

ENHANCING KOPYOR COCONUT PRODUCTS THROUGH VALUE CHAIN MAPPING AND PACKAGING DESIGN AT CINTA BUMI NUSANTARA CO.

JOSEPHINE FATIMA DEVI



DEPARTMENT OF AGROINDUSTRIAL TECHNOLOGY
FACULTY OF AGRICULTURAL TECHNOLOGY
IPB UNIVERSITY
BOGOR
2024



@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 kitab atau traktat 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.



DECLARATION OF ORIGINALITY AND COPYRIGHT TRANSFER

Currently, I declare that the final undergraduate report titled “Enhancing Kopyor Coconut Products through Value Chain Mapping and Packaging Design at Cinta Bumi Nusantara Co.” is my work under the supervision of Deasy Kartika Rahayu Kuncoro S.T, M.T. It has never been published in any form by any higher education organization. An information source from or quoted from published or unpublished works by other authors is mentioned in the text and included in the references at the end of this paper.

I state that this paper's copyright has been transferred to IPB University.

Bogor, July 2024

Josephine Fatima Devi
NIM. F3401201812

@ Hak cipta milik IPB University

IPB University

ABSTRAK

JOSEPHINE FATIMA DEVI. *Enhancing Kopyor Coconut Products through Value Chain Mapping and Packaging Design at Cinta Bumi Nusantara Co.*
Dibimbing oleh DEASY KARTIKA RAHAYU KUNCORO.

Cinta Bumi Nusantara Co. menghadapi tantangan besar dalam mengubah kelapa kopyor yang mudah rusak dan besar menjadi produk siap pasar. Studi ini menangani tantangan tersebut dengan mengoptimalkan proses produksi melalui pemetaan rantai nilai dan meningkatkan daya tarik produk menggunakan prinsip Kansei Engineering. Pengembangan air kelapa kopyor siap minum dan daging kelapa kopyor beku-kering efektif mengurangi masalah kerusakan dan kebesaran produk. Teknik pengawetan yang canggih memperpanjang umur simpan dan mempertahankan kualitas nutrisi produk, memenuhi permintaan konsumen akan bahan alami berkualitas tinggi. Pemetaan rantai nilai memastikan produksi dan distribusi yang efisien, selaras dengan preferensi konsumen terhadap kenyamanan, keterjangkauan, dan kualitas. Selain itu, Kansei Engineering mengarahkan desain kemasan yang beresonansi secara emosional dengan konsumen, dengan fokus pada atribut kunci seperti visualisasi produk, warna cerah, dan kesederhanaan. Elemen desain ini sangat penting dalam meningkatkan daya tarik konsumen dan membedakan produk di pasar. Temuan ini menunjukkan bahwa dengan mengintegrasikan teknik pengawetan yang tepat sasaran dengan kemasan yang beresonansi secara emosional, Cinta Bumi Nusantara Co. dapat berhasil mengatasi tantangan kerusakan dan kebesaran kelapa kopyor, sekaligus memastikan posisi kompetitif di pasar.

Kata kunci: *Preferensi konsumen, Kansei Engineering, Kelapa kopyor, Pertanian berkelanjutan, Rantai nilai*

ABSTRACT

JOSEPHINE FATIMA DEVI. *Enhancing Kopyor Coconut Products through Value Chain Mapping and Packaging Design at Cinta Bumi Nusantara Co.*
Supervised by DEASY KARTIKA RAHAYU KUNCORO.

Cinta Bumi Nusantara Co. faces significant challenges transforming highly perishable and bulky kopyor coconuts into market-ready products. This study addresses these challenges by optimizing the production process through value chain mapping and enhancing product appeal using Kansei Engineering principles. Developing ready-to-drink kopyor coconut water and freeze-dried kopyor coconut flesh effectively mitigates the issues of perishability and bulkiness. Advanced preservation techniques extend shelf life and maintain the nutritional quality of the products, meeting consumer demands for natural, high-quality ingredients. Value chain mapping ensured efficient production and distribution, aligning with consumer preferences for convenience, affordability, and quality. Additionally, Kansei Engineering guided the design of packaging that resonates emotionally with consumers, focusing on key attributes such as product visualization, bright colors, and simplicity. These design elements were crucial in enhancing consumer appeal and differentiating the products. The findings suggest that by integrating targeted preservation techniques with emotionally resonant packaging, Cinta Bumi Nusantara Co. can successfully address the inherent challenges of kopyor coconut perishability and bulkiness, securing a competitive position in the market.

Keywords: Consumer preference, Kansei Engineering, Kopyor coconut, Sustainable Agriculture, Value chain

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

© Hak Cipta milik IPB, tahun 2024
Hak Cipta dilindungi Undang-Undang

Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan atau menyebutkan sumbernya. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik, atau tinjauan suatu masalah, dan pengutipan tersebut tidak merugikan kepentingan IPB.

Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apa pun tanpa izin IPB.

ENHANCING KOPYOR COCONUT PRODUCTS THROUGH VALUE CHAIN MAPPING AND PACKAGING DESIGN AT CINTA BUMI NUSANTARA CO.

**JOSEPHINE FATIMA DEVI
F3401201812**

Undergraduate Final Report
as one of the requirements to obtain a degree of
Bachelor of Engineering with honors
in
Department of Agroindustrial Technology

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

@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 kitab atau traktat suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

Team of Examiner in Thesis Examination:

1. Prof. Dr. Eng. Taufik Djatna, S.TP, M.Si

2. Dr. Ir. Muslich, M.Si.

Title : Enhancing Kopyor Coconut Products through Value Chain Mapping and Packaging Design at Cinta Bumi Nusantara Co.
 Name : Josephine Fatima Devi
 SID : F341201812

Approved by

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



Dr. Ir. Mulyorini Rahayuningsih, M.Si.



Acknowledged by

Head of Department:
 Prof. Dr. Ono Suparno, S.TP., M.T.
 NIP. 197212031997021001



Date of Examination:
 29 July 2024

Date of Approval:
 (tanggal penandatanganan oleh Dekan
 Fakultas/Sekolah ...)

PREFACE

All praise and thanks to Allah subhanaahu wa ta'ala for his blessings, mercy, and grace. The authors have completed this report. The theme chosen in the Research, which was carried out from February 2024 to June 2024, was the Strategic Development of Kopyor Coconut (*Cocos nucifera* var. Kopyor)-Based Products for Innovative Design, titled 'Enhancing Kopyor Coconut Products through Value Chain Mapping and Packaging Design at Cinta Bumi Nusantara Co..' The authors thank all parties who assisted in the writing and preparation of this project.

1. Deasy Kartika Rahayu Kuncoro, S.T., M.T., as academic supervisors who guided and provided advice during the capstone project.
2. Prof. Dr. Ono Suparno, S.TP., M.T. Head of the Department of Agroindustrial Technology.
3. Dr. Ir. Mulyorini Rahayuningsih, M.Si, and Prof. Dr. Farah Fahma, S.TP., M.T., as project supervisor, who guided and provided advice during the capstone project.
4. Prof. Yasmina Sultanbawa and Assoc Prof. Ammar Abdul Aziz from the University of Queensland provided hospitality and knowledge during this Research.
5. Mrs. Mariko Bawi head of PT. Cinta Bumi Nusantara has supported us in conducting the Research.
6. Prof. Dr. Eng. Taufik Djatna, S.TP, M.Si, and Dr. Ir. Muslich, M.Si. as the examiner in the thesis examination.
7. The entire Department of Agroindustrial Technology staff for academic services during the study period at IPB University.
8. All friends from The University of Queensland provided hospitality and motivation during the research process.
9. All family members provided endless support, prayer, and motivation.
10. Alisya Pramudya Wardhani, Bayu Anggoro Kasih, Surya Karunia Ramadhan, and Muhammad Ramadhan are the capstone project team members who have given their best in collaborating to finish this Research.
11. Shafa'a Puteri Al Zahra, my best friend in my class, helped me complete my studies and Research and gave me endless support in pursuing my dream.
12. All Friends from Agria Swara provided endless support and motivation during the Research.

Hopefully, this undergraduate thesis can be as beneficial as it is supposed to be for the industry, writer, reader, and the advancement of knowledge.

Bogor, July 2024

Josephine Fatima Devi



@Hak cipta milik IPB University

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 kitab atau traktat suatu masalah
 - b. Pengutipan tidak merugikan kepentingan yang wajar IPB University.
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin IPB University.

TABLE OF CONTENTS

LIST OF TABLES	11
LIST OF FIGURES	11
INTRODUCTION	12
1.1 Background	12
1.2 Problem Formulation	13
1.3 Objectives	13
1.4 Benefits	13
1.5 Scope	13
LITERATURE REVIEW	14
2.1 Value Chain	14
2.2 Kansei Engineering	14
METHODOLOGY	16
3.1 Project Time and Location	16
3.1 Value Chain Mapping	16
3.2 Packaging Design Using Kansei Engineering	20
RESULT AND DISCUSSION	23
4.1 Designing Product Development	23
4.2 Survey Questioner Result	24
4.3 Global and Client Value Chain Mapping	26
4.4 Kansei Engineering Word Collection	28
4.5 Sematic Differentiation	30
CONCLUSION AND RECOMMENDATION	34
5.1 Conclusion	34
5.2 Recommendation	34
REFERENCES	35
BIOGRAPHY	37

LIST OF TABLES

1	Table 1 Data types and collection technique for value chain mapping methodology	17
2	Table 2 Data types and collection technique for Kansei Engineering	21
3	Table 3 Average rating of importance of each Kansei word from the Kansei word questionnaire survey	29
4	Table 4 Kansei words positive and negative for semantic differential questions	30
5	Table 5 Packaging design combination for semantic differential questions	31
6	Table 6 The average of each design element for each Kansei word. Where no 3 FD and 5 RTD have the most of the highest average for each Kansei word	31

LIST OF FIGURES

7	Figure 1 Show flowchart of methodology for creating value chain mapping in this project	16
8	Figure 2 Flowchart for packaging design using Kansei Engineering	20
9	Figure 3 Three levels of product for kopyor ready-to-drink and freeze-dried kopyor flesh products	24
10	Figure 4 Diagram of customer liking towards existing coconut flesh products and beverages show positive results	24
11	Figure 5 Diagram of customer preference for ingredient content are natural ingredients and willingness to pay high price are depend on the end product will be	25
12	Figure 6 Global value chain mapping for coconut commodities (Abdulsamad, 2016)	26
13	Figure 7 Client kopyor coconut value chain input to end market	28
14	Figure 8 The average of each design element for each Kansei word with the importance of each Kansei word.	32