



**Inclusive System Design of Laboratory Information Management
Systems for the Efficiency and Operational Productivity in
Agronomy Laboratory of the Research Department at
PT.MDZ Indonesia**

UNDERGRADUATE THESIS

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

By:

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FACULTY OF COMPUTING

INFORMATION SYSTEM STUDY PROGRAM

CIKARANG

SEPTEMBER, 2023

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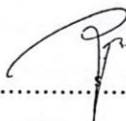
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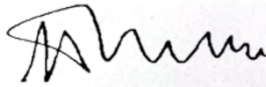
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for the Efficiency and Operational Productivity in Agronomy Laboratory
of the Research Department at PT. MDZ Indonesia

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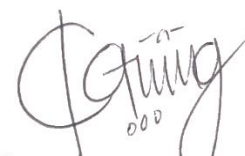
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ABSTRACT

Agronomy laboratories at cocoa research centers provide essential services for scientific, quantitative, and qualitative analysis and experimentation of cocoa samples. Analysts provide valuable data for researchers and stakeholders, which can inform decision-making to support agricultural practices and science. The laboratory's operational workflow is specific and detailed, therefore manual data and management processes are not appropriate, as they can hinder work effectiveness and consume time. Furthermore, there are risks of high human error, difficulty in tracking samples, and workflow delays due to manual and non-systemized end-to-end processes.

This project aims to design an inclusive information system implemented in a web-based and integrated management system platform. The designed system will cover informatics needs and process management, including sample management from end-to-end, quality control, reporting, functional details, relational data, and interface design of the required inclusive concepts. The method used in the development of this project is the SDLC framework or System Development Life Cycle, which is an approach for managing any based of information systems. It encompasses several stages: systems planning, systems analysis, system design, system implementation, and system maintenance.

Keywords: Agronomy laboratory, LIMS, Web-based, Integrated Management System, Information System, Sample Management, Sample Analysis

DEDICATION

The author shall devote this final project to President University,

PT. MDZ Indonesia,

The author's family,

Herself and The Future,

And the University Colleagues, from another major to Information System students

ACKNOWLEDGEMENTS

In humble gratitude and deep appreciation for God's blessing and grace, enabling me to complete this final project with the title entitled **“Inclusive System Design of Laboratory Information Management Systems for the Efficiency and Operational Productivity in Agronomy Laboratory of the Research Department at PT. MDZ Indonesia”** as a compulsory component of President University's Information Systems undergraduate program in 3 years, I dedicate this thesis to the following parties who have been very important in my journey:

1. To Heavenly Father, Jesus Christ, and the Holy Spirit for His unconditional love that led my process to be fruitful.
2. To Myself, Anastasia Dyah Gayatri, for managing to stand strong and continue to live up to true values, journeys, and dreams. I promise the future you will be thankful for these milestones.
3. To Papa and Mama, Veronica, and Mikha, who have always been my pillars of strength throughout my pursuit of creating a better life for our family. The good and bad within our relationships have been a constant source of power for me to keep moving forward in life.
4. To my thesis advisor, Sir Wiranto, who has shaped my intellect and guided me with wisdom. Your expertise and mentorship have been invaluable.
5. To the faculty and staff of Computing President University who have imparted knowledge, wisdom and guided my academic growth, and inspired my passion for Information Systems.
6. To my best friends, Cindy, Warwey, Tiwai, CCC, NLAK friends who have always been with me during the most challenging and joyful times, and who have consistently provided positive affirmation and support, for your unwavering belief in my abilities.

Lastly, thank you so much for the direct and indirect influence on my academic, career, and personal growth. Thank you for being part of God's plan throughout my journey! See me at my very best version ahead!

Bekasi, September 2023

Anastasia Dyah Gayatri

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