

Role of Enterprise Resources Planning Implementation in Small and Medium- Sized Enterprises

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Abstract: Information Technology is becoming more and more important for companies, permeating everything within an organization such as flows, processes, information, strategic decisions and day-to-day work. Therefore, ERP becomes increasingly important to save resources and integration departments. This research paper addressed an overview of ERP and attempted to gain an in depth understanding of ERP adoption in SMEs through act survey on literature review. The authors attempt to show how the impact of ERP systems in SMEs, which have limited resources that impose a constraint on their ability to success implementation of ERP-software.

Keywords: ERP, SME

1. INTRODUCTION

The beginning of this paper deals with the qualitative leap in global information technology, which we must keep pace with, in order to reap the benefits available for instance Enterprise Resource Planning systems, which carry out all transactions, management of the resources in enterprises, share data with each other to provide the information desired by the user at the same time.ERP system supports most of the business systems that maintain in a single database the data needed for a variety of business functions and integration between existing applications to replace multiple applications to increase the efficiency of their daily business processes.

ERP Systems are the most integrated information systems that cut across various organizations as well as various functional areas. Moreover, the ERP software helps business management applications who want to deal with a single software package, which integrates all process in your business without errors. ERP software can provide management functions from a...z to all processes in a business. The titanic works performed by ERP system, which has number of reasons contribute in the success or failure of an ERP systems. Vendors of ERP entered new market to produce ERP for SMEs, which have play role of world economies.

2. ERP SYSTEMS

The last decade has seen the use of Enterprise Resources Planning (ERP) systems increasing in many folds. This may be due to increased competition, globalization and need for greater visibility into business functioning. ERP systems have risen up to the expectations of the institution.

ERP systems is an information system that manages, through integration, all aspects of business including production planning, purchasing, manufacturing, sales, distribution, accounting and customer service¹, which allows seamless integration of information flows and business processes across functional areas within a company².

Recently ERP systems can cover a wide range of functions and integrate them into one unified database. For instance, functions such as Human Resources, Supply Chain Management, Customer Relations Management, Financials, Manufacturing functions and Warehouse Management functions were all once stand-alone software applications, usually housed with their own database and network, but today, they can all fit under one umbrella called ERP system.

In the point of the authors view, the definition of ERP is more than software. ERP is a package software solution with new automated way of effectively integrating, managing and controlling almost all aspects of business processes, functions and wide-resources from different areas of the business by using centralized database, ensuring that all information is entered only once to be able to produce and access information many times in real time environment.

3. ADVANTAGES OF ERP

ERP systems can support a company's work in many ways. Since ERP systems integrate all parts of a company seamlessly, more proper control is possible. ERP systems are able to minimize redundant data registration; control data produced by different departments, and reduce registration errors. The interconnectivity among all the modules of ERP systems reduces the time to perform the different operational tasks, so the company's efficiency can be increased.

In addition, it is by coordinating different levels that an ERP system can bring several advantages for the user, the researcher summarizes these advantages from others literature studies thus:

Some of the advantages according to Koch C. and others are presented as follows³⁻⁷:

1. Integrating financial and customer order information.
2. Standardizing HR information and speed of manufacturing processes.
3. Reducing inventory.
4. Reduces the operational costs.
5. Increases productivity.

6. Provides high-level reports for decision-making and control.
7. Increases the efficiency of employees.
8. Eliminating waste, paperwork.
9. Not having a shortage of inventories.
10. Enhanced managerial decision-making
11. Provision of accurate and timely enterprise-wide information.
12. Reduces Planning cycle time
13. Reduces manufacturing cycle time.
14. Reduces error in ordering.
15. Reduces requirement of manpower.
16. Enables faster response to changing market situations.
17. Better utilization of resources.
18. Increased customer satisfaction.
19. Enables global outreach.

4. SMALL AND MEDIUM-SIZED ENTERPRISE

SMEs are the backbone and dominate the industrial and commercial infrastructure. SMEs play a vital role in the economy of the many countries around the world. There is no single generalized definition for SMEs. The most criteria used to characterize a SME include size, employees' number, sales volume, asset size, and capital requirement.

In many developed and developing countries, SMEs are the unsung heroes that bring stability to the national economy. They help buffer the shocks that come with the boom and bust of economic cycles. SMEs also serve as the key engine behind equalizing income disparity among workers⁸.

4.1 SME Characteristics:

SME distinguish several characteristics from large enterprises. These characteristics can be group into four topics are as follows:

4.2 Organizational characteristics:

SMEs' organizational structure and culture differs from large organizations to a large extent. For instance, McAdam addressed SMEs' structure is characterized with informal, flatter, and highly centralized organizational structure and the dynamic organizational structure of SMEs leads to a corresponding dynamic work culture in which people are more willing to accept change ⁹. SMEs have fewer employees; they are more dependent on each individual. However, culture dynamic can more easily address than large organization.

Information Technology and its integration are important in SMEs than large organization. For instance, SMEs often lack integration of data among different functions; they need more time to spend on reentering and reconciling the data¹⁰.

4.3 Leadership characteristics:

SMEs have dominant leader, being often the owner that different from large organization. "SMEs' management often receives minimal training and development compared to large organization"¹¹. The lack of enough training came from several reasons for instance owner might not even recognize the need for training their management, shortage financial resources, and limited time provided for staff to attend training¹².

4.4 Resources characteristics:

The disadvantage of SME is limited resources such as human and financial resources. The influences of limited resources are heavily on many parts of the SMEs in project implementation.

5. ERP SYSTEM IN SME

The rapid growth of technological innovations and the fusion of information technology have drastically changed the way companies compete. Therefore, this pace of evolution in IT encourages SME to adopt ERP system or some modules of ERP. "Many business enterprises are implementing the information technology for the purpose of gaining competitive advantage in their industry. In its various manifestations, IT processes data, gathers information, stores collected materials, accumulates knowledge and expedites communication"¹³.

It is very difficult to clearly distinguish between small, medium, and large firms. Authors distinguish between SMEs and large corporations on the basis of employees, sales volume, and value of assets. Although the most common way to determine whether a business is small medium, or large, is by number of employees. The state of SMEs is very interesting SMEs play a very significant role in the economy. In the context of SMEs, because of their limited resources and market share, a failed implementation can have catastrophic consequences for SMEs, which may lead up to bankruptcy. SMEs also face limitations in implementing new IT systems due to a lack of modern information technology, old legacy system and lack of perceived usefulness towards new technology. In spite of the risks, the benefits of ERP systems make it an essential technology for SMEs. In order to minimize the chances of failure, it is essential that SMEs must plan well for the implementation and

use their resources appropriately to get best result. Also for a successful implementation, it is essential that SMEs should carefully evaluate some key implementation decisions.

5.1 Concept of ERP System in SMEs

The concept of SME ERP came after the success of ERP in large companies that successfully encouraged ERP vendors like SAP, Oracle, Microsoft, QAD etc. to enter into SME market by increase their customer base in the SME segment and have products specifically designed to cater to the needs of SMEs. The selection team members and consultant of ERP system in large enterprise are double to the SME. SMEs stay more flexible, low costs, and customer satisfaction than large enterprise. Gable et al. noted some benefits that vendors used to encourage SME to adopt ERP¹⁴:

- E-commerce benefits: This benefit will accrue from the close integration between large enterprises and SMEs.
- Cheaper and faster Internet: Easier access to Internet reduces the costs further.
- Cheaper hardware and software: With the advances in technology, the costs of both hardware in the form of servers, cables, switches etc. and software like databases have come down.

Implementation of ERP in SMEs follows special and precise strategy to avoid failure because of several reasons in features of SMEs mentioned above. Thus, “the introduction of ERP system in SMEs is not the duplication of the implementation experience of larger organizations since ERP implementation in SMEs involves certain characteristics and features that must be explored¹⁵. Furthermore, an important aspect of sound implementation strategy involves laying a solid groundwork for successful implementation. Project team needs to develop activities that foster successful implementation such as planning and installing activities, educating users and communication.

5.2 Functions of SME ERP system

The function of SME ERP system is confined to and based on the business needs and management objectives of the SME. The functions of SME ERP system according to Ng Kit Chong mainly include¹⁶:

- Corporate sales management.
- Inventory management.

- Production management.
- Purchasing management.
- Quality management.
- Equipment management.
- Financial management and other modules.

These functional structure modules are improving the overall enterprise operational efficiency and reduce business-operating costs. SMEs have role in the economics and development of nations so that enterprises seek to keep them in race of technology and improvement performance through implementation of ERP and reach the nations to optimum economic and international standards of dealing with ERP round the world. From the literature studies, SMEs can successfully enter the global market if they can fulfill the customer needs regarding features and quality of products¹⁷. SMEs survival also depends on their capability to improve their performance and produce goods that could meet international standards¹⁸. Features of ERP-SMEs Easy to Setup and Easy to Use.

- User Selectable Database management System depending on your preference, budget or current infrastructure.
- Multiple Currencies.
- Extensive Reporting Quickly. 5- Billing & Estimates.
- Economical.
- No Extra Work.

Table (1): Impact of ERP on SMEs

Impact of Individual impact of workgroup impact of organization

To improve individual productivity.	To benefit for individual's tasks. To enhance individual creativity.	To enhance higher-quality of decision making.
To save time for individual tasks and duties.	To help to improve workers participation in the organization.	To reduce organizational and Technology costs. To increase customer service/ satisfaction. To improves overall

		productivity and operational and time delivery.
To enhance learning and recall/ aware for individual worker.	<p>To create a sense of responsibility. To improve organizational-wide communication.</p> <p>To improve inter-departmental coordination and efficiency of sub-units in the organization.</p> <p>To improves work-groups productivity.</p> <p>To enhance solution effectiveness.</p>	<p>To provide competitive advantage. To facilitate business process change. To support decision making.</p> <p>To allow for better use of organizational data resource. To Improve outcomes/outputs.</p> <p>To enhance data flow and data warehousing To improve coordination with partners and suppliers. To enable e-business / e-commerce.</p>

5.3 Positive Role of ERP in SMEs

ERP system is a costly and risky investment due to the enormous resources to be allocated for their implementation. While companies are willing to invest in ERP systems, they want to make sure their investments yield the expected benefits. Nowadays the demand for ERP systems in SME is rapidly increasing but many of them fail to achieve their goals in terms of ERP utilization and overall expected improvement. It is important to note that ERP is not the same as ERP success. This is important to keep in mind, ERP implementation success is part of ERP success. The novelty of this research is the identification of the key variables for ERP implementation success. Two major dimensions revealed were namely success of ERP process, user satisfaction and performance quality. These dimensions can measure ERP implementation success and lead to positive role of ERP in SME.

ERP project success can be measured in terms of time, cost, quality, and goals as usual information system contexts applied. The researcher found four criteria based on the answers expressed to some questions developed to

ask whether the ERP project was completed on time, within budget, with good quality, and whether the ERP system achieved company's goals.

- ERP implementation project was completed on time
- ERP implementation project was completed within the budget as initially planned
- Is there well matched between ERP system and corporate goals

User Satisfaction is a second dimension to assess ERP implementation success by getting responses to some questions from respondents about ERP system as well as the degree of overall satisfaction with the quality of ERP in terms of system, information and performance.

- Quality of system (flexible, ease to use, reliable, data integration, efficient)
- Quality of information (understandable, brief /concise, relevant, usable, available, immediately)
- Quality of performance
- User satisfied of interaction with ERP system
- ERP is simple & flexes functionality of company
- ERP improved customer satisfaction
- ERP improved decision-making
- ERP reduce organizational costs
- ERP improve individual productivity
- ERP improve worker's participation

6. CONCLUSION

This comprehensive literature review is important to determine the initial concepts of importance to management consultancy in ERP implementations in the SMEs. ERP software can provide management functions from a...z to all processes in your business. SMEs over a wide spectrum of companies play a very important role in the economic growth in both developed and developing economies. If companies are just starting a business and are looking for business management applications but want to deal with a single software package, which integrates all processes in the business without mistakes then ERP software should be adopted. Many businesses assume that ERP is only for large organizations. However, SMEs is the fastest growing segment of the ERP industry. Reasons for the increasing

adoption rates in smaller organizations range from limitations of legacy systems to the decreasing costs of ERP software.

Authors concluded that ERP as a technology strategy contains many modules of software and strategy for implementation in companies wishing to buy after the completion and establishment of the technical infrastructures for the company to become ready for the implementation of ERP without errors or failure. The best way to implement ERP is assess the readiness of a company and select appropriate ERP system to implement then carry out the selected ERP by three stages pre-implementation, implementation and post implementation as described in this paper. There are many vendors domestic or international produce ERP entirely or partially each of them characterized by a particular specialization so select ERP system depend on the needs and budget of companies to implement ERP system successfully.

Based on the previous arguments, and knowing that SMEs manage with scarce resources in terms of finance, technical personnel, technology, therefore ERP project success, user satisfaction and performance quality become a critical ingredient to achieve ERP implementation success as well as positive role of ERP in SME.

7. REFERENCE

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