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An Empirical Study on Factors Affecting ERP Project Implementations in Sri Lankan Organizations

by

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The work described in this research was carried out by me under the supervision of Dr. Saman Yapa and a report on this has not been submitted in whole or in part to any university or any other institution for another Degree/Diploma.

Uchitha Jayawickrama

I certify that the above statement made by the candidate is true and that this research is suitable for submission to the University for the purpose of evaluation.

Dr. Saman Yapa

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ABSTRACT

Enterprise Resource Planning (ERP) systems are becoming popular among business organizations globally as well as locally. The main reason is that the corporate benefits gained through such implementations. However in the event of such a project failing, the company has to incur a huge loss. Therefore identifying the issues involved with the ERP implementation is of paramount importance. The primary purpose of this research is to identify factors affecting successful ERP project implementation, find out the level of practice of each factor in Sri Lankan organizations and recommend best practices to improve and guide the future ERP implementations so that the failure rates of ERP projects could be minimized. The findings of this research are based on a questionnaire survey performed among 31 client organizations and 32 ERP consultants from vendor companies selected through judgmental sampling method.

According to client response analysis, level of practice of following factors is poor in the Sri Lankan context; project planning, competency of consultants and communication of support requirements during the pre-implementation stage. As per the vendor response analysis, level of practice of following factors is poor in the Sri Lankan context; product selection procedure, client commitment and communication of support requirements during the pre-implementation stage. Both clients and vendors agree that level of practice of the rest of the factors identified through literature review is good in Sri Lanka. In conclusion,

set of guidelines has been suggested to overcome the poorly practiced implementation factors in order to follow in future ERP projects based on the research findings. Therefore above information would be much more productive to the relevant parties to achieve project success.

Key words:

ERP project implementation, Sri Lanka

CHAPTER ONE

INTRODUCTION

1.1 Background

An Enterprise Resource Planning[1] (ERP) system is an integrated software solution, typically offered by a vendor as a package that supports the seamless integration of all the information flowing through a company, such as financial, accounting, human resources, supply chain, and customer information (Davenport, 1998). In response to the growing global competition, many companies have embarked upon ERP implementation.

According to Gunasegaram (2007), the functions performed by an ERP system include all elements of the value chain from raw material purchases, inventory management, production, goods shipments, invoicing, accounting to human resource management. ERP systems had their roots in manufacturing, including material resource planning, but later it quickly grew to include all the other related business functions of an organization. They now serve as the basic business systems for most of the large and mid-size organizations in the world today. Gunasegaram (2007) also defines the key elements of an ERP system as: one large real-time database which reduces data redundancy and improves accuracy; integrated business process that cut across business functions such as supply chain management; and seamless transitions between business transactions.

ERP systems hold the promise of improving processes and decreasing costs. Furthermore, two important new frontiers for ERP are electronic business (e-business) and supply-chain

[1] Refer chapter 2, 2.2 for more ERP definitions.

management (Wang and Nah, 2001). By linking supply-chain applications with other business systems, users can slash cycle times and reduce inventory. They can also reach beyond their own corporate walls to better connect with suppliers, distributors, and customers to engage in e-business.

In general, ERP systems if implemented properly provide enormous benefits to organizations. Nowadays ERP systems are becoming a trend in Sri Lanka as well. Organizations in Sri Lanka tend to invest heavily on ERP systems seeking for the benefits promised to gain corporate excellence. However, not all ERP project implementations deliver the promised enterprise improvements. There are many situations where ERP implementation has become a failure.

There could be lots of factors that might affect the success of ERP project implementation. This research attempts to identify significant factors that might affect ERP project implementations largely through existing literature and find out the level of practice of each factor in Sri Lankan organizations through a carefully designed scientific research process. Hence the title of the research is "An empirical study on factors affecting ERP project implementations in Sri Lankan organizations".

1.2 Research questions

Under the title mentioned above the specific research questions formulated for the study are:

1. What are the factors affecting successful implementation of ERP systems?

2. What is the level of practice of various factors affecting successful ERP project implementations in Sri Lankan organizations?
3. How to improve poorly practiced factors (if any) effectively?

In answering above questions, first and foremost it is important to use existing literature in order to identify factors affecting ERP implementations which have been tested for different environments/territories. This was performed and the conceptual framework and the list of hypothesis were defined accordingly. Subsequently, questionnaires were developed to gather necessary data and the hypotheses were tested using collected data through appropriate statistical tests. Finally depending on the outcome of the data analysis, answers were derived for the research questions. Moreover, research methodology chapter discusses each step mentioned above in detail as to how the research was structured and planned in order to arrive at the answers for the research questions eventually.

1.3 Objective of the study

There are four objectives of conducting this research. They are as follows:

- To discover the critical success factors affecting ERP project implementations.
- To find out the level of practice (poor/good) of above identified factors with respect to Sri Lankan context from the client and vendor[2] perspectives.
- To suggest guidelines to improve use of best practices for Sri Lankan ERP project implementations.

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[2] Vendor companies (implementers) are comprised of ERP consultants who have relevant experience and capability to implement the ERP system in client organizations. Hence vendor and consultant words were used interchangeably throughout the research. Further, third party (independent/unbiased) consultants are separate from all above types. They review and monitor the project progress and the same time clients can also hire third party consultants to seek help in selecting the appropriate ERP package for the organization.

1.4 Research justification

The key to a successful implementation is the willingness of individuals throughout the company to adopt new technologies and new ways of working. There have been many difficult and costly implementations of ERP systems that have adversely impacted many organizations. According to Gunasegaram (2007) the foreign companies who have failed in ERP implementation include FoxMeyer Drug, Dell Computer, Applied Materials and Dow Chemical. Also according to the estimation of Standish Group International 90% of SAP R/3 projects run late (Scott and Vessey, 2002) and Williamson (1997) indicated that 3/4 of ERP projects were considered as failures and unacceptable. In the case of FoxMeyer Drug, the project has led the company to a bankruptcy proceeding (Scott and Vessey, 2002). In such situations organization has to bear a huge loss. Even though proper study has not been carried out in Sri Lanka, there are many companies who have failed in implementing ERP projects in Sri Lanka as well.

Therefore it would be of immense importance to find out what are the issues involved in ERP project implementations and try to figure out ways of overcoming them. It would guide the implementers, both clients and vendors to avoid those issues and carry out the implementations successfully.

1.5 Significance of the study

Through the achievement of objectives that have been discussed under 1.3, the main outcomes of the research and the beneficiaries of the same would be as follows:

- ERP clients and vendors would be more knowledgeable about the subject area. Above stakeholders could be aware of factors affecting ERP implementations and their behavior in Sri Lankan context. And this knowledge would support them to rectify the faults in their aspect and be more proactive and productive.
- ERP clients would be able to avoid the procedures/acts, which will lead to project failures. Research discusses the causes for poorly practiced factors and guidelines to improve lacking areas. Thereby clients would be able to avoid failure points in future ERP implementations.

1.6 Scope of the study

This research discusses factors affecting ERP project implementations in the Sri Lankan context during pre-implementation, during implementation and post-implementation stages.

Firstly, significant factors that affect ERP project implementations have been identified largely through the literature review as well as by interviewing few industry experts.

Secondly, the level of practice (poor/good) of factors identified in Sri Lankan context has been explored by use of deductive approach for data collected via questionnaires from client and vendor separately. Therefore the research analysis is based on client and vendor perspectives.

Finally, depending on the analysis outcomes, research discusses causes for poor level of practice as well as recommends guidelines for improvements in terms of best practices which could be followed during implementations in order to minimize ERP project failure rate in Sri Lanka.