

Enterprise IT Governance for Innovative Software Development Projects

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CERTIFICATE OF AUTHORSHIP/ORIGINALITY

I, Muhammad Awais Azmat Bajwa declare that this thesis, is submitted in fulfilment of the requirements for the award of PhD Degree, in the School of Computer Science, FEIT at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise reference or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

This research is supported by the Australian Government Research Training Program.

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*Dedication of this work goes to
My Mother and My Family*

Maria

Zuhair

Yousuf

&

Mustafa

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The journey of Ph.D. is different, difficult, tiring, challenging, creative, amazing and at the end satisfying. This can't be completed alone. I read an African saying long ago; 'if you want to go fast, go alone, if you want to go far, go together'. I realized it in my Ph.D. journey and experienced it really well. Several people helped, supported and contributed to my quest from the start to the end. Few were for a short time with me, most were there throughout the journey. This research took a lot of my family's time and it was not possible without the support of my family. I believe this is an achievement for all of those who were part of my struggle, all the way. I am thankful to Allah subahan hu wa talla, who give me strength and courage, put barakah in my work and helped to achieve it. It is only Allah's mercy that made it possible. I feel humble, grateful and honored. I pray to Allah that he helped me and the work is produced in this research to benefit others.

ABSTRACT

This research aims to understand Enterprise Information Technology (EIT) governance in Agile Software Development (ASD) projects by answering the following questions: what is EIT Governance, how does EIT governance lead ASD projects, and what impacts does EIT Governance have on ASD project outcomes? This research is vital for business enterprises seeking innovative approaches to improve the software delivery cycle. Agile as a modern software methodology supports innovation, shorter delivery cycles and implements through ASD projects. However, these projects are carried out under the EIT Governance structure, which was designed for legacy systems. ASD projects executed under the existing set of governance rules are not well-studied. This research is focused on covering this gap for academia and industry.

A working definition of EIT Governance is formulated in this research. Decision-making is recognized as the core of EIT Governance. Initial findings indicated that decision-making implementation clarity and decision-making distribution impact ASD projects, while decision-making tailoring had no impact. The research was further expanded to explore if any factor(s) were overlooked. A significant factor 'Team' was found concerning decision-making in ASD projects. Finally, the research concluded that team composition changes impact the team's decision-making ability, which impacts ASD project outcomes. A systematic literature review, survey methodology, and thematic analysis are used to conduct this research. The findings of this research are significant for academia and industry where team changes are not considered as a governance factor impacting ASD projects outcome.

CONTENTS

1 INTRODUCTION.....	1
1.1 RESEARCH DRIVER.....	2
1.2 RESEARCH AIM	3
1.3 RESEARCH QUESTIONS	4
1.4 SIGNIFICANCE.....	5
1.5 MY JOURNEY AND PROFESSIONAL EXPERIENCE.....	6
1.6 STRUCTURE OF THE THESIS	7
2 LITERATURE REVIEW.....	9
2.1 EIT GOVERNANCE DEFINITION	10
2.1.1 EIT Governance Definitions Review	16
2.1.2 EIT Governance Definitions Core Concepts	19
2.1.3 Evolved and Diverged in Time	24
2.1.4 External Environment Impact	26
2.1.5 Business Value and Decision Making	27
2.1.6 EIT Governance Definition Scope	28
2.1.7 EIT Governance Definition (for this Research).....	33
2.2 DECISION-MAKING IN AGILE SOFTWARE DEVELOPMENT PROJECTS.....	34
2.2.1 Decision-Making Implementation Clarity	34
2.2.2 Decision-Making Distribution	43
2.2.3 Decision-Making Tailoring.....	46
2.3 HYPOTHESES	53
2.3.1 Research Data Model	54
2.4 SECOND LITERATURE REVIEW	57
2.5 TEAM LITERATURE REVIEW	57
2.5.1 Team.....	58
2.5.2 Team in the organization.....	58
2.5.3 An Individual’s Value in Agile.....	58
2.5.4 Team’s Value in Agile	59
2.5.5 Performing Team characteristics	60
2.5.6 Team Transition Process	62
2.5.7 Group Composition.....	62

2.5.8 Group Development Realms	63
2.5.9 Group Development Stages	64
2.5.10 Natural-Group (team) Development Stages.....	65
2.6 TEAM COMPOSITION CHANGES	70
2.7 TEAM LITERATURE-REVIEW CONCLUSION.....	71
2.8 CHAPTER SUMMARY	71
3 RESEARCH DESIGN	73
3.1 INTRODUCTION.....	74
3.2 LITERATURE REVIEW	74
3.3 STAGE-1	75
3.3.1 Survey Research Methodology	76
3.3.2 Stage-1 Plan	78
3.3.3 Stage-1 Sample Selection.....	81
3.3.4 Stage-1 Results.....	82
3.4 STAGE-2.....	83
3.4.1 Open-ended Interview Methodology	83
3.4.2 Stage 2 Plan.....	84
3.4.3 Stage-2 Participants.....	85
3.4.4 Stage-2 Results.....	87
3.5 SECOND LITERATURE REVIEW	88
3.6 STAGE-3	88
3.6.1 Semi-Structured Interview Methodology.....	88
3.6.2 Stage 3 Plan.....	90
3.6.3 Stage-3 Participants.....	91
3.6.4 Stage-3 Results.....	93
3.7 CHAPTER SUMMARY	93
4 SURVEY RESULTS.....	94
4.1 PREPARATION.....	95
4.1.1 Questionnaire Development.....	95
4.1.2 Participation Confirmation.....	95
4.2 SURVEY DATA GATHERING.....	95
4.2.1 Survey Questionnaire Responses	96
4.2.2 Data Storage.....	96
4.3 ANALYSIS.....	96
4.3.1 Hypothesis – 1 Accepted.....	98

4.3.2 Hypothesis – 2 Accepted.....	99
4.3.3 Hypothesis – 3 Rejected.....	100
4.4 RESULTS.....	101
4.5 CHAPTER SUMMARY	101
5 QUALITATIVE RESULTS - TEAM FACTOR.....	102
5.1 PREPARATION.....	103
5.1.1 Interview Questions	103
5.1.2 Contact and Confirmations	103
5.1.3 Interview Data Gathering.....	103
5.2 STAGE-2 INTERVIEW DATA ANALYSIS	104
5.2.1 Demographic Discussion	104
5.2.2 Question by Question Data Analysis	106
5.3 STAGE-2 RESULTS.....	112
5.3.1 Theme Extraction.....	112
5.3.2 Emergent Themes	112
5.4 CHAPTER SUMMARY	113
6 QUALITATIVE RESULTS - TEAM COMPOSITION CHANGE.....	114
6.1 STAGE-3 INTERVIEW DATA ANALYSIS	115
6.1.1 Demographic Discussion	115
6.1.2 Project by Project Data View.....	118
6.1.3 Question by Question Analysis.....	118
6.2 STAGE-3 RESULTS.....	133
6.2.1 Theme Extraction.....	133
6.2.2 Project Demographic Findings.....	137
6.2.3 Other Team Factors.....	138
6.3 CHAPTER SUMMARY	139
7 DISCUSSION AND CONCLUSIONS	141
7.1 OVERVIEW	142
7.2 WHAT IS EIT GOVERNANCE?	143
7.2.1 Understanding Governance.....	143
7.2.2 EIT Governance Working Definition	144
7.3 WHAT IMPACT DOES EIT GOVERNANCE HAVE ON ASD PROJECTS?.....	146
7.3.1 Implementation Clarity, Distribution and Tailoring	146
7.3.2 New Finding ‘Team Factor’	149

7.4 WHAT ARE THE EIT GOVERNANCE FACTOR(S) WHICH IMPACT UPON AN ASD PROJECT’S OUTCOME?	150
7.4.1 The Role of the Team in Governance	152
7.5 EIT GOVERNANCE AND TEAM COMPOSITION CHANGES IN ASD PROJECTS	155
7.5.1 Misconception about Governance	156
7.5.2 Team Composition Change – A Governance Matter	157
7.6 FINAL CONCLUSIONS.....	157
8 APPENDICES	160
APPENDIX A – STAGE-1 SURVEY QUESTIONNAIRE	161
APPENDIX B – STAGE-1 RAW DATA COLLECTION FROM THE SURVEY	163
APPENDIX C – STAGE-2 OPEN ENDED INTERVIEW	164
APPENDIX D – STAGE-2 DATA ANALYSIS – TABLE - 1	165
APPENDIX E – STAGE-2 DATA ANALYSIS – TABLE - 2	175
APPENDIX F – STAGE-2 DATA ANALYSIS – TABLE - 3	184
APPENDIX G – STAGE-2 DATA ANALYSIS – TABLE - 4.....	195
APPENDIX H – STAGE-2 DATA ANALYSIS – TABLE - 5.....	207
APPENDIX I – STAGE-2 DATA ANALYSIS – TABLE - 6	208
APPENDIX J – STAGE-3 PHENOMENOLOGICAL INTERVIEW QUESTIONS	209
APPENDIX K – STAGE-3 PROJECT BY PROJECT ANALYSIS.....	211
APPENDIX L – STAGE-3 DATA ANALYSIS – COMMON IDEAS	224
APPENDIX M – STAGE-3 DATA ANALYSIS – FINDINGS	274
9 REFERENCES.....	352

LIST OF TABLES

TABLE 2-1 FILTERED SEARCH – IT GOVERNANCE DEFINITION	11
TABLE 2-2 FILTERED SEARCH – BUSINESS VALUE DEFINITION	13
TABLE 2-3 FILTERED SEARCH – DECISION MAKING DEFINITION.....	14
TABLE 2-4 FILTERED SEARCH – DECISION MAKING DEFINITION.....	15
TABLE 2-5 CONCEPT WORDS FROM GOVERNANCE DEFINITION.....	23
TABLE 2-6 CONCEPT WORDS FROM GOVERNANCE DEFINITION.....	26
TABLE 2-7 CONCEPT WORDS FROM GOVERNANCE DEFINITION.....	30
TABLE 2-8 KEY CONCEPT FREQUENCY AND COUNT IN EIT GOVERNANCE DEFINITION	35
TABLE 2-9 COUNT OF KEY CONCEPT IN EIT GOVERNANCE DEFINITION OVER THE TIME.....	37
TABLE 2-10 COUNT OF KEY CONCEPT IN EIT GOVERNANCE DEFINITION OVER THE TIME	40
TABLE 2-11 MEASUREMENT INDICATORS FOR PROJECT ORGANIZATION.....	49
TABLE 2-12 GOVERNANCE LAYERS.....	51
TABLE 4-1 SPEARMAN’S RANKED CORRELATION COEFFICIENT	97
TABLE 4-2 SPEARMAN CORRELATION RESULTS	97
TABLE 6-1 STAGE-3 QUESTION-5 PATTERNS EXTRACTION FROM VARIATIONS	119
TABLE 6-2 STAGE-3 QUESTION-6 PATTERNS EXTRACTION FROM VARIATIONS	120
TABLE 6-3 STAGE-3 QUESTION-7 PATTERNS EXTRACTION FROM VARIATIONS	122
TABLE 6-4 STAGE-3 QUESTION-8 PATTERNS EXTRACTION FROM VARIATIONS	123
TABLE 6-5 STAGE-3 QUESTION-10 PATTERNS EXTRACTION FROM VARIATIONS.....	125
TABLE 6-6 STAGE-3 QUESTION-11 PATTERNS EXTRACTION FROM VARIATIONS.....	126
TABLE 6-7 STAGE-3 QUESTION-12 PATTERNS EXTRACTION FROM VARIATIONS.....	130
TABLE 6-8 STAGE-3 QUESTION-7 THEME EXTRACTED FROM PATTERNS.....	134
TABLE 6-9 STAGE-3 QUESTION-11 THEME EXTRACTED FROM PATTERNS.....	135
TABLE 6-10 STAGE-3 QUESTION-7 THEME EXTRACTED FROM PATTERNS.....	136

LIST OF FIGURES

FIGURE 1-1 THESIS CHAPTERS READING GUIDE.....	8
FIGURE 2-1 CONCEPT WORDS LINK WITH KNOWLEDGE.....	28
FIGURE 2-2 KEY CONCEPT USED IN VARIOUS DEFINITIONS.....	29
FIGURE 2-3 CONCEPT WORDS IN SEGMENTS.....	31
FIGURE 2-4 KEY CONCEPT IN DEFINITION LINKED WITH EIT GOVERNANCE.....	36
FIGURE 2-5 KEY CONCEPT LINK TO 'IT GOVERNANCE'.....	38
FIGURE 2-6 KEY CONCEPT LINK TO 'GOVERNANCE OF IT'.....	39
FIGURE 2-7 GOVERNANCE LAYERS, KEY CONCEPT OVERLAPPING AND FUNCTIONAL BOUNDARIES.....	42
FIGURE 2-8 FRAMEWORK AND PROCESSES AT DIFFERENT LEVELS OF GOVERNANCE.....	45
FIGURE 2-9 PORTFOLIO, PROGRAM AND PROJECTS.....	48
FIGURE 2-10 GOVERNANCE LAYERS FOR PROJECTS.....	52
FIGURE 2-11 RESEARCH MODEL - HYPOTHESIS.....	54
FIGURE 2-12 RESEARCH MODEL - DATA ELEMENTS.....	55
FIGURE 2-13 RESEARCH MODEL - DATA ITEMS.....	56
FIGURE 2-14 TRANSITION FROM AN INDIVIDUAL TO A TEAM.....	60
FIGURE 2-15 SELF-ORGANIZED TEAM CHARACTERISTICS.....	61
FIGURE 2-16 GROUP DEVELOPMENT REALMS.....	64
FIGURE 2-17 GROUP DEVELOPMENT STAGES.....	65
FIGURE 2-18 NATURAL GROUP DEVELOPMENT STAGES.....	66
FIGURE 3-1 CRITICAL VALUES CHART (RAMSEY 1989).....	78
FIGURE 3-2 QUANTITATIVE RESEARCH PLAN – STAGE-1.....	80
FIGURE 3-3 SAMPLE SET CHARACTERISTICS.....	81
FIGURE 3-4 QUALITATIVE RESEARCH PLAN – (STAGE-2).....	85
FIGURE 3-5 PARTICIPANTS DEMOGRAPHY.....	86
FIGURE 3-6 QUALITATIVE RESEARCH PLAN (THEMATIC ANALYSIS – TEAM).....	91
FIGURE 3-7 STAGE-3 PARTICIPANTS DEMOGRAPHY.....	92
FIGURE 4-1 HYPOTHESIS RESULT – CLARITY VS PROJECT SUCCESS.....	98
FIGURE 4-2 HYPOTHESIS RESULT – DISTRIBUTION VS PROJECT SUCCESS.....	99
FIGURE 4-3 HYPOTHESIS RESULT – TAILORING VS PROJECT SUCCESS.....	100
FIGURE 5-1 PARTICIPANTS DEMOGRAPHY.....	104
FIGURE 5-2 STAGE-2 THEME EXTRACTION.....	112
FIGURE 6-1 STAGE-3 PARTICIPANTS DEMOGRAPHY.....	116
FIGURE 6-2 STAGE-3 STRUCTURE AND TEAM DEVELOPMENT.....	117
FIGURE 7-1 BLINDFOLDED MEN STORY.....	144
FIGURE 7-2 FRAMEWORK AND PROCESS AT DIFFERENT LEVELS OF GOVERNANCE (REFERENCE FORM CH-2).....	147
FIGURE 7-3 GOVERNANCE IMPLEMENTATION AND IMPACT DIRECTION (NEW UPDATED FIGURE).....	148
FIGURE 7-4 GOVERNANCE IMPLEMENTATION AND IMPACT DIRECTION WITH TEAM (NEW UPDATED FIGURE).....	150
FIGURE 7-5 ASD PROJECT AND TEAM IMPACT (PART TAKEN FROM FIGURE 7.4).....	153

