



**DIGITAL TRANSFORMATION IN HARVESTING OPERATIONS:
A WEB SOLUTION FOR PT. JHONLIN BATU MANDIRI**

UNDERGRADUATE THESIS

**Submitted as one of the requirements to obtain
Sarjana Komputer (S.Kom.)**

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ABSTRACT

Manual processes on agricultural plantations regularly lead to inefficiencies, inaccuracies in data collection, and delayed decisions making. PT. Jhonlin Batu Mandiri, a company engaged in sugarcane cultivation and harvesting, previously relied solely on paper-based workflows for sub-block distribution tasks, harvest monitoring, and vendor compensation allocation. The solution enables real-time oversight, minimizes manual errors, and expedites decision making across departments. It also improves transparency in vendor performance and financial processes by offering direct access to authenticated harvest data and remuneration records. Through the creation of a web-based Harvest Management System, this project aims to digitally turn these activities into an integrated, real-time digital platform. The system features functions like digital release of work permits, management of harvest reports, activity tracking across divisions, and automated vendor payment calculations. Distinct users—administrators, vendors, foremen, and financial officers—are provided defined access through role-specific authorizations, ensuring security and usability. Constructed using modern web technologies combined with GeoJSON for geospatial integration capabilities, the HMS can be accessed from both desktop computers and mobile devices. The solution enables real-time oversight, minimizes manual errors, and expedites decision making across departments. Through this project, PT JBM can boost operational efficiency, reduce paperwork, and adopt a data-driven approach to plantation administration. This individual research contributes to the digital transformation of conventional industries and demonstrates how technology can be successfully applied to solve domain-specific challenges in the agricultural sector.

TABLE OF CONTENTS

STATEMENT OF ORIGINALITY.....	iii
SCIENTIFIC PUBLICATION APPROVAL FOR ACADEMIC INTEREST.....	iv
ADVISOR APPROVAL FOR JOURNAL/INSTITUTION’S REPOSITORY.....	v
SIMILARITY INDEX REPORT.....	vi
ABSTRACT.....	vii
DEDICATION.....	viii
ACKNOWLEDGMENTS.....	ix
TABLE OF CONTENTS.....	x
LIST OF TABLES.....	xiv
LIST OF FIGURES.....	xvii
CHAPTER I.....	1
PROPOSAL.....	1
1.1. PROBLEM FORMULATION.....	1
1.1.1. Background of the Problem.....	1
1.1.2. Problem Statement.....	3
1.1.3. Objective.....	3
1.1.4. Problems from a Customer Perspective.....	4
1.2. PROBLEM CONSTRAINT ANALYSIS.....	7
1.2.1. Aspect 1: Optimization Potential Through Digitalization.....	7
1.2.2. Aspect 2: Improving Vendor Management Efficiency.....	7
1.2.3. Aspect 3: Accuracy and Transparency.....	8
1.3. PROBLEM FUNCTIONAL ANALYSIS.....	8
1.3.1. Functionalities 1: Sub Block Information and Allocation.....	8
1.3.2. Functionalities 2: GIS Sub Block Map Function.....	9
1.3.3. Functionalities 3: Analytical Dashboard Function.....	9
1.3.4. Functionalities 4: Vendor Information Function.....	9
1.3.6. Functionalities 6: Activity Tracking Function.....	10
1.3.7. Functionalities 7: Approval Workflow function.....	10
1.3.8. Functionalities 8: Calculation and Vendor Payment Function.....	10
1.4. SOLUTION SELECTION.....	11
1.4.1. Alternative Solution 1: Simple Spreadsheet Management.....	11
1.4.2. Alternative Solution 2: Barcode Mobile Application System to Manage Harvesting Activities.....	12
1.4.3. Alternative Solution 3: Integrated ERP Web-Based Harvest Management System.....	12
1.4.4. Solution Selection.....	13
1.5. SOLUTION USAGE SCENARIOS.....	14

1.5.1. Sub Block Information and Allocation Function.....	14
1.5.2. GIS Sub Block Map Function.....	14
1.5.3. Analytical Dashboard Function.....	15
1.5.4. Vendor Information Function.....	15
1.5.5. Foreman Information Function.....	15
1.5.6. Activity Tracking Function.....	15
1.5.8. Calculation and Vendor Payment Function.....	16
1.6. DEVELOPMENT EFFORT.....	16
1.6.1. Man-months.....	16
1.6.2. Machine-months.....	17
1.6.3. Development tools.....	17
1.6.4. Test Equipment.....	17
1.6.5. Expert needs.....	17
1.6.6. Cost estimation.....	18
1.6.7. Timelines.....	18
1.7. CONCLUSION.....	26
CHAPTER II.....	28
SPECIFICATION.....	28
2.1 EXISTING AND PROPOSED SYSTEM.....	28
2.1.1 Existing Business Process.....	28
2.1.2 Proposed Business Process.....	29
2.2 GLOBAL DESCRIPTION OF THE PRODUCT.....	31
2.2.1. Main Functionality.....	31
2.2.2. User Characteristics.....	33
2.2.3. Constraints.....	44
2.2.4. Product Development Environment.....	46
2.3 REQUIREMENT ANALYSIS.....	48
2.3.1 External Interface.....	48
2.3.2 Functional Description.....	49
2.3.3 Data Requirement From User's Perspective.....	76
2.3.4 Functional Requirement From User's Perspective.....	105
2.3.5 Non-Functional Requirement.....	134
2.4 SPECIFICATION TESTING.....	134
CHAPTER III.....	136
DESIGN.....	136
3.1 ALTERNATIVE SOLUTION DESIGNS.....	136
3.1.1 Alternative Solution 1: Simple Spreadsheet Management.....	136
3.1.2 Alternative Solution 2: Barcode Mobile Application System to Manage Harvesting Activities.....	138

3.1.3 Alternative Solution 3: Integrated ERP Web-Based Harvest Management System.....	140
3.2 RATIONAL/SYSTEMATIC DESIGN.....	146
3.2.1. Comparison Table.....	146
3.2.2. Quantitative Solution Selection.....	146
3.2.3. Solution Selection.....	149
3.3 HIERARCHICAL/ITERATIVE DESIGN.....	151
3.3.1 Data Flow Diagram Harvest Management System.....	151
3.3.2 Interface Information Between Block Diagram.....	171
3.3.3 Waterfall Methodology.....	172
3.3.4 Detail of Component and Library Used.....	174
3.3.5 Unified Modeling Language 2.0.....	176
3.4 VERIFICATION DEMONSTRATION AND PROOF OF DESIGN PROCESS.....	210
3.5 STANDARDS USED.....	212
3.6 IMPLEMENTATION AND TESTING PLANS.....	213
3.6.1 Gantt chart developing and testing HMS.....	213
3.6.2 S-Chart planning during developing and testing HMS.....	213
CHAPTER IV.....	215
IMPLEMENTATION.....	215
4.1 DESIGN IMPLEMENTATION.....	215
4.1.1 Functions/Procedure/Class implementation.....	215
4.1.2 Database Implementation.....	288
4.1.3 User Interface implementation.....	296
4.1.4 Integration among every module.....	311
4.1.5 Implementation Verification.....	756
4.2. PRODUCT DISPLAY.....	769
4.2.1 Software Product Display.....	769
4.2.2 Hardware Product Display.....	774
4.3. COMPONENT COST ANALYSIS.....	774
4.4. MANUAL GUIDE.....	774
4.4.1 System Build Documentation From The Source.....	774
4.5. USER GUIDE PER USER ROLE.....	849
4.6. VIDEO DEMONSTRATION.....	855
CHAPTER V.....	857
TESTING.....	857
5.1 RESTATE THE PROBLEM AS STATED IN THE F100 DOCUMENT.....	857
5.2 RESTATE THE SPECIFICATION STATED IN THE F200 DOCUMENT.....	859
5.2.1 Main Functionally.....	859
5.2.2 User Characteristics.....	861
5.2.5 Product Operational Environment.....	872

5. 3 FUNCTIONAL TESTING.....	874
5.3.1 Testing result of every function in the specification (Based on Part C in F100, Part C no. 4 in F200, Part D in F200).....	874
5.3.2 Present qualitative testing.....	912
5. 4 TESTING OTHER SPECIFICATIONS.....	916
5.4.1 Non-functional specifications such as size, weight, etc., that are included in the document (PART C NO. 5 F200).....	916
5.4.2 A photo/recording of the test is shown in the document.....	918
REFERENCES.....	936

LIST OF TABLES

Table 1.1 Development Effort.....	16
Table 1.2 Cost Estimation.....	18
Table 1.3 Timeline.....	18
Table 2.1 User Characteristics.....	33
Table 2.2 Use Case Scenario View Personal Information.....	55
Table 2.3 Use Case Scenario Set Dashboard Analytics.....	56
Table 2.4 Use Case Scenario View Dashboard.....	57
Table 2.5 Use Case Scenario Manage User & Access Control.....	57
Table 2.6 Use Case Scenario Manage Vendor Data.....	58
Table 2.7 Use Case Scenario Manage Vehicle Data.....	59
Table 2.8 Use Case Scenario Manage Foreman Data.....	59
Table 2.9 Use Case Scenario Upload and View Plantation Maps.....	60
Table 2.10 Use Case Scenario Manage Sub-blocks and Status.....	60
Table 2.11 Use Case Scenario Manage Harvest Sub-blocks.....	61
Table 2.12 Use Case Scenario Upload Harvest Sub-block.....	62
Table 2.13 Use Case Scenario View Sub-block Information.....	63
Table 2.14 Use Case Add/Edit/View SPT.....	64
Table 2.15 Use Case Scenario Approve SPT.....	64
Table 2.16 Use Case Scenario View and Confirm SPT.....	65
Table 2.17 Use Case Scenario Add, edit, upload LKT.....	66
Table 2.18 Use Case Scenario Approve LKT.....	67
Table 2.19 Use Case Scenario View LKT.....	67
Table 2.20 Use Case Scenario Manage Tracking Activity.....	68
Table 2.21 Use Case Scenario View Tracking Activity.....	69
Table 2.22 Use Case Scenario Input Weigh Result / Scan Barcode.....	69
Table 2.23 Use Case Scenario Manage BAPP (Generate and Submit BAPP).....	70
Table 2.24 Use Case Scenario Approve BAPP.....	71
Table 2.25 Use Case Scenario Approve BAPP Recap.....	73
Table 2.26 Use Case Scenario Calculate Vendor Payment.....	74
Table 2.27 Use Case Scenario Set Payment Notification.....	75
Table 2.28 Use Case Scenario View Payment.....	75
Table 2.29 Sub-Blocks.....	78
Table 2.30 Harvest Sub Block.....	79
Table 2.31 Foreman Sub Block.....	80
Table 2.32 Foreman.....	81
Table 2.33 Maps.....	81

Table 2.34 Vendor.....	82
Table 2.35 SPT.....	83
Table 2.36 Vehicle.....	85
Table 2.38 Jenis Unit.....	86
Table 2.39 Hasil Tebang.....	86
Table 2.40 LKT.....	87
Table 2.41 Tracking Activity.....	89
Table 2.42 BAPP.....	90
Table 2.43 Role.....	92
Table 2.44 Model Has Role.....	92
Table 2.45 Model Has Permission.....	93
Table 2.46 Permission.....	93
Table 2.47 Relations with cardinality of each Relation.....	103
Table 3.1 Comparison.....	146
Table 3.2 Rubrics.....	146
Table 3.3 Alternative Solution 1.....	147
Table 3.4 Alternative Solution 2.....	148
Table 3.5 Alternative Solution 3.....	149
Table 3.6 Interface Information Between Block Diagram.....	171
Table 3.7 Verification Demonstration and Proof of Design Process.....	210
Table 3.8 S-Chart.....	213
Table 5.1 User Characteristics.....	861
Table 5.2 Sub Block Information and Allocation.....	874
Table 5.3 GIS Sub Block Maps Function.....	875
Table 5.4 Analytical Dashboard Function.....	876
Table 5.5 Vendor Information Function.....	877
Table 5.6 Foreman Information Function.....	877
Table 5.7 Activity Tracking Function.....	878
Table 5.8 Approval Workflow Function (To-do Approval).....	879
Table 5.9 Calculation and Vendor Payment Function.....	881
Table 5.10 View Personal Information.....	882
Table 5.11 View Dashboard.....	883
Table 5.12 Add, Edit, Delete User Account Registration.....	883
Table 5.13 Show and Download Vendor Barcode.....	885
Table 5.14 Add, Edit, Delete Vendor Data.....	886
Table 5.15 Add, Edit, Delete Vendor Vehicle Data.....	887
Table 5.16 Add, Edit, Delete Foreman Data.....	889
Table 5.17 Add, edit, confirm, delete SPT.....	891
Table 5.18 Add, edit, delete sub block.....	893

Table 5.19 Add, edit, delete status sub block.....	894
Table 5.20 Add, edit, delete foreman sub block.....	897
Table 5.21 Add, edit, delete harvest sub block.....	899
Table 5.22 Add, edit, delete maps sub block.....	901
Table 5.23 Add, edit, confirm, delete LKT.....	903
Table 5.24 Add, edit, delete harvesting result data.....	905
Table 5.25 View tracking activity.....	906
Table 5.26 The system should be easy to use without bug or lagging.....	907
Table 5.27 The system must show real-time data of sub-blocks currently being harvested.....	909
Table 5.28 The system should display the available vendors when the SPT is to be submitted.....	910
Table 5.29 The system must display the LKT data list to create the Hasil Tebangan data.....	911
Table 5.30 Present qualitative testing.....	912
Table 5.31 The system must operate in real-time to maintain optimal operation.....	916
Table 5.31 The system must implement role-based access control (RBAC) to restrict access based on user roles.....	917
Table 5.33 The system must be accessible via desktop and mobile devices with responsive layout.....	917
Table 5.34 A photo/recording of the test is shown in the document.....	918

LIST OF FIGURES

Figure 2.1 Existing Business Process.....	29
Figure 2.2 Proposed Business Process.....	31
Figure 2.3 Use Case Diagram - 1.....	49
Figure 2.4 Use Case Diagram - 2.....	50
Figure 2.5 Use Case Diagram - 3.....	51
Figure 2.6 Use Case Diagram - 4.....	52
Figure 2.7 Use Case Diagram - 5.....	53
Figure 2.8 Use Case Diagram - 6.....	54
Figure 2.9 Use Case Diagram - 7.....	55
Figure 2.10 ERD.....	77
Figure 2.10 Context Diagram.....	105
Figure 2.11 View Personal Information.....	106
Figure 2.12 View Dashboard.....	107
Figure 2.13 Add, Edit, Remove User Account Registration.....	108
Figure 2.14 Show & Download Vendor Barcode.....	109
Figure 2.15 Add, Edit, Remove Vendor.....	110
Figure 2.16 Add, Edit, Delete Vendor Vehicle.....	111
Figure 2.17 Add, Edit, Remove Foreman.....	112
Figure 2.18 View SPT.....	113
Figure 2.19 Approve SPT.....	114
Figure 2.20 Add, Edit, Remove SPT.....	115
Figure 2.21 View & Edit Harvest Activity Tracking.....	116
Figure 2.22 View LKT.....	117
Figure 2.23 View Payment.....	118
Figure 2.24 Add, Edit, Upload LKT.....	119
Figure 2.25 View & Approve BAPP.....	120
Figure 2.26 Calculate Payment Vendor.....	121
Figure 2.27 Set Payment Notification.....	122
Figure 2.28 Edit, Upload Map.....	123
Figure 2.29 Add, Edit, Remove Sub Block.....	124
Figure 2.30 Add, Edit, Remove Foreman Sub Block.....	125
Figure 2.31 Add, Edit, Remove Harvest Sub Block.....	126
Figure 2.32 View Sub Block Information.....	127
Figure 2.33 View Maps.....	128
Figure 2.34 View Harvest Result.....	129
Figure 2.35 Add, Edit, Delete Harvest Result.....	130

Figure 2.36 DFD Level 1 Harvest Management System.....	131
Figure 3.1 Alternative Solution 1 Block Diagram Level 0.....	136
Figure 3.2 Alternative Solution 1 Block Diagram Level 1.....	136
Figure 3.3 Alternative Solution 2 Block Diagram Level 0.....	138
Figure 3.5 Alternative Solution 3 Block Diagram Level 0.....	140
Figure 3.6 Alternative Solution 3 Block Diagram Level 1.....	141
Figure 3.7 DFD Level 1 Harvest Management System.....	151
Figure 3.8 DFD Level 2 - 1. Harvest Planning.....	152
Figure 3.9 DFD Level 2 - 2. Harvest Execution.....	152
Figure 3.10 DFD Level 2 - 3. Harvest Recording.....	153
Figure 3.11 DFD Level 2 - 4. Report Processing.....	153
Figure 3.12 DFD Level 2 - 5. Payment Processing.....	154
Figure 3.13 DFD Level 3 - Add Vendor Data.....	154
Figure 3.14 DFD Level 3 - Edit Vendor Data.....	155
Figure 3.15 DFD Level 3 - Delete Vendor Data.....	155
Figure 3.16 DFD Level 3 - Add Vendor Vehicle Data.....	156
Figure 3.17 DFD Level 3 - Edit Vendor Vehicle Data.....	156
Figure 3.18 DFD Level 3 - Delete Vendor Vehicle Data.....	157
Figure 3.19 DFD Level 3 - Add Foreman Data.....	157
Figure 3.20 DFD Level 3 - Edit Foreman Data.....	158
Figure 3.21 DFD Level 3 - Delete Foreman Data.....	158
Figure 3.22 DFD Level 3 - Add Sub Block Data.....	159
Figure 3.23 DFD Level 3 - Edit Sub Block Data.....	159
Figure 3.24 DFD Level 3 - Delete Sub Block Data.....	160
Figure 3.25 DFD Level 3 - Add Status Sub Block.....	160
Figure 3.26 DFD Level 3 - Edit Status Sub Block Data.....	161
Figure 3.27 DFD Level 3 - Delete Status Sub Block Data.....	161
Figure 3.28 DFD Level 3 - Add Foreman Sub Block Data.....	162
Figure 3.29 DFD Level 3 - Edit Foreman Sub Block Data.....	162
Figure 3.30 DFD Level 3 - Edit Foreman Sub Block Data.....	163
Figure 3.31 DFD Level 3 - View Hasil Tebangan.....	163
Figure 3.32 DFD Level 3 - Add User Account Registration.....	164
Figure 3.33 DFD Level 3 - Delete User Account Data.....	164
Figure 3.34 DFD Level 3 Update Vendor Payment.....	165
Figure 3.35 DFD Level 3 Add Harvest Sub Block Data.....	165
Figure 3.36 DFD Level 3 Update Harvest Sub Block Data.....	166
Figure 3.37 DFD Level 3 Delete Harvest Sub Block Data.....	166
Figure 3.38 DFD Level 3 Edit Harvest Activity Tracking.....	167
Figure 3.39 DFD Level 3 Edit Harvest Activity Tracking.....	167

Figure 3.40 DFD Level 3 Edit SPT Data.....	168
Figure 3.41 DFD Level 3 Delete SPT Data.....	168
Figure 3.42 DFD Level 3 Add LKT Data.....	169
Figure 3.43 DFD Level 3 Edit LKT Data.....	169
Figure 3.44 DFD Level 3 Edit LKT Data.....	170
Figure 3.45 DFD Level 3 Add Harvest Result Data.....	170
Figure 3.46 DFD Level 3 Edit Harvest Result Data.....	171
Figure 3.47 DFD Level 3 Edit Harvest Result Data.....	171
Figure 3.48 Use Case Diagram - 1.....	177
Figure 3.49 Use Case Diagram - 2.....	178
Figure 3.50 Use Case Diagram - 3.....	179
Figure 3.51 Use Case Diagram - 4.....	180
Figure 3.52 Use Case Diagram - 5.....	181
Figure 3.53 Use Case Diagram - 6.....	182
Figure 3.54 Use Case Diagram - 7.....	183
Figure 3.55 View Personal Information.....	184
Figure 3.56 View Dashboard.....	185
Figure 3.57 Add, Edit, Remove User Account Registration.....	186
Figure 3.58 Show & Download Vendor Barcode.....	187
Figure 3.59 Add, Edit, Remove Vendor.....	188
Figure 3.60 Add, Edit, Delete Vendor Vehicle.....	189
Figure 3.61 Add, Edit, Remove Foreman.....	190
Figure 3.62 View SPT.....	191
Figure 3.63 Approve SPT.....	192
Figure 3.64 Add, Edit, Remove SPT.....	193
Figure 3.65 View & Edit Harvest Activity Tracking.....	194
Figure 3.66 View LKT.....	195
Figure 3.67 View Payment.....	196
Figure 3.68 Add, Edit, Upload LKT.....	197
Figure 3.69 View & Approve BAPP.....	198
Figure 3.70 Calculate Payment Vendor.....	199
Figure 3.71 Set Payment Notification.....	200
Figure 3.72 Edit, Upload Map.....	201
Figure 3.73 Add, Edit, Remove Sub Block.....	202
Figure 3.74 Add, Edit, Remove Foreman Sub Block.....	203
Figure 3.76 View Sub Block Information.....	205
Figure 3.77 View Maps.....	206
Figure 3.78 View Harvest Result.....	207
Figure 3.79 Add, Edit, Delete Harvest Result.....	208

Figure 3.80 ERD.....	209
Figure 3.81 Gantt Chart.....	213
Figure 4.1 DFD level 3 for add vendor data.....	215
Figure 4.2 DFD level 3 for edit vendor data.....	217
Figure 4.3 DFD level 3 for delete vendor data.....	221
Figure 4.4 DFD level 3 for add vendor vehicle data.....	222
Figure 4.5 DFD level 3 for edit vendor vehicle data.....	224
Figure 4.6 DFD level 3 for delete vehicle data.....	226
Figure 4.7 DFD level 3 for add foreman data.....	227
Figure 4.8 DFD level 3 for edit foreman Data.....	229
Figure 4.9 DFD level 3 for delete foreman data.....	230
Figure 4.10 DFD level 3 add Sub-block Data.....	231
Figure 4.11 DFD level 3 for edit Sub Block Data.....	235
Figure 4.12 DFD level 3 for edit Sub Block Data.....	239
Figure 4.13 DFD level 3 for add status Sub Block Data.....	241
Figure 4.14 DFD level 3 for edit status sub block data.....	243
Figure 4.15 DFD level 3 for delete status sub block data.....	245
Figure 4.16 DFD level 3 for add foreman sub block.....	247
Figure 4.17 DFD level 3 for edit foreman sub block data.....	250
Figure 4.18 DFD level 3 for delete foreman sub block.....	252
Figure 4.19 DFD level 3 for view hasil tebangan.....	253
Figure 4.20 DFD level 3 for user account registration.....	255
Figure 4.21 DFD level 3 for delete user account registration.....	257
Figure 4.22 DFD level 3 for add harvest sub block.....	259
Figure 4.23 DFD level 3 for update harvest sub block.....	261
Figure 4.24 DFD level 3 for delete harvest sub block.....	263
Figure 4.25 DFD level 3 for update harvest activity tracking.....	264
Figure 4.26 DFD level 3 for add SPT.....	267
Figure 4.27 DFD level 3 for edit SPT.....	272
Figure 4.28 DFD level 3 for delete SPT.....	275
Figure 4.29 DFD level 3 for add LKT.....	276
Figure 4.30 DFD level 3 for edit LKT.....	279
Figure 4.31 DFD level 3 for Delete LKT.....	281
Figure 4.32 DFD level 3 for add harvest result.....	282
Figure 4.33 DFD level 3 for edit harvest result.....	285
Figure 4.34 DFD level 3 for delete harvest result.....	287
Figure 4.35 Login Page.....	296
Figure 4.36 List Vendor.....	297
Figure 4.37 Add Vendor Data.....	297

Figure 4.38 Edit Vendor Data.....	297
Figure 4.39 Delete Vendor Data.....	298
Figure 4.40 List Vendor Vehicle Data.....	298
Figure 4.41 Add Vendor Vehicle Data.....	298
Figure 4.42 Edit Vendor Vehicle Data.....	299
Figure 4.43 Delete Vendor Vehicle Data.....	299
Figure 4.44 List Foreman.....	299
Figure 4.45 Add Foreman Data.....	300
Figure 4.46 Edit Foreman Data.....	300
Figure 4.47 Delete Foreman Data.....	300
Figure 4.48 Sub Block Data.....	301
Figure 4.48 Add Sub Block Data.....	301
Figure 4.49 Edit Sub Block Data.....	301
Figure 4.50 Delete Sub Block Data.....	302
Figure 4.51 Foreman Sub Block Data.....	302
Figure 4.52 Add Foreman Sub Block Data.....	302
Figure 4.53 Edit Foreman Sub Block Data.....	303
Figure 4.54 Delete Foreman Sub Block Data.....	303
Figure 4.55 Harvest Sub Block Data.....	303
Figure 4.56 Add Harvest Sub Block Data.....	304
Figure 4.57 Edit Harvest Sub Block Data.....	304
Figure 4.58 Delete Harvest Sub Block Data.....	304
Figure 4.59 Harvest Activity Tracking.....	305
Figure 4.60 Update Harvest Activity Tracking.....	305
Figure 4.61 Detail Harvest Activity Tracking.....	305
Figure 4.62 SPT Data.....	306
Figure 4.63 Add SPT.....	306
Figure 4.64 Edit SPT.....	306
Figure 4.65 Delete SPT.....	307
Figure 4.66 LKT Data.....	307
Figure 4.67 Add LKT.....	307
Figure 4.68 Edit LKT.....	308
Figure 4.69 Delete LKT.....	308
Figure 4.70 User Account Registration Data.....	308
Figure 4.71 Add User Account Registration.....	309
Figure 4.72 Delete User Account Registration.....	309
Figure 4.73 View Map.....	309
Figure 4.74 Add Harvest Result Data.....	310
Figure 4.75 Edit Harvest Result Data.....	310

Figure 4.76 Delete Harvest Result Data.....	310
Table 4.1 Implementation Verification.....	756
Figure 4.77 Login Page.....	769
Figure 4.78 GIS Information Page.....	769
Figure 4.79 Sub Block Information.....	770
Figure 4.80 Foreman Information.....	770
Figure 4.81 Vendor Information.....	771
Figure 4.82 Vendor Vehicle List.....	771
Figure 4.83 Surat Perintah Tebang (SPT).....	772
Figure 4.84 Lembar Kerja Tebang (LKT).....	772
Figure 4.85 Harvest Activity Tracking.....	773
Figure 4.86 User Account Registration.....	773
Figure 4.87 Role Permission Seeting.....	774
Table 4.3 Component Cost Analysis.....	774