

# Business Continuity through Crisis Situations: Evaluation of Impact of ERP Systems on Business Performance through Crisis Situations in SME of Apparel Industry in Sri Lanka.

N.M. Ranasinghe

(Reg. No.: MS20904678)
M.Sc. in IS
Specialized in Information Systems

Supervisor: Dr. Anuradha Jayakody

December 2021

Department of Information Systems Faculty of Graduate Studies and Research Sri Lanka Institute of Information Technology

i

### **Table of Contents**

Table c	of Cont	tents	2
List of	Figure	S	4
List of	Tables	·	5
Abst	ract:		6
1.	Introd	duction:	8
1.1.	Bad	ckground	10
1.2.	Sig	nificance of the study	11
1.3.	Pro	bblem Definition	11
1.4.	Res	search Problems	12
1.5.	Тур	pe of study	13
2.	Litera	ture Review:	14
2.1.	Tra	insformation of ERP	14
2.2.	Usa	age of ERP	17
2.3.	Fac	ctors Influencing Use of ERP	18
2.4.	Use	e of ERP and Business Performance	21
3.	Resea	arch Methodology	23
3.1.	Cor	nceptual Framework	23
3.2.	De	velopment of Hypothesis	25
3.3.	Res	search Design and Data Collection	26
3.4.	Нуј	pothesis Testing	27
4.	Analy	rsis	30
4.1	Res	sults of the Quantitative Survey	30
4.2.	Rel	liability and Data Validation of Survey Results	33
4.	2.1.	Reliability of Survey Data for Top Management Support	33
4.	2.2.	Reliability of Survey Data for Training and Knowledge Management	35
4.	2.3.	Reliability of Survey Data for Vendor Support	36
4.	2.4.	Reliability of Survey Data for User Satisfaction	37
4.	2.5.	Reliability of Survey Data for User Involvement	38
4.	2.6.	Reliability of Survey Data for Complexity	39
4.	2.7.	Reliability of Survey Data for ERP Usage	40
4.	2.8.	Reliability of Survey Data for Business Performance	41
4.3.	Res	sults of the Data analysis	42
4.	3.1.	Correlation between Top Management Support and ERP Usage	42
4.	3.2.	Correlation between Training and Knowledge Sharing and ERP Usage	43
			2

	4.3.3.	Correlation between Vendor Support and ERP Usage	. 44
	4.3.4.	Correlation between User Satisfaction and ERP Usage	. 45
	4.3.5.	Correlation between User Involvement and ERP Usage	. 46
	4.3.6.	Correlation between ERP Complexity and ERP Usage	. 47
	4.3.7.	Correlation between ERP Usage and Business Performance	. 48
	5. Discus	sion	. 49
	5.1. Cor	relation between ERP Usage and Business Performance	. 49
	5.2. Bus	iness Performance through Covid-19	. 50
	6. Conno	otations and Limitations of the Study	. 52
	6.1. Con	notations of the study	. 52
	6.2. Lim	itations of the study	. 52
7.	Referenc	res	. 54

## **List of Figures**

Figure 3.1.1. Conceptual Framework	24
Figure 3.4.1. Sample Size Calculation	28

#### **List of Tables**

Table.3.4.1. Questions for Descriptive Analysis	28
Table. 3.4.2. Questions for Variable Analysis	29
Table: 4.1.1. Job role of respondents	30
Table: 4.1.2. Size of the organizations	31
Table 4.1.3. Duration of ERP Usage	31
Table 4.1.4. Brand of ERP used by organization	32
Table 4.1.5. Case Processing Summary for Crosstabulation	32
Table 4.1.6 Crosstabulation of Size of the organization and ERP Solution	32
Table 4.2.1.1. Case Processing Summary – Independent Variable 1	33
Table 4.2.1.2. Cronbach's Alpha for the Variable 'Top Management Support'	34
Table 4.2.2.1. Case Processing Summary – Independent Variable 2	35
Table 4.2.2.2. Cronbach's Alpha for the Variable 'Training and Knowledge Sharing'	35
Table 4.2.3.1. Case Processing Summary – Independent Variable 3	36
Table 4.2.3.2. Cronbach's Alpha for the Variable 'Vendor Support'	36
Table 4.2.4.1. Case Processing Summary – Independent Variable 4	37
Table 4.2.4.2. Cronbach's Alpha for the Variable 'User Satisfaction'	
Table 4.2.5.1. Case Processing Summary – Independent Variable 5	38
Table 4.2.5.2. Cronbach's Alpha for the Variable 'User Involvement'	38
Table 4.2.6.1. Case Processing Summary – Independent Variable 6	39
Table 4.2.6.2. Cronbach's Alpha for the Variable 'ERP Complexity'	39
Table 4.2.7.1. Case Processing Summary – Independent Variable 7	40
Table 4.2.7.2. Cronbach's Alpha for the Variable 'ERP Usage'	40
Table 4.2.8.1. Case Processing Summary – Independent Variable 8	41
Table 4.2.8.2. Cronbach's Alpha for the Variable 'Business Performance'	41
Table 4.3.1.1. Pearson Correlations – Top Management Support and ERP Usage	42
Table 4.3.2.1. Pearson Correlations – Training and Knowledge Sharing and ERP Usage	43
Table 4.3.3.1. Pearson Correlations – Vendor Support and ERP Usage	44
Table 4.3.4.1. Pearson Correlations – User Satisfaction and ERP Usage	45
Table 4.3.5.1. Pearson Correlations – User Involvement and ERP Usage	46
Table 4.3.6.1. Pearson Correlations – ERP Complexity and ERP Usage	47
Table 4.3.7.1. Pearson Correlations — ERP Usage and Business Performance	48

#### **Abstract:**

The economic development is highly impacted by Micro, Small and medium enterprises. In the past few years Micro, Small and medium enterprises have become highly competitive, and the number of organizations have increased with the economic growth. This also has caused Micro, Small medium enterprises to face many challenges and with these challenges to expand their businesses and open organizations to new technologies. But in past few decades academia researchers and business world has debated on the impact that enterprise resource planning systems has on business performance.

Further to the effects of enterprise resource planning systems in normal times these systems can positively or negatively impact business performance at the times of crisis. At such times, employees must work remotely due to crisis situations, and this may lead organizations to adapt into enterprise resource planning systems. Hence the main purpose of this research is to evaluate the effects of enterprise resource planning systems have on business performance specially through crisis situations.

The crisis in this study mainly focuses on the covid-19 outbreak as this is the most recent crisis that global economy had to face. The globalization has resulted in a complicated, prolonged, and large-scale supply chain. Also, businesses depend on its supply chain to achieve competitive advantage. With the complexity and large-scale nature, the supply chains have become challenging to manage and have been subjected to high risk. To prevail over such supply chain interruptions, sufficient response approaches and risk managing implements should be executed to build an impervious business. This study presents understandings on whether ERP systems facilitates the above-mentioned response plans with interest to minimizing the operational destruction triggered by Covid-19.

The study is conducted via exploratory research first to identify the factors which cause successful and productive utilization of ERP systems. The results suggest six likely elements. Based on the findings of the literature review, there hypothesis have been developed to conduct the quantitative analysis. The quantitative analysis is conducted by building a questionnaire and collecting data from stakeholders of Sri Lankan Micro, Small Medium Enterprises (MSME). The questionnaire consisted of thirty six questions – four questions to gather demographic data of the sample and thirty two questions covering six independent variables and two dependent variables with four questions on each variable.

Four hundred and twenty-three valid responses were gathered from Sri Lankan apparel micro, small and medium enterprises. Data was validated using Cronbach's Alpha test and the correlation between the variables were assessed using the Pearson's correlation test.

The findings of the study suggests that ERP usage has a highly positive effect on business performance and ERP usage is affected by user satisfaction in a low positive manner while ERP system complexity has a negative low effect on the ERP usage.

The paper here onwards builds the framework and hypotheses for the research while showing how the factors suggested the framework. Data collected survey and analysis also is depicted throughout the paper while the last section opens the discussion on how the study gradually concluded the outcomes.