



Impact of Critical Success Factors on ERP Implementation: Typical Organizations in Sri Lankan Context

By Anuradha Jayakody, E.M.M.N. Samaranayake, Punchihewa N.N.W.G,
B.V.R. Jeewantha & H.N.I. Wijesiri

Sri Lanka Institute of Information Technology

Abstract- Enterprise Resource Planning system is a software that suitable for the user to earn more ROI by involving business activities. By the way, most organizations are still afraid to adopt this to their organizations. The reason is the high-cost wastage, and also bankruptcy. But it is not true at all the time. ERP can implement to small and medium-sized organizations too.

To clarify these points, the paper focuses on the critical factors that affect the success of an ERP implementation process. It will do by a conceptual framework. It review and assertion of 15 hypotheses will carry out using "structural equation modeling technique". The definition of multi-variable technology used since the ability to check multiple linear connections at once simultaneously depends on one or more variables dependently and independently

Index Terms: *enterprise resource planning, critical success factors, stakeholders.*

GJCST-H Classification: K.6.1



Strictly as per the compliance and regulations of:



Impact of Critical Success Factors on ERP Implementation: Typical Organizations in Sri Lankan Context

Dr. Anuradha Jayakody^α, E.M.M.N. Samaranyake^σ, Punchihewa N.N.W.G^ρ, B.V.R. Jeewantha^ω
& H.N.I. Wijesiri[¥]

Abstract- Enterprise Resource Planning system is a software that suitable for the user to earn more ROI by involving business activities. By the way, most organizations are still afraid to adopt this to their organizations. The reason is the high-cost wastage, and also bankruptcy. But it is not true at all the time. ERP can implement to small and medium-sized organizations too.

To clarify these points, the paper focuses on the critical factors that affect the success of an ERP implementation process. It will do by a conceptual framework. It review and assertion of 15 hypotheses will carry out using "structural equation modeling technique". The definition of multi-variable technology used since the ability to check multiple linear connections at once simultaneously depends on one or more variables dependently and independently.

Index terms: enterprise resource planning, critical success factors, stakeholders.

I. INTRODUCTION

With the advancement of information technology, the way enterprises do business has become automated. It has been going non-stop for nearly a decade. Simply the manual operations became an e-operations. There are many interpretations of ERP. Websites, magazines, and even manual analysts interpret this to their liking. These changes, in turn, show a different connotation of the benefits it can achieve. There are those who take advantage of it as well as the disadvantages. Some are bankrupting their businesses. Despite these results, this system still holds a huge place in the business world

For years, scholars have identified the ERP solution as the best solution for businesses. It identifies business needs and provides the right solutions that can increase business productivity. These software packages are known for their ability to integrate all of a company's information needs within a single computer system (Shivam Gupta, 2017). As a return, this gives

management a better overview of all of the company's operating and managing activities (David L. Olson a, 2018).

The process of handling the ERP system is a well-studied task. That's because it's so hard. There are several factors that affect any function of proper management (Kevin J. Trainor a, 2010). This study seeks to identify the success factors that can affect small and medium enterprises in Sri Lanka. Considering this, we will try to look at some factors to study how ERP can be successfully built and utilized. We also look at the effectiveness of these factors in the eyes of stakeholders. We are trying to identify the positive factors that affect to any enterprise in Sri Lanka. Research questions of the study will overcome the objectives of the research by testing a conceptual framework.

a) ERP System

ERP is a business management software that can use to a unified application to conduct the business and automate many back-office functions related to human resources, technology, and assistance (Ehie and Madsen, 2005). Typically, ERP software integrates with all interfaces to an application, including product planning, improvements, products, sales & marketing, and the user interface.

"ERP systems are software packages that integrate business processes across an organization" (Abu-Shanab et al.). It integrates information from each unit of the company into a single database and provides access to interfaces for effective communication (Abu-Shanab et al.).

According to IT, ERP is one of the most innovative development and is considered the best IT solution that an organization can adopt in the last few decades (Shatat, 2015). With the most appropriate IT solution, the ERP system becomes one of the core needs of the e-business era, and thus, the ERP is the backbone of the e-business era (Shatat, 2015).

Many small and medium-sized companies fear to adopt ERP solutions because of the high cost. According to the benchmark survey, 42% of companies establish an ERP process without analyzing their financial position, and the ROI of the new device cannot

Author α : Senior Lecturer Faculty of computing | Information systems engineering, Sri Lanka Institute of Information Technology.
e-mail: anuradha.j@slit.lk

Author σ ρ ω ¥ : SLIIT Business School Undergraduate, Sri Lanka Institute of Information Technology.
e-mails: mnayani.samaranyake@gmail.com,
navun100@gmail.com, Rashmika.rj7@gmail.com,
nadeeka.w77@gmail.com

be calculated (Jacobson, 2015). To prepare for such a move, organizations need to understand the implementation and involvement of the ERP.

b) *ERP Implementation Cost*

The concept of adoption applies not only to custom software but also to the packages available in the market. Most studies on application package implementation highlight the criticality of the adoption process (Hong et al., 2002). Organizations needed extensive knowledge and outside support when they started using ERP software. Therefore, they have to bear not only the purchase cost but also the cost of support.

ERP implementing value is high. There should be a better understanding of the high costs involved in implementing ERP. It is also necessary to assess whether it is appropriate to take such a step(Kumar, 2011). As with continuous employee training, it is very important to keep in touch with the vendor, until the application is familiar with the business. ERP implementation prices costs embody coaching of employees the customization of the system to suit with existing firm interfaces (Ahmad, 2013).

In small to mid-sized firms, ERP implementation budget around ranges from \$m2 to \$M4, for large organizations, it will exceed \$M100. Furthermore, and when the implementation of ERP systems, wherever some organizations gain several edges and reach some competitive advantage, others encounter costly failures(Emad Abu-Shanab, 2015).

Many ERPs fail because the ERP software package is not working properly, resulting in financial losses, and bankruptcy(Emad Abu-Shanab, 2015). For example, Dell suffered a financial loss of about \$ M200 when the ERP system was built for two years(Wu, 2008).

c) *Critical Success Factors (CSFs)*

CSFs are the trail creator to implement ERP with success by resolution the cost failures. CSFs embody prime management support, vendor’s support, consultant’s competence, user’s support, IT capabilities,

and project management leadership(Emad Abu-Shanab, 2015).

On the other hand, the system's initial implementation is initially. The second criterion is to include institutional and technical aspects into a system, and ultimately, the factors that affect successful implementation.CSF could be an essential issue or activity for a business or organization's success.

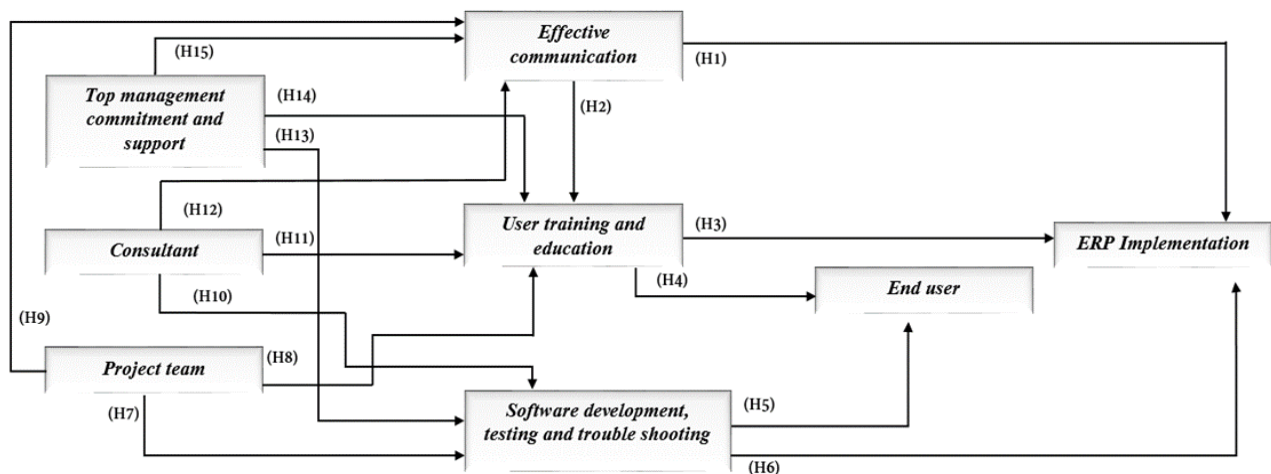
User training and external consultancy as vital factors for successful ERP implementation(Koh, 2009). CSF assists managers directly affect a particular outcome, by proactively taking necessary actions inbound areas (Prodromos Chatzoglou, 2016).

d) *Difficulties Facing of ERP Adoption*

Before beginning an ERP implementation process, organizations ought to prepare a practicableness study of ERP adoption (Emad Abu-Shanab, 2015). The matter of describing the requirements: the developers’ tries to develop the system in line with users’ would like, wherever users fail to establish what users want (Shatat). A group of researchers classified ERP outcomes into monetary edges (reduction in operating, administrative and inventory costs), and non-financial edges (reduction of knowledge errors, facilitating info sharing, client satisfaction, and rising efficiency)(Chand, 2005).

(Sammon, 2010) identified a set of ERP implementation problems areas: Failure to acknowledge change is one of the most likely issues to be found throughout the so-called ERP implementation section. Eligibility is another potential shortcoming across the implementation sector that indicates failure of process clear project objectives. Such issues can reduce the level of performance. Fails to educate all workers about the ERP project or provide adequate rights and adequate resources for such needs. And finally, Failure to set the right plan for action and determine the ERP budget.

II. CONCEPTUAL FRAMEWORK



III. HYPOTHESIS OF THE STUDY

- H1: The positive relationship between Effective Communication and ERP Implementation
- H2: The positive relationship between Effective Communication and User Training and Education
- H3: The positive relationship between User Training and Education and ERP Implementation
- H4: The positive relationship between User Training and Education and End User
- H5: The positive relationship between Software development, testing, and troubleshooting and End User
- H6: The positive relationship between Software development, testing, and troubleshooting and ERP Implementation
- H7: The positive relationship between Project Team and Software development, testing, and troubleshooting
- H8: The positive relationship between Project Team and User Training and Education
- H9: The positive relationship between Project Team and Effective Communication
- H10: The positive relationship between Consultant and Software development, testing, and troubleshooting
- H11: The positive relationship between Consultant and User Training and Education
- H12: The positive relationship between Consultant and Effective Communication
- H13: The positive relationship between Top Management Commitment and Support and Software development, testing, and troubleshooting
- H14: The positive relationship between Top Management Commitment and Support and User Training and Education
- H15: The positive relationship between Top Management Commitment and Support and Effective Communication

IV. SIGNIFICANCE OF THE STUDY

When considering business behavior, ERP is a new management technology that demands an integrated approach. According to improvements in performance, companies are always looking to use this technology, but the company needs to understand what it is for (Chang et al., 2008).

Although if it is not voluntary the use of ERP system, the understanding about the ERP system helps organizations to prepare, their employees to face a new challenge and learn to use new technologies.

We have proposed a conceptual framework to analyze the factors influencing the use of the ERP system. The usage of that framework based on past research showing the importance of critical factors in the use of technology.

Enterprise Resource Planning (ERP) systems have built up a promise for integrating business processes and have proven their value in different organizations.

Therefore, according to the increase of productivity and cost-saving, they have achieved in the face of usability problems (Topi et al., 2005). Most of the time, we can hear anecdotes about the difficulties while using ERP systems, but there is little documentation about problems typically faced by users.

The purpose of this research is to identify what are the factors that influence the proposed framework. Also, this study considers the promise of using collaboration theory to evaluate the usability characteristics of existing systems and to new system designs.

According to the impressive results already achieved by some organizations with these systems, if understanding how to use them, imagining how much more would be possible wasn't such an overwhelming task (Topi et al., 2005).

Furthermore, this research examines what are the factors facilitate or not facilitate the success of ERP projects and what can bring problems to ERP projects.

Business processes change theory is based on a case study methodology to compare successful implementation or failure implementation (Motwani et al., 2002).

V. SUMMARY

ERP is a useful tool if the company uses it with an idea. Some organizations still have no idea about the ERP, and some are afraid to admit it to their organizations. Surrounding the community, they think the ERP will cost more and will incur losses. It is a study of how well it works if factors are used accurately.

REFERENCES RÉFÉRENCES REFERENCIAS

1. Ahmad, M. &. (2013). Critical Success factors for ERP implementation in SME. *Robotics & computer-integrated Mnuufacturing*, 29(3), 104-111.
2. Chand, H. H. (2005). A Balanced Scorecard Based Framework for Assessing the Strategic Impacts of ERP systems.
3. David L. Olson a, *. ,. (2018). Robotics and Computer-Integrated Manufacturing. 30-36.
4. Emad Abu-Shanab, R. A.-S. (2015, January). Critical Success Factors for ERP Implementation: The Case of Jordan. *International Arab Journal of e-technology*, 4. Retrieved September 5, 2013
5. Kevin J. Trainor a, A. R. (2010). Industrial Marketing Management.
6. Koh, S. G. (2009). The demand for training and consultancy investment in SME-Specific ERP systems implementation and Operation. *International journal of production Economics*, 241-254.

7. Kumar, A. &. (2011, july). Critical Success Factors in ERP Implementation in India. *International transactions in applied sciences.*, 4(2), 271-280.
8. Kyung-Kwon Hong, Y. G. (2002). The critical success factors for ERP implementation : An organizational Perspective. 25-40.
9. Prodromos Chatzoglou, D. C. (2016). Critical Success factors for ERP implementation in SMEs. *Proceeding of the Federated Conference on Computer Science and Information Systems*, 8(2300-5963), 1243-1252. doi:10.15439/2016F37
10. Sammon, A. F. (2010). Project Preparedness and the Emergency of Implementation Problems in ERP Projects. 1-8.
11. Shatat, A. S. (n.d.). Critical Success Factors in Enterprise Resource Planning (ERP) System Implementation:.
12. Shivam Gupta, S. K. (2017). Role of cloud ERP on the performance of an organizationContingent resource-based view perspective. *The International Journal of Logistics Management*, 29, 659-675. doi:10.1108/IJLM-07-2017-0192
13. Wu, L. O. (2008). Active ERP Implementation Management: A real option perspective. *The journal of systems and Software*, 1039-1050.

