

Resolving the Challenges Faced While Adapting to Enterprise Resource Planning (ERP) in Sales Organizations

H. M. A. N. Welagedara MS23007338

A THESIS

SUBMITTED TO

SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY
IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF SCIENCE IN INFORMATION SYSTEMS

nesis for the degree of Ma	ster of Science.	
	Prof. Dasuni Nawinna	
	Supervisor's Signature	
	Approved for MSc. Research Project:	
	MSc. Programme Co-ordinator, SLIIT	
	Approved for MSc:	
	Head of Graduate Studies, FoC, SLIIT	

I certify that I have read this thesis and that in my opinion it is fully adequate, in scope and in quality, as a

DECLARATION

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Sri Lanka Institute of Information Technology or to any other institution for assessment for any other purpose.

	A.N. Welogedon
Sign:	10.10.10
51511.	 ••••••

H. M. A. N. Welagedara

Date:12.11.2024.....

ABSTRACT

Resolving the Challenges Faced While Adapting to Enterprise Resource Planning (ERP) in Sales Organizations

H. M. A. N. Welagedara

MSc. in Information Systems

Supervisor: Prof. Dasuni Nawinna

December 2024

This study investigates the factors impacting ERP (Enterprise Resource Planning) adaptation at DIMO (Diesel and Motor Engineering Company), a Sri Lankan corporation that just switched from a legacy system to a new ERP platform. As a result of switching to new ERP, Employees are struggling a lot to adjust to the new ERP. This makes the transition difficult. Observing these problems, the study identified four essential characteristics that influence ERP adaptation as user training, support desk efficiency, top management support, and user participation. This criterion was identified through a review of existing research and the related studies. This research was performed according to the Sri Lanka context. A quantitative method was used to examine the impact of user training, support desk efficiency, top management support, and user participation towards ERP adaptation. So the data collected via a standardized questionnaire which was issued to a sample of DIMO personnel. This questionnaire was used to identify the impact of all identified factors towards ERP adaptation via a quantitative manner. The study's goal is to identify the association between user training, support desk efficiency, top management support, and user participation towards ERP adaptation in Sri Lankan context. This is focused to gain insight into how each element influences the system change. Finally, to aid the ERP adaptation process, a Microsoft Power Automate support structure was developed to give additional assistance. This study delivers the impact of identified factors towards ERP adaptation at DIMO. Additionally, this research will be helpful other comparable firms in Sri Lanka who are confronting ERP transition.

ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to Prof. Dasuni Nawainna for her valuable assistance with my research project. Her guidance, ideas, and encouragement have been invaluable at every level of this research journey. I am extremely appreciative of the research tools she offered, her continuous efforts in examining and editing my work, and the encouragement she gave me to persist. Her constant support has been a motivating force in helping me reach my objectives, and I am grateful for her guidance.

TABLE OF CONTENTS

DECLARATION	ii
ABSTRACT	ii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
List of Figures	viii
List of Tables	ix
List of Abbreviations	x
Chapter 1 Introduction	1
1.1 Organizational profile	1
1.2 Background of ERP	4
1.2.1 What is SAP ERP?	5
1.3 Main Problem	<i>6</i>
1.3.1 Existing IT support structure	7
1.3.2 Overview of Objective	7
Chapter 2 Literature Review	8
2.1 Review of ERP adaptation of organizations.	8
2.2 Review of factors which impact the ERP adaptation	17
2.2.1 Active user participation	17
2.2.2 User training	19
2.2.3 Top management support	20
2.2.4 Support desk efficiency	23
Chapter 3 Research Problem	25
Chapter 4 Research Gap	27
4.1 Lack of research in Sri Lankan context	27
4.2 Much research focused on improving efficiency	27
4.3 Less focuses on ERP adaptation	28
4.4 Lack of research of identifying relationships	28
4.5 Novelty of the research	29
Chapter 5 Objective	30
5.1 Components of research objective	31
5.1.1 Identifying the impact of support desk efficiency towards ERP adaptation	31
5.1.2 Evaluating the impact of SAP User Training towards ERP adaptation	31
5.1.3 Identifying the impact of participation of users towards ERP adaptation	31
5.1.4 Identifying the impact of top management support towards ERP adaptation	32
5.1.5 Introducing a support structure	32
Chapter 6 Theoretical Framework and Hypothesis Development	33

6.1 Dependent and independent variables	33
6.1.1 Dependent variable	34
6.1.2 Independent variables	34
6.2 Hypothesis development	36
Chapter 7 Methodology	38
7.1 Research design	38
7.1.1 Sampling Method	38
7,2 Data collection	40
7.3 Data analysis and findings	42
7.3.1 Outer Model (Measurement Model) analysis and findings	43
7.3.2 Inner Model (Structural Model) analysis and findings	48
7.4 Implementation of support desk with the help of ERP adaptation with Microsoft Automation	52
7.5 Proposed New System	54
7.5.1 User champion	56
7.5.2 Newly introduced support desk process	56
7.5.3 Functions of newly proposed support desk	57
7.5.4 Different modules	61
7.5.5 Module wise email notification	62
7.6 Usage of power apps	65
Chapter 8 Discussion	67
8.1 Assessed categories of questions	68
8.2 Discussion on findings and data analysis	68
8.2.1 Construct reliability and validity	68
8.2.2 Average variance extracted	68
8.2.3 Discriminant validity	68
8.2.4 Bootstrapping	69
8.3 Validation of the implemented new support structure	72
8.3.1 Testing results of efficiency of the new support structure with real users	72
8.3.2 Testing the performance of existing support structure and newly proposed support structure	83
8.3.3 Feedback from the top management	84
Chapter 9 Significance and Expected Contributions of Newly Created Support Desk	85
9.1 Expected Contributions	88
9,2 Ethical Consideration	89
9.3 Timeline	90
9.4 Cost and Technologies	92
9.5 Data analysis tool	92
9.6 Microsoft Power Automate	93

Chapter 10 Recommendations	94
10.1 Support desk efficiency has an impact on ERP adaptation	94
10.2 SAP user training has an impact on ERP adaptation	94
10.3 Active user participation support has an impact on ERP adaptation.	94
10.4 Top management has an impact on ERP adaptation	95
Conclusion	96
References	97
Appendix 1: Questionnaire for Data Collection	100

List of Figures

Figure 6.1 Conceptual Framework	36
Figure 7.1 PLS Algorithm Results	43
Figure 7.2 Support System Navigation	54
Figure 7.3 New Support Deck Process	5 6
Figure 7.4 Microsoft Form Image 1	57
Figure 7.5 Microsoft Form Image 2	58
Figure 7.6 Microsoft Form Image 4	59
Figure 7.7 Microsoft Form Image 5	60
Figure 7.8 Microsoft Form Image 6	60
Figure 7.9 Image of SharePoint Site	61
Figure 7.10 Email received by Application Support Team Members by DIMO	63
Figure 7.11 Automatic Email Sent to the Sender	63
Figure 7.12 Way issues are recording inside SharePoint Site Excel Sheets	64
Figure 7.13 How Issues are being Recorded	64
Figure 8.1 Path Coefficient and T values	69
Figure 8.2 Confirmation of the top management about the deliverables of the research	84

List of Tables

Table 1 Sampling Values	39
Table 2 Indicators for ERP Adaptation in Likert Scale	40
Table 3 Indicators for Support Desk Efficiency in Likert Scale	40
Table 4 Indicators for User Training in Likert Scale	40
Table 5 Indicators for Top Management Support in Likert Scale	41
Table 6 Indicators for Active User Participation in Likert Scale	41
Table 7 Construct Reliability and Validity	
Table 8 Discriminant Validity	45
Table 9 HTMT Validity	40
Table 10 Path Coefficient	49
Table 11 Modules and Issue Categories	53
Table 12 Email Groups of Different Support Group	62
Table 13: Duration takes to manually records an issue in the existing support structure	77
Table 14: Duration which newly proposed system takes to record issues	82

List of Abbreviations

AVE	Average Variance Extract
BPR	Business Process Reengineering
CSF	Critical Success Factors
DIMO	Diesel and Motor Engineering PLC
ERP	Enterprise Resource Planning
ERP	Enterprise Resource Planning
HPWS	High Performance Work System
HTMT	Heterotrait-Monotrait Ratio
IS	Information System
IT	Information Technology
SAP	Systems, Applications & Products
TAM	Technology Acceptance Model