

**CRITICAL SUCCESS FACTORS AFFECTING BUILD
OR BUY DECISIONS FOR IN-HOUSE USED
EMBEDDED SYSTEMS IN SRI LANKAN COMPANIES**

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

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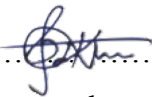
Sri Lanka

April 2021

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The above candidate has carried out research for the Masters thesis under my supervision.

.....

(Dr.Kutilla Gunasekera)

Signature of the Supervisor

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ABSTRACT

BUILD or BUY embedded systems, which are used in-house/within the company; which is inherently better for the requirement? The decision between these two types gets a lot of effort and focus in many companies around the globe. While some companies fail to meet their minimum expectations due to their decisions, some succeed and some even go well beyond their expected level. This dilemma has been there since companies started using embedded system inside their companies. While many factors may need to be considered when making this decision, identifying the critical success factors for BUILD or BUY decisions on in-house used embedded systems is of vital importance with the heightened competitiveness in Sri Lankan embedded industry. Managers can align their goals and strategize to avail from these critical success factors to propel the company to success while avoiding potential pitfalls.

Since many business owners are vague on the factors to favour when making such decisions, through this study the author identifies the critical success factors for BUILD or BUY decisions on in-house used embedded systems by interviewing Sri Lankan companies who made such build or buy decisions. When analysing the gathered data, Straussian Grounded Theory was used and a case-by-case account of each decision-making event is used to then identify: Decision Maker's Experience, Strategic Relevance, Decision Making Process, Vendor Selection, IT Workforce, and Cost to be the 6 critical factors to consider for a successful decision. The author then constructed recommendations with the above findings.

Keywords: critical success factors, Build or Buy decision, in-house, embedded systems

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TABLE OF CONTENTS

DECLARATION.....	I
COPYRIGHT STATEMENT	II
ABSTRACT.....	III
ACKNOWLEDGEMENT.....	IV
TABLE OF CONTENTS	V
LIST OF FIGURES	VII
LIST OF TABLES	VIII
LIST OF ABBREVIATIONS.....	IX
1 INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	2
1.3 Research Objectives	3
1.4 Outline	3
2 LITERATURE REVIEW.....	4
2.1 Embedded Systems.....	4
2.2 Making Build or Buy Decision in Embedded Industry.....	5
2.3 Making Build or Buy Decision in Other Areas.....	7
2.4 Factors Affecting Build or Buy Decisions	10
2.4.1 Strategic-Fit	10
2.4.2 Project Characteristics	11
2.4.3 Resources	11
2.4.4 Costs.....	12
3 RESEARCH METHODOLOGY	14
3.1 Research Problem.....	14
3.2 Research Method	14
3.3 Potential Factors	15
3.3.1 Dependent Factors	16
3.3.2 Independent Factors.....	16
3.4 Population and Sample Selection	18
3.5 Data Collection.....	19
3.5.1 Questions for Interview	19
3.6 Process of Data Analysis	20

3.6.1	Constant Comparative Analysis.....	20
3.6.2	Coding and Category	20
3.6.3	Memo Writing.....	20
3.7	Summary	20
4	DATA ANALYSIS	21
4.1	Participant Profiles	21
4.2	Data Analysis	21
4.3	Deriving Final Factors.....	26
4.3.1	Deriving “Decision Maker’s Experience” Factor.....	27
4.3.2	Deriving “Strategic Relevance” Factor.....	30
4.3.3	Deriving “Decision Making Process” Factors	37
4.3.4	Deriving “Vendor Selection” Factors	41
4.3.5	Deriving “IT Workforce” Factors.....	46
4.3.6	Deriving “Cost” Factors.....	50
4.4	Summary	54
5	RECOMMENDATIONS AND CONCLUSION	55
5.1	Conclusion.....	55
5.2	Research Limitations	58
5.3	Future Work	59
	REFERENCES	60
	APPENDIX A: INTERVIEW REQUEST LETTER	64
	APPENDIX B: INTERVIEW QUESTIONNAIRE	65
	APPENDIX C: REVISED INTERVIEW QUESTIONNAIRE.....	67
	APPENDIX D: FACTORS SELECTION MATRIX	70

LIST OF FIGURES

Figure 2.1 Build or buy process model for a Manufacturing Software Source: (Buchowicz, 1991)	8
Figure 2.2 Compare the financials of build versus buy Source: (National Instruments, 2014)	12
Figure 3.1 Population selection criterion	18
Figure 4.1 Coding process in qualitative analysis Source: (Pozzebon, Petrini, de Mello, & Garreau, 2011)	22
Figure 4.2 Validated “Decision Maker’s Experience” factor dimensions	27
Figure 4.3 Coding and cases frequency for “Decision Maker’s Experience”	30
Figure 4.4 Validated “Strategic Relevance” factor dimensions	31
Figure 4.5 Coding and cases frequency for "Strategic Relevance"	37
Figure 4.6 Validated "Decision Making Process" factor dimensions	37
Figure 4.7 Coding and frequency for "Decision Making Process"	41
Figure 4.8 Validated “Vendor Selection" factor dimensions	42
Figure 4.9 Coding and frequency for "Vendor Selection"	45
Figure 4.10 Validated "IT Workforce" factor dimensions	46
Figure 4.11 Coding and frequency for “IT Workforce”	49
Figure 4.12 Validated "Cost" factor dimensions	50
Figure 4.13 Coding and frequency for "Cost"	54
Figure 5.1 Critical success factors affecting BB decisions for in-house used embedded systems in Sri Lankan companies	58

LIST OF TABLES

Table 3.1 Dependent and independent factors	15
Table 3.2 Extraction of independent factors from deductive coding	16
Table 3.3 Determining sample size	19
Table 4.1 Participants and Build or Buy Events	21
Table 4.2 Codes and Cases frequency and percentages taken from ‘QDA Miner Lite’	23
Table 4.3 Selected coding/main categories taken from ‘QDA Miner Lite’	25
Table 4.4 Key factors identified from the study	26
Table 4.5 “Work Experience” Coding	28
Table 4.6 “Strategic Goals” Coding.....	31
Table 4.7 “External Environment” Coding.....	33
Table 4.8 "Corporate Culture" Coding.....	35
Table 4.9 "Redundant Solutions" Coding	38
Table 4.10 “Decision Responsibility” Coding.....	39
Table 4.11 “Clear-Cut Procedure” Coding	39
Table 4.12 “Vendor Availability” Coding	42
Table 4.13 “Vendor Selection Procedure” Coding	43
Table 4.14 “Vendor Relationship” Coding	43
Table 4.15 “Team Capability” Coding.....	46
Table 4.16 “Cost” Coding.....	50

LIST OF ABBREVIATIONS

BB	Build or Buy
COTS	Commercial Off-The-Shelf
DB	Database
IoT	Internet of Things
IS	Information System
PCB	Printed Circuit Boards
PHD	Doctor of Philosophy
R&D	Research and Development
ROI	Return on Investment
SIM	Subscriber Identification Module
USA	United States of America
USD	United States Dollar
WFH	Working From Home