

**IDENTIFYING THE BARRIERS OF IMPLEMENTING
AN ERP SYSTEM IN CONSTRUCTION COMPANIES IN
SRI LANKA**

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Degree of Master of Business Administration in Information Technology

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The dissertation was submitted to the Department of Computer Science and Engineering of the University of Moratuwa in partial fulfillment of the requirement for the Degree of Master of Business Administration in Information Technology.

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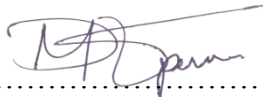
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ABSTRACT

The construction companies in Sri Lanka invest millions of rupees for both local and international ERP systems. However, the return on investment of the ERP system is not at the expected level due to implementation barriers. As a result, those companies could not get the advantage of having an ERP system such as fast communication, transparency of project progress, and reducing corruption. Further, those companies having an ERP system could not even get the competitive advantage over other construction companies.

Even though there are previous studies in other countries in a similar context, the findings of those studies may not be valid for the Sri Lankan context. There are ERP implementation barriers that are common within construction companies and barriers that are unique to a particular company which are not addressed by previous studies. Identifying those unique barriers from a quantitative study is difficult. Therefore, this study has been carried out as a qualitative study by conducting one-to-one semi-structured interviews with sixteen industry experts with middle management, including ERP project managers, construction project managers, and quantity surveyors. Those interviewees have been selected according to 'theoretical sampling', one of the purposive sampling techniques. As a result, the participants' real feelings, and experience towards the ERP and ERP implementation.

Data collection and the analysis were parallel activities. The analysis has been done according to the 'Grounded Theory'. At the end of the analysis, there were forty implementation barriers identified and out of them, 'employees' reluctance to change', 'bugs in ERP systems', and 'poor internet speed in remote sites' are highlighted by majority participants. Additionally, the recommendations have been suggested for the identified implementation barriers, which were pointed out by a number of interviewees. Further, those forty barriers were divided into six major themes as 'barriers related to management', 'barriers related to employees', 'barriers related to ERP systems', 'barriers related to implementation process', 'barriers related to vendors', and 'barriers related to organizations'.

These identified ERP implementation barriers and the recommendations would be important for a construction company that currently initiates ERP implementation in their company and the companies that plan to implement an ERP system in the near future. Further, the recommendations suggested for the ERP vendors are also important to those software development companies in order to achieve a competitive advantage.

Keywords: Enterprise Resource Planning System, Construction Companies in Sri Lanka, Implementation Barriers

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LIST OF ABBREVIATIONS

- BPR – Business Process Reengineering
- CRM – Customer Relationship Management
- CIDA– Construction Industry Development Authority
- DEA – Data Envelopment Analysis
- DMC – Decision Making Committee
- ERP – Enterprise Resources Planning
- GUI – Graphical User Interface
- HRM – Human Resources Management
- ICT – Information and Communication Technology
- ICTAD – Institute for Construction Training And Development
- IT – Information Technology
- LAN – Local Area Network
- MIS –Management Information System
- MRP – Material Requirement Planning
- PC – Personal Computer
- PPT – People Process Technology
- QA – Quality Assurance
- ROI – Return on Investment
- SAP –Systems Applications and Products
- SME – Small to Medium Enterprises
- SRS – Software Requirement Specification
- VPN – Virtual Private Network