

1. Engineering Economic Analysis
2. Engineering & Management

**PROPOSED CAPACITY IMPROVEMENT TO SUPPORT
MARKET EXPANSION AT KITCHENWARE
MANUFACTURER**

A THESIS

**Submitted in Partial Fulfilment of the Requirements for the Degree of
Bachelor of Engineering in Industrial Engineering**



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IDENTIFICATION PAGE

A thesis entitled
**PROPOSED CAPACITY IMPROVEMENT TO SUPPORT MARKET
EXPANSION AT KITCHENWARE MANUFACTURER**

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DECLARATION OF ORIGINALITY

I certify that the research titled "Proposed Capacity Improvement to Support Market Expansion at Kitchenware Manufacturer" in this thesis has not been submitted for any other degree.

I certify that to the best of my knowledge and belief, this thesis, which I wrote, does not contain the works or parts of the works of other people, except those cited in the quotations and bibliography, as a scientific paper should.

In addition, I certify that I understand and abide by the rule stated by the Ministry of Education and Culture of the Republic of Indonesia, subject to the provisions of *Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 17 Tahun 2010 tentang Pencegahan dan Penanggulangan Plagiat di Perguruan Tinggi*.

Yogyakarta, 13 June 2025



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DEDICATION PAGE

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His will, this would not be possible.

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ABSTRACT

Imported products continue to dominate the Indonesian market. According to Badan Pusat Statistik (2024), the import value in January 2024 consisted of oil imports of USD 2,698.3 million (14.59 percent) and non-oil imports of USD 15,796.2 million (85.41 percent). 32.21 percent of it was contributed by the value of imported products from China, followed by imported products from Singapore, which contributed up to USD 1,599.4 million (8.65 percent), and Japan with USD 1,082.3 million (5.85 percent). This imported product included wooden kitchenware products. CV X has a regular production capacity of 8,000 to 10,000 Pieces of products per month. Recently, demand from five retailers has ranged from 14,000 to 18,000 pieces of products per month for local demand, accompanied by uncertain delivery dates. Therefore, in the current situation, the company has opted for overtime and outsourcing production to a third party to address the production capacity issue.

To determine the optimal solution for design and implementation in this research, further discussions were held with stakeholders to select from previously identified alternative solutions. The chosen solution is expected to effectively resolve raw material delays, primarily caused by the dry-kiln chamber's insufficient capacity for drying wood boards. A feasibility test was conducted to determine the viable approach between two strategic alternatives: either to conduct investment in adding three dry-kiln chambers, involving allocating IDR 60,000,000, or to outsource to utilize a vendor for wood planks over six months, at a total cost of IDR 56,910,000. The evaluation of these alternatives was performed employing Present Value (PV), Net Present Value (NPV), and Internal Rate of Return (IRR) methodologies, with all calculations executed over a six-month analytical horizon.

This dry-kiln chamber addition effectively addresses stakeholder needs by boosting production capacity. It facilitates market expansion, counteracting anticipated lower demand from one buyer while also supporting increased orders from other buyers. The goal is to ensure timely order fulfillment and prevent lost sales due to wood drying delays.

Keywords : Market expansion, production capacity, dry-kiln chamber, feasibility test. Present Value (PV), Net Present Value (NPV), Internal Rate of Return (IRR)