

**EVALUATION OF THE IMPACT OF DIGITAL MONITORING OF
PRODUCTION EQUIPMENT ON REDUCING REPAIR COSTS AND
INCREASING PRODUCTION CAPACITY AT PT TRIATRA SINERGIA
PRATAMA**

By

Ido Yulianto
12307046

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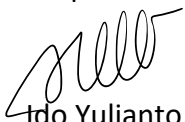
SWISS GERMAN UNIVERSITY
The Prominence Tower
Jalan Jalur Sutera Barat No. 15, Alam Sutera
Tangerang, Banten 15143 - Indonesia

July 2025

STATEMENT BY THE AUTHOR

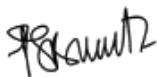
Name of Student : Ido Yulianto 12307046 Engineering & Information
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I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to 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.



Ido Yulianto
(Name of Student)

Approved by:
Date: 22 July 2025



Ir. Triarti Saraswati, M.Eng
(Thesis Advisor)



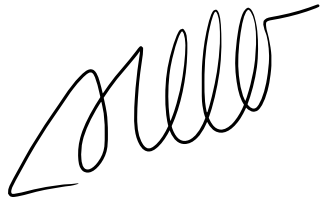
Ivan Kurniawan, S.T., B.Eng., M.T., M.B.A.
(Thesis Co-Advisor)

Acknowledged by:
Date: 22 July 2025

Dr. Maulahikmah Galinium, S.Kom, M.Sc.
(Dean of Faculty of Engineering & Information Technology)

STATEMENT BY THE AUTHOR

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Ido Yulianto

Student

22 July 2025

Date

Approved by:

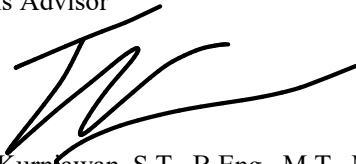


Ir. Triarti Saraswati, M.Eng.

Thesis Advisor

07/23/2025

Date



Ivan Kurniawan, S.T., B.Eng., M.T., M.B.A

Thesis Co-Advisor

23 July 2025

Date

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

Dean

Date

Ido Yulianto

ABSTRACT

EVALUATION OF THE IMPACT OF DIGITAL MONITORING OF PRODUCTION EQUIPMENT ON REDUCING REPAIR COSTS AND INCREASING PRODUCTION CAPACITY AT PT TRIATRA SINERGIA PRATAMA

By

Ido Yulianto

Ir. Triarti Saraswati, M.Eng., Advisor

Ivan Kurniawan, S.T., B.Eng., M.T., M.B.A, Co-Advisor

SWISS GERMAN UNIVERSITY

PT Triatra Sinergia Pratama, a company in the manufacturing sector, faced significant operational challenges, including excessive equipment downtime, high maintenance costs, and underperformance in profit achievement, which stemmed from the lack of an effective and centralized monitoring system. This study evaluates the impact of implementing a digital monitoring system on the company's operational efficiency. The research was conducted using the DMAIC (Define, Measure, Analyze, Improve, Control) framework. The data collection method involved a comparative analysis of key performance indicators from before the system's implementation (January–September 2024) and after (October 2024–March 2025), utilizing the company's internal operational records, maintenance logs, and financial reports. The results show significant improvements following the implementation of a structured, Excel-based digital dashboard. Equipment downtime decreased by 61% , maintenance costs were reduced by 68% , and profit achievement increased from an average of 59% to 111% of the monthly target. These improvements were achieved by enhancing the visibility, planning, and prioritization of maintenance tasks. The findings indicate that even a basic digital monitoring system can positively impact operational outcomes. To sustain these improvements, the study recommends investing in system upgrades, integrating real-time monitoring, and providing comprehensive staff training.

Keywords: Digital Technology, Equipment Monitoring, Operational Efficiency, Digital Dashboard System, DMAIC Framework, Visibility, Planning, Prioritization.

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PT Triatra Sinergia Pratama, a company in the manufacturing sector, faces significant operational challenges, including excessive equipment downtime, high maintenance costs, and unsatisfactory profit achievements, stemming from the absence of an effective and centralized monitoring system. This study evaluates the impact of the implementation of digital monitoring systems on the operational efficiency of companies. This research was conducted using the DMAIC (Define, Measure, Analyze, Improve, Control) framework. The data collection method includes a comparative analysis of key performance indicators from before the implementation of the system (January–September 2024) and after (October 2024–March 2025), utilizing the company's internal operational records, maintenance logs, and financial statements. The results showed significant improvement after the implementation of Excel-based structured digital dashboards. Equipment downtime decreased by 61%, maintenance costs were reduced by 68%, and profit achievement increased from an average of 59% to 111% of the monthly target. These improvements are achieved by improving the visibility, planning, and prioritization of maintenance tasks. These findings indicate that even a simple digital monitoring system can have a positive impact on operational outcomes. To sustain these improvements, the study recommends investment in system improvements, real-time monitoring integration, and the provision of comprehensive staff training.

Keywords: Digital Technology, Equipment Monitoring, Operational Efficiency, Digital Dashboard System, DMAIC Framework, Visibility, Planning, Priority.

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DEDICATION

With pride and sincerity, I dedicate this thesis to the future of my beloved country, Indonesia. This work is also dedicated to the progress of PT Triatra Sinergia Pratama, and to my cherished family and all my colleagues who have been a constant source of strength and inspiration.

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The author hopes this thesis will be beneficial to all readers and interested parties..

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