. Organizational Challenges and Change Management

The prolonged implementation periods, ranging from 6 to 12 months, emerged as another significant challenge. This was confirmed by the author's SME case study, where the eight-month implementation phase required reallocating human resources and maintaining operational continuity throughout the process *(Appendix C, Figure 1).* Such lengthy timelines demand dedicated resources and sustained efforts, which are often difficult for SMEs to manage. The findings align with *Exploring ERP Systems Adoption in Challenging Times*, which notes that inadequate change management strategies further exacerbate delays during ERP adoption.

3. Strategic Opportunities from ERP Systems

Despite these challenges, ERP systems present significant opportunities for Brazilian SMEs. The SLR findings, supported by insights from papers like *Prioritising and Ranking Critical Factors for Sustainable Cloud ERP Adoption in SMEs*, highlight the scalability, efficiency, and improved decision-making enabled by ERP systems. The author's SME case study reinforces these findings, demonstrating how SAP Business One streamlined operations and enhanced data-driven decision-making processes. Similarly, interviews with SME leaders revealed a growing consensus on ERP systems being essential tools for remaining competitive in Brazil's evolving market.

4. Broader Implications for ERP Adoption in Brazilian SMEs

The findings collectively show that successful ERP adoption requires a balance between addressing immediate barriers and leveraging long-term benefits. Cloud-based ERP solutions, as emphasized in *Adoption of Software as a Service (SaaS) Enterprise Resource Planning (ERP) Systems in Small and Medium Sized Enterprises (SMEs)*, offer a viable path forward for SMEs with limited resources. Additionally, the increasing availability of tailored ERP solutions, such as SAP Business One, highlights the growing accessibility of these systems for smaller enterprises in emerging markets like Brazil.

6. CONCLUSION

6.1 Summary of Key Findings

This study explored the barriers and opportunities associated with ERP adoption in Brazilian SMEs, addressing both theoretical and practical dimensions. The qualitative interviews, systematic literature review (SLR), and the author's own SME case study contributed to a deep understanding of the subject.

H1: Skills shortages significantly hinder the ERP adoption process in SMEs - Findings confirmed this hypothesis, revealing that most SMEs lack in-house IT expertise, leading to a reliance on external consultants. This dependency not only increased implementation costs but also extended the timeline, as shown in interviews with SMEs and the author's own case study.

H2: High implementation costs are a major barrier for Brazilian SMEs adopting ERP systems - This was supported by evidence, with interviews and the case study highlighting upfront implementation fees starting from R$150,000, a significant financial burden for SMEs. Additionally, costs for ongoing maintenance and staff training amplified these challenges, as also noted in the SLR findings.

H3: ERP adoption leads to improved operational efficiency and competitiveness in SMEs - The research affirmed this hypothesis, showcasing that SMEs that adopted ERP systems experienced streamlined operations, real-time data integration, and enhanced decision-making. Both qualitative insights and the case study demonstrated measurable improvements, such as cost reductions and better inventory management.

The study's overarching research question—**What are the key barriers and opportunities for adopting ERP systems in Brazilian SMEs?**—was addressed by identifying financial constraints, skills shortages, and organizational resistance as primary barriers. Conversely, the scalability, efficiency, and decision-making improvements offered by ERP systems were key opportunities, particularly when cloud-based solutions were employed.

6.2 Limitations

This study provides meaningful insights but is subject to certain limitations. Financial information, critical for a comprehensive analysis, was not disclosed by many SMEs, limiting the scope of quantitative financial assessment. Consequently, the research relied on qualitative interviews and insights to understand the barriers and opportunities in ERP adoption. Additionally, the study is focused on Brazilian SMEs, which may restrict the generalizability of findings to other regions or contexts.

6.3 Contributions and Recommendations

Theoretical Contribution

This study contributes to the understanding of ERP adoption in Brazilian SMEs by combining qualitative interviews and a case study. It bridges theoretical models and real-world practices, offering insights into barriers and opportunities in emerging markets.

Practical Recommendations by Stakeholder

For SMEs: Adopt phased implementation to manage costs and disruptions, prioritize employee training to reduce resistance, and use cloud-based ERP to overcome infrastructure challenges and lower costs.

For Policymakers: Provide financial incentives like subsidized loans or tax breaks to ease ERP adoption costs and promote digital literacy programs to reduce reliance on external consultants.

For ERP Vendors: Develop tailored solutions addressing SMEs' constraints, offer flexible payment models to lower financial barriers, and provide ongoing support to ensure successful adoption.

6.4 Final Reflections

The motivation for this study stemmed from the researcher's personal experience with ERP implementation in a family-owned SME. Witnessing the challenges firsthand—ranging from high costs to workforce resistance—underscored the importance of this research. At the same time, the eventual success of the ERP system in improving operational efficiency and decision-making highlighted its transformative potential for SMEs.

This study has shown that while ERP adoption presents significant hurdles for Brazilian SMEs, it also offers unparalleled opportunities for growth and competitiveness in a rapidly digitalizing economy. By addressing the identified barriers with strategic planning, targeted support, and innovative solutions, SMEs can not only overcome these challenges but also thrive in an increasingly competitive market.

Future research can expand on this foundation by exploring ERP adoption across different regions or investigating the integration of advanced technologies, such as AI and blockchain, in ERP systems for SMEs.

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8. APPENDICES

Appendix A – List of Abbreviations

AI – Artificial Intelligence

BNDES – Banco Nacional de Desenvolvimento Econômico e Social

CAPEX – Capital Expenditures

ERP – Enterprise Resource Planning

GDP – Gross Domestic Product

IOT – Internet of Things

IT – Information Technology

PRISMA – Preferred Reporting Items for Systematic Reviews and Meta-Analysis

SaaS – Software as a Service

SEBRAE - Serviço Brasileiro de Apoio às Micro e Pequenas Empresas

SLR – Systematic Literature Review

SME – Small and Medium-sized Enterprise

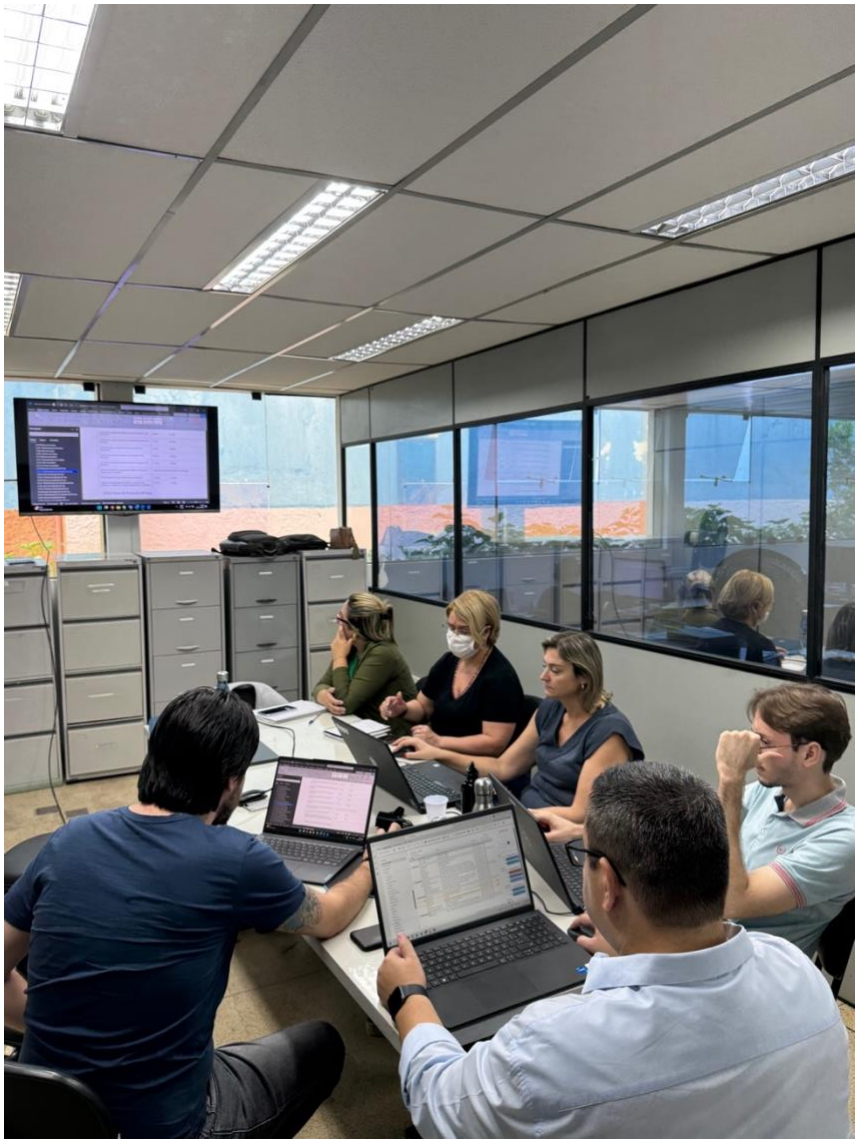
Appendix B - Tables

Paper Title	DOI Link	Relevant to all three hypotheses?	Key Insisghts
Factors Affecting Intention to Adopt Cloud-Based ERP from a Comprehensive Approach.	https://doi.org/10.3390/su12166426	YES	Explores the influence of organizational culture, leadership support, and perceived ease of use on SMEs' adoption decisions for cloud ERP systems.
Towards Better Understanding of Determinants Logistical Factors in SMEs for Cloud ERP Adoption in Developing Economies.	https://doi.org/10.1108/bpmj-01-2018-0004.	YES	Identifies how infrastructure limitations and resource allocation strategies affect ERP adoption in SMEs operating in developing markets.
Business Intelligence During Times of Crisis: Adoption and Usage of ERP Systems by SMEs	https://doi.org/10.1016/j.sbspro.2015.01.1204.	YES	Demonstrates how ERP systems enable SMEs to navigate crises by improving predictive analytics, resource allocation, and decision-making speed.
Adoption of Industry 4.0 Technologies: An Analysis of Small and Medium-Sized Companies in the State of São Paulo, Brazil	https://doi.org/10.1590/1806-9649-2022v29e122.	YES	Evaluates the readiness of São Paulo SMEs to integrate ERP with Industry 4.0 tools like IoT and robotics, highlighting regional challenges.
Critical Success Factors for Implementing Cloud ERP in SMEs: A Systematic Review.	https://doi.org/10.1142/s0219877024300039.	YES	Outlines leadership commitment, clear implementation roadmaps, and vendor support as pivotal to ERP success in SMEs.
Readiness of Low Complexity ERP for Continuous Auditing in SMEs: The Brazilian Case Study	https://doi.org/10.2478/candc-2022-0022.	YES	Investigates how simpler ERP systems tailored to SMEs' scale can support continuous auditing without overwhelming resources.
Prioritising and Ranking Critical Factors for Sustainable Cloud ERP Adoption in SMEs."	https://doi.org/10.1504/ijal.2015.071723.	YES	Highlights the need for aligning ERP functionalities with long-term business goals to ensure operational sustainability.

Exploring ERP Systems Adoption in Challenging Times. Insights of SMEs Stories.	https://doi.org/10.1016/j.techfore.2023.122795	YES	Reveals that SMEs leveraging ERP systems during downturns often outperform competitors in agility and financial recovery.
Organizational, Technological and Extrinsic Factors in the Implementation of Cloud ERP in SMEs.	https://doi.org/10.1108/jocm-06-2017-0230.	YES	Shows that successful implementation depends on a balance of internal readiness and external support, such as partnerships with tech providers.
Challenges of Cloud-ERP Adoptions in SMEs.	https://doi.org/10.1016/j.procs.2021.12.099.	YES	Identifies the compounded impact of financial constraints and change management difficulties on adoption timelines.
Exploring the Challenge Impacted SMEs to Adopt Cloud ERP.	https://doi.org/10.17485/ijst/2016/v9i45/100452.	YES	Discusses the role of legacy systems and misaligned ERP features in delaying or derailing adoption processes.
Driving Forces and Barriers of Industry 4.0: Do Multinational and Small and Medium-Sized Companies Have Equal Opportunities?"	https://doi.org/10.1016/j.techfore.2019.05.021.	YES	Suggests that while SMEs face resource limitations, ERP adoption enables them to leverage localized advantages over multinationals.
Cloud ERP Adoption Opportunities and Concerns: The Role of Organizational Size.	https://doi.org/10.1109/hicss.2015.504.	YES	Shows that larger SMEs experience smoother adoption due to better resource availability, while smaller ones need scaled-down solutions.
Critical Success Factors of ERP Implementation in SMEs.	https://doi.org/10.5267/j.jpm.2019.6.001.	YES	Stresses the importance of phased implementation and staff involvement to mitigate risks during ERP adoption.
Use of Knowledge Management Systems: Analysis of the Strategies of Brazilian Small and Medium Enterprises.	https://doi.org/10.1108/jkm-06-2019-0334.	YES	Highlights ERP's role in transforming fragmented data into actionable business intelligence, boosting competitiveness.
Cloud Computing, Big Data, and Blockchain Technology Adoption in ERP Implementation Methodology.	https://doi.org/10.3390/su14073714.	YES	Establishes ERP as a cornerstone for digital maturity, enabling SMEs to exploit competitive opportunities in saturated markets.
On the Contingent Value of IT-Based Capabilities for the Competitive Advantage of SMEs: Mechanisms and Empirical Evidence	https://doi.org/10.1016/j.im.2016.05.004.	YES	Establishes ERP as a cornerstone for digital maturity, enabling SMEs to exploit competitive opportunities in saturated markets.
Cloud Adoption in Brazil	https://doi.org/10.1109/mitp.2017.27.	YES	Discusses the regional push toward cloud ERP as a solution to overcome Brazil's technological and economic challenges.
Moving from Evaluation to Trial: How Do SMEs Start Adopting Cloud ERP?	https://doi.org/10.3127/ajis.v19i0.1030.	YES	Reveals that SMEs achieving successful trials focus on aligning ERP features with their core processes before full-scale adoption.
Adoption of Software as a Service (SaaS) Enterprise Resource Planning (ERP) Systems in Small and Medium Sized Enterprises (SMEs)	https://doi.org/10.1007/s10796-014-9506-5.	YES	Highlights how SaaS ERP systems allow SMEs to bypass infrastructure costs while enabling scalable and remote operations.

"Table 1: Summary of Systematic Literature Review (SLR) Papers Meeting Inclusion and Exclusion Criteria"

Appendix C - Figures



“Figure 1: Team training session during the ERP implementation process in the author’s SME.”

Appendix D – Interviews

Case 1: ADIMIX

Summary: ADIMIX, a Brazilian company specializing in baking additives, faced challenges in managing its growing business and skilled workforce. The implementation of ERP was necessary to gain control over operations, improve internal processes, and secure data reliability.

Barriers:

- Difficulty aligning existing workflows with the ERP system.
- Resistance to change among staff accustomed to older systems.

Key Benefits:

- Improved organization and control.
- Internal process review and enhancements.
- Reliable and secure data management.

Case 2: Albaugh Agro

Summary: Albaugh Agro, a leader in agricultural protection, needed ERP to support growth and integrate operations across its global network. The ERP enabled faster processes, improved decision-making, and better business oversight.

Barriers:

- Ensuring compatibility with global headquarters' systems.
- Managing data migration from older systems to the ERP.

Key Benefits:

- Streamlined global integration.
- Faster and more informed decision-making.
- Increased operational control.

Case 3: AngStahl

Summary: AngStahl, focused on agricultural and construction machinery, struggled with manual processes and outdated spreadsheets. ERP adoption automated operations, increased productivity, and ensured full traceability of information.

Barriers:

- Transitioning from manual to automated processes.
- Data loss concerns during implementation.

Key Benefits:

- Comprehensive process automation.
- Enhanced productivity and accuracy.
- 100% traceability of data.

Case 4: Artole

Summary: Artole, specializing in fasteners, required ERP to meet the operational demands of its growing business. Replacing their old system, ERP improved inventory control, decision-making, and client-supplier relationships.

Barriers:

- Resistance from employees unfamiliar with ERP systems.
- Customizing ERP modules to meet business needs.

Key Benefits:

- Efficient and user-friendly interface.
- Better inventory and stakeholder relationship management.
- Improved decision-making processes.

Case 5: Auto Avaliar

Summary: Auto Avaliar, a startup in used vehicle sales, needed ERP to unify its growing operations. The ERP system improved department integration and streamlined data management, supporting scalability.

Barriers:

- Rapid growth outpacing ERP system customization.
- Difficulty in training employees to use the new system.

Key Benefits:

- Unified operations across departments.
- Faster access to reliable information.
- Enhanced scalability for growth.

Case 6: Bignotto

Summary: Bignotto, a funeral urn manufacturer, struggled with data loss risks and operational inefficiencies. The ERP system replaced its outdated domestic software, ensuring integrated management across production, accounting, and fiscal areas.

Barriers:

- Migrating large amounts of sensitive data.
- Overhauling ingrained manual workflows.

Key Benefits:

- Fully integrated production and financial management.
- Secure and reliable data handling.

Case 7: Bionat

Summary: Bionat, specializing in sustainable biological agricultural solutions, required ERP to streamline operations and ensure process security. Implementation boosted productivity and increased operational accuracy.

Barriers:

- Initial difficulties in adapting to automated workflows.
- Balancing productivity during system deployment.

Key Benefits:

- Streamlined operations.
- Enhanced data security and accuracy.
- Boosted productivity.

Case 8: BN Papéis

Summary: BN Papéis, a producer of specialty paper, needed ERP to support compliance and multilingual operations across global locations. The system improved inventory accuracy and operational efficiency.

Barriers:

- Complexity in managing compliance across multiple regions.
- Training international teams to use the system.

Key Benefits:

- Better compliance and legal management.
- Enhanced inventory control and forecasting.
- Streamlined processes across global sites.

Case 9: BO Packaging

Summary: BO Packaging, a multinational packaging company, used ERP to unify operations across branches. The system provided real-time access to information, enhancing transparency and decision-making.

Barriers:

- Resistance from local teams during global ERP standardization.
- Integration challenges with pre-existing regional systems.

Key Benefits:

- Real-time, accurate information flow.
- Seamless global integration.
- Enhanced operational transparency.

Case 10: Casa Haus

Summary: Casa Haus, a textile distributor, sought ERP to integrate production and distribution. The system optimized operations, especially in production control, and strengthened supplier relationships.

Barriers:

- Adjusting ERP workflows to suit the textile sector.
- Employee adaptation to new data workflows.

Key Benefits:

- Enhanced production control.
- Reliable real-time data access.
- Improved supplier relationships.

Case 11: Click a Cueca

Summary: Click a Cueca, a men's underwear manufacturer, needed an ERP system to replace its outdated solution, which failed to meet fiscal obligations and integrate

production with dyeing processes. The ERP streamlined operations, provided reliable real-time information, and aligned processes with company strategies.

Barriers:

- Transition from an outdated ERP system.
- Ensuring adaptability to textile industry processes.

Key Benefits:

- Full company integration.
- Reliable and real-time data access.
- Enhanced reporting for strategic decision-making.

Case 12: Collectania

Summary: Collectania, a luxury furniture distributor, required a system upgrade to manage its diverse operations and ensure compliance with fiscal regulations. The ERP system allowed better integration across departments, reducing errors and rework.

Barriers:

- Legacy systems lacked support for modern compliance requirements.
- Resistance to adopting new processes among employees.

Key Benefits:

- Integration across business departments.
- Reduced rework through process standardization.
- Increased confidence in data accuracy.

Case 13: Deerfos

Summary: Deerfos, an abrasives manufacturer, needed a robust ERP solution to handle production demands and integrate business processes. The new system provided a comprehensive view of the company and enhanced internal communication.

Barriers:

- Transition from a fragmented ERP setup.
- Adapting the system to meet the growing production needs.

Key Benefits:

- Departmental integration for a unified view of operations.

- Better inventory control and real-time data.
- Improved decision-making with consistent data.

Case 14: Doal Plastic

Summary: Doal Plastic, specializing in plastic connections for water systems, replaced an underperforming ERP system to align operations with technological advancements and improve legal compliance.

Barriers:

- Ensuring fiscal and operational compliance with industry standards.
- Transitioning from a highly manual process to ERP automation.

Key Benefits:

- Enhanced cost control and real-time data.
- Improved decision-making with integrated processes.
- Stronger compliance with industry regulations.

Case 15: Embrafós

Summary: Embrafós, a bio-fertilizer producer, sought an ERP to integrate its operations, increase productivity, and ensure process security. The system delivered consistent data and streamlined workflows.

Barriers:

- Migrating critical production data from legacy systems.
- Adapting internal workflows to ERP requirements.

Key Benefits:

- Integrated production and operational processes.
- Improved productivity with secure and consistent data.
- Better decision-making based on reliable data.

Case 16: Engefaz

Summary: Engefaz, an engineering service provider, upgraded its ERP system to improve inventory control, manage fixed assets, and enhance overall financial management.

Barriers:

- Limited compatibility of the previous ERP with growing business needs.
- High costs of transitioning to a comprehensive system.

Key Benefits:

- Streamlined inventory and cost management.
- Enhanced data accuracy and reporting.
- Agility in operational and financial processes.

Case 17: Eplam

Summary: Eplam, a plastics packaging manufacturer, implemented a new ERP to centralize operations and improve interdepartmental communication. The ERP helped streamline production and ensure compliance with market demands.

Barriers:

- Lack of interdepartmental data integration in the legacy system.
- Resistance to adapting to a centralized ERP solution.

Key Benefits:

- Real-time data flow across all departments.
- Better inventory management and cost control.
- Increased operational efficiency.

Case 18: Equilíbrio Proteção Florestal

Summary: Equilíbrio, a forestry management company, sought an ERP to manage its operations, align financial controls, and enhance transparency. The system provided efficient management of its business processes and compliance with regulatory standards.

Barriers:

- Adapting existing forestry processes to ERP capabilities.
- Training staff unfamiliar with ERP functionalities.

Key Benefits:

- Reliable and centralized data for decision-making.
- Improved compliance and operational transparency.
- Streamlined workflows across departments.

Case 19: Erecta

Summary: Erecta, a distributor of medical and surgical materials, implemented an ERP system to handle fiscal compliance, streamline inventory management, and ensure faster decision-making.

Barriers:

- Manual processes led to inefficiencies and inaccuracies.
- Adapting a diverse inventory to ERP management tools.

Key Benefits:

- Enhanced fiscal compliance with automated updates.
- Improved inventory control and process automation.
- Faster and more accurate operational decisions.

Case 20: FanTR

Summary: FanTR, an industrial ventilation manufacturer, needed an ERP system to unify its operations and improve process efficiency. The system eliminated redundant processes and provided consistent data for decision-making.

Barriers:

- Lack of integration in the legacy systems.
- Aligning production workflows with ERP modules.

Key Benefits:

- Unified data flow and departmental integration.
- Real-time data access for better process visibility.
- Improved inventory and production management.

Case 21: Fargimed

Summary: Fargimed, a pharmaceutical manufacturer, required a robust ERP system to handle production traceability, integrate operations, and comply with regulatory standards. The ERP implementation provided end-to-end control of the supply chain and inventory management.

Barriers:

- Ensuring compliance with pharmaceutical industry regulations.

- Managing production traceability within the ERP system.

Key Benefits:

- Enhanced traceability of raw materials to finished products.
- Improved inventory accuracy and real-time updates.
- Streamlined compliance with regulatory requirements.

Case 22: Fermazon

Summary: Fermazon, a steel manufacturing company, sought an ERP system to automate production processes, integrate departments, and streamline data management. The new system improved inventory tracking and provided comprehensive production insights.

Barriers:

- Transitioning manual production workflows into an automated ERP environment.
- Resistance to integrating finance and operations.

Key Benefits:

- Real-time access to inventory and financial data.
- Enhanced coordination across departments.
- Improved operational efficiency and reduced manual errors.

Case 23: FIP (Fábrica de Taxímetros)

Summary: FIP, a manufacturer of taximeters and tachographs, implemented an ERP to replace its highly customized legacy system. The new system provided better process standardization, inventory management, and operational visibility.

Barriers:

- Migrating data from a heavily customized legacy system.
- Training employees on process standardization.

Key Benefits:

- Improved communication and data flow between departments.
- Enhanced inventory control and material purchasing accuracy.
- Real-time visibility of production processes.

Case 24: Fortress Technology

Summary: Fortress Technology, a metal detection equipment manufacturer, implemented an ERP system to unify operations across global business units. The system improved data reliability, inventory control, and reporting.

Barriers:

- Managing global integration for multiple locations.
- Ensuring compliance with international regulatory standards.

Key Benefits:

- Centralized and reliable data across global operations.
- Enhanced inventory and financial controls.
- Streamlined compliance with international standards.

Case 25: Grupo Sanson

Summary: Grupo Sanson, involved in civil construction and quarry operations, implemented an ERP to replace a fragmented legacy system. The new system provided better cost management, process visibility, and streamlined reporting.

Barriers:

- Transitioning from outdated and fragmented systems.
- Aligning construction-specific workflows with ERP modules.

Key Benefits:

- Improved process and cost management.
- Enhanced integration and visibility across operations.
- Real-time reporting for better decision-making.

Case 26: Hexagon Ortopedia

Summary: Hexagon Ortopedia, a producer of orthopedic implants, implemented an ERP to integrate production, ensure compliance with strict medical standards, and manage supply chain traceability.

Barriers:

- Adapting ERP workflows to medical device production standards.
- Managing stringent compliance and traceability requirements.

Key Benefits:

- End-to-end control of production and supply chain.
- Enhanced traceability and compliance.
- Reduced errors and improved efficiency.

Case 27: Ice Fresh

Summary: Ice Fresh, a producer of oral hygiene products, required an ERP to modernize its production and inventory systems. The ERP implementation centralized data, improved traceability, and streamlined fiscal compliance.

Barriers:

- Integrating legacy systems with new workflows.
- Ensuring fiscal compliance in a highly regulated market.

Key Benefits:

- Centralized production and inventory management.
- Enhanced compliance and traceability.
- Streamlined operations with reduced rework.

Case 28: Innara

Summary: Innara, a manufacturer of wire products, implemented an ERP to integrate its operations, improve inventory control, and streamline production. The ERP system enhanced operational efficiency and reporting capabilities.

Barriers:

- Lack of integration between production and financial systems.
- Aligning ERP capabilities with manufacturing workflows.

Key Benefits:

- Improved inventory and production management.
- Real-time data access for better decision-making.
- Enhanced reporting across departments.

Case 29: Intercuf

Summary: Intercuf, a chemical manufacturer, implemented an ERP to replace its outdated system and meet the growing demands of its business. The system automated processes, improved compliance, and enhanced traceability.

Barriers:

- Resistance to automation from employees accustomed to manual processes.
- Aligning ERP functionality with chemical industry standards.

Key Benefits:

- Increased traceability and regulatory compliance.
- Automated workflows for enhanced efficiency.
- Real-time data for informed decision-making.

Case 30: ITP Systems

Summary: ITP Systems, a manufacturer of thermoplastic components, sought an ERP to automate its industrial processes and integrate operations. The ERP implementation improved decision-making and reduced inefficiencies.

Barriers:

- Transition from manual workflows to automated processes.
- Resistance to standardizing internal processes.

Key Benefits:

- Fully integrated production and administrative processes.
- Real-time data for quick decision-making.
- Reduced rework and increased productivity.

Case 31: Izzo Instrumentos Musicais

Summary: Izzo, a producer and distributor of musical instruments, replaced its outdated ERP with a system that could integrate operations and improve data reliability. The ERP ensured better inventory management and streamlined processes across departments.

Barriers:

- Transition from a legacy system that lacked integration.
- Training employees to utilize ERP tools effectively.

Key Benefits:

- Enhanced integration of operations across departments.
- Improved inventory management and reporting.
- Reliable data for strategic decision-making.

Case 32: Kimberlit Agrociências

Summary: Kimberlit, a fertilizer manufacturer, implemented an ERP system to improve data accuracy, streamline production, and enhance operational control. The system provided centralized data and reduced manual errors.

Barriers:

- Adapting workflows to meet regulatory and operational standards.
- Aligning production processes with ERP functionalities.

Key Benefits:

- Centralized and accurate data for decision-making.
- Improved operational control and efficiency.
- Enhanced traceability and compliance.

Case 33: Loyder

Summary: Loyder, a producer of fertilizers and agricultural inputs, required an ERP to integrate departments, improve productivity, and enhance data security. The system helped optimize workflows and provided reliable information.

Barriers:

- Resistance to adopting automated workflows.
- Ensuring integration across diverse operational areas.

Key Benefits:

- Enhanced productivity and operational efficiency.
- Improved data security and consistency.
- Streamlined department integration.

Case 34: Meng

Summary: Meng, a producer of road and industrial signage, replaced its fragmented systems with an ERP to centralize operations and improve production planning. The system streamlined processes and enhanced visibility.

Barriers:

- Transitioning from multiple, unconnected systems to an integrated ERP.
- Training employees on centralized operations.

Key Benefits:

- Centralized operations with real-time data.
- Improved production planning and visibility.
- Enhanced operational efficiency.

Case 35: Metalfama

Summary: Metalfama, a manufacturer of non-ferrous metal components, needed an ERP to improve production and cost control. The system provided reliable data and streamlined internal processes.

Barriers:

- Aligning ERP functionalities with specialized production needs.
- Resistance to changes in established workflows.

Key Benefits:

- Better control of production and costs.
- Improved process documentation and reporting.
- Enhanced data reliability for informed decision-making.

Case 36: Milho de Ouro

Summary: Milho de Ouro, a snack food manufacturer, implemented an ERP to handle rapid growth, improve traceability, and ensure data accuracy. The system supported the company's scaling operations and compliance.

Barriers:

- Managing high data volumes during growth.
- Training employees on using ERP tools effectively.

Key Benefits:

- Increased credibility of data and process traceability.
- Enhanced scalability for business growth.
- Streamlined operations with reduced errors.

Case 37: Móveis Fenix

Summary: Móveis Fenix, a custom furniture manufacturer, implemented an ERP to improve inventory control, optimize tasks, and ensure process integration. The system provided real-time data and streamlined operations.

Barriers:

- Integrating custom manufacturing workflows into ERP.
- Adapting teams to a centralized information system.

Key Benefits:

- Improved inventory control and task optimization.
- Enhanced interdepartmental integration.
- Faster and more reliable reporting.

Case 38: Movex

Summary: Movex, a producer of industrial transmission equipment, needed an ERP to centralize its data and improve reporting capabilities. The ERP streamlined inventory management and optimized decision-making.

Barriers:

- Migrating legacy data to the ERP system.
- Resistance to standardizing internal processes.

Key Benefits:

- Better control over inventory and processes.
- Simplified reporting and improved decision-making.
- Centralized operations for enhanced efficiency.

Case 39: Neade

Summary: Neade, a metallurgical company specializing in lifting and moving equipment, implemented an ERP to integrate departments, improve inventory control, and streamline financial operations.

Barriers:

- Limited functionality of the previous system.
- Resistance to changes in operational workflows.

Key Benefits:

- Better inventory and financial management.
- Improved reporting capabilities.
- Enhanced operational efficiency across departments.

Case 40: Papion Filmes Flexíveis

Summary: Papion, a flexible film manufacturer, needed an ERP to integrate financial and production processes. The system improved data consistency, reduced errors, and enhanced decision-making.

Barriers:

- Lack of integration between finance and production systems.
- Ensuring data accuracy during the migration.

Key Benefits:

- Integrated financial and production processes.
- Reliable data for strategic decisions.
- Reduced operational errors and inefficiencies.

Case 41: Polar Fix

Summary: Polar Fix, a manufacturer of hospital products, implemented an ERP to centralize operations, improve compliance, and streamline inventory and financial management. The system enhanced process control and ensured reliable real-time data access.

Barriers:

- Transitioning from a fragmented legacy system.
- Ensuring compliance with stringent health sector regulations.

Key Benefits:

- Integrated fiscal and financial processes.
- Enhanced inventory management and real-time reporting.
- Increased operational reliability and process control.

Case 42: RevoChemical

Summary: RevoChemical, a chemical manufacturer, replaced its outdated system with an ERP to unify data and ensure better process control. The system improved inventory management and streamlined compliance efforts.

Barriers:

- Aligning ERP functionalities with chemical manufacturing requirements.
- Resistance to change in established workflows.

Key Benefits:

- Centralized operations with real-time data access.
- Improved inventory accuracy and process efficiency.
- Enhanced compliance with industry standards.

Case 43: Sakura Tech

Summary: Sakura Tech, a producer of plastic components, sought an ERP to address gaps from a poorly implemented legacy system. The ERP provided better inventory control, production management, and operational integration.

Barriers:

- Overcoming deficiencies from a previous, inadequate ERP implementation.
- Training employees on ERP functionalities.

Key Benefits:

- Improved inventory and production chain management.
- Enhanced data accuracy and reporting.
- Streamlined processes for better decision-making.

Case 44: Sanven

Summary: Sanven, a metalworking company, implemented an ERP to automate its production processes and ensure seamless data integration across departments. The system improved planning, visibility, and operational efficiency.

Barriers:

- Transitioning from manual processes to ERP automation.
- Training employees to adapt to new workflows.

Key Benefits:

- Enhanced planning and production visibility.
- Real-time data for informed decision-making.
- Improved integration of operational data.

Case 45: Shinoda

Summary: Shinoda, a leading egg production and distribution company, implemented an ERP to integrate its financial and production processes. The system improved traceability and operational consistency.

Barriers:

- Transition from a highly manual process to ERP integration.
- Managing resistance to automation among employees.

Key Benefits:

- Improved traceability across production processes.
- Consistent and reliable real-time data.
- Enhanced compliance and operational efficiency.

Case 46: SóQuímica Laboratórios

Summary: SóQuímica, a distributor of pharmaceutical and hospital products, implemented an ERP to improve data control, streamline processes, and enhance decision-making. The system centralized operations and supported growth.

Barriers:

- Adapting ERP functionalities to regulatory compliance.
- Managing complex supply chain operations within the ERP.

Key Benefits:

- Centralized and reliable data management.
- Streamlined supply chain and compliance processes.
- Real-time insights for faster decisions.

Case 47: Tambor-Line

Summary: Tambor-Line, a manufacturer of industrial drums, implemented an ERP to optimize production and ensure data consistency. The system provided better inventory control and improved reporting capabilities.

Barriers:

- Lack of integration between production and financial workflows.
- Resistance to adopting automated processes.

Key Benefits:

- Improved inventory management and traceability.
- Enhanced reporting and data reliability.
- Optimized production processes.

Case 48: Time Form

Summary: Time Form, a manufacturer of customized labels and packaging, implemented an ERP to integrate its processes, enhance traceability, and optimize production planning.

Barriers:

- Transitioning from a fragmented system to ERP integration.
- Adapting production workflows to ERP functionalities.

Key Benefits:

- End-to-end integration of production and financial processes.
- Improved traceability and operational control.
- Enhanced decision-making with real-time data.

Case 49: Tünkers

Summary: Tünkers, an industrial automation company, implemented an ERP to standardize processes and improve reporting. The system provided a unified platform for managing global operations efficiently.

Barriers:

- Managing complex workflows during ERP implementation.
- Training teams to use the ERP for diverse operational needs.

Key Benefits:

- Standardized processes across global operations.
- Enhanced data accuracy and operational visibility.
- Streamlined reporting for better decision-making.

Case 50: Upton

Summary: Upton, a manufacturer of bottling machines, implemented an ERP to centralize production and financial processes. The system optimized costs and enhanced operational transparency.

Barriers:

- Adapting production workflows to fit ERP modules.
- Ensuring seamless data migration during implementation.

Key Benefits:

- Centralized and transparent operational processes.
- Improved cost control and process efficiency.
- Real-time data for strategic planning.