

**EVALUATION OF IT GOVERNANCE WITH A FOCUS ON BUSINESS
APPLICATION CONTINUITY USING COBIT 2019 :
A CASE STUDY IN YKBUT GROUP**

By

BAGUS FIRMANSYAH
22451024

MASTER'S DEGREE
in

MASTER OF INFORMATION TECHNOLOGY
FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY



SWISS GERMAN UNIVERSITY
The Prominence Tower
Jalan Jalur Sutera Barat No. 15, Alam Sutera
Tangerang, Banten 15143 - Indonesia

Revision after the Thesis Defense on 28 August 2025

STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.



Bagus Firmansyah

Student

August, 28th 2025

Date

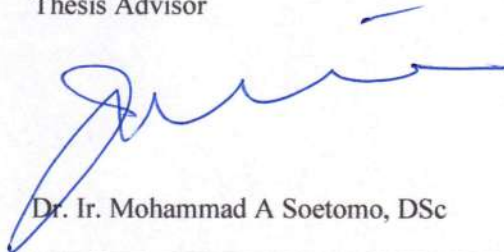
Approved by:



Dr. Ir. Heru Purnomo Ipung, M.Eng

Thesis Advisor

Date



Dr. Ir. Mohammad A Soetomo, DSc

Thesis Co-Advisor

Aug 28th, 25

Date

Dr. Maulahikmah Galinium, S.Kom, M.Sc

Dean

Date

ABSTRACT

EVALUATION OF IT GOVERNANCE WITH A FOCUS ON BUSINESS APPLICATION CONTINUITY USING THE COBIT 2019 FRAMEWORK : A CASE STUDY IN YKBUT GROUP

By

Bagus Firmansyah

Dr. Ir. Heru Purnomo Ipung, M.Eng, Advisor

Dr. Ir. Mohammad A Soetomo, DSc, Co-Advisor

SWISS GERMAN UNIVERSITY

This study aims to evaluate the current state of IT governance at YKBUT Group, identify capability gaps against best practices, and propose an improved governance model based on the COBIT 2019 framework. A mixed-method approach was applied, combining qualitative interviews with IT stakeholders and quantitative capability assessments across key governance objectives, including EDM03 (Ensured Risk Optimization), APO12 (Managed Risk), APO13 (Managed Security), BAI10 (Managed Configuration), DSS04 (Managed Continuity), and DSS05 (Managed Security Services). The capability assessment revealed that governance all process areas are at a capability level 2 Partially Achieved and lowest with EDM03 scoring 11.1%, indicating the process is not yet achieved according to COBIT 2019 standards.

To validate the proposed governance framework, a validation was conducted involving both academic and industry experts. The results confirmed that the framework is relevant, feasible, and strategically aligned with YKBUT Group's IT goals. This research contributes a tailored governance solution focused on strengthening business application continuity, offering a practical reference for mid-sized organizations navigating similar challenges.

Keywords : IT Governance, COBIT 2019, Business Application Continuity, Capability Assessment.



DEDICATION

I dedicate this works for the anyone in the future who focusing IT Governance.



ACKNOWLEDGEMENTS

Thank to members of my IT Team was support me to colleting all data what I need, My Director in my Company for their support to give me chance to go to Study on this Master Degree, All Director in Group for facilitate open discussion. Finally, I would like rethank to all Lecturer in SGU From the beginning and the end to teach me to enhance my abilities to not only complete a degree but to complete it with excellence.



LIST OF CONTENT

Content	Page
STATEMENT BY THE AUTHOR.....	2
ABSTRACT.....	3
DEDICATION.....	5
ACKNOWLEDGEMENTS.....	6
LIST OF CONTENT	7
LIST OF FIGURES	10
LIST OF TABLES.....	11
CHAPTER 1 – INTRODUCTION	14
1.1. Background.....	14
1.2. Research Problem	16
1.3. Research Objective	16
1.4. Research Question	16
1.5. Hypothesis.....	17
1.6. Research Scope and Limitation.....	17
1.7. Significance of Study.....	17
1.8. Thesis Structure	18
CHAPTER 2 - LITERATURE REVIEW	19
2.1 Introduction.....	19
2.2 Organization Profile.....	19
2.3 Organization Application Business Assets	20
2.4 Definition of Continuity in Business Applications	21
2.5 Importance of Business Applications	21
2.6 IT Governance	22
2.6.1 Governance and Strategy Layer.....	22
2.6.2 The Role of COBIT in IT Governance	23
2.7 Explanation of Framework COBIT	23
2.7.1 COBIT 2019.....	23
2.7.2 Governance and Management Objectives.....	25
2.7.3 Goal Cascade	26
2.7.4 Managing Performance of Processes	27
2.7.5 Designing a Tailored Governance System.....	29

2.8 Challenges in Application Management	33
2.9 Related Work	33
2.10 Summarizing method & framework	35
CHAPTER 3 - RESEARCH METHODS	37
3.1 Framework Overview	37
3.2 Problem Identification	38
3.3 Literature Review.....	38
3.4 Observation & Interview.....	39
3.5 Standard Benchmark.....	39
3.5.1 Proposed Framework Chapter 2 / Governance Layer.....	39
3.6 Evaluation	41
3.6.1 Capability Assesment.....	41
3.6.2 Gap Analysis.....	41
3.7 Validation.....	41
3.8 Design Improvement.....	43
CHAPTER 4 – RESULT & DISCUSSION.....	44
4.1. Introduction.....	44
4.2 Conclude the Governance System Design.....	44
4.2.1 EDM03 Ensured risk optimization	44
4.2.2 APO12 Managed risk.....	44
4.2.3 APO13 Managed security	45
4.2.4 BAI10 Managed configuration	45
4.2.5 DSS04 Managed continuity	45
4.2.6 DSS05 Managed security services.....	46
4.3 Evaluation	46
4.3.1 Capability Assesment.....	46
4.3.2 Analysis activity of Capability Levels	55
4.3.3 Capability Level Calculation	58
4.3.4 Final Conclusion Capability Level Objective.....	86
4.4 Gap Analysis.....	88
4.4.1 Analysis as is condition	88
4.4.2 Analysis to be condition.....	89
4.4.3 Gap.....	90
4.5 Validation.....	91
4.5.1 Overview.....	91
4.5.2 Validation Methodology	91

4.5.3 Participants.....	91
4.5.4 Validation Instruments.....	92
4.6 Validation Results.....	93
4.6.1 Quantitative Results	93
4.6.2 Qualitative Feedback.....	94
4.7 Expert Agreement	96
4.8 Conclusion of Validation	96
CHAPTER 5 – CONCLUSIONS AND RECOMMENDATIONS.....	97
5.1. Conclusions.....	97
5.3. Future Works	98
5.3. Recommendations.....	98
REFERENCES	100
APPENDICES	102
CURRICULUM VITAE.....	110



LIST OF FIGURES

Figures	Page
Figure 1. 1 Fishbone Diagram.....	16
Figure 2. 1 YKBUT Group Positioning.....	19
Figure 2. 2 Business Application Assets.....	20
Figure 2. 3 The Context of Enterprise Governance of I&T.....	24
Figure 2. 4 Cobit Core Model.....	26
Figure 2. 5 Cobit Goal Cascade.....	27
Figure 2. 6 Capability Levels for Processes.....	28
Figure 2. 7 Summarizing of Method & Framework.....	36
Figure 3. 1 Research Framework.....	38
Figure 3. 2 Validation Process.....	42
Figure 4. 1 Derived Practice EDM03.....	44
Figure 4. 2 Derived Practice APO12.....	45
Figure 4. 3 Derived Practice APO13.....	45
Figure 4. 4 Derived Practice BAI10.....	45
Figure 4. 5 Derived Practice DSS04.....	46
Figure 4. 6 Derived Practice DSS05.....	46
Figure 4. 7 RACI for EDM03.....	47
Figure 4. 8 RACI for APO12.....	48
Figure 4. 9 RACI for APO13.....	50
Figure 4. 10 RACI for BAI10.....	51
Figure 4. 11 RACI for DSS04.....	53
Figure 4. 12 RACI for DSS05.....	54
Figure 5. 1 Roadmap Proposed From Partial level to Full Achieved level 2.....	99

LIST OF TABLES

Table 2. 1 Stakeholder Needs	29
Table 2. 2 Stakeholder Needs Cascade to Enterprise Goals	30
Table 2. 3 Enterprise Goals Cascade to Alignment Goals	30
Table 2. 4 Alignment Goals to Governance and Management Objectives	31
Table 2. 5 Refining Alignment Goals to Governance & Management Objective Primary.....	32
Table 2. 6 Summarizes the comparison of other related studies.....	34
Table 4. 1 Functional EDM03 RACI.....	47
Table 4. 2 Respondent EDM03	48
Table 4. 3 Functional APO12 RACI.....	48
Table 4. 4 Respondent APO12.....	49
Table 4. 5 Functional APO13 RACI.....	50
Table 4. 6 Respondent APO13.....	51
Table 4. 7 Functional for BAI10	52
Table 4. 8 Respondent BAI10.....	52
Table 4. 9 Functional DSS04	53
Table 4. 10 Respondent DSS04	54
Table 4. 11 Functional DSS05	55
Table 4. 12 Respondent DSS05	55
Table 4. 13 Capability Level Cobit 2019.....	56
Table 4. 14 Rating Process Capability	57
Table 4. 15 Results and Data Processing of Capability Questionnaire EDM03 Respondent 1	59
Table 4. 16 Results and Data Processing of Capability Questionnaire EDM03 Respondent 2.....	59
Table 4. 17 Results and Data Processing of Capability Questionnaire EDM03 Respondent 3.....	60
Table 4. 18 EDM03 Capability Calculation Recap.....	61

Table 4. 19 Work of Product EDM03.....	62
Table 4. 20 Results and Data Processing of Capability Questionnaire APO12	
Respondent 1.....	63
Table 4. 21 Results and Data Processing of Capability Questionnaire APO12	
Respondent 2.....	64
Table 4. 22 Results and Data Processing of Capability Questionnaire APO12	
Respondent 3.....	64
Table 4. 23 Capability Calculation Recap APO12	65
Table 4. 24 Work of Product APO12.....	66
Table 4. 25 Results and Data Processing of Capability Questionnaire APO13	
Respondent 1.....	68
Table 4. 26 Results and Data Processing of Capability Questionnaire APO13	
Respondent 2.....	68
Table 4. 27 Results and Data Processing of Capability Questionnaire APO13	
Respondent 3.....	69
Table 4. 28 Capability Calculation Recap APO13	70
Table 4. 29 Work of Product APO13.....	71
Table 4. 30 Results and Data Processing of Capability Questionnaire BAI10.....	72
Table 4. 31 Results and Data Processing of Capability Questionnaire BAI10.....	73
Table 4. 32 Capability Calculation Recap BAI10.....	73
Table 4. 33 Work of Product BAI10.....	74
Table 4. 34 Results and Data Processing of Capability Questionnaire DSS04	75
Table 4. 35 Results and Data Processing of Capability Questionnaire DSS04	76
Table 4. 36 Results and Data Processing of Capability Questionnaire DSS04	78
Table 4. 37 Capability Calculation Recap DSS04	79
Table 4. 38 Work of Product DSS04	79
Table 4. 39 Results and Data Processing of Capability Questionnaire DSS05	81
Table 4. 40 Results and Data Processing of Capability Questionnaire DSS05	82
Table 4. 41 Results and Data Processing of Capability Questionnaire DSS05	83
Table 4. 42 Capability Calculation Recap DSS05	84
Table 4. 43 Work of Product DSS05	85
Table 4. 44 Final Conclusion Capability Level Objective.....	87
Table 4. 45 Analysis As Is Condition	88

Table 4. 46 Analysis To Be Condition.....	90
Table 4. 47 Gap Analysis	91
Table 4. 48 Participant of Validation	91
Table 4. 49 Quantitatif Feedback Result.....	93
Table 4. 50 Validation Conclution.....	94

