

Return on Investment and benefits to Health Sector in Sri Lanka by stock optimization through ERP

BY

G.Y.A.P.I Perera

Supervised by

Prof. A.A.D.A.J. Perera



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Faculty of Engineering

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DECLARATION

I confirm that, except where indicated through the proper use of citation and references, this is my own original work. I also confirm that my work include in this dissertation in part or whole has not been submitted for any other academic qualification at any institution. Further, I confirm that subject to final approval by the Board of Examiners of University of Moratuwa, a copy of this dissertation may be placed upon shelves of the library of the University of Moratuwa and may be circulated as required.

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.....

Prof. A.A.D.A.J. Perera (Supervisor)

.....

Date

Department of Civil Engineering,
University of Moratuwa

ABSTRACT

Enterprise Resource Planning (ERP) systems and the health sector of a country taken together can become a force which could save millions of public money and which could take the health sector to the next level. This statement may seem unrealistic and impractical. ERP systems are typically the largest, most complex, and most demanding information systems implemented by firms, representing a major departure from the individual and departmental information systems prevalent in the past. However, ERP systems have evolved to be the force behind many organizations around the globe by integrating all the key functions and by assisting better and timely decision making.

This research is the quest to find out the feasibility of implementing an ERP system for the health sector in Sri Lanka, focusing on the cost benefit of medical stock optimization. Literature was reviewed in order to study ERP systems, usage of Information Technology in Health Sector, Health Information Systems and global case studies of HIS, ERP system implementations on health sector and ROI from stock optimization.

After analyzing the Sri Lankan health sector as an overview with all the cost drivers, the cost of medical drugs and cost of inventory were focused. The market leaders in ERP systems such as SAP, Oracle and Microsoft Dynamics have come with healthcare ERP solutions with several success stories. After building a solid theoretical background on stock optimization through ERP systems, the ROI was calculated.

The annual cost saving for the health sector by stock optimization by implementing an ERP system was calculated to be around 817.6 Million Sri Lankan Rupees while the cost of implementing an ERP system would cost around 624.7 Million Sri Lankan Rupees. The financial benefit of better inventory management through an ERP system alone would recover the cost of an ERP system. Other savings include improvements in Human Resources Management, Asset Management, Financial Management and overall organizational monitoring. These benefits will result in better customer service, which can be in the extent of saving human lives.

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LIST OF ABBREVIATIONS

BPR	Business Process Re-engineering
ERP	Enterprise Resource Planning
HIS	Health Information System
HIT	Health Information Technology
ICT	Information and Communication Technology
ROI	Return on Investment
IS	Information Systems
IT	Information Technology
MOH	Ministry of Health
MRP	Material Requirement Planning
MRP2	Manufacturing Resource Planning
MIS	Management Information Systems
SOA	Service Oriented Architecture
SAAS	Software as a Service