GOITRISE

ENTERPRISE RESOURCE PLANNING SOFTWARE

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Introduction

Written by Federico Martinez And Fabrizio Chiera

An enterprise resource planning (ERP) system is typically defined as a packaged business software system that facilitates a corporation to manage the efficient and effective use of resources (materials, human resources, finance, etc.) by providing a total integrated solution for the organization's information-processing requests, through a process-oriented view consistent across the company (Nah et al., 2001).

Market overview

The global ERP software market size was valued at USD 50.57 billion in 2021 and is expected to expand at a compound annual growth rate (CAGR) of 10.7% from 2022 to 2030. The growth is attributed to factors such as the growing need for operational efficiency and transparency in business processes, increasing demand for data-driven decision-making, and rising adoption of mobile and cloud applications.

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However, the increasing availability of open-source applications and higher initial investment and maintenance costs are expected to restrain the market growth.

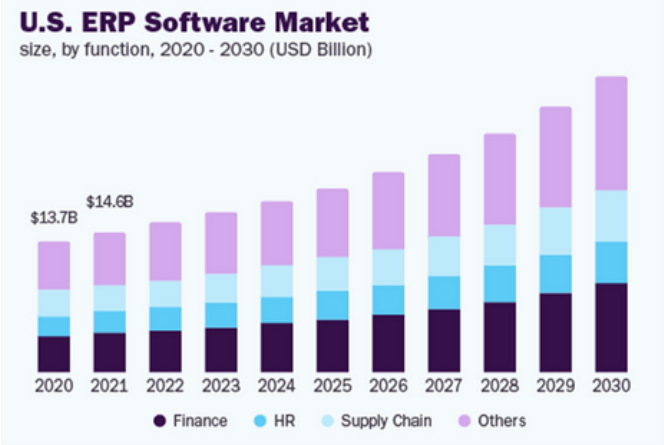


Ilustración 1 Source: grandviewresearch.com

Vertical insights

The manufacturing & services segment accounted for the largest share of over 20.0% of the market in 2021. In this segment, the ERP software helps monitor daily operations, track day-to-day performances, and manage customer services. Some of the other benefits of the software are ease of inventory management, production scheduling, and real-time data tracking. The increasing need to track vendor performance and enhance visibility throughout the supply chain enables manufacturers to opt for ERP solutions that assist them with efficient operations planning and management.

Ilustración 2 Source: grandviewresearch.com

Benefits of ERP systems

The business value of ERP

- Better process flow
- Real time information
- Lower operating costs
- Better coordination and collaboration of users
- Higher quality data for decision making
- Improved efficiency
- Consistent infrastructure
- Higher user adoption rates
- Lower risk
- Simplified maintenance

ERP: project stages

- Project expectation: Project scope, objectives, goals, timelines, outcomes and key milestones are set.
- Diagnostics: Data gathering exercise documenting company business processes.
- Analysis: Data processing is used for model prototyping.
- Design: The software company designs the solution to meet the prototype design model.
- Development: Engineers develop the software system and configure and test interfaces and data migration.
- Deployment: ERP implementation.
- IT Support: Control and support for its correct operation.

Multiple actors are involved in ERP system evolution, customization, coniguration, and implementation. Framework developers implement the technical base for application developers. At implementation, consultancy customizers cooperate with implementation experts. An ERP-competence center might take the role of local designers who cooperate with end users to support specific work practices.

Successful ERP implementation

The ERP Implementation strategy is how an organization goes about planning and directing the deployment of an ERP application. Implementation strategies address mapping the company's business processes to a system in an organized and defined manner. ERP strategies are mainly driven by industry best practices and can be tailored to fit an organization's needs.

ERP implementations have different types of problems compared with traditional software development methods. These centre on the alignment of business processes with the standard software package and the project management of the implementation process. It is argued that ERP is a departure from traditional approaches to system development. It therefore requires a different approach that places less emphasis on the technical aspects of software development and instead seeks to balance the business process design, software configuration and project management aspects of IT implementation with the overall strategy and structure of the firm.

Markus et al. (2000) distinguished between two types or dimensions of success for ERP systems implementation: project success metrics (in terms of meeting the project due dates, budgets, and scope and performance expected) and business value metrics (in terms of business improvements such as inventory reduction, cycle times reduction, time to market reduction, etc.).

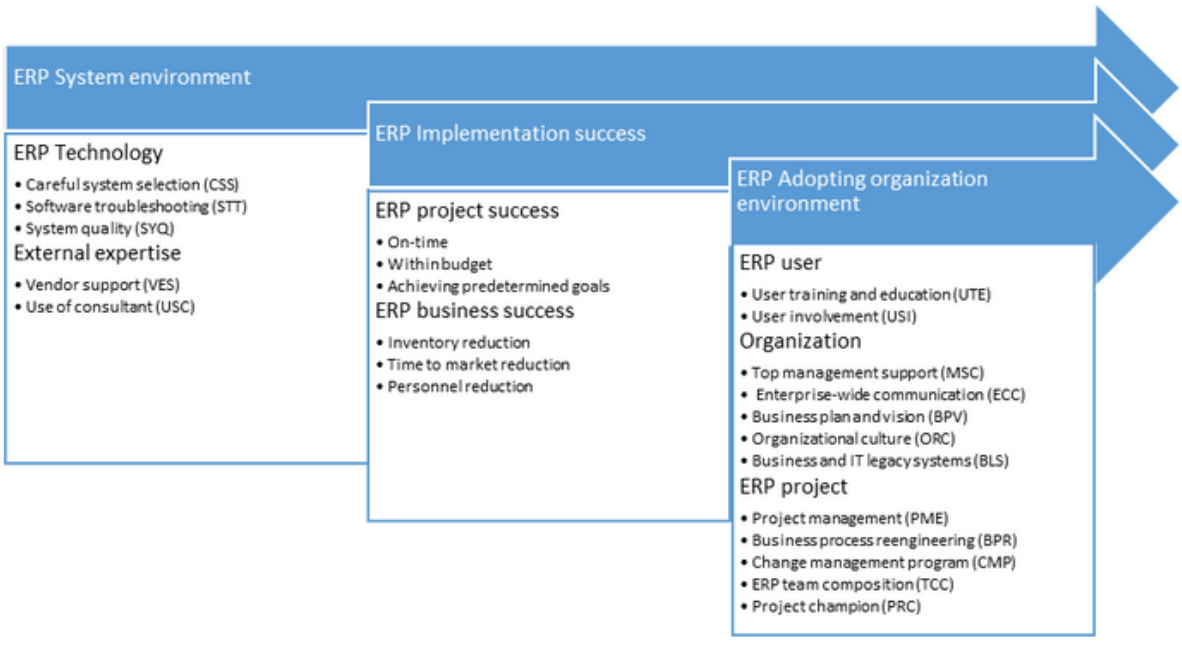
ERP systems differ from traditional systems in many ways, such as scale, scope, complexity, organizational changes, project costs, and need for business process re-engineering (Somers and Nelson, 2001).

Therefore, an ERP implementation project is not merely a "computer project." It is strategic and must be approached as such. It should be noted that ERP systems are integrated applications with an impact on the entire organization.

Customization and development-task structuring

The most simple customizations change existing reports (invoices, order conirmations, and soon)—for example, by hiding some of the fields. When custom reports are required, additional data must be collected, either by accessing the database directly or by calling specific procedures provided by the standard system. This is often a task for new developers, who have to get familiar with the system before they can take care of more complex tasks.

Customizations can enhance the ERP system's existing functionality—for example, a simple enhancement could capture additional data for some entity, requiring a change on a form, the change of some code unit, and the extension of a database table. A more complex example could involve changing the general ledger's business logic and steering the accountancy funcitonality. The integration with other systems also falls into this category.



Add-ons comprise a third category. So-called verticals consist of independent complementary functionalities with a limited interface to the standard system—for example, a contract management system.
Developers implement customizations according to the bill of functionality or requirements specification. Only the more complex customizations of add-ons are explicitly designed and documented. To implement complex features, some developers start by implementing the necessary changes to the database scheme. Then, they add data model adjustments and implement the respective forms that allow data entering and viewing. They develop the business logic iteratively. Finally, they adjust the reports.
The main challenge with customizing standard systems is understanding the ERP system. (Yvonne Dittrich and Sebastien Vaucouleur , ERP Customization as Software Engineering)

CO-FOUNDER & CTO

Federico Martinez

Full stack Software Engineer, with more than 10 years of experience developing and designing software solutions. Responsible for the analysis, design and deployment of software and head of the development team.

- info@goitrise.com
- (+54) 9351-2060722

CO-FOUNDER & CFO

Fabrizio Nicolas Chiera

Accountant with a degree in business administration, with more than 5 years of experience in the management and development of startups. Responsible for management, finance, sales and commercial contact with clients in the United States.

- info@goitrise.com
- +1 (786) 766-5347