CHAPTER 10
CONCLUSION AND SUGGESTIONS

10.1 Conclusions

Based on the results of the analysis, design, prototype implementation, and evaluation that have been carried out at PT Wajira Jagratara Transindo, the following conclusions can be obtained:

a. Based on the results of a business process analysis using the Business Process Improvement (BPI) and waste elimination approaches, it was discovered that the main causes of the company's operational delays stemmed from manual processes, the lack of SOPs/KPIs or clear process time standards, and limited vehicles, which led to delays in fleet allocation and delivery processes. These issues impacted Delivery Order (DO) delivery delays, billing delays, and disrupted the company's cash flow.
b. The proposed Fleet management system integrates a Rule-Based Driver Allocation Mechanism and a driver mobile application to improve operational visibility, support more structured driver assignment, facilitate digital documentation, and enhance coordination in delivery operations at PT Wajira Jagratara Transindo.
c. The prototype Digital Integration of Delivery and Billing Systems was successfully designed to integrate the Delivery Order and billing processes into a single, digitally connected system. The system enables integrated DO management, document verification, delivery status monitoring, invoice generation, and payment monitoring, reducing reliance on physical documents.
d. The test results of the Digital Integration of Delivery and Billing Systems prototype using Maze showed a usability score of 84, indicating that the system has a good level of ease of use. Furthermore, the learnability test results showed a decrease in task completion time with each trial, indicating that users can quickly learn and understand the system.
e. Based on the Critical Success Factors (CSF) evaluation, the designed prototype met the established key success factors, namely improving visibility of the delivery process, accelerating the billing process, supporting real-time fleet monitoring, improving operational data integration, and providing more accurate information to support management decision-making.
f. The cost analysis results showed that prior to system implementation, delays in the billing process potentially resulted in an opportunity cost of IDR 35,137,500 per year. After the prototype implementation, the invoice creation process could be performed

without delay (delay = zero days), eliminating this opportunity cost and accelerating the billing process.

10.2 Suggestions

Based on the results of the research and design that has been carried out, several suggestions that can be given are as follows:

a. Future studies may explore the implementation of an automatic task acceptance mechanism, similar to ride-hailing applications, where delivery assignments are offered simultaneously and accepted by the first eligible driver who responds through the application.
b. Although a Rule-Based Decision Support Mechanism was proposed in this project, driver allocation decisions in the current operational practice remain under the authority of the CEO. Therefore, future implementation may evaluate the practical adoption of the proposed decision-support mechanism within actual operational settings.
c. Companies are advised to develop and implement SOPs and KPIs that are integrated with the system so that operational processes have clear standards, can be monitored consistently, and support continuous performance evaluation.

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APPENDIX

Appendix 1. Statement Letter of Group Capstone Design Project

STATEMENT LETTER OF FINAL PROJECT IMPLEMENTATION AS A GROUP-BASED CAPSTONE DESIGN PROJECT

We, the undersigned parties:

No	Student Name	NPM
1	Pascavilano Revanda H.N.	221411753
2	Angel Tappang	221411832
3	Challista Natania Chandra	221412064

Hereby declare our intention to undertake the **Final Project** as **a group** in the form of a **Capstone Design Project**, under the proposed title/topic:

.....

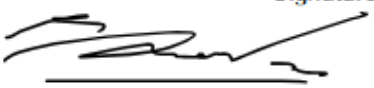
Our commitments are stated as follows:

1. Each group member shall carry out the Final Project collaboratively, professionally, and responsibly in accordance with the academic regulations applicable in the Department of Industrial Engineering, Faculty of Industrial Technology, Universitas Atma Jaya Yogyakarta.
2. Each group member is responsible for making a proportional contribution and performing tasks in accordance with the agreed division of roles.
3. Each group member shall comply with all procedures and regulations applicable in the Department of Industrial Engineering, FTI UAJY, and uphold academic integrity throughout the entire process.
4. Should there be any violation of academic regulations or non-compliance in the implementation of the project in the future, we are willing to accept sanctions in accordance with the regulations stipulated by the Department of Industrial Engineering, FTI UAJY.

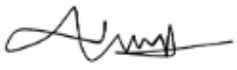
This statement is made truthfully and in good faith to be used as intended..

Yogyakarta, 19 December 2025

Signature



Pascavilano Revanda H. N.
NPM: 221411753



Angel Tappang
NPM: 221411832



Challista Natania Chandra
NPM: 221412064

Appendix 2. Example of SOP

SOP CODE	SOP TITLE
UNI-005-01	PROCEDURE FOR WRITING STUDENT HANDBOOKS

1. Reason for revision

1.1. New SOP

2. Purpose and scope

2.1. The purpose of this SOP is to provide a general template which Faculties, Institutes, Centres and Schools (hereinafter referred to collectively as FICS) can follow when developing a Student Handbook. A complete Student Handbook which is largely based on these guidelines is available in Appendix 1, courtesy of Prof. Elisabeth Conrad and the Institute of Earth Systems.

2.2. In the case of Faculties and Schools, a Student Handbook should be published at Faculty/School-level. However, individual Departments may wish to publish a more specific Department-level handbook if they so wish.

2.3. This SOP lists a number of sections which FICS are encouraged to incorporate when developing a handbook for their students. FICS are however free and encouraged to adapt this template according to their particular needs.

2.4. FICS are to ensure that all students have access to the Student Handbook upon enrollment and it should also be placed on the FICS website.

3. Definitions

3.1. eSIMS:	The electronic Student Information Management System is the portal available to University of Malta students, where students are able to view information regarding their course of studies and perform online tasks.
3.2. FICS:	A collective term to refer to the University's Faculties, Institutes, Centres and Schools.
3.3. Pro-Rector:	The Pro-Rector responsible for International Development and Quality Assurance.
3.4. QSU:	Quality Support Unit
3.5. UM:	University of Malta

Appendix 2. Example of SOP Continue

SOP CODE	SOP TITLE
UNI-005-01	PROCEDURE FOR WRITING STUDENT HANDBOOKS

4. Responsibilities

4.1. It is the responsibility of the QSU to assist FICS should they require assistance in developing a Student Handbook according to these guidelines.

4.2. It is the responsibility of the respective FICS to develop a Student Handbook to assist and support students throughout their academic journey at UM. These guidelines aim to provide a general template which FICS may wish to follow and/or adapt according to their needs.

5. Health and Safety requirements

5.1. N/A

6. Procedure

6.1. General Design and Formatting

6.1.1. As with all other UM documentation, Student Handbooks should follow the University Brand Manual published by the Marketing, Communications & Alumni Office (https://www.um.edu.mt/__data/assets/pdf_file/0004/384403/brandmanual.pdf).

6.1.2. FICS should ensure that their Student Handbook is appropriately branded with their specific sub-brand logo. All necessary branding resources may be requested from the Marketing, Communications & Alumni Office.

6.2. Suggested Sections

6.2.1. Cover Page

6.2.1.1. The cover page should feature the FICS logo, the title 'Student Handbook', and the date when the current version was published (month and year).

6.2.2. Contents Page

6.2.2.1. The contents page should list the handbook's sections and sub-sections together with the respective page numbers. Each item on the contents page should be hyperlinked to the relevant page in the handbook.

6.2.3. Section 1: Introduction

6.2.3.1. The handbook's introductory section can give a brief overview of the respective FICS and of the handbook itself, list key acronyms/abbreviations that students should expect to encounter in their studies, and collate any useful links and contact details that students should be aware of.

6.2.3.2. ***Introducing the FICS***: This sub-section should provide a brief history of the FICS and its current set-up and departments, if any. It can also feature the FICS' mission statement or general objectives, as well as an overview of the programmes it offers.

Appendix 3. Discussion with Company Stakeholders



Appendix 4. Implementation Process

