



Enterprise Resource Planning ERP Systems as Catalysts for Business Process Reengineering Success

Ouahabi Keltoum* , Laboratory of Territory, Entrepreneurship, and Innovation,
University of bouira, Bouira 1000 (Algeria), k.ouahabi@univ-bouira.dz

Received: 29/01/2025	Accepted: 13/04/2025	Published: 30/06/2025
-----------------------------	-----------------------------	------------------------------

Abstract :

This study aims to elucidate the role of Enterprise Resource Planning (ERP) systems in the effective design and implementation of an integrated system for business process reengineering (BPR) in organizations. The objective is to enhance the current organizational framework to foster future competitiveness. Employing a descriptive and analytical approach, the study delves into key concepts surrounding the study's variables. Findings indicate that ERP systems are essential prior to commencing reengineering initiatives, or, at minimum, should be aligned with these processes. Moreover, ERP systems offer robust applications suited for reengineering, though they must be tailored to each organization's specific needs.

Keywords: : Systems, Enterprise Resource Planning (ERP), Business Process Reengineering (BPR);

* **Corresponding author:** Ouahabi Keltoum

1. INTRODUCTION:

In the early 1990s, an IT solutions company introduced Enterprise Resource Planning (ERP), a system that quickly became one of the most transformative advancements in organizational information technology. Its adoption expanded beyond industrial economic enterprises to service organizations globally. ERP was initially designed to address structural challenges within organizations, enhancing the speed, accuracy, and efficiency of information exchange among users. Organizations applying ERP have reported benefits that far outweigh implementation costs across financial, organizational, and human resources dimensions.

Business Process Reengineering (BPR) represents a transformative approach within contemporary management, profoundly influenced by the unique capabilities of Enterprise Resource Planning (ERP) systems. The widespread adoption and success of BPR are closely tied to the strategic advantages offered by ERP, including automation, extensive functional integration, integrated information systems, and a process-centric organizational framework. These attributes enable organizations to overcome challenges associated with task specialization and the compartmentalization of activities within different organizational units.

1.1 Statement of the Problem:

Building on these observations, the study's core question is as follows:

What role does ERP play in the successful implementation of business process reengineering within organizations ?

1.2. Research Questions :

- What are the objectives of the ERP system and what are its components?
- Why do organizations re-engineer their processes?
- Is there a link between ERP systems and process reengineering stages?

1.3. Hypothesis/ hypotheses:

To address the research problem, this study hypothesizes that Enterprise Resource Planning (ERP) systems are crucial at all phases of designing and implementing business process reengineering in organizations

1.4. Significance of the Study :

The significance of this research derives from its examination of ERP systems, which are increasingly fundamental across various organizational domains, particularly in economic enterprises where their use is most extensive. The continuous advancement in information systems has broadened the role of ERP systems from mere facilitators of internal processes to enablers of extensive integration of reengineered business processes, information, and stakeholders into a cohesive framework.

1.5. Objectives of the Study:

This study aims to elucidate the role of ERP systems and their core subsystems—namely, financial resource management, human resource management, inventory management, customer relationship management, and supplier relationship management—in facilitating the effective design and implementation of reengineered processes. Furthermore, it seeks to identify and describe the organizational transformations that emerge as a consequence of adopting these contemporary approaches.

1.6. methodology of the Study:

This study employs a descriptive-analytical methodology, examining each aspect to provide an in-depth understanding of the subject's dimensions.

1.7. previous researches :

- **Kamal Dedeh's study, 2019**, titled: The Impact of Enterprise Resource Planning Systems on Improving the Performance of Economic Enterprises: A Field Study of a Sample of Oil Companies Operating in Algeria, PhD thesis, University of Ouargla, aimed to identify the reality of the influential relationship between the enterprise resource planning system and improving the performance of some oil institutions operating in Algeria, represented by four Algerian and foreign institutions ; and The study sample includes 149 employees who used the ERP system. Among the most important findings is that all ERP system units are used in the institutions under study, and that the latter are based on specific indicators to improve their performance, and that the financial resources management unit has no impact on improving institutional performance, whereas the rest of the units have a statistically significant impact.
- **Massaoud Amhamed's study, 2022**,. A Proposed Model for Implementing ERP Systems as a Means of Business Process Reengineering to Develop Seaports. Journal of Human and Natural Sciences, Egypt , aimed to identify the role of using enterprise resource planning systems as a means of engineering (process reengineering), in order to develop seaports in general. To improve the performance and efficiency of the port of Tripoli in particular, the researcher used the descriptive analysis method as well as the questionnaire mechanism in this context, and a random sample was distributed at the headquarters of the Libyan Ports Company - Tripoli, followed by the analysis of tests, hypotheses, and multiple linear regression. The study yielded several findings, which were then turned into recommendations, the most important of which were: the existence of

a strong link between engineering and the choice to use ERP systems, and the highest force in impact.

1.8. Organization of the Study :

To study this topic and answer the problem posed, this paper was divided into three axes: the first axis dealt with an introduction to enterprise resource planning, the second axis presented some definitions of the ERP system and its characteristics, objectives, and technological and functional components, and the third axis dealt with the project of installing and implementing ERP systems in organizations ; In the second axis, we focused on process re-engineering in terms of definition, characteristics, principles, and benefits of its application in the organization, and in the third axis, we were able to connect the enterprise resource planning system and process re-engineering in order to understand the results achieved and the new form of organizations that resulted from its implementation.

2. Introduction to Enterprise Resource Planning (ERP)

The concept of "Enterprise Resource Planning" (ERP) was first introduced by Gartner Group in 1990 to describe an advanced evolution of Manufacturing Resource Planning (MRP II) systems, which were initially developed to optimize resource planning and allocation.

2.1 Defining ERP Systems:

Enterprise Resource Planning (ERP) systems are defined in a variety of ways across different contexts, each emphasizing their pivotal role in synthesizing and optimizing organizational processes. Commonly, ERP is identified as an integrative framework that consolidates core operational functions—including planning, control, production, and inventory management—with administrative activities such as accounting and human resources management. This holistic integration bolsters organizational performance, enabling a seamless application of the company's strategic vision across various functional levels (fang.m & fengyi.lin, 2006, p. 257). Deloitte and Touche's 1992 definition characterizes ERP as "an integrated suite of solutions crafted to automate and orchestrate business operations via a unified database, thus facilitating efficient, organization-wide access to timely information" (Zenagui & Maarif, 2015, p. 269).

At its core, an Enterprise Resource Planning (ERP) system embodies a holistic information framework that consolidates all organizational functions, thereby facilitating the efficient flow and management of data. Comprising interconnected software modules, ERP systems interlink various organizational components—functions, processes, departments, and units—into a cohesive framework. By centralizing data into a unified database, ERP systems enable robust information management, serving all users within the organization and yielding extensive operational advantages.

2.2 Core Characteristics of ERP Systems:

While ERP systems are generally characterized by their capacity for organizational integration, additional key attributes define their effectiveness in supporting BPR initiatives (Dida, 2019, p. 19):

- **Flexibility:** ERP systems must be adaptable to accommodate evolving organizational needs and structural changes.
- **Open-Module Architecture:** The system should employ a modular structure, allowing individual modules to function independently or within an integrated system, preserving the overall integrity of the platform. Furthermore, ERP systems should be compatible with various hardware configurations to keep pace with technological advancements.
- **Functional Integration:** ERP systems must provide broad functional coverage and seamless connectivity with both internal and external organizational systems. This interoperability ensures compatibility across different enterprises, enabling effective cross-enterprise collaboration.
- **External Integration:** ERP systems should facilitate engagement with external stakeholders, supporting communication and transactions beyond internal operations.
- **Optimized Operational Performance:** ERP systems should promote the adoption of industry best practices.
- **Real-World Simulation:** ERP systems should offer accurate digital representations of real-world business processes.

2.3 Objectives of the ERP System

The ERP system is designed to achieve several core objectives essential for organizational efficiency and process optimization:

- ERP aims to ensure a smooth operational flow by facilitating the timely and accurate exchange of information across administrative units within the organization.
- It focuses on improving the efficiency of organizational processes, enabling the seamless tracking and monitoring of activities across departments.
- ERP systems support a holistic integration of diverse operational functions within a unified, centralized database. This comprehensive integration enhances core processes—spanning planning, execution, management, and control—by centralizing data. This centralized approach enables efficient task execution, reduces redundancy, optimizes resource allocation, and supports strategic planning through precise resource assessment and performance evaluation.

- ERP supports procedural alignment across organizational functions by establishing horizontal integration rather than traditional hierarchical structures, which often impede performance quality and limit the effective application of information systems.
- ERP provides management and decision-makers with accurate, real-time information, essential for sound decision-making and identifying best practices. This functionality aligns ERP with organizational goals, enabling efficient, effective decisions and fostering a high standard of professionalism.

2.4 Components of the ERP System

ERP systems consist of technological and functional components that collectively interact within a shared database, customized to meet the specific needs and structure of the organization.

- **Technological Components:** ERP's technological infrastructure is composed of essential resources, facilitating the system's integration and functionality (Al-Sirafi, 2011, p. 198).
- ❖ **Hardware Resources:** These include all physical equipment and resources necessary for data processing:
 - Computers and calculators.
 - Input devices such as keyboards, mice, and touch screens.
 - Output devices, including printers, monitors, and audio-visual equipment.
 - Communication networks and devices, connected via various media.
- ❖ **Software Resources:** These consist of the programs and protocols that guide hardware operations, including (Al-Tahar & Alkhafaf, 2011, p. 262):
 - **Operating System Software:** The foundational software enabling system operation.
 - **Database Management System (DBMS):** Examples include SAP/R3 for ERP systems and DB2 for database management.
 - **Application Software:** Project management tools, development platforms, antivirus software, and other specialized applications.
- ❖ **Human Resources:** Essential personnel categories within ERP include:
 - **End-Users:** A broad user group comprising customers, vendors, employees, and other stakeholders.
 - **IT Specialists:** Professionals responsible for managing databases, IT support, and technical training.

- **Project Managers:** Individuals who coordinate with management to secure resources and support, ensuring optimal services for end-users.
- **Support Functions:** Formal roles that interlink various software components (Al-Jalili, 2013, p. 6).
- ❖ **Data Resources:** Defined as "a logically structured collection of data designed to meet users' information needs," ERP processes this data into actionable insights for decision-makers. Data is considered an invaluable asset and a core component of ERP systems.
- ❖ **Network Resources:** Communication channels facilitate coordination across organizational divisions, while information networks connect computers for regulated data exchange (Al ani, 2008, p. 183). Common network types include (Al-Najjar F. J., 2006, p. 210):
 - **Local Area Networks (LAN):** Networks linking personal devices within a limited geographical area, such as a single office or organization.
 - **Wide Area Networks (WAN):** Networks spanning extensive geographic areas, such as national or international regions, commonly used by telecom companies for internet connectivity.
 - **Metropolitan Area Networks (MAN):** Intermediate networks covering broader areas than LANs, connecting users and systems across larger geographic zones.

Each technological component plays a vital role in the functionality and success of an ERP system, underscoring the importance of advanced technological infrastructure to the development and efficiency of ERP solutions.

▪ **Functional Components of the Enterprise Resource Planning (ERP) System:**

The ERP system integrates several key functional components that automate and streamline the operations within an organization, consolidating them into a single, comprehensive database and system:

- ❖ **Financial Resource Management:** This component is the cornerstone of the ERP system, automatically documenting all financial transactions within the organizational financial statements. It encompasses the management of accounts receivable and payable, crucial for recording and processing transactions across various departments efficiently (Yamin, 2015, p. 22)⁴. The financial management system undertakes crucial tasks, including (Dida, 2019, p. 22):
 - Monitoring organizational liquidity and asset management.
 - Managing upcoming account receivables, analyzing budgetary allocations, planning profits, and reviewing financial documents.

- Facilitating budget functions, maintaining the general ledger, cost accounting, preparing financial reports, and processing invoices. Organizations necessitate a centralized accounting system to accurately record sales and compile financial data for streamlined monitoring and management.
- ❖ **Human Resource Management (HRM):** A vital segment of the ERP system, HRM automates fundamental human resource processes, including employee management, payroll, reporting, training costs, and mobility. This module enhances organizational efficiency and ensures compliance with relevant state, organizational laws, and labor agreements (VEDAL, 2009, p. 19). A centralized HR system aids in tracking employee hours, assessing performance, and fostering professional development across the workforce.
- ❖ **Supply Chain Management (SCM):** This system facilitates an integrated network that optimizes the interaction between suppliers and distributors, addressing logistical requirements and transportation of goods to customers (Ben Al-Bar & Moukran, 2019, p. 44). SCM aims to manage the complete production cycle flow, from procurement to the delivery of products to customers. Implementing an ERP system includes solutions that enable effective strategy formulation for supplier and contract management, initiating new relationships, and building operational strategies that enhance oversight and audit capabilities (Belloula, 2021, p. 24). SCM also ensures compliance with international regulations and streamlines procurement processes from the articulation of needs to fulfillment and financial recording.
- ❖ **Customer Relationship Management (CRM):** Organizations aim to build long-term, interactive relationships with customers by closely understanding and responding to their needs and preferences, utilizing comprehensive data management to maintain and grow these relationships (Kotler, 2006, p. 180). Recognizing the strategic importance of well-structured customer interactions, CRM has become a critical component in organizations. An ERP-supported CRM system empowers organizations to anticipate and proactively meet the demands of existing and prospective customers.

2.5 ERP System Implementation Project

The deployment of Enterprise Resource Planning (ERP) systems is an initiative underpinned by a plethora of research. This complex endeavor is often guided by structured methodologies that are attuned to critical success factors for effective system integration. Among these, the methodologies developed by leading ERP solution

providers and consulting firms are prominently employed due to their empirically supported frameworks.

A notable model is that advanced by HALLE et al., which integrates the system installation framework of Kwon & Zmud with the critical success factors identified by Fui-Hoon Nah et al. and Al-Mashri et al. This comprehensive methodology unfolds through several systematic stages (Belloula, 2021, pp. 27-29):

- **Initiation Phase:**

The rationale for adopting ERP systems is twofold, encompassing both intrinsic organizational needs and extrinsic competitive imperatives. The need arises from challenges associated with managing expansive information flows and integrating disparate subsystems. The primary drivers for ERP adoption are :

- **Technological Drivers:** Aiming to consolidate fragmented systems into a cohesive framework, enhance data integrity, reduce manual errors, and eliminate data redundancy, thereby streamlining operational processes.
- **Operational Drivers:** ERP systems support the standardization, simplification, and increased flexibility of business processes, enhancing responsiveness to market changes and enabling organizations to navigate new challenges such as e-commerce. The need to stay competitive, improve supplier and customer relationships, and respond to industry pressures motivates organizations to pursue ERP implementation.

- **Adoption Phase:**

During this phase, the organization formalizes its commitment to ERP implementation, selecting either a commercial off-the-shelf system, a custom-developed solution, or a hybrid configuration based on organizational requirements (e.g., finance, supply chain management, procurement). A comprehensive feasibility study is undertaken, accounting for projected workloads, stakeholder preparedness, resource allocation, and process optimization needs. A strategic change management plan is crucial for minimizing resistance and facilitating organizational alignment.

This phase requires a dual-level analysis of organizational processes. The initial analysis serves as a diagnostic assessment of current workflows, aimed at identifying inefficiencies such as time lags, task redundancies, and operational bottlenecks that hinder productivity. The second analysis involves a comprehensive evaluation of existing information systems to assess their alignment with strategic goals. Defining a forward-looking operational vision is paramount, with senior management's engagement deemed essential for maintaining strategic congruence. Subsequently, the organization establishes a dedicated implementation team comprising its most skilled personnel to

oversee deployment, coordinate project communication, and drive change management initiatives. Senior leadership determines the deployment strategy, opting for either a phased rollout or an immediate "big-bang" approach. A structured communication and training strategy is established to track project milestones and align stakeholders with organizational goals.

- **Configuration Phase:**

This stage serves as a critical juncture for reevaluating and refining organizational processes. It encompasses system installation, configuration, hardware validation, software application setup, security protocols, access control, data validation, and the formalization of ERP-specific policies. The communication plans devised in the adoption phase are executed here to ensure consistent information flow and mitigate misalignment risks.

- **Acceptance Phase:**

This phase marks the culmination of integration efforts, where the ERP applications are fully operationalized, and users begin comprehensive engagement with the system.

- **Routine Phase:**

Following implementation, the focus shifts to ensuring the stability and operational congruity of new processes. This stage involves monitoring, adjusting, and stabilizing procedures to align with established workflows. Responsibility for the project transitions from the implementation team to ongoing management upon project completion.

- **Assimilation Stage:**

The final phase involves assessing the ERP system's tangible benefits and end-user satisfaction, with assessments grounded in objective output metrics. A continuous improvement program is established to ensure system relevancy, address emerging organizational needs, and foster innovation for sustained competitive advantage.

3. Business Process Reengineering in Organizations:

Business Process Reengineering (BPR) entails a comprehensive overhaul of an organization's administrative framework and management systems, rethinking processes from the ground up to meet contemporary demands and capitalize on technological advancements. BPR fundamentally links engineering with operational processes, driving an organization's transformation toward streamlined efficiency

3.1 Definition of Business Process Reengineering:

Business Process Reengineering is a transformative approach designed to enhance the operational efficiency of organizations by leveraging modern mechanisms. It

supports managerial capacity to confront competitive pressures by fostering new organizational visions and missions, enabling the development and implementation of innovative strategies (Ben Lahbib, 2016, p. 25) Hammer defines BPR as the radical redesign of core business processes, using advanced information technology to achieve significant improvements in key performance metrics (Hammer, 1990 , p. 104). In essence, BPR involves the fundamental rethinking and radical restructuring of organizational processes, with a focus on optimizing quality, cost, service, and speed. It redefines organizational structure and operational workflows, emphasizing an organization's core competencies to drive superior performance (Al-Otaibi & Al-Hamali, 2004, p. 8).

3.2 Characteristics of Business Process Reengineering:

Business Process Reengineering encompasses several defining characteristics (Mahmoudi, 2007, p. 7) :

- Consolidation of multiple organizational functions into a unified process;
- Integration and reorganization of various processes within the organization, allowing some to operate concurrently to enhance efficiency;
- A focused approach to achieving high performance within a singular dimension, thereby reducing the need for extensive oversight;
- Designation of a dedicated department responsible for delivering comprehensive performance, accountable to both customers and management;
- Redefinition of departmental and administrative roles, either by promoting cross-functional teamwork to handle integrated processes or by establishing specialized management teams for direct collaboration with external entities;
- Transformation of managerial roles from performance supervisors and task assigners to influential leaders who inspire innovation and engage in collaborative decision-making with their teams.

3.3 Principles of Business Process Reengineering:

To effectively rethink and redesign workflows, Hammer and Champy proposed a set of guiding principles for BPR, which include (Bernou, 2009, p. 10)

- Shifting organizational design from task-based to outcome-based structures;
- Prioritizing the customer by enabling self-service access to products and services;
- Transitioning work units from specialized roles to process-oriented roles, with a focus on processes that add value;
- Optimizing every activity, from initial input through to final customer delivery, regardless of size;

- Acquiring information directly from its original source;
- Identifying and addressing root causes of inefficiencies;
- Retaining the most cost-effective, skilled staff in appropriate numbers;
- Forming specialized, cross-functional development teams;
- Eliminating paper-based workflows and traditional office setups;
- Shifting communication patterns from physical travel to efficient use of communication networks;
- Detecting and managing errors and exceptions through rigorous information system monitoring;
- Empowering individuals responsible for executing tasks by reducing restrictive oversight.

3.4 Benefits of Implementing Business Process Reengineering in Organizations:

Applying BPR within an organization yields several significant outcomes (Amhamed, 2022, p. 647):

- **Scope of Work Transformation:** BPR restructures primary tasks into multidimensional roles, transforming human resource functions from mere supervision to support-focused responsibilities. With this shift, organizational units operate more collaboratively as teams, and managerial roles evolve from supervisors to facilitators or coaches. This restructuring results in a flatter organizational hierarchy, the replacement of traditional administrative methods, and a performance-based approach that emphasizes achieved results over routine tasks, shifting organizational values from preventative to productive.
- **Organizational Reconstruction:** Successful BPR implementation requires a comprehensive transformation from top to bottom, extending beyond mere process adjustments. Effective leadership is crucial to guide the organization through this extensive change, which necessitates resources such as time, funding, and focused effort. Employees must engage earnestly with the project, tackling core issues rather than settling for partial success. BPR's successful implementation provides broad organizational benefits, including competitive advantages and the abandonment of traditional concepts and outdated behaviors that hinder process improvement.
- **Holistic Project Focus:** Effective BPR implementation requires a focus on the entire project, not isolated processes. This approach demands new ideas, orientations, and process designs, and as BPR projects may extend over a year, patience and perseverance are essential. Organizational stakeholders must remain engaged throughout, understanding that not every change will satisfy all parties.

After the planning and design phases, changes are systematically introduced across the organization.

4. The Role of Enterprise Resource Planning Systems in Successful Business Process Reengineering

Enterprise Resource Planning (ERP) systems are often integral to the success of Business Process Reengineering (BPR) efforts within organizations. ERP systems serve as comprehensive frameworks for managing information flows across multiple functions, enabling organizations to integrate their various departments and processes into a cohesive, unified system.

4.1 ERP Systems and the Stages of Business Process Reengineering

ERP systems go beyond supporting existing workflows; they provide a platform for fundamentally rethinking and innovating organizational processes. This comprehensive approach positions ERP projects as ideal enablers of BPR, as ERP systems focus on streamlining entire workflows rather than isolated functions (Belloula, 2021, p. 30).

Multiple methodologies guide BPR implementation, each tailored to meet specific organizational needs. While approaches may vary, core stages common across methodologies lay the foundation for a successful ERP-supported reengineering program. These stages, shaped by the perspectives of different thought leaders, typically include:

- **Phase One: Defining Customer Requirements and Process Objectives**
In the initial stage, organizations assess customer expectations, establish feasibility, and evaluate how well current processes meet these needs. ERP systems, coupled with Customer Relationship Management (CRM) data, provide an integrated approach that links and activates all marketing, sales, and customer service operations within a centralized database. This consolidated information offers organizations a detailed understanding of their customers, allowing them to better align products and services with customer expectations and foster loyalty. Goals for the reengineering initiative are set based on this analysis and communicated to all stakeholders involved.
- **Phase Two: Mapping Current Processes and Measuring Performance**
At this stage, organizations create detailed process maps using ERP software and advanced IT tools. ERP systems supply critical data for evaluating the efficiency and effectiveness of existing processes, allowing for a granular understanding before any improvements are made. This process mapping covers the full workflow—from procurement and storage to manufacturing and sales—while accounting for potential bottlenecks, delays, and maintenance requirements.

- **Phase Three: Modifying and Analyzing the Current Process**

This phase involves implementing strategic modifications to optimize workflows. Aligning operational processes and organizational structures with the ERP system's capabilities and data insights is crucial. This step demands a skilled, forward-thinking team with expertise in cross-functional areas, creativity, and an innovative problem-solving approach. By prioritizing activities and timelines, the organization can create a new model that adapts to environmental changes, defines responsible departments, leverages IT, and removes redundant tasks. Key ERP-driven objectives include:

- Streamlining steps within each process and increasing efficiency,
- Eliminating costly, non-value-added tasks,
- Improving overall quality and integration across the workflow.

- **Phase Four: Redesigning Processes:**

Process redesign is one of the most critical and complex stages, relying on developing innovative methods to improve organizational performance. Organizations are encouraged to consider multiple alternatives during redesign, allowing leadership to make informed decisions that enhance the reengineering initiative's success.

This phase builds on two main pillars:

- **Customer Relationship Management (CRM):** A deep understanding of customer needs is essential. Through effective CRM channels, organizations can strengthen customer relationships and boost profitability (Lendrevie, 2003, p. 938) . This applies to both internal and external customers. By understanding the current alignment of processes with customer requirements, organizations can identify areas for improvement, set actionable goals, and communicate these objectives to all stakeholders.
- **Benchmarking of Best Practices:** ERP systems enable organizations to learn from successful BPR implementations in other organizations, fostering innovative thinking within the reengineering team. Benchmarking allows teams to optimize process design using ERP-driven data and IT applications.

- **Phase Five: Implementing and Monitoring Redesigned Processes**

The success of this phase depends on the outcomes of the preceding phases, with ERP components playing a critical role in supporting the execution of redesigned

workflows. The effectiveness of the reengineering program is ultimately determined here, involving rigorous testing, exploration of the new framework, and continuous monitoring to optimize resource allocation (Ben Amer, 2012, p. 34).

Regular monitoring and application of new processes using ERP data and tools maximize the value generated by the reengineered processes. This approach ensures organizational efficiency, aligns new management practices with predefined objectives, and empowers employees. During this phase, key questions arise to evaluate effectiveness (Ghoul, 2011, p. 14)

- Are the redesigned processes operating successfully?
- Do employees fully understand the new procedures?
- Are there bottlenecks or errors in the processes?
- What are the root causes of these issues?
- Have the redesigned processes proven to be faster, more efficient, and cost-effective?
- Have customers perceived improvements in service quality?

Assessing these factors is essential for evaluating the success of BPR initiatives. Reengineering projects may extend over a year or longer, often involving ongoing staff training and role realignment, which can result in role changes or even redundancy for some positions. Ultimately, a successful reengineering program delivers enhanced customer satisfaction, demonstrating the organization's ability to align its processes with strategic objectives and drive substantial improvements in performance and service delivery.

4.2. Achieved Outcomes of ERP Implementation in Business Process Reengineering Phases

Integrating Enterprise Resource Planning (ERP) systems during the stages of Business Process Reengineering (BPR) yields a range of impactful results that contribute to enhanced organizational efficiency and competitive positioning:

- ERP systems bring about notable improvements in the technical processes involved in producing goods or delivering services.
- ERP-driven BPR redefines work structures and methodologies.
- Positive shifts are observed in employee and management behaviors.
- Implementing ERP systems helps improve the organizational culture, reinforcing core values and principles that unify staff.

This cultural transformation supports "job enrichment," which ERP systems facilitate by integrating functions across all organizational levels. Employees actively

participate in decision-making for specific functional areas, reducing centralization and simplifying work procedures by minimizing bureaucratic processes. However, to coordinate the intricate tasks and ensure process coherence, a "process manager" approach is recommended, promoting centralized oversight while empowering departmental collaboration. These outcomes enhance the organization's market positioning, strengthening its competitive advantage within its respective industries (Al-Najjar F. , 2004, p. 190).

The primary value of these ERP-enabled reengineering efforts is demonstrated through several strategic advantages, validated by global organizational experiences (Al-Najjar F. , 2004, p. 191):

- ERP implementation allows for a fundamental redefinition of organizational missions, facilitating the development of long-term strategies aimed at industry innovation, responsiveness to technological change, and consumer needs.
- By emphasizing the broader organizational mission, ERP-supported reengineering directs efforts toward sector-wide growth, transcending immediate cost reduction objectives.
- Successful reengineering efforts focus on a few critical processes essential to the organization's mission, establishing clear performance objectives for each.
- ERP-enabled BPR opens avenues for growth through increased market share, entry into new markets, development of innovative distribution channels, and the introduction of new, market-relevant products.
- The ultimate marker of successful organizational transformation is evident in sustained profit growth and the creation of added value for stakeholders, including shareholders, employees, managers, and customers.
- The success of BPR initiatives largely depends on skilled process managers, who provide strategic vision and clear directives, setting goals and leveraging expertise to drive performance improvements through collaborative efforts with employees.

4.3.The Transformed Organizational Structure Post-Business Process Reengineering through ERP Systems

Enterprise Resource Planning (ERP) systems play an instrumental role in transforming traditional organizational structures, fostering a shift from isolated, function-driven operations to cohesive, process-centric frameworks. This paradigm shift, enabled by ERP integration, reorients the organization from hierarchical to horizontal structures, facilitating seamless information flow and process alignment. The core objective of ERP-driven integration is to unify organizational functions into a comprehensive information system, effectively dismantling departmental silos.

ERP systems are designed to implement industry best practices, enhancing every phase of core operations—from strategic planning and execution to rigorous monitoring and control. Through process synchronization and centralized data unification, ERP systems streamline workflows, bolster operational agility, and create a responsive organizational environment (Belloula, 2021, p. 30).

A reengineered organization operating under ERP systems can be characterized by the following attributes, which collectively define the “future organization” (Ghoul, 2011, p. 19):

- Reengineered organizations tend to adopt smaller or medium-scale models.
- Core operational dependencies on ERP and integrated IT infrastructures underscore the pivotal role of technology in organizational efficiency.
- Replacing rigid hierarchies, these organizations operate through flexible, interconnected team networks, enabling rapid adaptability.
- Employees in these environments demonstrate high levels of expertise, creativity, and adaptability, transitioning across roles based on project needs.
- Many employees operate remotely, leveraging advanced telecommunications and information technologies.
- Organizational transactions are fully digitized, minimizing the need for physical documentation.
- Organizations are linked to global networks.

These attributes collectively define the "virtual organization"—an entity heavily reliant on computing power and modern communication technologies. The advent of the internet and the rise of e-commerce have further enabled organizations to conduct operations virtually, minimizing the need for direct physical interactions among employees or between the organization and its customers.

5. CONCLUSION:

ERP systems have evolved beyond operational tools to become strategic enablers, reshaping the organizations that adopt them. The organizational logic underpinning ERP systems centers on process-based management, and the success of an ERP initiative is closely tied to the complementary implementation of business process reengineering (BPR). The key findings are as follows:

- ERP systems automate and standardize organizational activities, providing advanced data processing, analysis, and reporting capabilities that enhance accuracy, depth, and timeliness.

- Modern organizations face increasing imperatives to integrate information technology comprehensively, aligning technological assets with operational demands to sustain high levels of efficiency. This alignment, driven by ERP, supports coordinated and seamless process flows.
- The most profound transformation associated with ERP is the reengineering of processes themselves. Both ERP and BPR involve radical structural redesigns aimed at streamlining workflows, enhancing productivity, and integrating functions into a unified framework.
- ERP systems seek to achieve cross-functional integration across all phases of the reengineering process.
- BPR endows organizations with a streamlined, adaptable structure, enhancing responsiveness to external changes.
- BPR fosters organizational resilience and competitiveness by promoting innovation and continuous improvement.
- ERP is a critical enabler for the successful implementation of BPR, providing robust applications that support and facilitate efficient process transformations.
- Effective ERP deployment requires alignment between business processes and ERP software capabilities, necessitating a readiness for structural adaptation on the part of change-oriented organizations.

5.1 Recommendations:

- ✓ Organizations, particularly in Algeria, should pursue ERP adoption to leverage its strategic benefits in optimizing task execution, integrating functions, and reducing time, cost, and resource expenditure.
- ✓ Government initiatives should promote organizational transformation, encouraging businesses to reengineer processes, enhance operational performance, and strengthen competitiveness through ERP implementation. Support for ERP initiatives across public and economic sectors is essential.
- ✓ To maximize ERP benefits, organizations must ensure rigorous implementation across all phases, from preliminary integration through full assimilation, for enhanced organizational performance.

Continuous, specialized ERP training for users, alongside efforts to stay updated with technological advancements, is crucial to maintaining the system's efficacy and relevance

6. List of references:

- Al ani, M. C. (2008). The Administrative Process and Information Technology.: Ithraa for Publishing and Distribution, Amman, Jordan.
- Al-Jalili, A. H. (2013). The Role of ERP System Requirements in Enhancing Productivity: An Exploratory Study of Managers' Perspectives at the General Company for Pharmaceutical and Medical Supplies in Nineveh. Rafidain Journal, 159-177.
- Al-Najjar, F. (2004). Business Process Reengineering and Corporate Restructuring to Deal with Globalization and New Trade Wars: Taiba Publishing House, . Cairo.
- Al-Najjar, F. J. (2006). Administrative Information Systems. Hamed Publishing and Distribution House ;Jordan .
- Al-Otaibi, S. M., & Al-Hamali, R. M. (2004). Business Process Reengineering in the Public Sector: Critical Success Factors. First National Quality Conference: King Saud University. . Saudi Arabia.
- Al-Tahar, I. M., & Alkhafaf, M. (2011). Introduction to Administrative Information Systems: Wael Publishing and Distribution, . Jordan.
- Amhamed, M. (2022). A Proposed Model for Implementing ERP Systems as a Means of Business Process Reengineering to Develop Seaports. Journal of Human and Natural Sciences, Egypt.
- Belloula, M. A. (2021). The role of enterprise resource planning systems in improving the quality of accounting information: A case study of N'gaous Canning Company, Batna.: University of Biskra. Biskra, Algeria.
- Ben Al-Bar, M., & Moukran, H. (2019). The Role of Information Technology in Supply Chain Development. Journal of Contemporary Economic Studies, Algeria.
- Ben Amer, M. (2012). The Importance of Organizational Change in Achieving Competitive Advantage in the Enterprise," , specialization in Business Administration, , . Master's Thesis in Management Sciences. Faculty of Economic Scinces, Commerce and Management,: University of Algiers 3. Algeria.
- Ben Lahbib, B. (2016). The Impact of Modern Approaches to Organizational Change on Human Resource Development: A Business Process Reengineering Approach," Research Center for Islamic Sciences and Civilization in Laghouat. Journal of Social Sciences, Algeria.
- Bernou, S. (2009). The Impact of Business Process Reengineering on the Development of Banking Services: A Case Study of the National Bank of Algeria. Master's Thesis. Faculty of Economic, Commercial, and Management Sciences, Ouargla University. Algeria.
- Dida, K. (2019). The Impact of Enterprise Resource Planning Systems on Improving the Performance of Economic Enterprises: A Field Study of a Sample of Oil Companies Operating in Algeria,. Ph.D Thesis. University of Ouargla, Faculty of Economic, Commercial, and Management Sciences, Department of Management Sciences,: Algiers 3 University. Algeria.
- fang.m, & fengyi.lin. (2006). Measuring the performance of ERP system-from the balanced scorecard perspectives. The Journal of American Academy of Business 10.1, pp 256-263.

- Ghoul, F. (2011). The Role of Business Process Reengineering as an Organizational Change Method in the Current Environmental Context. International Scientific Conference on "Innovation and Organizational Change in Modern Organizations: A Study and Analysis of National and International Experiences.: Algiers 3 University. Algeria.
- Hammer. (1990). Reengineering Work: Don't Automate. Obliterate, Harvard Business Review.
- Kotler. (2006). Marketing Management.: Pearson. France
- Lendrevie, J. (2003). markator. dallos. paris:
- Mahmoudi, D. m. (2007). The Impact of Business Process Reengineering on Achieving Competitive Advantages. Al-Taqani Journal, Kuwait.
- VEDAL, P. (2009). systèmes d'informations organisationnels. Pearso Education ; 2 éme édition . PARIS.
- Yamin, H. Y. (2015). The Impact of Implementing Enterprise Resource Planning Systems on the Performance of Public Industrial Companies Listed in the Amman Stock Exchange Using the Balanced Scorecard. Magister Dissertation. Graduate School: Zarqaa Univesity. Jordan.
- Zenagui, M., & Maarif, B. (2015). The Role of ERP Systems in Enhancing Corporate Governance: An Exploratory Study at Henkel Cleaning Company, Ain Temouchent. DIRASSAT IQTISSADIYA(6), 264-285.