

DECLARATION

“Integrating Lean Practices with ERP Systems in Manufacturing Organizations: A Study on Selected Companies in Sri Lanka”

This thesis is a presentation of my original research work.

Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions.

The work was done under the guidance of Professor Chandana Perera, The Head of Department, Department of Management of Technology, Faculty of Engineering, University of Moratuwa, Sri Lanka.



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In my capacity as supervisor of the candidate’s thesis, I certify that the above statements are true to the best of my knowledge.

Professor Chandana Perera

Date

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By

Prabash Chaminda Liyanage

Submitted to the University of Moratuwa Sri Lanka



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Abstract

The research contained in this thesis explores how Lean and Enterprise Resource Planning (ERP) implementations can contribute for the success of the organization. The main objective was to find a mechanism to integrate Lean and ERP systems. The objective was defined as a result of a research problem, where the values generated from Lean activities were not clearly reflected in the value chain. Since all business processes are implemented in ERP, the argument was that the Lean value reflection of ERP would ensure the value is clearly distributed to the value stream. Argument was supported by the collected literature on Lean and ERP practices, observations and other sources such as organizational documents etc.

The research was performed as a detailed case study of a world class tyre manufacturer and in order to clarify and generalize the Lean and ERP practices in the manufacturing industry, leading apparel manufacturer was evaluated. The research was identified as a purely qualitative one and the most challenging task was the data collection. Interviews, company documents and other sources were used in the data collection process and voice clips were captured during the process of interviews. Thereafter the data analysis was performed based on the themes identified through the generated transcripts. Data was analyzed with respect to the research question and finally the discussion was ended with some of the valuable findings that helped in order to develop a mechanism to integrate both Lean and ERP.

This evaluation helped to confirm certain findings such as impact on value generation through Lean implementation and value distribution through ERP system. In holistic picture, the proposed mechanism to integrate Lean and ERP system will help organizations to strengthen their value chain. Since Lean concept is vastly used in manufacturing organization, the study is only focusing such organizations.

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LIST OF ABBREVIATIONS

Abbreviation	Description
BI	Business Intelligence
BOM	Bill of Materials
BPR	Business Process Re-engineering
ERP	Enterprise Resource Planning
FICO	Finance and Controlling
HRM	Human Resource Management
IT	Information Technology
JIT	Just In Time
JV	Joint Venture
KPI	Key Performance Indicators
LPS	Loadstar Production System
MM	Materials Management
MRP	Material Requirement Planning
NCE	National Chamber of Exporters
NCP	National Cleaner Production
PM	Plant Maintenance
PP	Production Planning
SAP	Systems Applications & Products
SD	Sales and Distribution
TPS	Toyota Production System
TQM	Total Quality Management
US	United States
PPCL	Production Planning & Logistics Control



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