

Review Article

The Advantages of Cloud ERP in the Global Business Landscape

HARIPRASAD MANDAVA *

Maryland, USA

*Correspondence: HARIPRASAD MANDAVA (hariprasadmandava@gmail.com)

Abstract: Among the most significant systems that organizations of all stripes, whether public or private, use is the Enterprise Resource Planning (ERP) system. Due in large part to the rapid growth of Internet services and the growing reliance on the infrastructure of Cloud service providers, ERP design has advanced, and numerous types of Internet-service-dependent ERP systems have emerged. In addition to the traditional ERP system, the most significant ERP types are Web-based ERP and Cloud ERP. As a result, ERP system vendors and designers, including Oracle and SAP, are relying on cloud-based ERP system design, and offering the ERP system as a service for monthly and annual subscription, where the system is external to the organization and does not need to exist within the organization.

Keywords: Digital Technologies, Enterprise Business Application, Enterprise Resource Planning, Internet of Things, Big Data

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1. Introduction

In recent years, ERP systems have emerged as one of the most popular information systems utilized by businesses [1]. ERP systems offer the entire company a number of advantages and opportunities. ERP systems help the company accomplish its goals and objectives by facilitating the sharing and transfer of information among various departments and functions inside the company [2]. ERP systems provide a collection and integrated solution for their information processing needs, which in turn helps large and middle-sized enterprises manage and utilize their resources (materials, human resources, finance, etc.) in efficient and effective ways. An integrated cross-functional software called an ERP system reengineers a company's allocation, manufacturing, finance, human resources, and other core business operations in order to boost productivity, profitability, and speed. Cloud computing is a novel technology that operates on the foundation of massive data centres and powerful processors. It is built on an organized set of scalable and virtual computing resources (hardware and software) that are available to clients over the Internet [4]. The ERP system is divided into various sections or modules. These units are used by the organizations according to the type of job they do. A standard ERP system is made up of several modules [5]. ERP systems are unique from other systems used in businesses because of their features and qualities, which are required to be present in every module even though the system's designers and suppliers may have changed. The research will elucidate the critical features that the ERP system ought to have. One of the key technological features of the ERP system that sets it apart from other systems is integration [6].

2. Cloud ERP

According to Johansson and Ruivo (2013) [7] and Link and Back (2015) [8], an ERP system that is offered as a service can be set up rapidly since it can be accessed online and does not require the installation of hardware or specific software at the customer's location. The data and applications are managed by the service provider. Therefore, in order to explain the Cloud ERP System, it is important to first provide a detailed explanation of the Cloud system, which covers Cloud system models. The following are the three primary Cloud models:

2.1. *Infrastructure as a Service (IaaS)*

In this model, the service provider controls hardware and other components, but clients can control runtime, security, databases, and applications. Under this paradigm, the service provider assumes responsibility for all the devices, saving the clients from having to deal with the computing infrastructure.

2.2. *Platform as a Service (PaaS)*

The Platform as a Service (PaaS) is a way to combine Infrastructure as a Service (IaaS) with a number of middle-tier services, software development, and implementation tools. This gives the customer a suitable means of developing and deploying applications on a local or cloud environment.

When a developer organization wants to modify the computing infrastructure to support application performance, when a new and specific programming language is being utilized, or when the application needs to be mobile, PaaS is not the right choice [9].

2.3. *Software as a Service (SaaS)*

Software and apps that are ready to use and fulfil the requirements of particular business tasks and processes are provided by SaaS. The software, programs, and computer infrastructure are all under the complete management and control of the cloud service providers. Using apps developed by the cloud provider is made possible by the SaaS paradigm. Through the web browser interface, the apps can be accessed from many client computers via the Internet. It is vital to go on to the second type of ERP system, which is the classic ERP model, after thoroughly describing the ERP Cloud system [10]. Cloud ERP solutions are offered using the SaaS paradigm. Numerous manufacturers in the market offer cloud-based ERP solutions (Cheng, 2020). If an ERP system is impacted by a cloud computing function, it is cloud-based. An internet browser can be used to access a cloud-based ERP system directly, negating the need for the user to install or set up any software.

In the software sector, SAP Business by Design is a well-known Cloud ERP.

3. On-Premise system

A certain kind of ERP system sold as a product that consumers purchase requires time to set up.

The customer controls the data and application because it requires installing hardware and specialized software at their site. Another name for it is Traditional ERP. ERP systems are used by a wide range of businesses and organizations, including banks, insurance, and pharmaceutical firms, pharmacies, hospitals, universities, manufacturers, entertainment, and telecommunications, to carry out business operations, expedite market entry, and enhance service delivery [11]. It is important to state and go into detail about the most well-liked ERP system vendors while researching the conventional ERP system. Three of the most significant ERP system providers were examined in this study: SAP, Oracle. Organizations are moving more and more toward adopting cloud ERP systems, particularly small and medium-sized private enterprises and businesses that wish to keep their IT departments small and cut costs because they are not required to

maintain the system. Globally, cloud computing and cloud-based business processes are becoming more and more prevalent in commercial operations. Web-based enterprise resource planning (ERP) software, known as "cloud-ERP," is typically housed in large data centres. Client organizations purchase the software service from a service provider [12].

4. Data security

Sensitive data and information in cloud-ERP systems are managed by the cloud service provider, which may be perceived by many as a danger to the security, privacy, and confidentiality of SMEs. Data security issues are therefore frequently listed as the main areas of worry when using a cloud-ERP system [13, 14, 15]. The firm entrusts the software provider with sensitive business data, including financial and operational data as well as customer information, when installing a cloud-ERP system. Since cloud-ERP providers handle all upkeep, upgrades, and application developments exclusively, SMEs are more concerned about monitoring and safeguarding this data.

Cloud ERP and hosted ERP are two categories that include traditional ERP systems. With cloud ERP, the company manages and maintains the device licensing ERP framework and bears responsibility for disaster recovery, system loading, and upkeep across company networks, devices, computers, or servers. The hosted ERP uses available resources to run a device in an external host on a server located outside of the nation, typically through a direct network. Implementing on the cloud takes less time than doing so on-site. A combination of cloud computing and ERP software, cloud ERP has benefits and drawbacks. Acknowledging the benefits of cloud ERP and eliminating various application-related issues could boost the system's efficiency, guarantee the highest level of competency when utilizing this approach, and give the business a competitive advantage in the market. Installation and hardware purchases are not necessary. Implementation will go more quickly because practically all customer business demands can be satisfied by out-of-the-box system functions, negating the need for customisation. The cost of cloud software is based on a monthly or annual subscription, plus additional one-time costs for upgrades, training, and support. The cost of on-premise software is typically determined by the size of the company or the number of concurrent users and is billed as a one-time, perpetual license fee. Updates, training, and support all have ongoing costs. Although cloud-based ERP services are typically limited in the functions they offer, they can be customized to some degree for an extra charge. There are numerous verification procedures involved in submitting changes to the cloud-based ERP. Uploading will guarantee that any change adheres to system best practices and doesn't interfere with the way the system was designed to operate. Certain cloud-based ERPs view the development and test environments as essential, meaning that customization is impossible without developing it in the development environment. Cloud auto-scaling characteristics, which enable using as many resources as necessary to continue operation, are advantageous to cloud ERP. Apart from the hardware scalability, the cloud ERP system has several well-tested applications that can be activated and put into use in a matter of days or weeks. The scalability of on-premise ERP is constrained by the hardware. These limitations imply that system expansion and growth must be planned for. The provider of cloud ERP manages the process independently and routinely upgrades the product's functionality and security setup. The organization just needs a small number of maintenance personnel to supervise integration and implementation; aside from that, users may simply use the program without having to worry about how it operates internally.

Cloud ERP is one of a very lengthy list of cloud services that also includes cloud virtual machines, company-based services (such mailing systems and cloud-based modules), online personal data storage, and other cloud services built on the online cloud computing platform. Since they make up the great majority of Cloud ERP users, public organizations in particular can benefit from a variety of features that Cloud ERP offers.

Cloud ERP systems may reduce data complexity and make managing internal and external activities easier, which eventually boosts productivity. ERP in Clouds" states that, due to the high degree of compatibility between the company's changing demands and the services offered by Cloud ERP, public organizations make up the largest group of companies that have profited from the integration of Cloud ERP system. Prior to the advent of cloud ERP solutions, departments of businesses had to spend a lot of money and time manually extracting the data. However, since cloud ERP is now available, businesses can now perform multiple tasks at once, which has simplified things. Thanks to cloud computing, people can now store their data on an internet platform from which it can be accessed and used effectively and efficiently at any time. Cloud ERP helps businesses become more profitable because it is inexpensive to purchase and requires little upkeep. Cloud ERP adoption calls for extensive preparation and knowledge. Because cloud ERP options have reduced upfront costs, businesses are migrating to them. The most evident explanation for the survey's findings, however, was that businesses were adopting and purchasing cloud ERP since it eliminated the need for them to install gear and software. They were offered the ability to keep their data on the internet by just paying cloud firms a certain sum.

5. Conclusion

The Cloud ERP system is ideal for companies who wish to cover the expense of owning a computer infrastructure since it is very adaptable, allowing them to quickly and easily add any module without having to reload it. While traditional ERP systems require time to install within organizations, cloud ERP systems can be quickly implemented because the system is already present on servers that provide the ERP system. Government organizations are hesitant to adopt Cloud ERP since it stores data on servers that offer ERP systems. The Web-based ERP system is the best option since it retains data within the firm and has many of the benefits of the Cloud ERP, such as availability, mobility, and an easy-to-use interface. Since cloud-based ERP systems are more accessible and cost-effective for smaller businesses, they are growing in popularity among corporations. This paper clarifies the obstacles associated with the adoption of cloud-ERP systems in SMEs by evaluating the body of existing material that falls within the purview of this study. The study suggests using this system for organizations located in many countries. Government organizations are hesitant to adopt Cloud ERP since it stores data on servers that offer ERP systems. The Web-based ERP system is the best option since it retains data within the firm and has many of the benefits of the Cloud ERP, such as availability, mobility, and an easy-to-use interface. The study suggests using this system for organizations located in Arab countries. Benefits of cloud computing generally Quick completion, smooth updates, reduced expenses, expandability, enhanced accessibility, and maximum availability. Additional advantages, as shown by a review of numerous studies, include the use of cutting-edge technology, quick updates, simple application, increased accessibility, increased mobility, and simpler interaction with Cloud services; additionally, cost transparency, sales automation, security, and free trials.

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