

## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATION**

#### **5.1 Conclusion**

Based on the comprehensive analysis conducted in this research, the investment decision regarding the 1000 Ton Launcher Gantry for the Harbour Road 2 Toll Road Project presents substantial strategic, financially feasible, and sustainability benefits for PT Wijaya Karya (WIKA). The findings derived from SWOT analysis, capital budgeting evaluation, and alignment with Sustainable Development Goals (SDGs) provide a well-rounded justification for the feasibility and long-term advantages of this investment. The conclusions are as follows:

##### **5.1.1 SWOT Analysis**

According to the SWOT analysis, the acquisition of the 1,000 Ton Launcher Gantry will substantially improve WIKA's competitive positioning and operational efficiency in the infrastructure sector. Enhanced safety measures, long-term durability, and improved construction efficiency are among the primary advantages of this investment, which enables WIKA to execute large-scale projects more efficiently. Higher productivity, reduced construction delays, and improved quality control in precast box girder installation will result from the automation and precision provided by this advanced machinery.

WIKA is positioned to broaden its market share and secure additional government and private sector infrastructure projects by investing in high-capacity equipment. WIKA's reputation is enhanced and its prospect of winning future tenders for elevated toll roads and other large-scale infrastructure developments is increased by its capacity to deliver construction projects more quickly and safely.

The investment, however, is not without its drawbacks, including the necessity of specialized training for operators to ensure the optimal utilization of the equipment and the high initial costs. In addition, the anticipated return on

investment may be affected by regulatory changes, fluctuations in market conditions, and uncertainties regarding the continuity of the project pipeline itself. Nevertheless, the SWOT analysis overall strongly suggests that the advantages of this investment significantly outweigh the challenges, thereby establishing it as a strategic move that is consistent with WIKA's long-term growth objectives.

### **5.1.2 Capital Budgeting Analysis**

The proposed investment's feasibility and profitability are confirmed by the capital budgeting analysis, which provides substantial financial justification. The minimum required return for the project to be financially sustainable has been determined to be 11.68%, which is the Weighted Average Cost of Capital (WACC). The after-tax cost of debt is in alignment with the WACC, which guarantees that financing expenses are efficiently accounted for, as the investment is entirely financed. The initial capital outlay is recovered relatively quickly, as evidenced by the Payback Period assessment, which is 3.04 years. This rapid payback increases financial liquidity and decreases the duration of investment risk exposure. In addition, the Return on Investment (ROI) is recorded at 89.10%, which indicates that the project is anticipated to generate a substantial return in relation to its capital expenditure. This metric emphasizes the investment's substantial profitability potential. The project's economic viability and value generation for the company are further reinforced by the Net Present Value (NPV) calculation, which is IDR 48,296,809,164. This value indicates that the project is anticipated to generate a positive cash flow. Furthermore, the Profitability Index (PI) is determined to be 2.24, indicating that the project is expected to generate IDR 2.24 in returns for every IDR 1 invested. This serves to bolster the effectiveness of financial resource allocation. Additionally, the Internal Rate of Return (IRR) is estimated to be 34.25%, which is significantly higher than the WACC of 11.68%. This differential suggests that the project's anticipated returns exceed the company's financing costs, thereby validating its financial attractiveness and competitive advantage over alternative investment opportunities. These capital budgeting indicators, when considered collectively, underscore that the financial risks associated with this

investment are relatively low, while the anticipated long-term benefits are substantial and exceed the initial capital necessary.

### **5.1.3 Sensitivity Analysis**

This investment remains financially feasible despite the 5% annual increase in operational costs, primarily driven by rising labor wages. The sensitivity analysis conducted in this study evaluates the impact of cost escalation on key financial metrics such as Payback Period, ROI, NPV, Profitability Index, Discounted Payback Period, and IRR. The results indicate that while Payback Period and Discounted Payback Period experience minor extensions and ROI, NPV, and IRR show slight declines due to increased expenses, the project continues to generate positive financial returns. Additionally, the Profitability Index remains above 1, and IRR remains significantly higher than WACC, confirming the investment's resilience. Thus, despite the projected cost increase, this investment remains viable and sustainable, ensuring its long-term financial profitability.

### **5.1.4 Sustainable Development Goals (SDGs) Contribution**

This investment significantly contributes to the advancement of sustainability initiatives, in addition to providing financial and operational advantages, and is consistent with numerous United Nations Sustainable Development Goals (SDGs). There are numerous significant SDGs that the 1000 Ton Launcher Gantry contributes to, such as:

1. SDG 8 (Decent Work and Economic Growth) – The adoption of sophisticated machinery, such as the 1000 Ton Launcher Gantry, guarantees safer and more efficient working conditions, resulting in increased productivity and job creation in the construction industry. In addition, the infrastructure expansion and economic growth of Indonesia will be facilitated by the enhanced project execution.
2. SDG 9 (Industry, Innovation, and Infrastructure) – The investment directly contributes to the development of infrastructure and industrial innovation by

incorporating advanced construction technologies that prioritize efficiency and high-quality project execution.

3. SDG 11 (Sustainable Cities and Communities) – The rapid and efficient construction of elevated toll roads supports urban mobility, reduces traffic congestion, and enhances connectivity, thereby making cities more livable and sustainable. This expenditure is essential for the development of contemporary infrastructure that facilitates sustainable urbanization.
4. SDG 13 (Climate Action) – The 1000 Ton Launcher Gantry promotes environmentally friendly construction practices by employing state-of-the-art technology to reduce waste, material consumption, and emissions. The investment is a valuable contribution to the fight against climate change by reducing the carbon footprint associated with conventional construction methods.

The investment's potential to generate long-term positive social and environmental impacts is underscored by its alignment with these SDGs, which suggest that it is not solely motivated by financial returns. WIKA's investment in state-of-the-art equipment indicates its dedication to responsible business practices that are consistent with international sustainability objectives, as sustainability becomes an increasingly significant factor in the development of global infrastructure.

## **5.2 Contribution of The Study**

### **5.2.1 Theoretical Implication**

The results of this study provide a number of theoretical implications that contribute to the current body of knowledge on strategic management, capital budgeting, and investment decision-making in the infrastructure sector. The effectiveness of comprehensive financial analysis tools, including WACC, Payback Period, ROI, NPV, Profitability Index, and IRR, has been demonstrated through their application. These metrics can offer valuable insights into the feasibility of an investment. The theoretical understanding of how companies evaluate long-term investments in capital-intensive infrastructure projects is enhanced by the study's integration of these financial tools into decision-making processes.

In addition, the incorporation of SWOT analysis into the investment evaluation offers a more comprehensive framework for comprehending the operational and strategic implications of such investments. The study emphasizes the significance of ensuring that financial objectives are in accordance with long-term strategic objectives, as it demonstrates that the financial success of an investment is frequently associated with the capacity to capitalize on operational advantages, including safety, efficiency, and sustainability. A more comprehensive approach to strategic decision-making is provided by this dual focus on financial and operational performance, particularly in large-scale infrastructure projects.

### **5.2.2 Managerial Implication**

This study provides valuable insights for decision-makers at PT Wijaya Karya (WIKI) and other similar companies in the infrastructure sector from a managerial perspective. Detailed financial analyses, such as capital budgeting and SWOT analysis, are crucial for evaluating the potential return on investment (ROI) and the project's alignment with the company's long-term strategic objectives, as emphasized by the findings. Managers can leverage these insights to make well-informed decisions when selecting equipment and technologies that will significantly influence the company's market competitiveness.

The study also emphasizes the operational advantages of investing in advanced machinery, such as the 1000 Ton Launcher Gantry, which include improved construction efficiency, enhanced safety protocols, and equipment durability. These advantages not only benefit the company's long-term sustainability and competitiveness, but also contribute to the success of short-term projects. In addition to contributing to broader social and environmental objectives, managers can position their company for continued growth and leadership in the infrastructure industry by integrating such investments into their strategic planning.

### **5.2.3 Limitation of Study**

Although this study offers valuable insights into the financial and operational feasibility of acquiring the 1000 Ton Launcher Gantry, it is imperative

to recognize several limitations in order to preserve a clear scope of interpretation. Initially, the financial, strategic, and operational aspects of the investment are the primary focus of this study, with a particular emphasis on PT Wijaya Karya. The analysis is restricted to critical financial metrics, including the Weighted Average Cost of Capital (WACC), Payback Period, Discounted Payback Period, Return on Investment (ROI), Net Present Value (NPV), Profitability Index or NPV Index, and Internal Rate of Return (IRR). The analysis does not include a comprehensive examination of broader macroeconomic factors, such as inflation rates, global supply chain disruptions, or deviations in government infrastructure spending policies.

Secondly, the study does not provide a comprehensive evaluation of the full impact on labor dynamics and workforce adaptation, despite the fact that it evaluates the efficiency improvements brought by the 1000 Ton Launcher Gantry in comparison to conventional methods. Automation may necessitate workforce reskilling and optimization, despite the fact that the construction sector remains labor-intensive. This matter is not the primary focus of the study. The implications of technological advancements on job creation and employment shifts are acknowledged; however, they have not been thoroughly investigated. Third, the business operations and project environment of PT Wijaya Karya are the context in which this study is conducted. The findings and recommendations may not be directly applicable to other construction firms that operate in distinct regulatory, financial, or project management environments. Additional research would be required to verify the investment feasibility in various industries, business models, or geographical regions.

In order to evaluate the broader project impacts, non-monetary evaluations related to the Sustainable Development Goals (SDGs) are incorporated as supplementary factors. Nevertheless, this investigation does not conduct a comprehensive sustainability assessment that encompasses environmental compliance, social impact evaluation, or carbon footprint analysis beyond the direct investment implications. The study should be interpreted within the defined scope, and additional research is recommended to address factors outside its primary focus, in light of these limitations.

#### **5.2.4 Recommendation for Future Study**

The limitations of this study could be addressed and the scope of analysis could be expanded in future research to further develop the findings. Including a more comprehensive risk analysis that encompasses operational, regulatory, and environmental risks, in addition to financial risks, is one potential direction for future research. Future studies can offer a more sophisticated comprehension of the potential challenges and uncertainties associated with large-scale infrastructure investments by taking into account a broader range of risk factors. In addition, future research could investigate the influence of emerging technologies and innovations on the operational performance and financial viability of infrastructure projects. The financial outlook of such investments could be further enhanced by the adoption of new machinery and techniques, which may provide even greater efficiencies and cost savings as technology continues to advance.

Yet another potential area for future research is the comparative analysis of investment decisions across various infrastructure sectors or geographical regions. By analyzing the performance of comparable investments in a variety of markets, researchers can provide valuable insights into the factors that influence the success of infrastructure projects in numerous contexts.

Finally, further research could concentrate on the social and environmental consequences of these investments, particularly in the context of achieving the Sustainable Development Goals (SDGs). Understanding the broader societal benefits of infrastructure investments will enable companies to more effectively align their strategic decisions with global sustainability objectives.