

**MARKET OPPORTUNITY AND FINANCIAL FEASIBILITY ANALYSIS
OF KOPYOR COCONUT (*Cocos nucifera L.*) BASED PRODUCTS AT
CINTA BUMI NUSANTARA CO.**

SURYA KARUNIA RAMADHAN



IPB University
— Bogor Indonesia —

**DEPARTMENT OF AGROINDUSTRIAL ENGINEERING
FACULTY OF AGRICULTURAL ENGINEERING AND TECHNOLOGY
IPB UNIVERSITY BOGOR
2024**

@Hak cipta milik IPB University

IPB University



STATEMENT REGARDING THE THESIS AND SOURCES OF INFORMATION AND THE ASSIGNMENT OF COPYRIGHTS

I hereby confirm that the thesis titled “Market Opportunity and Financial Feasibility Analysis of Kopyor Coconut (*Cocos Nucifera L.*) Products at Cinta Bumi Nusantara Co.” is my original work conducted under the supervision of my academic adviser, Mrs. Deasy Kartika Rahayu Kuncoro, S.T., M.T., and my project supervisor, Dr. Ir. Mulyorini Rahayuningsih, M.Si. It has not been submitted to any other university in any form. All sources of information from published and unpublished works of other authors have been properly cited in the text and listed in the references section at the end of this thesis.

I hereby assign the copyright of this thesis to IPB University.

Bogor, July 2024

Surya Karunia Ramadhan

SID. F3401201814

- Hak Cipta Dilindungi Undang-undang
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
 2. Dilarang mengumunkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

ABSTRACT

SURYA KARUNIA RAMADHAN. Market Opportunity and Financial Feasibility Analysis of Kopyor Coconut (*Cocos nucifera* L.) Products at Cinta Bumi Nusantara Co. Supervised by DEASY KARTIKA RAHAYU KUNCORO, and MULYORINI RAHAYUNINGSIH.

This study explores the development and financial feasibility of two innovative kopyor coconut products: a healthy ready-to-drink kopyor coconut water and freeze-dried kopyor coconut flesh, produced by PT. Cinta Bumi Nusantara. The increasing demand for healthy food and beverages, combined with the uniqueness of kopyor coconuts, presents a promising market opportunity. A market analysis highlights the potential, particularly for kopyor coconut water, where niche products with unique health benefits can capture approximately 1% of the market share, translating to about 10,000 units per month. The less saturated market for freeze-dried kopyor coconut flesh offers additional prospects, with its success likely tied to that of the kopyor coconut water. The financial feasibility analysis indicates robust profitability, with Revenue to Cost (R/C) ratios ranging from 1.21 to 1.71 for the kopyor coconut water and 1.30 to 1.85 for the freeze-dried flesh. Payback Period (PP) analysis suggests that initial investments can be recouped within 12 to 20 months for the drink and 15 to 30 months for the flesh, depending on the profit margins achieved. The Break-Even Point (BEP) analysis further supports the viability of both products, with the kopyor coconut drink product requiring sales of 300 to 499 units and the kopyor coconut flesh product requiring 504 to 1092 units. Sensitivity analysis demonstrates the project's resilience under various scenarios, recommending a 25% profit margin for the kopyor coconut water and a 35% margin for the freeze-dried flesh. The positive Net Present Value (NPV) of Rp 842,317,848 and an Internal Rate of Return (IRR) of 49.32% further affirm the financial attractiveness and growth potential of these investments.

Keyword: Financial Feasibility, Market Opportunity, Kopyor Coconut

ABSTRAK

SURYA KARUNIA RAMADHAN. Analisis Peluang Pasar dan Kelayakan Finansial Produk Kelapa Kopyor (*Cocos nucifera L.*) di PT. Cinta Bumi Nusantara. dibimbing oleh DEASY KARTIKA RAHAYU KUNCORO, dan MULYORINI RAHAYUNINGSIH

Penelitian ini berfokus pada pengembangan dan penilaian kelayakan finansial dari dua produk inovatif berbasis kelapa kopyor: air kelapa kopyor siap minum yang sehat dan daging kelapa kopyor yang dikeringkan dengan beku, yang diproduksi oleh PT. Cinta Bumi Nusantara. Dengan meningkatnya permintaan untuk minuman dan makanan sehat dan keunikan kelapa kopyor, analisis peluang pasar menunjukkan prospek yang menjanjikan. Terutama untuk air kelapa kopyor, produk niche dengan manfaat unik berpotensi meraih pangsa pasar sekitar 1%, setara dengan 10.000 unit per bulan, meskipun pemain besar seperti Hydro Coco mendominasi pasar. Pasar yang kurang jenuh untuk daging kelapa kopyor yang dikeringkan dengan beku menawarkan peluang tambahan, dengan keberhasilan penetrasi pasar yang diperkirakan seiring dengan kesuksesan air kelapa kopyor. Analisis kelayakan finansial menunjukkan potensi profitabilitas yang kuat, dengan rasio *Revenue to Cost* (R/C) berkisar antara 1,21 hingga 1,71 untuk air kelapa kopyor dan 1,30 hingga 1,85 untuk daging kelapa kopyor yang dikeringkan dengan beku. Analisis *Payback Period* (PP) menunjukkan bahwa investasi awal dapat dipulihkan dalam waktu 12 hingga 20 bulan untuk minuman sehat dan 15 hingga 30 bulan untuk daging kelapa kopyor yang dikeringkan dengan beku, tergantung pada margin keuntungan yang dicapai. Analisis *Break Even Point* (BEP) semakin memperkuat kelayakan produk ini, dengan kebutuhan penjualan 300 hingga 499 unit untuk produk minuman air kelapa kopyor dan 504 hingga 1092 unit untuk daging kelapa kopyor. Analisis sensitivitas menunjukkan ketahanan proyek ini di bawah berbagai skenario, dengan margin keuntungan yang direkomendasikan sebesar 25% untuk air kelapa kopyor dan 35% untuk daging kelapa kopyor yang dikeringkan dengan beku. *Net Present Value* (NPV) positif sebesar Rp 842.317.848 dan *Internal Rate of Return* (IRR) sebesar 49,32% semakin menegaskan daya tarik finansial dan potensi pertumbuhan yang menjanjikan dari investasi ini.

Kata kunci: Kelayakan Finansial, Oportunitas Pasar, Kelapa Kopyor



@Hak cipta milik IPB University

Hak Cipta Dilindungi Undang-undang

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
 - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

Team of Examiners in Thesis Examination:

1. Prof. Dr. Taufik Djatna, S.TP., M.Si.
2. Prof. Dr. Ir. Titi Candra Sunarti, M.Si.

SHEET OF APPROVAL

Title : Market Opportunity and Financial Feasibility Analysis of Kopyor Coconut (*Cocos nucifera L.*) Products at Cinta Bumi Nusantara Co.

Name : Surya Karunia Ramadhan

NIM : F3401201814

Approved by:

Supervisor:

Deasy Kartika Rahayu Kuncoro, S.T., M.T.



Co-Supervisor:

Prof. Dr. Farah Fahma, S.TP., M.T.

Acknowledge by:

Head of the Department:

Prof. Dr. Ono Suparno S.T.P., M.T.

NIP. 197212031997021001



Date of Examination:

Date of Approval:

Hak Cipta Dilindungi Undang-undang
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengumunkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

PREFACE

Praise and gratitude to Allah SWT. for His permission, mercy, and grace, enabling me to complete my final thesis titled, "Market Opportunity and Financial Feasibility Analysis of Kopyor Coconut (*Cocos Nucifera L.*) Products at Cinta Bumi Nusantara Co." as a requirement for the undergraduate program in Agroindustrial Engineering at IPB University. This thesis was carried out from January 30, 2024, to July 2024 and completed in groups. Therefore, this thesis is part of other undergraduate theses with the same main topic of developing kopyor coconut products within the same period. Many parties were involved in the preparations and activities related to this project. Hence, I would like to thank:

1. Deasy Kartika Rahayu Kuncoro, S.T., M.T.; my academic advisor, for her guidance and direction in completing the project.
2. Prof. Dr. Farah Fahma S.T.P, M.T.; as the PIC of the project along with Dr. Ir. Mulyorini Rahayuningsih M.Si., for facilitating all the project's needs, including connections, partners, knowledge, and materials.
3. Prof. Yasmina Sultanbawa, Professor Ammar Abdul Aziz, and other members from Queensland University; for helping guide us and our project forward.
4. Mariko Bawi; as a partner and representative from Cinta Bumi Nusantara Co., for providing insights on the products and raw materials for this thesis.
5. Prof. Dr. Taufik Djatna, S.T.P. M.Si. and Prof. Dr. Ir. Titi Candra Sunarti, M.Si as my thesis examiner.
6. My project teammates (Rama, Bayu, Josephine, and Alisya), for their collaborative work on this project.
7. All colleagues who supported me in various ways, provided input, and engaged in insightful discussions, helping me finish this thesis.

The content of this thesis has been arranged by the author. It is possible to use this thesis as a basis for future research on potential market demand and feasibility analysis, allowing all parties to build upon this work.

Surya Karunia Ramadhan

SID. F3401201814



Hak Cipta Dilindungi Undang-undang
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah
b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

TABLE OF CONTENT

I INTRODUCTION	2
1.1 Background	2
1.2 Problem Formulation	3
1.3 Objective	3
1.4 Benefit	3
II METHODOLOGY	3
2.1 Project Time and Location	3
2.2 Engineering Design	3
2.3. Exploration Phase	3
2.4 Problem Identification Phase	3
2.5 Ideation Phase	4
2.6 Prototype Development Phase	4
III RESULT AND DISCUSSION	6
3.1 Market Opportunity	6
3.1.1 Market Size	6
3.1.2 Market Share	7
3.2 Financial Assumptions	9
3.3 Operational Cost	9
3.4 Investment Cost	10
3.5 Cost of Goods Sold	12
3.6 Selling Price	12
3.7 Financial Feasibility analysis	13
3.7.1 Revenue to Cost Ratio (R/C ratio)	13
3.7.2 Payback Period	14
3.7.3 Break Even Point	15
3.8 Financial Feasibility overview	16
3.9 Sensitivity Analysis	17
3.10 Cash Flow Projection	18
3.11 Net Present Value (NPV) Analysis	19
3.12 IRR Analysis	20
IV CONCLUSION AND SUGGESTION	21
4.1 Conclusion	21
4.2 Suggestion	22

LIST OF TABLES

Table 1 Data types and sources needed to conduct the research	4
Table 2 Monthly operation cost for both products	10
Table 3 investment cost for both products	11
Table 4 Cost of goods sold for both products	12
Table 5 Selling price for each chosen profit margin	13
Table 6 Revenue of each chosen profit margin for both products	13
Table 7 R/C ratio for each chosen profit margin of both products	14
Table 8 Net income of both products for each profit margin	14
Table 9 Payback period of both products for each profit margin	15
Table 10 Break even point analysis of both products for each profit margin	15
Table 11 Financial feasibility overview	16
Table 12 Sensitivity analysis of both products	18

LIST OF FIGURES

Figure 1 Engineering design process	5
Figure 2 Market size of packaged coconut water	7
Figure 3 Market share of existing packaged coconut water	7
Figure 4 Mass balance of freeze-dried kopyor coconut flesh products	11
Figure 5 Mass balance of ready-to-drink kopyor coconut water products	11
Figure 6 NPV analysis of projected cash flow	19
Figure 7 IRR analysis of projected cash flow	20

LIST OF FORMULAS

Formula 1 Cost of Goods Sold	12
Formula 2 Selling price per unit	12
Formula 3 Revenue	13
Formula 4 R/C ratio	13
Formula 5 Net income	14
Formula 6 Payback period (PP)	15
Formula 7 Break even point (BEP)	15
Formula 8 Net Present Value (NPV)	19
Formula 9 Internal Rate of Return (IRR)	20