



ABSTRACT

Topic: Building a product development project to promote the local specialty “Khoai Deo”

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Project Abstract: The project is carried out with the aim of building a product development project for the local specialty “Khoai Deo Co Nuong.” The research content includes: building a product development plan, proposing an appropriate marketing strategy, analyzing financial efficiency, and implementing a plan to bring the product to the market. Through this project, the study aims to enhance the value of the Khoai Deo Co Nuong product, expand the consumption market, and at the same time contribute to promoting sustainable local economic development.

ĐẠI HỌC ĐÀ NẴNG
TRƯỜNG ĐẠI HỌC BÁCH KHOA
KHOA QUẢN LÝ DỰ ÁN

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

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1. Tên đề tài đồ án:

Building a product development project to promote the local specialty “Khoai Deo”.

2. Đề tài thuộc diện: Có ký kết thỏa thuận sở hữu trí tuệ đối với kết quả thực hiện.

3. Nội dung các phần thuyết minh và tính toán:

Chapter 1. Idea formation and development opportunities of the product in the market.

Chapter 2. Product development, production technology process, and product testing.

Chapter 3. Developing a marketing strategy for the product.

Chapter 4. Analysis and evaluation of projected financial performance.

Chapter 5. Implementation plan for production and product market launch.

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6. Ngày giao nhiệm vụ đồ án: 22/02/2025

7. Ngày hoàn thành đồ án: 10/06/2025

Đà Nẵng, ngày 10 tháng 06 năm 2025

Trưởng Bộ môn Quản lý công nghiệp

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PREFACE

Vietnam is a country with a diverse and rich culinary culture, where each region has its own unique local specialties. Among them, Quang Binh province is known as a land of rich traditions and agricultural potential, particularly distinguished by its specialty “Khoai Deo” – a product that strongly reflects the identity of the people in the region of Lao winds and white sand. However, this product is currently still mainly produced by manual methods on a small scale, without significant investment in technology, branding, or market development strategies. As a result, the product has not fully realized its economic value or competitive position in both domestic and international markets.

From this practical context, I chose to implement the topic: *“Building a Product Development Project to Promote the Local Specialty Khoai deo in Quang Binh”* with the goal of building a feasible product development model, including production organization, marketing strategy formulation, financial efficiency analysis, and market development orientation. This project not only contributes to promoting the cultural and culinary values of the homeland but also aims towards sustainable development for local agricultural products.

During the research and implementation process, I received dedicated, insightful, and enthusiastic guidance from PGS.TS. Le Thi Kim Oanh, who accompanied, inspired, and directed me to complete this project in a scientific and practical manner. I would like to express my sincere and profound gratitude to her.

I would also like to sincerely thank the lecturers of the Faculty of Project Management – University of Science and Technology, The University of Danang, for providing me with valuable foundational knowledge throughout the learning process, which served as essential preparation for this project.

Although I have made every effort with a serious and open-minded attitude, this project may still contain certain limitations. I respectfully welcome all valuable feedback from the lecturers to further improve the project.

Sincerely thank you!

STATEMENT OF AUTHORSHIP

My name is: NGUYEN THI NUONG

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I hereby certify that the research topic **“Building a product development project to promote the local specialty ‘Khoai Deo’”** is the result of a process of independent and serious exploration, study, research, and calculation, under the guidance of my academic supervisor. The data used in this thesis were collected from clearly identified, reliable sources and were processed with honesty and objectivity.

I take full responsibility for my research.

Prepared by

NGUYEN THI NUONG

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CHAPTER 1. PRODUCT DEVELOPMENT IDEAS AND MARKET OPPORTUNITIES

1.1. Product Development Idea for "Khoai Deo"

1.1.1. Overview of Approaches to Product Idea Formation

Currently, Vietnamese people are increasingly focusing on health and quality of life, prioritizing natural and safe products without preservatives or additives. According to Nielsen's 2023 report, 78% of Vietnamese consumers are interested in food with natural origins, and 65% are willing to pay more for products without preservatives. In this context, Khoai Deo is a familiar traditional snack in some localities but is mainly produced on a small scale without a professional brand. Therefore, researching and developing product ideas play a crucial role in helping businesses determine the right development strategy, create a unique identity, and enhance competitiveness in the market. To achieve this, businesses need to rely on multiple reliable sources of information and current consumer trends.

First and foremost, market research and customer demand analysis serve as the foundation. Surveying consumer habits, preferences, and expectations for snack foods allows businesses to tailor their products accordingly. Notably, modern consumption trends increasingly emphasize healthy, natural, and convenient food options. This presents an opportunity to develop Khoai Deo with reduced sugar and no preservatives while still ensuring a delicious taste. Additionally, analyzing competitors and substitute products such as dried sweet potatoes, potato snacks, and sweet potato cakes helps businesses assess the strengths and weaknesses of existing market offerings, enabling them to identify suitable improvements.

Moreover, applying advanced processing technologies—such as natural soft-drying without preservatives—or incorporating new ingredients (ginger, honey, roasted sesame, e.g.) can enhance the product's value. According to the Vietnam Association of Food Technology (VAFoST, 2023), soft-drying technology preserves up to 90% of the food's natural nutrients and extends its shelf life to 6–12 months without the need for preservatives. At the same time, a clear brand development strategy, modern packaging, and diverse distribution channels (supermarkets, e-commerce) will help the product reach a broader market.

Finding and shaping product ideas not only help businesses determine the right direction but also create unique products that effectively meet market demands and enhance competitiveness. To achieve this, it is essential to rely on credible sources of

information while combining consumer trends, technological innovation, and a well-structured brand development strategy.

1.1.2. Factors Driving the Development of the Khoai Deo Product

According to data from Statista, Vietnam's food market is experiencing strong growth, reaching \$96.47 billion in 2023, a 9% increase compared to 2022. Among this, the snack and confectionery segment holds the largest share at 14.6%, with a market size of approximately \$14.13 billion in 2023. The rising demand for snack foods, especially those with natural origins and health benefits, presents a significant opportunity for *Khoai Deo*. This trend highlights the product's potential for expansion and market penetration within the healthy snack segment.

Moreover, the "One Commune One Product" (OCOP) program serves as a significant driver for local specialty products like *Khoai Deo* to develop their brand and expand their market reach. According to a report from the Ministry of Agriculture and Rural Development, by 2023, Vietnam had 8,689 OCOP-certified products, with 45% belonging to the processed food category. This not only creates opportunities for brand development but also enables *Khoai Deo* to expand its market through more professional distribution channels, such as supermarkets and e-commerce platforms.

Additionally, changing consumer habits are a key factor driving the development of *Khoai Deo*. Consumers are increasingly prioritizing ready-to-eat, convenient, and nutritious products. *Khoai Deo* aligns well with this trend, as it is not only a healthy snack but also long-lasting, easy to carry, and suited to today's busy lifestyles. Most importantly, the product contains no preservatives and is made from 100% natural ingredients, making it especially appealing to health-conscious consumers who prioritize food safety.

About the source of raw materials, Quang Binh is a region with great potential for agricultural products, with sweet potatoes being one of the key raw materials, especially for the production of the local specialty *Khoai Deo*. Sweet potatoes in Quang Binh are mainly cultivated on white sandy coastal slopes, particularly in Hai Ninh Commune, Quang Ninh District. Thanks to the region's distinctive soil and climate conditions, the sweet potatoes grown here have a vibrant orange-yellow flesh, a naturally sweet taste, and a soft, chewy texture, making them ideal for processing into *Khoai Deo* - a well-known traditional delicacy. However, the cultivated area for sweet potatoes is gradually shrinking, leading to a scarcity of raw materials. To ensure stable production, many processing facilities have expanded sourcing from neighboring areas such as Le Thuy District. To sustain and develop *Khoai Deo* production, restructuring raw material zones and integrating modern preservation

technologies will be crucial. These efforts will not only help preserve and promote this traditional craft but also enhance the economic value for local farmers.

Especially with the growing trend of online shopping and smart consumption, Khoai Deo can reach a wider consumer base through supermarkets, convenience stores, and e-commerce platforms such as Shopee, Lazada, and Tiki. According to an iPrice report, Vietnam’s food and beverage e-commerce market experienced an 87% growth in 2023, creating a promising distribution channel for Khoai Deo. With these factors, Khoai Deo has the opportunity to expand its domestic market share and become a popular healthy snack among Vietnamese consumers.

1.2. Opportunities and Growth Potential of the *Khoai Deo* Product in the Market

1.2.1. Environmental Conditions

1.2.1.1. Macro Environment

1.2.1.1.1. Economic Environment

According to a BMI report, Vietnam is one of the most attractive food and beverage markets globally, ranking 10th in Asia in 2019. The total food sales revenue reached VND 738.115 trillion, with a 14.7% year-over-year (YoY) growth in 2020. Additionally, the average annual food expenditure growth rate from 2020 to 2024 is projected to be 11.3%. By 2030, the number of middle-class households in Vietnam is expected to reach approximately 17 million, positioning the country as the third-largest consumer market and the fifth-largest in total spending in Southeast Asia. At the same time, future consumption trends will increasingly focus on healthier food products, aligning with the growing consumer demand for healthy eating choices.

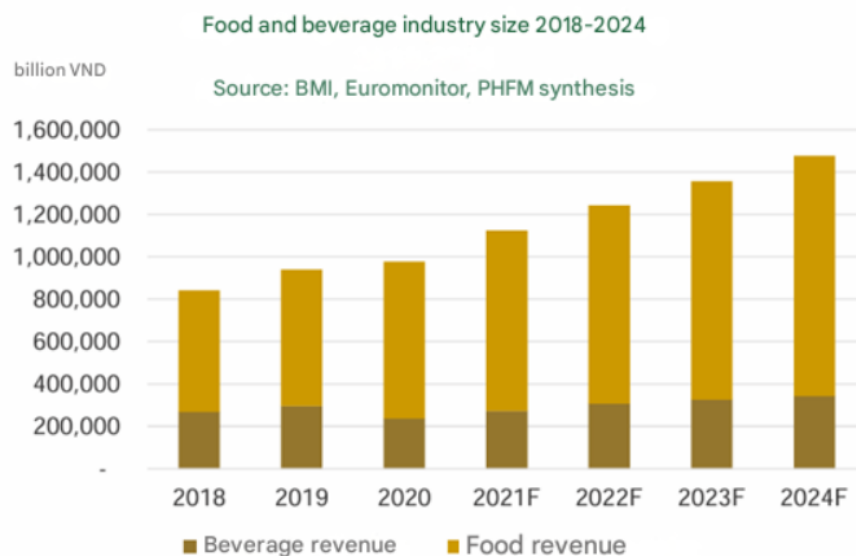


Figure 1. 1. Market Size of the Food and Beverage Industry (2018-2024)

Source: BMI, Euromonitor, PHFM Compilation

In Vietnam, consumers are increasingly health-conscious, prioritizing natural and safe food choices. According to Cimigo’s Report on Healthy Eating Trends and Consumer Demand, 50% of consumers actively seek quality standards when shopping, and 72% are willing to pay 10% more for products with food safety certifications. This trend not only presents a great opportunity for Khoai Deo to reach high-demand consumer groups but also drives the sustainable growth of the clean food industry, enhances economic value, and strengthens the product’s market position.

Moreover, agriculture remains a key sector in Vietnam’s economy, contributing approximately 11% to GDP in 2023. This reflects the government’s interest in agricultural products and processed foods, providing additional supportive policies for local specialties like Khoai Deo to grow. Additionally, domestic consumption trends are shifting toward clean and natural foods, which benefits products like Khoai Deo—a preservative-free snack with a strong market advantage. However, sweet potato prices fluctuate seasonally, impacting production costs. To stabilize supply and pricing, businesses must implement strategic procurement and storage plans, while leveraging processing technologies to minimize raw material losses.

1.2.1.1.2. Socio-Cultural Environment

According to the 2023 report by the Ministry of Industry and Trade, Vietnam's organic and natural food market is growing at a rate of 10–15% per year. This reflects a rising consumer preference for natural foods, as more people prioritize minimally processed, preservative-free products with natural origins. This trend creates favorable conditions for Khoai Deo—a 100% natural sweet potato-based product—to reach a broader market. Additionally, the rapid growth of the tourism industry presents a significant opportunity for Khoai Deo to become a beloved local specialty among tourists.

According to data from the Quang Binh Department of Tourism, the province welcomed over 3.5 million visitors in 2023, marking a 27% increase compared to 2022. This highlights the significant potential for Khoai Deo to develop as a local specialty gift for tourists. Additionally, the Vietnamese consumer habit of buying regional specialties is another key advantage. When traveling, Vietnamese people tend to purchase local delicacies as gifts, creating a strong market opportunity for Khoai Deo. Leveraging these advantages—along with effective marketing and distribution strategies—will help Khoai Deo establish itself as a signature product of Quang Binh, attracting both domestic and international visitors.

Additionally, according to statistics from the Ministry of Labor, Invalids, and Social Affairs, approximately 6.2 million Vietnamese people are living and working

away from their hometowns. This group represents a high-potential customer base, as they frequently seek out regional specialties through online channels. With the rapid growth of e-commerce, online sales of specialty food products in Vietnam increased by 30% in 2023, presenting a major opportunity for Khoai Deo to expand its market reach. Therefore, if Khoai Deo manufacturers focus on product quality, improve packaging, and strengthen online distribution channels, the product has the potential for strong growth in the near future.

1.2.1.1.3. Technological Environment

As the food industry continues to evolve, cold-drying technology is emerging as an advanced solution for extending food shelf life while maintaining quality. According to the National Institute of Applied Technology (NAIT), cold drying can preserve food for 9–18 months without the use of preservatives. This is achieved through a low-temperature drying process (30–50°C) that retains the food’s color, flavor, and nutritional value almost intact.

Compared to traditional heat drying, cold drying prevents sudden water loss, allowing food to maintain its chewiness and resist degradation. This is especially crucial for Khoai Deo, which requires a soft and chewy texture. Moreover, advancements in modern machinery are making cold-drying technology more accessible, reducing production costs, and expanding its applications in the dried food industry.

Additionally, the booming e-commerce sector is driving demand for longer food shelf life. According to the Ministry of Industry and Trade, Vietnam's e-commerce revenue exceeded 227 trillion VND in the first nine months of 2024, a 38% increase compared to the same period last year. This indicates that adopting cold-drying technology not only enhances Khoai Deo’s preservation but also supports market expansion through platforms like Shopee, Tiki, and Lazada.

1.2.1.1.4. Political Environment

The Vietnamese government has launched the "One Commune One Product" (OCOP) program to unlock rural potential, enhance local economic advantages, and increase farmers’ income, thereby promoting sustainable rural development. The OCOP program focuses on developing agricultural, non-agricultural, and service-based products that hold competitive advantages in each locality. This development follows a value chain approach, engaging cooperatives, businesses, and household producers.

Additionally, the Prime Minister has directed ministries, agencies, and localities to implement measures that support farmers, promote sustainable agriculture, and

strengthen rural economies. These measures include guidelines for raw material zone development, innovation in production models, and business operations based on value chains. Furthermore, Decree 98/2018/NĐ-CP outlines policies encouraging cooperation and linkage between production and consumption of agricultural products, providing favorable conditions for local specialties like Khoai Deo to thrive. These government policies create a supportive environment for the development and promotion of Khoai Deo, enabling the product to reach broader markets and enhance economic value for local communities.

1.2.1.2. *Microenvironment*

1.2.1.2.1. *Market Analysis and Competitive Assessment*

Khoai Deo is a traditional specialty of Quang Binh and has gained strong traction in the domestic market. With the growing trend of natural, nutritious, and health-conscious food consumption, demand for Khoai Deo is increasing, especially in major cities such as Hanoi, Ho Chi Minh City, Da Nang, and tourist destinations. Currently, Quang Binh is the largest producer of Khoai Deo, with production mainly concentrated in Hai Ninh Commune (Quang Ninh District) and Le Thuy District. According to statistics, around 250 households and businesses in Quang Binh are engaged in Khoai Deo production, with a total annual output ranging between 270 - 300 tons. Several notable businesses, such as Linh Hue Co., Ltd., Nhu Man Co., Ltd., and Lam Huong Cooperative, have invested in freeze-drying technology to enhance product quality and extend shelf life. This technological advancement gives them a competitive edge in both domestic and potential export markets.

In addition, the domestic Khoai Deo market is rapidly expanding thanks to the growth of both traditional distribution networks and e-commerce. According to the Ministry of Industry and Trade, in the first nine months of 2024, Vietnam's e-commerce revenue exceeded VND 227 trillion, marking a 38% increase compared to the same period last year. This presents an opportunity for Khoai Deo producers to reach more customers through platforms such as Shopee, Tiki, and Lazada. Additionally, the increasing number of tourists visiting Quang Binh has contributed to boosting Khoai Deo sales at specialty stores and airports.

Moreover, domestic Khoai Deo production is on the rise due to growing demand and government policies supporting the development of local agricultural products. The adoption of freeze-drying technology helps extend the shelf life of Khoai Deo, expand distribution channels, and maintain quality during long-distance transportation. The primary raw material for Khoai Deo is red sweet potatoes, which are cultivated in the white sandy soils of Quang Binh. Thanks to the close collaboration between

cooperatives and farmers, the supply of raw materials remains stable and of high quality.

Competition in the domestic Khoai Deo market is increasing as more businesses from other provinces, such as Nghe An, Ha Tinh, and Quang Tri, enter the industry. However, manufacturers in Quang Binh still hold advantages due to their abundant raw materials, long-standing production experience, and ability to apply modern technology. Leveraging e-commerce, improving product packaging, and expanding distribution channels will enable Quang Binh businesses to maintain their market position and achieve sustainable growth in the domestic market.

1.2.1.2.2. Potential for Establishing and Developing a Khoai Deo Production Business

Khoai Deo is a traditional specialty of Quang Binh, increasingly popular due to its natural flavor, high nutritional value, and alignment with the growing trend of healthy eating. Given the rising market demand, establishing and developing a specialized Khoai Deo production business not only unlocks the economic potential of this local specialty but also enhances the added value of agricultural products. However, to succeed, businesses need a clear strategy covering capital investment, production technology, human resources, distribution channels, and product marketing.

Investment in technology is a crucial factor determining product quality and competitiveness. Modern processing methods such as freeze-drying, vacuum drying, or low-temperature drying help preserve Khoai Deo’s signature chewiness, natural flavor, and nutritional value. Additionally, storage technologies, including cold storage or pre-drying methods, play an essential role in maintaining raw material quality before processing. However, implementing these technologies requires a significant capital investment. Funding sources may include personal savings, bank loans, or support from startup investment funds. In the early stages, businesses can optimize costs by adopting lean manufacturing practices and utilizing machinery to reduce labor expenses and enhance production efficiency.

Besides capital and technology, human resources are also a key factor. Recruiting workers for Khoai Deo production is relatively easy, especially in Quang Binh, where there is an abundant labor force from traditional craft villages. Businesses can employ seasonal workers for pre-processing and packaging while investing in proper training programs to improve product quality. For critical positions such as production management, marketing, or e-commerce operations, businesses may consider hiring skilled professionals or outsourcing services to optimize operations.

In terms of development strategy, establishing a standardized VietGAP or organic sweet potato farming area ensures consistent raw material quality and reduces reliance on fluctuating supply sources. Additionally, businesses need an effective distribution strategy to reach customers efficiently. Instead of expanding traditional retail channels, focusing on e-commerce can help optimize costs. Platforms such as Shopee, Tiki, Lazada, Facebook Marketplace, and Instagram enable rapid market penetration without requiring substantial investments in distribution networks. Furthermore, collaborating with specialty stores, mini-marts, and tourist destinations is a crucial strategy to bring the product closer to consumers.

A successful business is not just about selling products; it also involves building strong customer relationships. Flexible return policies, customer engagement via social media, and collecting feedback for product improvements are essential factors in fostering customer loyalty. Integrating QR codes for product traceability enhances consumer trust and provides a competitive advantage over similar products in the market.

For long-term sustainable growth, businesses should adopt eco-friendly production practices, use environmentally friendly packaging, and optimize production processes to minimize raw material waste. Ensuring food safety standards, maintaining transparency in production, and building a brand linked to local heritage will help businesses achieve sustainable growth, not only in the domestic market but also in international markets in the future.

Thus, establishing and developing a Khoai Deo production business is entirely feasible amid an expanding market and advancing production technologies. With a well-defined strategy encompassing production, distribution, and marketing, businesses can create an efficient, sustainable, and scalable business model capable of reaching international markets.

1.2.2. Market Research and Demand Analysis

1.2.2.1. Survey object

The survey object includes domestic consumers (individuals between 18 and 60 years old with low income) and tourists (primarily aged 30–50, who tend to purchase local specialties as gifts). The objective is to assess demand, consumer habits, and the potential for developing Khoai Deo products.

1.2.2.2. Survey Methodology

The survey method is a market research approach that collects information by distributing questionnaires to participants and gathering their responses. The data collected from customer responses will be compiled and analyzed to extract valuable

insights and draw meaningful market research conclusions. The survey process consists of the following steps:

Step 1: Define Survey Objectives

The survey aims to determine customer interest in Khoai Deo, as well as trends in healthy food consumption and local specialties. Additionally, analyzing shopping behavior will clarify factors such as purchase frequency, motivations, preferred distribution channels, and key purchasing influences, including price, flavor, packaging, and branding.

Step 2: Select Survey Tools

Currently, several tools facilitate information collection and response gathering from survey participants. Among them, Google Forms is considered an effective tool due to its convenience, ease of use, and wide accessibility. Compared to direct surveys, online surveys via Google Forms save time, reduce costs, and simplify data aggregation. Therefore, in this study, an online survey method was chosen to collect customer opinions quickly and efficiently.

Step 3: Design the Customer Survey for the New Product

❖ Survey Introduction

Khoai Deo is a traditional specialty of Quang Binh, made from red sweet potatoes using traditional processing methods. It offers a distinctive, chewy, and aromatic taste while being rich in nutrients. Not only is it a familiar snack, but it also holds cultural significance, deeply connected to the lives of local people. Additionally, Khoai Deo contains no preservatives or additives, making it highly suitable for modern consumers who prioritize clean, safe, and naturally sourced foods. With the growing market for regional specialties, Khoai Deo is expanding to more provinces and becoming a meaningful gift for visitors to Quang Binh.

❖ Survey Questions

To gather customer feedback on Khoai Deo, the survey includes questions focused on awareness, preferences, demand, and willingness to pay. To ensure the accuracy of collected data, the survey incorporates multiple question types, including yes/no questions, multiple-choice questions, rating scale questions, and open-ended questions.

Step 4: Conduct the Survey

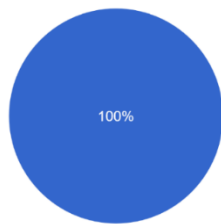
The survey will be distributed via social media to 100 participants to collect data.

1.2.2.3. Survey results

According to statistical data from a real-world survey of 100 customers, Figure 1.3 indicates that 100% of survey participants are aware of the Khoai Deo specialty.

Additionally, Figure 1.3 shows that 66% of respondents are female, while 34% are male. This suggests that Khoai Deo has a high brand awareness and holds significant market potential. However, this also presents challenges in maintaining product quality, meeting the increasing consumer demand, and competing with similar products.

4. Are you familiar with the local specialty "Khoai Deo"?
100 câu trả lời



1. What is your gender?
100 câu trả lời

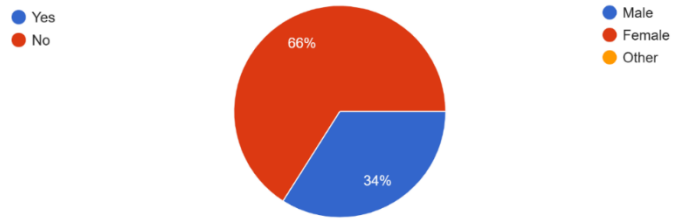
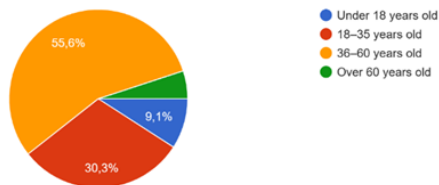


Figure 1. 2. Survey results on awareness of the local specialty "Khoai Deo"

Figure 1. 3. Male/Female ratio

The survey results in Figure 1.4 show that the majority of people who are aware of *Khoai Deo* fall within the age group of 36–60 years (accounting for 55.6%), followed by the 18–35 age group (accounting for 30.3%). This indicates that the primary target customers are mainly working-age and middle-aged individuals—those with stable incomes, a concern for health, and a tendency to choose traditional and natural products. Based on the survey results, the income group earning less than 10 million VND per month accounts for the highest proportion at 60.6%, followed by the group earning between 10–30 million VND per month (32.3%), and the group earning over 30 million VND per month (7.1%).

2. What is your age group?
99 câu trả lời



3. What is your monthly income range?
99 câu trả lời

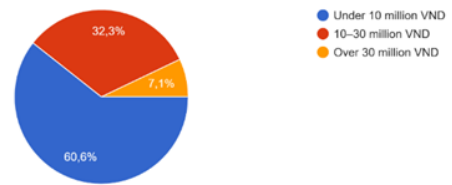


Figure 1. 4. Age group distribution

Figure 1. 5. Income range distribution

The survey results in Figure 1. 6 show that, it can be seen that Khoai Deo is a popular snack. The majority of respondents reported eating Khoai Deo infrequently, accounting for 46.5%, while 30.3% of respondents consume it 1–2 times per week, and 15.2% eat it 2–5 times per week. This indicates that Khoai Deo is also a favored choice for snacking or as a dessert. According to the survey results in Figure 1.7, the most common purchasing method is online (accounting for 40%), followed by markets

(20%) and specialty stores (15.8%), while 10.5% of respondents received Khoai Deo as a gift. To increase sales, attention should be given to both traditional and modern shopping channels.

1. How often do you eat Khoai Deo?
99 câu trả lời

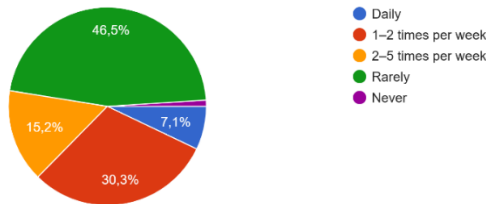


Figure 1. 6. Allocation of Khoai Deo purchasing addresses

2. Where have you purchased Khoai Deo before?
95 câu trả lời

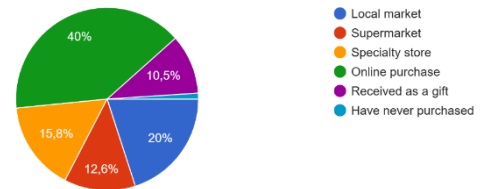


Figure 1. 7. Allocation of Khoai Deo consumption frequency

Additionally, Figure 1.8 shows that consumers primarily use Khoai Deo as a snack (79.8%), as a gift (64.6%), as an ingredient in other dishes (32.3%), and to a lesser extent, as part of family meals (16.2%).

3. What do you usually use Khoai Deo for?
99 câu trả lời

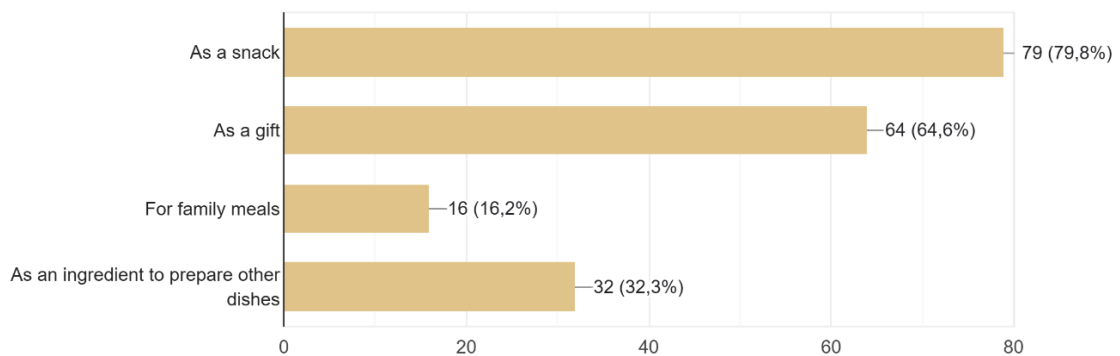


Figure 1. 8. Survey results on the purposes of Khoai Deo usage

According to the survey results in Figure 1.9, consumers place high importance on product quality when choosing Khoai deo, considering it the most critical criterion. This is followed by brand, nutritional value, reasonable pricing, and packaging, which are rated lower than quality.

4. When choosing Khoai Deo products, which criteria are important to you? (1) Strongly disagree; (2) Disagree; (3) Neutral; (4) Agree; (5) Strongly agree

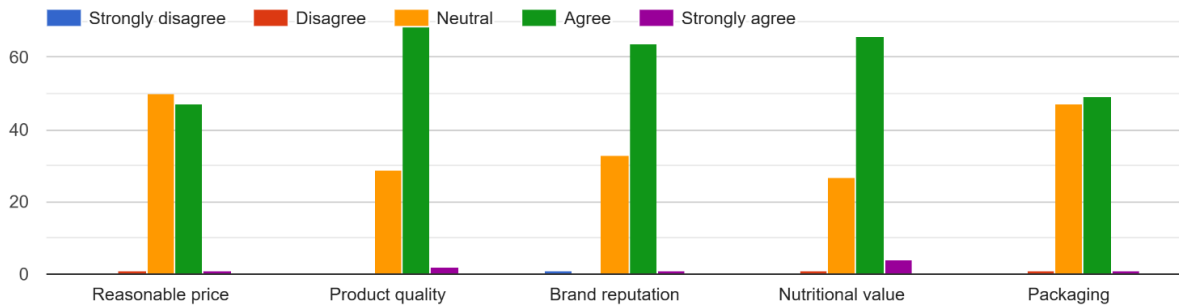


Figure 1. 9. Survey results on the criteria for selecting the “Khoai Deo” product

Additionally, Figure 1.11 shows that most consumers rated the chewiness of Khoai Deo as average (49%), indicating that the product does not particularly stand out in this aspect. Meanwhile, 42% of respondents considered Khoai Deo to be chewy, and 8% stated it was not chewy. This suggests that the product may not yet meet the desired chewiness level for some customers. According to the survey results in Figure 1.10, shows that most consumers rated the chewiness of Khoai Deo as average (49%), indicating that the product does not particularly stand out in this aspect. Meanwhile, 42% of respondents considered Khoai Deo to be chewy, and 8% stated it was not chewy. This suggests that the product may not yet meet the desired chewiness level for some customers. Additionally, Figure 1.11, the price range that consumers consider appropriate for 1kg of Khoai Deo is mainly between 100,000–150,000 VND (accounting for 50%), followed by 150,000–200,000 VND (30%), under 100,000 VND (17%), and the remaining percentage above 200,000 VND. These results indicate that most consumers expect a reasonable price, while also suggesting improvements in the chewiness of the product to better meet customer expectations. Additionally, adjusting the price appropriately and placing greater emphasis on factors such as branding and nutritional value will help enhance the product's value and improve Khoai Deo’s competitiveness in the market.

5. How would you rate the chewiness of the current Khoai Deo?
100 câu trả lời

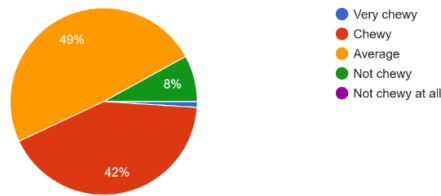


Figure 1. 10. Survey results on the softness of Khoai Deo

6. In your opinion, what is a reasonable price for 1kg of Khoai Deo?
100 câu trả lời

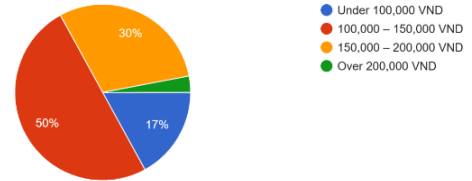


Figure 1. 11. Survey results on the appropriate price for 1kg of Khoai Deo

The survey results indicate that traditional Khoai Deo from Quang Binh achieved the highest awareness rate at 97%, reflecting its outstanding popularity and strong position in consumers’ minds. Following is soft-dried Khoai Deo with 65.3%, suggesting that the product has established initial brand recognition and holds potential for further market expansion. Meanwhile, new product variants such as ginger-flavored (36.6%), honey-flavored (12.9%), and sesame-flavored Khoai Deo (5.9%) recorded significantly lower awareness levels. This indicates that these products have yet to gain clear market recognition, highlighting the urgent need for effective communication strategies and appropriate brand positioning. Based on the collected data, it can be concluded that the traditional product line remains the core of the development strategy. However, to meet diverse consumer trends and expand the target market, businesses should invest in consumer preference research, enhance sensory quality, and strengthen marketing efforts for newly developed product lines.

2. Which types of Khoai Deo are you familiar with? (You may select more than one option.)
101 câu trả lời

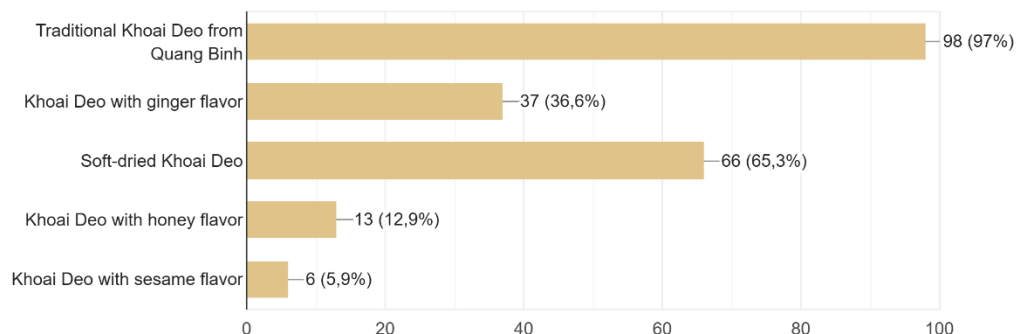


Figure 1. 12. Survey Results on Recognition Levels of Khoai Deo Products

Conclusion: The survey results show that Khoai Deo receives significant interest from consumers, while also highlighting areas for improvement to better meet market demand. Businesses should focus on enhancing the product’s chewiness and consider adjusting pricing in line with customer expectations. In addition, investing in brand development and nutritional value will help increase the product’s value, enhance the consumer experience, and improve competitiveness in the market.

1.3. Product Development Objectives

1.3.1. Product Objectives

Product objectives serve as a strategic direction set by the business to focus on product development and improvement, ensuring customer satisfaction while optimizing profitability. For Khoai Deo, the product development objectives may include:

- Production Objectives: Aiming to enhance the value of Vietnamese agricultural products through production expansion. In the initial 3–6 months, the expected production volume is 8 – 12 tons per month, with a gradual increase to 15 – 20 tons per month after six months.

- Improving Product Quality: Applying advanced processing technologies to extend shelf life without chemical preservatives while enhancing the natural chewiness, flavor, and nutritional value of Khoai Deo.

- Product Diversification: Focusing on three main product variants - traditional Khoai Deo, soft - dried Khoai Deo, and ginger - flavored Khoai Deo - to cater to different customer preferences.

- Meeting Food Safety Standards: Ensuring that the production process complies with quality certifications such as OCOP, HACCP, and ISO to enhance product credibility.

These objectives not only position Khoai Deo as a high-value product but also contribute to building a strong and sustainable brand in both domestic and international markets. To assess the feasibility of these product objectives, the SMART model is applied:

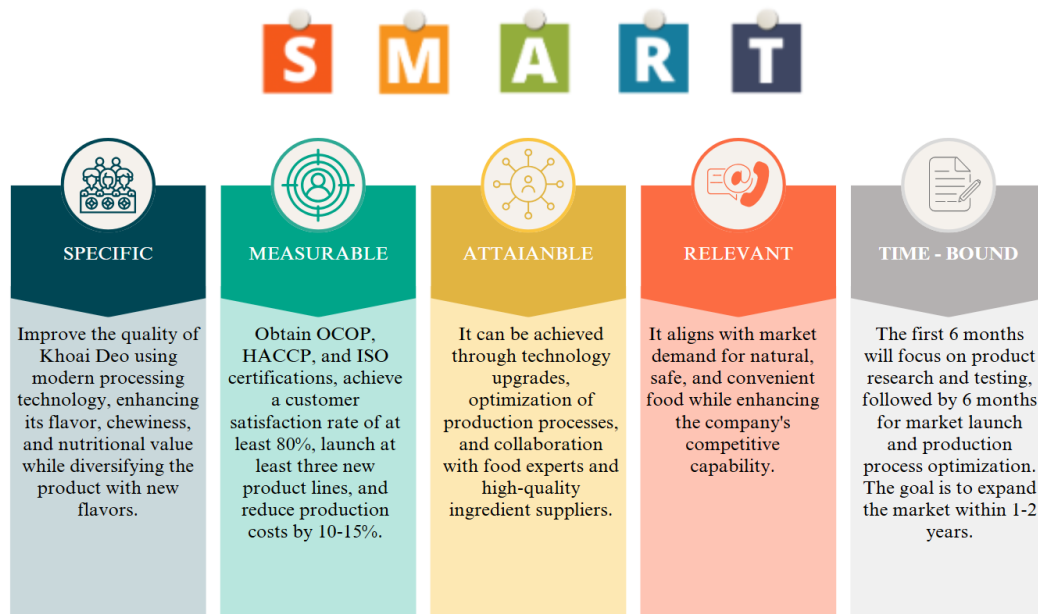


Figure 1. 13. SMART model

Conclusion: The analysis demonstrates that the product objectives are feasible, well-defined, realistic, and achievable within a specific timeframe.

1.3.2. Market Objectives

Market objectives serve as a strategic direction set by the business to expand customer reach, increase market share, and optimize revenue. For Khoai Deo, the market objectives may include:

- Key Domestic Markets: Focusing on core regions such as Quang Binh (the hometown of Khoai Deo) and major cities like Hanoi, Da Nang, and Ho Chi Minh City, where there is high demand for clean food and regional specialties.
- E-commerce Development: Strengthening online sales through platforms such as Shopee, Lazada, Tiki, and Amazon to reach modern consumers who prefer online shopping.
- Brand Development: Establishing Khoai Deo as a standout specialty product of Quang Binh with strong brand recognition through promotional campaigns, media outreach, participation in food fairs, and trade promotion programs.
- Sustainable Revenue Growth: Striving for an annual sales growth rate of at least 8%, ensuring stable profitability and production scale expansion.

– Sales Volume Target: In order to increase the competitive advantage with domestic and foreign businesses, along with the customer to know more new products, we set the goal of sales is to market 15 tons /month.

CHAPTER 2. PRODUCT DEVELOPMENT, MANUFACTURING TECHNOLOGY PROCESS, AND PRODUCT TESTING

2.1. Characteristics and Quality Requirements of Khoai Deo Product

2.1.1. Identification of Purpose, Uses, Ingredients, and Quality Requirements of the Product

2.1.1.1. Purpose and Uses of the Product

❖ Purpose

Khoai Deo is a product that appeals to a wide range of consumers from those who favor natural, healthy foods to tourists seeking local specialties as gifts. With its high nutritional value, Khoai Deo provides sustainable energy thanks to its slow-digesting starch and supports digestion with its rich fiber content. It is commonly enjoyed as a daily snack, a healthier alternative to industrial candies, or as an energy-boosting food for busy individuals, students, and office workers.

In addition, Khoai Deo makes a meaningful gift that carries the distinctive flavor of the region, helping to preserve traditional culinary culture and contributing to local economic development.

❖ Uses

Known as the “**earth ginseng**” of Quang Binh, *Khoai Deo* offers remarkable health benefits. Made from sweet potatoes — a nutrient-dense food — this chewy snack not only provides energy but also promotes digestion, supports heart health, and helps control blood sugar. Key health benefits include:

– *Boosts vitamin A and immunity:* High in beta-carotene, which the liver converts into vitamin A — essential for fighting infections and strengthening immunity.

– *Supports eye health:* Vitamin A plays a vital role in maintaining retinal structure and forming pigments that help the eyes absorb light. Vitamins C and E further protect long-term vision.

– *Helps regulate blood sugar and prevent diabetes:* With a low glycemic index, *Khoai Deo* releases sugar slowly into the bloodstream, aiding in blood sugar control. Magnesium and fiber also reduce insulin resistance.

– *Promotes digestive health:* Its high fiber content stimulates bowel movement, prevents constipation, and improves digestion. Vitamin C and amino acids help reduce bloating and indigestion.

- *Stabilizes blood pressure:* Rich in potassium and magnesium, which balance sodium levels and relax blood vessels for better circulation.
- *Supports heart health:* Loaded with polyphenols (antioxidants), which reduce cardiovascular risks. Soluble fiber helps control cholesterol and prevents arterial plaque buildup.
- *Relieves stress and boosts mood:* Magnesium calms the nervous system and helps manage anxiety, improving overall mood and reducing the risk of depression.
- *May reduce cancer risk:* Contains anthocyanins and polyphenols that fight oxidative stress and slow cancer cell growth, potentially reducing the risk of stomach, breast, and colon cancers.
- *Natural anti-inflammatory:* Choline and anthocyanins help reduce inflammation, especially in chronic conditions like colitis.
- *Improves skin and hair health:* Vitamins A, C, and E support collagen production, promoting firm, smooth skin. Vitamin E also reduces hair loss caused by oxidative stress.
- *Enhances fertility:* Vitamin A plays a key role in women’s reproductive health, while iron helps balance hormones and boosts fertility.
- *Supports weight loss:* High fiber content promotes satiety, reduces cravings, and aids weight management. Pectin, a soluble fiber, regulates hunger hormones to help maintain healthy weight.

2.1.1.2 Composition Characteristics and Quality Requirements for the Product

❖ Composition Characteristics

Khoai Deo is a completely natural product, made without preservatives, additives, or artificial flavorings. With its high content of starch, fiber, and vitamins, Khoai Deo is a nutritious, easy-to-store snack that appeals to a wide range of consumers especially those with a focus on health and wellness. While the ingredients remain purely natural, the production process has been modernized with advanced technology to enhance productivity and ensure more consistent product quality.

Table 2. 1. Nutritional components

Nutritional Component	Description
Red Sweet Potato	High-quality red sweet potatoes are carefully selected to ensure appropriate sweetness and chewiness.
Natural Carbohydrates and Sugars	Sweet potatoes contain approximately 20–25g of carbohydrates per 100g, mostly from natural starches and sugars. No refined sugar is added, only natural sugars present in the potatoes are used.
Vitamins and Minerals	Contains vitamins A, C, B6, along with potassium, calcium, and magnesium, which help boost the immune system and strengthen bones.
Lipids (Fats)	Sweet potatoes are very low in fat (~0.1g/100g), making them suitable for people on a diet or those looking to manage their weight. They contain no cholesterol and help support cardiovascular health.
Sodium and Potassium	Helps maintain fluid balance in the body and supports stable blood pressure.
Fiber	Contains approximately 2.5–3g of fiber per 100g, promoting better digestion and long-term gut health.
Protein	Although sweet potatoes are not a major source of protein, they still contain a small amount (~2g protein/100g), which helps build muscle, regenerate cells, and provide energy.
Iron (Fe)	Sweet potatoes are rich in potassium, with about 230–400 mg potassium per 100g.
Magnesium (Mg)	Helps relieve stress and improves muscle function.
Beta – carotene	A powerful antioxidant that protects the eyes and enhances the immune system.
Anthocyanin	Supports anti-inflammatory functions and protects cells from aging.
Essential Amino Acids	Contains tryptophan, which promotes better sleep and reduces stress.
Prebiotics (Soluble Fiber)	Nourishes gut-friendly bacteria, supporting a healthy digestive system.

❖ **Quality Requirements**

To ensure that Khoai Deo meets high-quality standards, the product must satisfy the following criteria:

–*Raw materials:* Made from 100% fresh sweet potatoes that are carefully selected, free from damage, pests, or sprouting. The potatoes must ensure natural sweetness and an appropriate chewy texture. Genetically modified crops or those with pesticide residues are not permitted. No additives or preservatives are used in order to retain the natural flavor and nutritional value.

–*Color:* The product should retain the natural color specific to the variety of sweet potato used. It must not be darkened, burnt, or faded due to improper processing.

–*Texture and chewiness:* The product should have a moderate chewiness—not too dry or hard. It should feel naturally soft and pliable, without sticking to the teeth.

–*Flavor:* Preserves the distinctive aroma of sweet potatoes with a mildly sweet taste. No artificial sweeteners or coloring agents are added. There should be no sourness, moldy smell, or chemical odor.

–*Nutritional content:* The product must retain key nutrients such as carbohydrates, dietary fiber, vitamins A, C, B6, potassium, iron, and magnesium—offering both energy and health benefits.

–*Food safety:* Must comply with food hygiene and safety standards. The product should be free from harmful bacteria, mold, and heavy metals. It must not contain foreign substances or pesticide residues and must be strictly monitored throughout the processing, packaging, and storage stages.

–*Packaging and storage:* Packaging must be durable and capable of resisting moisture and oxidation to optimally preserve the product. The packaging should clearly display essential information including nutritional content, storage and usage instructions, expiration date, and product origin. The shelf life should be at least 6 months when stored in a dry and cool environment.



Strict adherence to these quality standards not only ensures a premium Khoai Deo product but also enhances brand value and boosts competitiveness in the market.


2.1.2. Presentation Format and Prototyped Products

During the implementation of the project, three product samples of Khoai Deo including: traditional Khoai Deo, soft-dried Khoai Deo, and ginger-flavored Khoai Deo were experimentally developed and finalized. Each product was processed in compliance with the established technical procedures, ensuring food safety standards,

acceptable sensory characteristics, and appropriate storage stability. The packaging design for the sample products was standardized and contained comprehensive information such as: product name, brand identity, list of ingredients, instructions for use and storage, manufacturing and expiry dates, QR code for traceability, OCOP certification, and contact details of the production facility. The completion of the sample products provides a critical basis for evaluating the feasibility and commercial viability of the proposed production process.

Table 2. 2. Product Description

Product Name	Sensory Characteristics	Distinctive Features	Visual Illustration
Traditional Khoai Deo	Elongated slices, natural yellow-brown color, soft and flexible texture, characteristic aroma of sun-dried sweet potato.	Preserves the traditional processing technique specific to the Le Thuy region; free from additives; suitable for consumers who prefer traditional products.	
Soft-dried Khoai Deo	Softer and more pliable than traditional version; bright yellow color; non-sticky surface; mildly aromatic.	Incorporates modern drying technology to enhance shelf life; more convenient for packaging, storage, and transportation.	

<p>Ginger-flavored Khoai Deo</p>	<p>Shredded or thinly sliced form; reddish-brown color; mildly sweet with a hint of spiciness; natural ginger aroma.</p>	<p>An innovative adaptation of traditional Khoai Deo, featuring a novel flavor profile; suitable for daily consumption or as a gift; supports digestion.</p>	
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To enhance product value and promote brand visibility among consumers, the “Khoai Deo Co Nuong” line was developed with a modern, visually appealing packaging system and scientifically structured promotional materials while maintaining traditional identity. The product brochure was designed in a tri-fold format with a logical layout, presenting essential content such as brand information, nutritional composition, unique selling points, and realistic visual representations of the products. This promotional medium plays a significant role in marketing communication, trade promotion, and product presentation at exhibitions and specialty retail outlets.

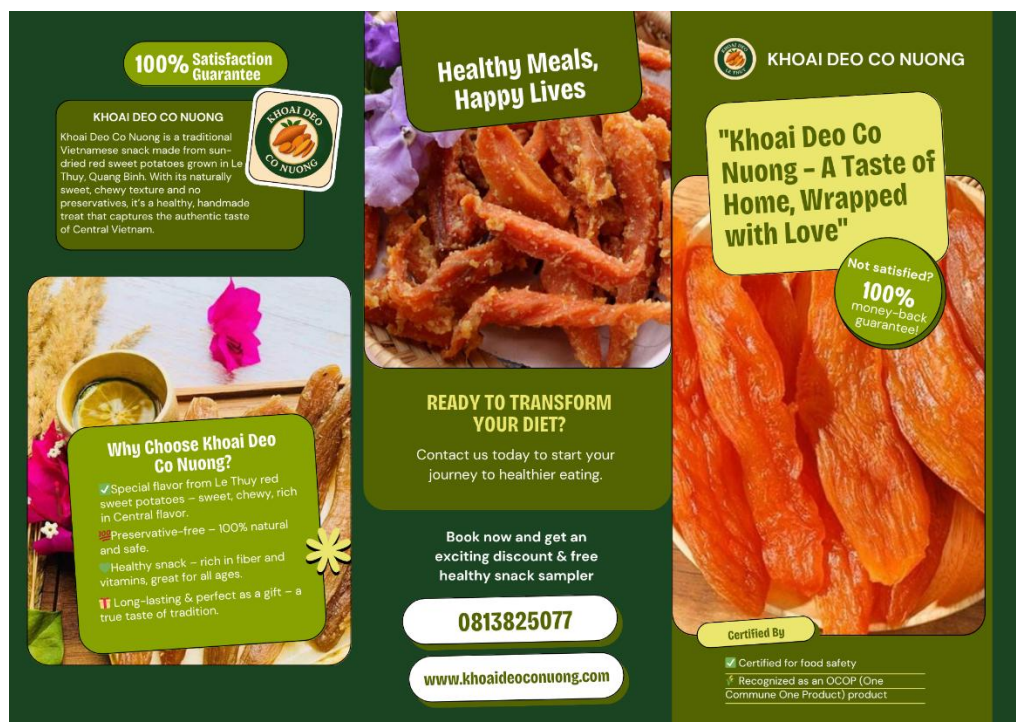


Figure 2. 1. Product Introduction Brochure

2.2. Technology and Production Process of Khoai Deo

2.2.1. Selection of Production Technology and Scale

Cold-drying is an optimal method for producing Khoai Deo due to its ability to preserve the product’s natural color, flavor, and nutritional value. This technology works by using dry air at low temperatures (around 30–45°C) to evaporate moisture without altering the structure of the sweet potato. The cold-drying process includes the following steps: selecting and preprocessing the sweet potatoes, slicing, drying in a controlled environment with regulated temperature and humidity, and finally storing the finished product in vacuum-sealed bags or cold storage to maintain quality. In addition, to ensure the raw materials meet quality standards before drying, proper preservation methods should be applied—such as storing sweet potatoes in cold rooms at 13–15°C, in dry sand, or in naturally ventilated warehouses. Thanks to the combination of cold-drying technology and modern preservation methods, Khoai Deo retains its soft texture, vibrant color, and long shelf life, effectively meeting market demands.

❖ Production Scale

- Project name: Khoai Deo Co Nuong Production Plant.
- Location: Quang Binh Province.
- Investment area: 2100 m².
- Form of investment: New construction investment, applying modern technology to optimize the production process, enhance product quality, and meet market demand.

The design capacity refers to the maximum production capability a business can achieve under designed conditions. These conditions include: machinery and equipment operating normally without interruptions, breakdowns, or power outages; all input factors are fully ensured; and the company operates according to the designated working schedule. The design capacity is calculated based on the hourly capacity of key machinery and the total annual working hours, using the formula:

Design capacity = Design capacity/hour x Number of working hours/shift x Number of working shifts/day x Number of working days/year.

Calculation data: Operating days: 300 days/year; shifts: 1 shift/day; hours: 8 hours/shift; monthly design capacity: 15 tons/month.

Therefore: Design capacity = (15 / 25/ 8) × 8 × 1 × 300 = 180 tons/year.

2.2.2. Production technology process Khoai Deo

2.2.2.1. Production technology process

Khoai Deo is a processed food product derived from high-quality fresh sweet potatoes. The production process involves preliminary treatment, slicing, and low-temperature dehydration to yield a final product with a soft, pliable texture, distinctive aroma, and visually appealing golden hue. The dehydration stage is carefully controlled to preserve the product’s nutritional integrity and extend its shelf life. With its natural sweetness and high retention of dietary fiber, vitamins, and minerals, sweet potato chew serves as a functional snack that meets the growing consumer demand for convenient, healthy, and preservative-free food options.

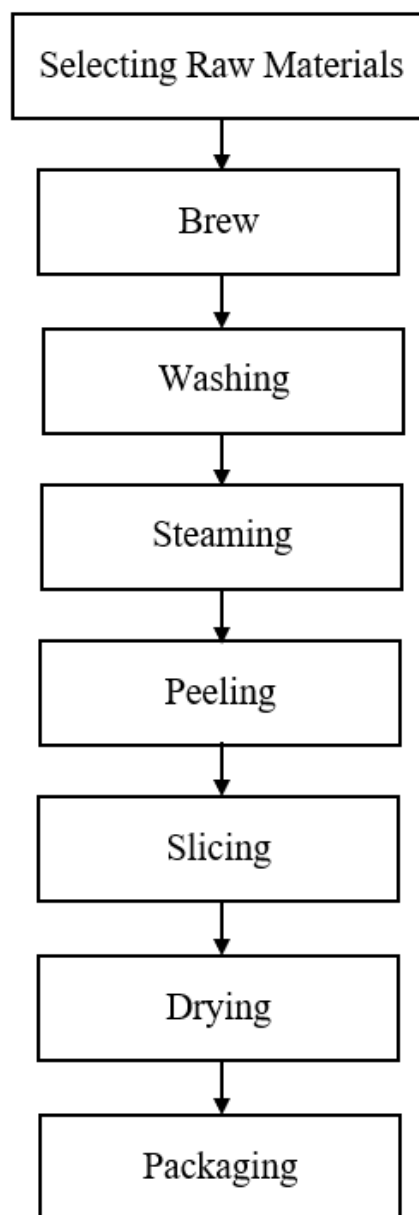


Figure 2. 2. The Production Process of Khoai Deo

❖ **Selecting Raw Materials**

Raw materials are a key factor that directly affects the quality of Khoai Deo. Therefore, it is essential to select them carefully at this stage to avoid producing substandard products. Choose sweet potatoes with uniform sizes—not too small or too large. The potatoes should have a natural color, and preference should be given to varieties with a rich sweetness, such as red-fleshed sweet potatoes.

❖ **Brew**

After harvesting, the potatoes are lightly exposed to the sun for about 2 hours, then incubated in the shade, where they dry for 7-10 days. Note that when storing potatoes, choose a place that is clean, dry. Ensure high ventilation to avoid potato germination. Continue to incubate the potato until it loses its moisture. It means no more potatoes and no more butter. Then it is washed, boiled, and dried. This step is extremely important to ensure the resulting dried sweet potato slices are soft, aromatic, flavorful, and retain their original natural taste.

❖ **Washing**

After incubation, the sweet potatoes are washed clean to remove soil and sand. Depending on the production scale, businesses can choose to wash the sweet potatoes using specialized machines or by manual methods. The goal of this washing process is to completely remove soil, mud, and impurities attached to the surface of the sweet potato skin. At the same time, it ensures that there are no bacteria, mold, or harmful substances that could affect the quality of the product.

❖ **Steaming**

After washing, proceed to steam. The sweet potatoes are steamed using a steam system at a high temperature (90-100°C) and the steaming time is about 50-60 minutes. The steaming process will help the sweet potatoes ripen evenly, retaining their natural color and soft texture, while preserving maximum nutritional content. The sweet potatoes are then cooled with a cooling conveyor before moving on to the next stage.

❖ **Peeling**

Peeling during the production process of Khoai Deo helps remove impurities, bacteria, and the tough outer skin. This makes the sweet potatoes have a better color, avoids bitterness, and prevents any negative impact on the product’s flavor. In addition, peeling also helps the sweet potatoes dry more evenly, ensuring consistent quality upon completion.

❖ **Slicing**

After peeling, the sweet potatoes are sliced to an appropriate thickness (usually from 5–10 mm). Slicing increases the surface area exposed to hot air, making the moisture evaporation process faster, shortening the drying time, and helping the sweet potatoes dry evenly. As a result, Khoai Deo after drying have the necessary chewiness, uniform shape, attractive color, and stable quality when introduced to the market.

❖ **Drying**

Currently, there are many methods for drying Khoai Deo. However, Hot Air Drying is the most commonly used method in industrial dried sweet potato production due to its high productivity, low cost, and simple operation process. This method operates based on the principle of hot air convection, in which hot air is blown and circulated by fans through the trays of sweet potatoes to evaporate moisture, reducing the moisture content to the standard level of 15–20%. The drying temperature usually ranges from 50–70°C, and the drying time is about 8–12 hours, depending on the thickness of the slices and the capacity of the drying system.

After being steamed, the sweet potatoes are peeled, evenly sliced (5–10 mm thick), and placed on trays to ensure effective hot air circulation. During the drying process, it is necessary to control the temperature properly to prevent the sweet potatoes from becoming too dry or burnt. After drying, the sweet potatoes are checked for chewiness, color, and flavor before being cooled and packaged.

❖ **Packaging**

After drying reaches the standard, the sweet potatoes are given a final inspection and any pieces that do not meet requirements are removed. To ensure quality and extend shelf life, the packaging process is usually carried out in a sterile environment.

The packaging used is typically high-quality types such as vacuum-sealed bags or zip bags, which help protect the sweet potatoes from mold, oxidation, and preserve their chewy and tender texture.

2.2.1.2. Machinery and Technical Specifications

To produce Khoai Deo on an industrial scale, it is necessary to use a modern machinery system to ensure high productivity, stable quality, and compliance with food hygiene and safety standards. Below are the main equipment along with their technical specifications:

❖ **Industrial Potatoes Washing Machine**

The industrial sweet potato washing machine is a device widely used in agricultural processing facilities. With a specialized design, the machine can quickly clean tubers such as sweet potatoes, potatoes, and taro without scratching their surfaces. The rolling brush system combined with a frequency inverter allows flexible adjustment of washing speed, ensuring thorough removal of soil and mud while preserving the outer skin. In addition, the machine helps save water, increase productivity, and significantly reduce labor time, thereby optimizing labor costs for businesses.

Functions of industrial potato washing machine:

- Effectively cleans vegetables such as sweet potatoes, potatoes, and taro without scratching the surface.
- The rolling brush system removes soil and mud while preserving the outer skin.
- Integrated with a frequency inverter to adjust speed suitable for different types of agricultural products.
- Saves water and optimizes water usage during the washing process.
- High productivity, capable of handling large quantities in a short time.
- Reduces labor costs by automating the washing process, saving manual effort.



Figure 2. 3. Industrial Potatoes Washing Machine

Technical Specifications:

Table 2. 3. Technical Specifications of Industrial Potatoes Washing Machine

Material	Stainless Steel 304
Voltage	220V
Power	1.2 Kw
Dimensions	850x1700x1000 mm
Capacity	50 kg/batch
Number of rolling bush shafts	06 units
Reduction motor	2HP

❖ Industrial Sweet Potato Steaming Cabinet

The 24-tray sweet potato steaming cabinet is an optimal solution for modern food production facilities. Unlike traditional steaming pots that are time-consuming and often result in soggy sweet potatoes, this industrial steamer ensures even cooking, preserving the fluffy texture and natural flavor of the product. The equipment not only enhances production efficiency but also reduces operating costs, ensures food safety and hygiene, and is well-suited for large-scale manufacturing.

Functions of the Industrial Sweet Potato Steaming Cabinet:

- Even and quick steaming of sweet potatoes using high-temperature steam, preserving natural flavor and soft, fluffy texture.
- Optimized productivity with a steaming capacity of 100–120 kg per batch, suitable for industrial-scale production.
- Energy and time-efficient thanks to effective insulation and an automated operating mechanism.
- Flexible temperature and time settings, suitable for steaming various types of food.
- Automatic water supply and drainage system for convenient and safe operation.
- Capable of steaming a wide range of food products.
- Excellent heat retention, minimizing heat loss and saving electricity or gas.
- Ensures food safety and hygiene with high-quality stainless steel construction.

Technical Specifications:

Table 2. 4. Technical Specifications of Industrial Sweet Potato Steaming Cabinet

Material	Inox 304
Number of trays	24 trays
Power consumption	18 kW

Steaming temperature	100°C
Steaming Time	45–60 minutes per batch
Tray Dimensions	400 x 600 mm



Figure 2. 4. Industrial Sweet Potato Steaming Cabinet

❖ Cold Dryer MSL – 600

The MSL-600 cold dryer is a specialized device that uses advanced cold drying technology, allowing food to be dried at low temperatures while preserving the product's original color, flavor, and nutritional content. This machine is widely used in the food processing, pharmaceutical, and agricultural industries for products such as soft-dried fruits, medicinal herbs, meat, seafood, and various vegetables.

Functions of cold dryer MSL – 600:

–Preserves nutritional value: Thanks to low-temperature drying technology (20–60°C), the dried food retains its nutrients and is not degraded as with high-heat drying methods.

–Maintains natural color and flavor: The product retains its original color and is not burned or flavorless as can occur with traditional thermal drying.

–Energy-efficient: The air circulation technology helps reduce power consumption, thereby lowering production costs.

–Precise moisture control: The machine allows moisture levels to be adjusted to suit each type of food, enabling long-term storage without mold.

–Versatile applications: Suitable for drying fruits (jackfruit, mango, dragon fruit, banana...), agricultural products (onion, garlic, chili, vegetables), medicinal herbs (ganoderma, ginseng, herbal tea), and foods (dried meat, dried fish).



Figure 2. 5. Cold Dryer MSL - 600

Technical Specifications:

Table 2. 5. Technical Specifications of Cold Dryer MSL - 600

Model	MSL - 600
Drying chamber volume	600 liters
Average drying capacity	60 kg/batch
Drying trays (Inox 304)	16 trays
Tray dimensions	580 × 750 × 30 mm
Voltage	220V / 50Hz
Available drying temperature range	15 – 55°C
Optimal drying temperature	28 – 35°C
Average power consumption	1.5 kw/h

❖ Vacuum Packaging Machine – Double Chamber Model DCS-5Z2-II

The vacuum packaging machine DCS-5Z2-II is an industrial device designed for packaging and preserving products by removing the air inside the packaging bag. This helps extend shelf life and maintain product quality. The machine is equipped with two alternating vacuum chambers, increasing productivity and operational efficiency.

Main functions: + Vacuuming: Removes air from the bag containing the product, preventing oxidation and bacterial growth.

+ Packaging and sealing: After vacuuming, the machine seals the bag’s opening, ensuring the product is safely and hygienically preserved.

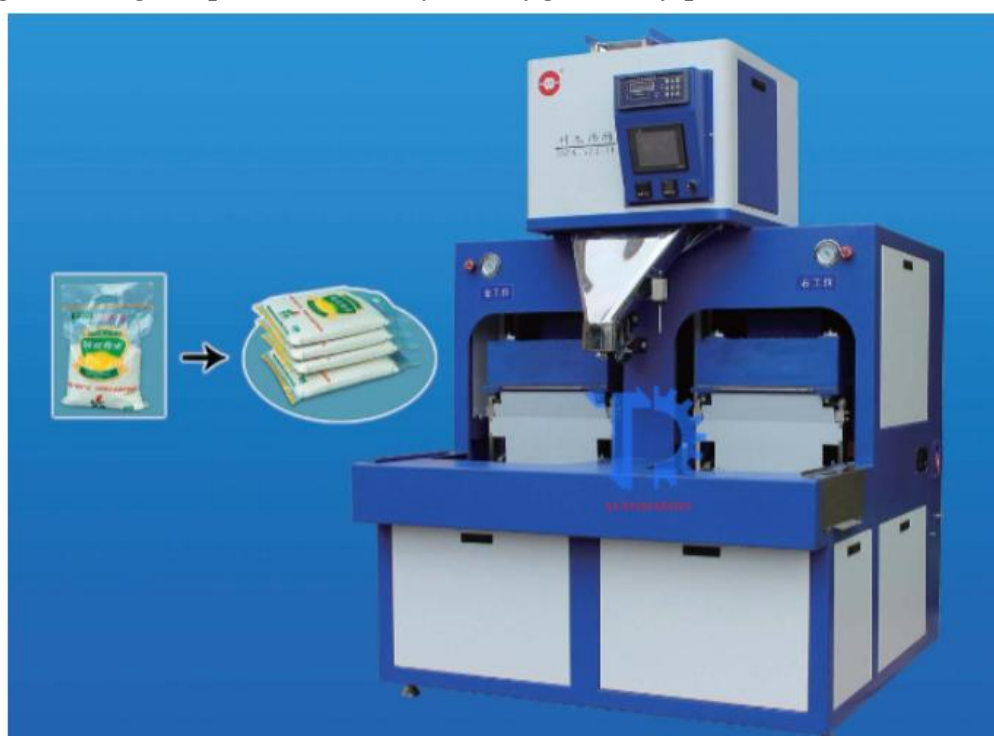


Figure 2. 6. Vacuum Packaging Machine – Double Chamber Model DCS-5Z2-II

Technical Specifications:

Table 2. 6. Technical Specifications of Vacuum Packaging Machine – Double Chamber Model DCS-5Z2-II

Machine Model	DCS – 5Z2 – II
Packaging Range	2 – 5 kg
Speed (bags/hour)	≥ 380 bags/hour
Operating Humidity	< 90%
Weighing Accuracy	X (0.1)
Power Supply	AC380V 50Hz 2.5Kw
Required Air Pressure	0.4 ~ 0.8 MPa, 5 m ³ /h

2.2.1.3. Source of raw materials

The main ingredient for producing Khoai Deo is red sweet potato – a type of sweet potato rich in starch, natural sugars, and fiber, which helps create the characteristic chewy texture after drying. In Quang Binh, red sweet potato varieties are common, featuring soft flesh and a sweet, nutty flavor, making them very suitable for processing Khoai Deo, while retaining the delicious taste and typical chewy texture. Some major red sweet potato growing areas in Quang Binh include Bo Trach District, Quang Ninh District, Le Thuy, and Tuyen Hoa. These regions have suitable climate and soil conditions for cultivating high-quality sweet potato varieties to meet production demands.

The use of sweet potatoes sourced entirely from Quang Binh not only ensures consistent quality but also helps preserve traditional values and create a distinctive brand identity for the product. At the same time, it contributes to local economic development by providing farmers with stable market access and enhancing the value of the province’s specialty products.



Figure 2. 7. Fresh Red Sweet Potatoes

Sweet Potato Selection Criteria:

- Clear origin: From cultivation areas with suitable soil conditions, ensuring consistent quality.
- Freshness: Recently harvested sweet potatoes, not wilted, bruised, or infested with pests.

– Size: Uniform tubers, neither too large nor too small, averaging 150–300g per tuber.

– High starch and sugar content: Enhances the natural sweetness of the final product.

– Naturally preserved (free from chemical preservatives): Sweet potatoes must be clean, free from pesticide residue or chemical preservatives to retain their distinctive flavor.

Currently, the sweet potato yield in Quang Binh is estimated at around 3,000–4,000 tons per year. By partnering with agricultural cooperatives and farming households in the communes of Le Thuy district, the production facility can ensure a stable supply with a capacity of 20–30 tons of fresh sweet potatoes per month, equivalent to about 5–8 tons of Khoai Deo after processing. The main harvest season runs from November to February each year, but sweet potatoes can be preserved in sand or cool storage, allowing for a year-round supply of raw materials. In case of production scale expansion, additional sweet potatoes can be sourced from other nearby areas.

Therefore, selecting high-quality raw materials and ensuring strict control from cultivation and procurement to production is a key factor in creating delicious, nutritious, and food-safe Khoai Deo products.

2.2.1.4. Human Resources

Quang Binh is a province with an abundant labor force, especially in rural areas such as Le Thuy, Bo Trach, and Quang Ninh – regions with a long-standing tradition of agricultural production and processing. According to the Quang Binh Statistical Office in 2023, more than 60% of the working-age population resides in rural areas. Although the proportion of unskilled labor remains high, these workers possess advantages in practical experience, diligence, and reasonable labor costs. These are favorable conditions for recruiting and training workers to serve the production process of khoai Deo – a product that requires many manual stages such as washing, steaming, drying, slicing, and packaging.

In addition, Quang Binh province is actively promoting the development of agricultural economic models that apply technology, while also supporting cooperatives and traditional production facilities to meet food safety standards (OCOP, VietGAP). This creates favorable conditions for businesses to access a labor force with a sustainable development orientation. Therefore, it can be affirmed that Quang Binh has great potential in terms of human resources to support the production, development, and expansion of the Khoai Deo brand in the near future.

Expected Personnel Plan:

– *Management Department:* 2 person. Includes 1 Chief Executive Officer (CEO) responsible for overseeing all company operations, acting as the legal representative, and making strategic decisions regarding business and production development; 1 Administrative – Financial Manager in charge of financial and accounting tasks, including tracking expenses, payroll, payments, social insurance, and business contracts. This role also handles administrative and HR tasks such as recruitment, document management, and ensuring effective office operations.

– *Marketing Department:* 3 people. Includes 1 Department Head, responsible for planning business and marketing strategies as well as managing and evaluating performance; 2 Marketing Staff responsible for customer acquisition, developing the client network, and managing distribution channels.

– *Production Department:* 2 people. Main responsibilities include supervising workers, quality control, operating and maintaining machinery, monitoring production materials, and ensuring occupational safety. This department acts as a bridge between production planning and on-site implementation, ensuring efficient operations and meeting production schedules.

– *Direct Production Workers:* 10 people. Perform tasks such as processing, packaging, cleaning, and preserving products according to established procedures.

Total expected personnel: **17 people.**

2.3. Estimated Scale, Site Layout Plan, and Construction Solution

2.3.1. Construction Scale

Total land area: 2100 m².

2.3.2. General Site Layout Plan

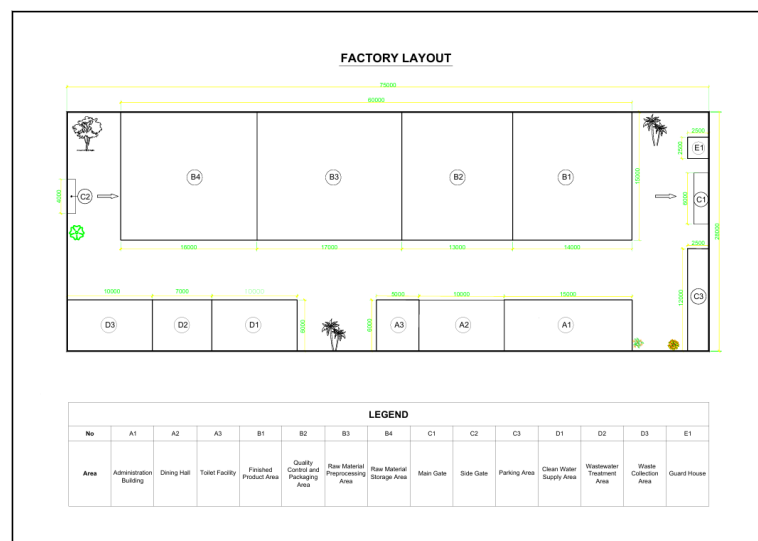


Figure 2.8. Overall factory layout

2.3.3. Construction Solution

Site Layout Objective: The selected location must be situated in an area with stable industrial development planning, ensuring convenient transportation for raw material delivery and product distribution. Cam Lien Industrial Park, Le Thuy District, Quang Binh Province, is deemed an ideal site for project implementation.

With a total land area of 2100 m², the site will be logically arranged into distinct functional zones such as production workshop, administrative building, and auxiliary areas. The layout will follow scientific principles to meet technical and technological standards, ensure occupational safety, and comply with food hygiene regulations.

In addition, the layout must also align with local requirements for fire prevention and environmental protection, including space allocation for wastewater treatment, solid waste collection, and green areas. The overall goal is to maximize land-use efficiency, minimize infrastructure investment costs, and ensure long-term operational functionality.

Thus, the layout must simultaneously satisfy technical, technological, environmental, and economic efficiency requirements—serving as a foundation for the sustainable development of the project.

Factory Architecture:

Based on the required space for equipment arrangement and the investor’s capacity, the facility will include the following structures:

Table 2. 7. Construction works categories

No	Structure Category	Dimensions (m)	Area (m²)	Structural Type
I	Production Workshop			
1	Raw Material Storage Area	15x16	240	Pre-engineered steel frame, insulated metal roofing, brick walls
2	Raw Material Preprocessing Area	17x15	255	Pre-engineered steel frame, insulated metal roofing, brick walls
3	Quality Control and Packaging Area	15x13	195	Pre-engineered steel frame, insulated metal roofing, brick walls
4	Finished Product Area	15x14	210	Pre-engineered steel frame, insulated metal roofing, brick walls

No	Structure Category	Dimensions (m)	Area (m ²)	Structural Type
II Administrative Area				
1	Administration Building	15x6	90	Reinforced concrete with steel columns, metal roof, brick walls
III Production support area				
1	Parking Area	12x2.5	30	Assembled steel frame, metal roof, no walls
2	Toilet Facility	5x6	30	Reinforced concrete
3	Dining Hall	10x6	60	Reinforced concrete
4	Guard House	2.5x2.5	6	Reinforced concrete
5	Waste Collection Area	10x6	60	Reinforced concrete
6	Wastewater Treatment Area	10x6	60	Reinforced concrete
7	Clean Water Supply Area	10x6	60	Reinforced concrete
8	Internal Company Roads	120x3	360	Asphalt pavement
9	Gate	3x3	9	Reinforced concrete with steel columns, iron gate

2.4. Product Testing Plan

Product quality testing prior to market launch is an essential step for businesses to demonstrate to customers and regulatory authorities that their products meet relevant standards and technical regulations. In addition, product testing serves as a form of market research, allowing businesses to gather consumer feedback and insights. Testing new ideas and products helps validate their feasibility and provides a basis for making appropriate adjustments.

2.4.1. Defining Testing Objectives

The objective is to evaluate product quality, pricing, packaging, market potential, and marketing strategy. The testing process collects feedback on attributes such as texture, flavor, color, and sweetness to support product improvement, while also determining optimal pricing based on customer preferences. Additionally, it assesses the appeal of packaging and the effectiveness of various distribution channels such as specialty stores, trade fairs, and e-commerce platforms. Testing also serves to evaluate

promotional strategies, product shelf life, and optimize the overall business plan prior to official launch.

2.4.2. Product Testing Implementation Plan

2.4.2.1. Product Testing

To assess customer acceptance, the business will implement the product testing program through various methods. First, it is essential to clearly define the target audience, including individual consumers such as households, office workers, and those interested in healthy food options. In addition, the product will be introduced to potential retail channels such as mini-marts and clean food stores to evaluate its market penetration potential.

During the testing phase, key attributes such as the chewiness, natural sweetness, and aroma of the *Khoai Deo* will be evaluated to ensure alignment with consumer preferences. Simultaneously, pricing will be assessed to determine customers’ willingness to pay and the product’s competitive positioning. Gathering real consumer feedback will allow the company to promptly refine the product before its official launch, ensuring it meets market demands effectively.

2.4.2.2. Testing Locations

The product will be tested at locations that allow access to the right target customers, provide exposure to actual consumers, enable feasible feedback collection, and offer opportunities to expand distribution channels.

Proposed Locations: Specialty stores selling Quang Binh regional products, mini-marts, and clean food stores that cater to consumers interested in natural, preservative-free products in Hanoi, Da Nang, and Ho Chi Minh City. An estimated 8–10 retail points will be selected in each area.

2.4.2.3. Product Testing Procedure

Once the target audience, testing objectives, and suitable testing locations have been determined, the company will proceed to deliver the product to the selected sites and allow customers to experience it. The process includes monitoring customer reactions before, during, and after using the product.

Before Product Use: At this stage, initial consumer reactions to the product’s appearance—such as packaging, design, and presentation—are observed. Consumer feedback should be collected regarding packaging design and visual appeal, as this forms the first impression of the product and plays a crucial role in consumer perception.

During Product Use: This is when consumers begin preparing or using the product. Observations should focus on how the product is handled and consumed, as well as the users' immediate responses. This is the most critical stage, as it provides in-depth insights into the customer's actual product experience.

After Product Use: Consumers will provide an overall evaluation of the product. The company will collect feedback on general satisfaction and identify factors that may influence future purchasing behavior. Finally, customer usage results are compiled and used to assess the overall effectiveness of the testing phase.

CHAPTER 3. DEVELOPING A MARKETING STRATEGY FOR THE PRODUCT

3.1. Market and Target Customer Analysis for the *Khoai Deo* Product

3.1.1. Analysis of the Current Market Situation

Khoai Deo is a traditional specialty of Quang Binh Province, gradually establishing its position in the Vietnamese food market, especially in the context of the rapidly growing snack industry. According to a Statista report (2024), Vietnam’s snack market is projected to reach USD 176.23 million by 2025, with a compound annual growth rate (CAGR) of 13.13% during the period 2025–2029, leading to an expected market volume of USD 288.64 million by 2029. This indicates a clear shift in current consumer trends toward natural-origin products, low in sugar, and free from preservatives — creating favorable conditions for healthy specialties like Khoai Deo to thrive.

In terms of actual consumption, the product was initially consumed mainly within the province and through small-scale sales at local markets. However, in recent years, with support from OCOP programs, regional agricultural fairs, and trade promotion activities, Khoai Deo has gradually expanded to major markets such as Hanoi, Da Nang, and Ho Chi Minh City. According to information from quangbinhs.vn, the Khoai Deo market is currently growing strongly. In particular, in Hai Ninh Commune, Quang Ninh District, there are about 250 households producing Khoai Deo with an output of nearly 300 tons per year. In addition, many businesses such as Linh Hue Co., Ltd., Nhu Man Co., Ltd., and Lam Huong Cooperative have successfully developed wholesale and retail distribution channels, reaching an average annual consumption of 50–80 tons of Khoai Deo, with revenue in the billions of VND. Their products have achieved the 3-star OCOP standard, demonstrating a stable market demand and the potential for sustainable growth.

However, the current market for Khoai Deo is also facing several challenges. Fierce competition from modern snack products—with eye-catching packaging, low prices, strong promotional strategies, and long shelf life—remains a major pressure. Additionally, many small-scale producers have yet to meet standards for quality and food safety, and they lack brand-building strategies, making it difficult for the product to expand into export markets or modern retail systems. Finally, the current market for Khoai Deo is in an expansion phase, with a stable domestic consumption base, a

growing trend toward green–clean–healthy consumption, and significant potential in the specialty gift and healthy food segments.

3.1.2. Market Segmentation and Target Market Identification for the Product

3.1.2.1. Market Segmentation

❖ Demographic Segmentation

By Age:

Age-based market segmentation helps accurately define the needs, behaviors, and payment capacities of each potential customer group for Khoai Deo — a local specialty rich in traditional and nutritional value. This segmentation is based on two main foundations: psychological and consumer behavior characteristics at each life stage, and the structure of Vietnam’s population according to the 2024 Midterm Population and Housing Survey published by the General Statistics Office (GSO), combined with interpolation to identify age groups of significance in market analysis.

According to data from the General Statistics Office of Vietnam in 2024, the country's population reached approximately 100.3 million people. From this, the consumer market can be divided into four common age groups based on behavior and consumption habits as follows: people under 18 years old account for about 23%, those aged 18–35 make up 24%, the 36–60 age group accounts for 28%, and those over 60 comprise about 15%.

The under-18 age group consists mainly of students and children, who usually spend pocket money provided by their parents. According to a quick survey conducted at three lower and upper secondary schools in Quang Binh, 70% of students enjoy snacking during recess, with “sweet – soft – easy-to-eat” products such as candy and dried fruits being particularly favored. However, their ability to make independent purchasing decisions is still limited, especially for traditional products like Khoai Deo. Therefore, to reach this group, it is necessary to focus on eye-catching packaging design, affordable pricing (under 10,000 VND), and simultaneously engage through parents or schools.

The 18–35 age group (including university students and young professionals) has significant influence on modern consumption trends. According to the report “Vietnamese Gen Z and Millennial Consumers” published by Decision Lab in 2023, 63% of people in this age group are interested in healthy foods, prioritizing low-sugar, preservative-free products with clear origin. This group also spends heavily on snacks through e-commerce platforms and online ordering. With modern packaging design, and communication focused on health benefits and local specialty values, this is the

group that should be targeted through online marketing, combining KOLs, TikTok, Facebook, and online shopping platforms.

The 36–60 age group typically includes individuals with families, stable incomes, and consumption trends associated with health and convenience. According to a consumer survey by Nielsen Vietnam, 72% of people in this age group are willing to pay more for health-beneficial foods, especially if they are suitable for both children and the elderly. Khoai Deo, if communicated as “clean – soft – additive-free – good for digestion,” will perfectly meet the consumption needs of this group. Additionally, they often purchase products as gifts during holidays, Tet, or family visits; therefore, it is necessary to focus on more luxurious packaging designs, including premium product lines and elegant boxed sets. As such, this group is a highly potential customer segment and should be prioritized in brand positioning.

The over-60 age group consists of elderly people who require easily digestible, low-sugar foods. According to a 2022 report by Kantar, nearly 60% of people over 60 regularly purchase local specialty products such as jams, dried fruits, or traditional sweets for personal use or as gifts. Khoai Deo — if produced to be soft, low in sugar, and elderly-friendly — will be very suitable. However, this group tends to use online shopping channels less frequently, so distribution should focus on supermarkets, specialty stores, local markets, or through word-of-mouth recommendations.

In conclusion, through age-based market segmentation combined with consumer behavior, the 36–60 age group is identified as the strategic target customer segment for the Khoai Deo Co Nuong product — in terms of both actual demand and spending capacity. This will serve as a foundation for guiding packaging development, pricing, distribution channels, and communication strategies in the business plan.

By Income:

Vietnam is a developing country with a relatively low per capita income compared to other countries around the world. While targeting middle-income and financially stable consumers is a common approach to maximize revenue, it is important to note that the consumption of carbonated soft drinks is not heavily influenced by income level.

According to the Household Income Report by the General Statistics Office (2023), a large portion of Vietnam’s population falls within the income range of under 10 million VND to 30 million VND per month. This segment has limited spending capacity but still pays close attention to product quality, reasonable pricing, and clear origin. Based on that, the market can be segmented by income level into three main groups as follows:

- People with an income of under 10 million VND.
- People with an income from 10–30 million VND.
- People with an income of over 30 million VND.

For these customer groups, factors such as reasonable price, natural nutrition, and food safety are top priorities when selecting food products. Additionally, low-income consumers often look for affordable snacks that still provide energy and health benefits. With ingredients made from 100% natural sweet potatoes, free from preservatives, and traditionally processed, the product is fully aligned with this consumption trend.

Conclusion: *Target customers:* People aged 36–60 with a monthly income of under 10 million VND. This is a customer group with high demand for convenient, safe food products that fit with a modern lifestyle.

3.1.2.2. Target Market Selection

Selecting the target market plays a pivotal role in determining the direction and long-term success of the business. This is the process by which the business identifies market segments that can optimally meet customer needs and desires. The business needs to focus on analyzing and selecting the most potential segments—where customers show a high level of interest in the product and the value that the business offers—not only aligning with the strategic orientation but also possessing long-term competitive potential.

During the selection process, it is essential to comprehensively evaluate criteria such as market size, growth rate of the segment, profitability, as well as the degree of alignment with the product development orientation. The selected segment must not only demonstrate high consumption potential, but also create a value consensus between the product and the target customers.

Based on the results of market surveys and analysis, the business has chosen the target customer group to be consumers aged 36 to 60, with low income levels (under 10 million VND/month). This is the customer group that is showing modern consumption tendencies, especially those who:

- Prioritize choosing food products of natural origin, that are safe and free from preservatives.
- Pay attention to nutritional and health factors, and tend toward a healthy lifestyle.
- Have modern consumption habits, are easily accessible and interact through various sales channels such as: clean food stores, supermarkets, and e-commerce platforms.

– Prefer convenient, easy-to-use products suitable for a dynamic and busy lifestyle.

Notably, this segment shows a high level of compatibility with the characteristics of Khoai Deo – a natural-origin food, soft and sweet, free from additives, easy to preserve, and suitable as a light snack or a specialty gift. In addition, the target customer group is highly conscious of environmental protection, values products with clear origin, minimally processed, and nature-friendly, which enhances the competitive value of Khoai Deo in the market.

From the above analysis, it can be seen that this is a market segment with sustainable development potential, and is well aligned with the strategic product orientation and the business's current and future capabilities.

3.1.3. Product Positioning

Product positioning is the process of determining the position of a new product in the minds of consumers. It includes market analysis and the position of competitors, identifying the position of the new product among existing products, and communicating the product image of a specific brand.

In the context of an increasingly competitive dry food market, consumers not only care about flavor but also pay special attention to safety and nutritional value factors. Besides that, a reasonable price is also an important criterion determining purchasing behavior. Therefore, to establish a solid position and reach many customer segments, the product Khoai Deo is chosen to be positioned based on two core factors: **sensory quality and price.**

❖ Positioning based on sensory quality:

Sensory quality is the aspect that directly reflects the actual experience of consumers when using the product, through senses such as taste, touch, and smell. For Khoai Deo, sensory quality is mainly expressed through:

– **Texture:** This is an indicator reflecting the method of processing and type of sweet potato used. The product must be naturally soft and chewy, neither too hard nor too mushy, helping users to chew easily and enjoy the taste.

– **Flavor:** Natural sweetness, distinctive aroma, no harsh sugar taste or strange odors are key factors in creating a positive impression for customers.

Good sensory quality creates a positive perception of the product's value, thereby influencing repurchase behavior and customer loyalty. This factor helps the product clearly position itself in the segment of “delicious – worth the price” or “try once and forget,” while also helping the product secure a stable place in consumers' minds.

❖ Positioning based on price:

Price is the economic factor that consumers consider when deciding to purchase a product. It is an important measure that helps customers evaluate the perceived value of the product: whether the product is "worth the money" or not. In positioning strategy, price is not just a number but also reflects:

- The market segment the product targets (premium, mid-range, budget).
- The correspondence to perceived quality: If good sensory quality is paired with a reasonable price, customers will more easily accept and feel satisfied.

Price also acts as a “shaping expectation” factor – high prices usually come with expectations of superior quality, while low prices generally suit mass-market needs, quick consumption, and convenience. Khoai Deo is positioned at a reasonable price, suitable for most consumers’ budgets but still accurately reflecting the quality value that the product offers.



Figure 3. 1. Positioning map of Khoai Deo product

3.2. Marketing program and factors of the marketing mix

3.2.1. Product

Khoai Deo is a traditional snack, made from 100% fresh sweet potatoes, no preservatives, no coloring agents, safe for health. Processed according to a modern process, ensuring food safety and high quality standards. The input raw material is carefully selected sweet potatoes, then steamed cooked, evenly sliced, dried by modern cold drying technology that helps retain natural chewiness, characteristic flavor, and nutritional value. The entire production process is strictly controlled, no preservatives or harmful coloring agents used, ensuring the product meets safety standards for consumers. The product is suitable to be used as a nutritious snack, specialty gift, or

distributed through modern retail channels. The product carries a rustic, pure flavor, very suitable for vegetarians, dieters, or those pursuing a healthy lifestyle. Khoai Deo is not only tasty but also rich in fiber, vitamins, and minerals – good for digestion and energy enhancement. Convenient packaging, easy to preserve and carry, Khoai Deo is an excellent choice for the whole family or as a gift imbued with the distinct identity of the homeland.

3.2.1.1. Forecast of product life cycle and future product development plan

In the current context, consumers increasingly care about products with natural origins, traditional, and good for health. Khoai Deo is a specialty typical of Quang Binh land with great potential to develop in the modern market. The product not only carries high nutritional value but also contains cultural elements associated with local history and identity. However, to develop Khoai Deo into a highly commercial product and effectively expand market share, it is necessary to build a product development strategy suitable for each stage of the product life cycle (PLC).

Currently, the company’s Khoai Deo products are at the introduction and initial growth stage. In the introduction stage, the main product and the most focused for development is traditional khoai deo, accounting for the highest proportion of total output, aiming to affirm the specialty brand "Khoai Deo Co Nuong" in the domestic market. Two secondary product lines, dried chewy Khoai Deo and ginger-flavored Khoai Deo, are currently produced at smaller proportions and mainly serve to survey consumer preferences and serve as a basis for future product development orientation.

At the introduction stage, the main goal is to increase awareness and build trust with consumers. Therefore, the company has chosen a market penetration strategy, focusing on delivering the product to consumers through promotional activities at markets, specialty stores, and online channels such as Facebook, Zalo, and TikTok. Along with that, the penetration pricing policy is applied to encourage customers to try the product. In addition, the product packaging is designed in a traditional style but still ensures aesthetics, cleanliness, and convenience, clearly printing the origin, OCOP certification, and food safety hygiene. The products are vacuum packed or packed in convenient zip bags, suitable for modern consumer trends.

When entering the growth stage, as traditional Khoai Deo gradually stabilizes its position in the market, the company will combine a market development strategy and a product development strategy. The goal is to expand distribution to Central and Northern provinces and boost sales through e-commerce platforms (Shopee, Postmart, Tiki). At the same time, the dried chewy and ginger-flavored lines will have increased

production and research to develop new flavors to diversify products and meet consumer demand.

Regarding the long-term orientation, the company aims to expand production scale and build a stable raw material area to proactively manage supply sources and ensure input quality. In addition, the company will invest in modern technology lines to improve productivity, quality, and meet food safety hygiene standards. The product development policy will be shaped according to segments: traditional line, dried chewy line, flavored line, and premium gift line. Each segment will have packaging design, packaging form, and distribution channels suitable for the target customer groups.

In the future, product packaging will also continue to be upgraded in terms of design and material, prioritizing environmentally friendly packaging types, suitable for sustainable consumption trends. This is an important factor contributing to enhancing the brand image and increasing the competitiveness of the product not only in the domestic market but also aiming for export in the next phase.

3.2.1.2. Identification of supporting factors creating product characteristics

❖ Product packaging, packaging specifications

In the process of building a brand for local agricultural products, packaging is not simply a protective layer for the product but also a bridge between consumers and the traditional culinary beauty of Quang Binh homeland. The packaging design is both highly aesthetic and clearly expresses the regional cultural values and commitment to quality. Harmonious colors, clear layout, environmentally friendly materials, and natural messages—all create a professional appearance for the traditional specialty product. Packaging helps bring the image of “Khoai Deo Co Nuong” closer to both domestic and international markets, while elevating the value of Vietnamese agricultural products. The packaging of the “Khoai Deo Co Nuong” product is designed to balance traditional and modern elements, helping to enhance brand value and increase competitiveness in the market.

The product packaging is made from Kraft paper - a material capable of biodegradation, environmentally friendly, suitable for today’s sustainable consumption trend. Kraft paper has a natural, rustic color, contributing to highlighting the traditional and pure characteristics of the product. At the same time, this material has a reasonable cost, is easy to print on, and helps effectively convey the message “100% natural” that the brand aims for.

Packaging specifications:

Khoai Deo products are packaged with the main weights: 250g, 500g, and 1000g to meet diverse consumption needs and convenience for customers. The corresponding box sizes are as follows:

- 250g box: Box size is approximately $12 \times 8 \times 5$ cm.
- 500g box: Larger size, approximately $15 \times 10 \times 6$ cm.
- 1000g box: Box size is approximately $20 \times 14 \times 8$ cm.

Packaging method: The product is vacuum-sealed before being placed in kraft paper boxes to ensure food hygiene and safety, extend shelf life, and facilitate transportation and display.

For convenience in transporting and distributing in large quantities, the boxes are packed in standard cartons with a weight of about 10 kg per carton. The carton size is designed to fit the number of boxes inside, optimize space, and protect the product during transportation. The carton packing specifications are as follows:

Table 3. 1. Box and Carton Weight Specifications

Weight per box (g)	Number of boxes/ carton	Weight/ carton (kg)
250	40	10
500	20	10
1000	10	10



Figure 3. 2. Packaging of Khoai Deo Co Nuong product

❖ Brand Name and Product Logo

Brand name: “*Khoai Deo Co Nuong*” is developed with the orientation of preserving regional cultural identity while aligning with modern consumer trends. The name combines the product’s characteristic (“*Khoai Deo*” – soft dried sweet potato) with a personified element (“*Co Nuong*” – a traditional way to refer to a young woman), evoking a sense of friendliness, tradition, and the image of the graceful, skillful Vietnamese woman of the past. This cultural aspect helps position the product within the category of handmade, natural foods without preservatives. The name is simple and easy to remember, allowing consumers to easily associate it with local specialties, evoking a sense of homeland and regional cultural value.

Logo: The “*Khoai Deo Co Nuong*” logo is designed to clearly reflect local cultural identity while conveying the message of a traditional, natural, and high-quality agricultural product. The brand name is arranged in a circular layout — with “*Khoai Deo*” at the top and “*Co Nuong*” at the bottom — creating a balanced, harmonious, and easily recognizable composition. At the center of the logo is an image of a sweet potato and thinly sliced pieces, symbolizing the processed *Khoai Deo* product that still retains its original flavor, natural chewiness, and appealing color. The primary colors used are dark green, orange, and yellow — evoking nature, simplicity, and nutrition. The logo not only enhances product recognition for consumers but also expresses pride in the specialty of Le Thuy – Quang Binh, contributing to the preservation and promotion of traditional culinary values in a modern and professional manner.



Figure 3. 3. Product logo of Khoai Deo Co Nuong

❖ **Customer Support Services**

Shipping Policy: Goods will be thoroughly inspected, sealed, and fully labeled before being received by shipping partners. To bring convenience to customers during the purchasing process, the company cooperates with shipping partners to deliver products directly to customers, ensuring maximum criteria: fast – safe – reliable. Depending on the quantity of products supplied, current partners include: J&T Express, Viettel Post, GHTK. Orders will be carefully packaged and tracking codes sent to customers for monitoring. For large orders or promotional programs, the company may support reduced or free shipping.

Return and Refund Policy: The company commits to satisfactorily handle cases where customers receive products not as promised: products with issues such as mold, damage, wrong model, type, or insufficient quantity in the order, customers can fully return the products. Feedback will be accepted within 3 to 5 days from the receipt of goods and commits to 100% refund if errors arise from the manufacturer or shipping unit. Note: Products must retain original packaging, unused, and include images with order code when submitting complaints.

Payment Policy: The company implements 3 flexible payment methods suitable for each customer's needs:

- Direct payment: Applicable when customers come to purchase at the production facility address.
- Cash on Delivery (COD): Customers check the product before paying the delivery staff.
- Prepayment by bank transfer: The company will provide account information and proceed with delivery immediately after confirming payment.

3.2.2. Price

Price is considered an important competitive factor in attracting customers for every business. A reasonable price will meet the needs and desires of customers, bringing many competitive advantages and profits to the business. Therefore, setting an appropriate pricing policy is especially important for the product to exist and develop in the market.

3.2.2.1. Determining the Basic Price Level

3.2.2.1.1. Pricing Objectives

In order for the product "Khoai Deo Co Nuong" to penetrate the market effectively, building an appropriate pricing strategy is a crucial factor. The price level needs to ensure full coverage of production, packaging, transportation, and distribution costs while also bringing profit to the business. However, in the initial phase of

product launch, the main objective is to attract customers, expand market coverage, and build brand recognition. With the orientation of becoming the leading specialty product in terms of market share in the segment of traditional – clean – natural snacks, the business chooses a market penetration pricing strategy. Accordingly, the product will be sold at a lower price compared to competitors, in order to create motivation for trial, stimulate consumer demand, and build customer trust.

In addition to a competitive price, the business also actively implements flexible price adjustment programs during holidays, events, or specialty fairs, as well as applies attractive promotion and discount policies on shopping festival days to increase market appeal. The ultimate goal is to quickly create a large market share, thereby laying the foundation for a sustainable brand value development strategy in the future.

3.2.2.1.2. Choosing the Pricing Method

For the Khoai Deo product, the pricing method selected is market-based pricing to ensure a reasonable price level, helping the product easily reach consumers and increase competitiveness in the market. After surveying similar Khoai Deo products on the market, especially at specialty stores, mini supermarkets, and e-commerce platforms, the business *decided to price the product lower than that of its competitors*. However, the price difference is not too significant in order to maintain the perceived value by consumers and preserve competitiveness in terms of quality.

Khoai Deo Co Nuong is a specialty product made from red sweet potatoes, carrying the traditional flavor of the Le Thuy countryside – Quang Binh, without using preservatives, suitable for the current trend of consuming natural and safe food. The choice of a lower pricing strategy than competitors not only helps the product attract attention from customers during the initial launch phase, but also supports the business in building an effective pricing strategy for the new product, with the goal of increasing market share, enhancing brand recognition, and gradually asserting its position in the specialty food market.

3.2.2.1.3. Analysis of Competitors’ Product Prices

Currently, consumers tend to compare prices among similar products before making a purchasing decision. Therefore, studying the costs, pricing, and product quality of competitors is an extremely necessary factor. Below is a summary table of the price levels of some major competitors currently present on the market.

Table 3. 2. Selling Prices for Khoai Deo Products on the Market

Brand	Product	Weight	Price (VND)	Outstanding features
Khoai Deo Linh Hue	Traditional Khoai Deo	500g	60.000	Soft, chewy sweet potato slices with mild sweetness and aroma of sweet potato
	Soft dried Khoai Deo	500g	70.000	
	Khoai Deo Honey Ginger Dried	500g	80.000	
	Herbal tea bag Khoai Deo	100g	65.000	
Khoai Deo Lam Huong	Traditional Khoai Deo	500g	50.000	Sweet potato slices with golden yellow color, chewy texture, sweet taste and distinctive aroma
	Soft dried Khoai Deo	500g	70.000	
	Ginger Khoai Deo jam slices	500g	75.000	
Khoai Deo Nhu Man	Traditional Khoai Deo	500g	60.000	Product retains original sweet potato flavor
	Thin sliced ready-to-eat Khoai Deo	500g	75.000	
Khoai Deo Hoang Minh	Traditional Khoai Deo	500g	75.000	Soft, chewy and easy to eat product
	Soft dried Khoai Deo	500g	80.000	
	Sesame Khoai Deo	500g	85.000	

Based on the above table, it can be seen that the Khoai Deo products currently on the market are in different price ranges: Traditional Khoai Deo is priced from 50,000 – 60,000 VND/500g; Soft-dried Khoai Deo is priced from 65,000 – 70,000 VND/500g; and Ginger-flavored Khoai Deo is priced from 75,000 – 80,000 VND/500g. All Khoai Deo products on the current market share the common characteristic of using natural ingredients. Compared to the existing products on the market, Khoai Deo Co Nuong stands out by using completely natural ingredients and applying advanced cold-drying technology.

3.2.2.1.4. Specific Price Determination

The decision to set a specific price for the product is a process that requires the integration of multiple factors such as market demand, characteristics of the target customer segment, the level of competition, production costs, and the desired profit margin. Through a survey of prices for similar Khoai Deo products currently available

on the domestic market—especially in the Central region and on e-commerce platforms—combined with an analysis of production costs (including costs for raw materials, packaging, labor, transportation, machinery depreciation, etc.), the business has determined an appropriate price level.

Based on the desired profit margin of 3% per product, Khoai Deo Co Nuong has decided on the selling price for 1 kg of product (equivalent to 2 boxes of 500g each) as follows:

Table 3. 3. Specific Price Levels

Unit: million VND/kg

Product Type	Suggested Retail Price
Traditional Khoai Deo	0.104
Soft – dried Khoai Deo	0.123
Ginger – flavored Khoai Deo	0.153

With this pricing, Khoai Deo Co Nuong ensures that the products are both aligned with consumer preferences and spending ability while also delivering economic efficiency for the business. At the same time, this is a highly competitive price point compared to other products in the same market segment, helping the brand easily access the market and establish its position during the early development stage.

3.2.2.2. Identifying Suitable Pricing Strategies

3.2.2.2.1. Strategy for New Product

Khoai Deo Co Nuong applies *a market penetration strategy* to introduce the product to consumers. Currently, Khoai Deo Co Nuong is facing many competitors in the industry. Moreover, customers are not yet familiar with this product line, so the market penetration strategy is very suitable for the product. The enterprise will focus on promoting advertising activities, building brand image, and especially organizing free product trial programs to build trust and attract customer interest.

In addition, by reducing costs, optimizing production at a large scale, and maintaining profit at a minimal level during the initial phase, the product will be launched to the market at a competitive price along with attractive purchase incentives. This strategy will help the enterprise create a price advantage over competitors, quickly build market share, and develop the Khoai Deo brand image as a quality, friendly, and consumer-oriented product.

3.2.2.2.2. Price Adjustment Strategy

After the product launch phase with a market penetration price to build brand recognition and attract customers to try the product, Khoai Deo can apply a reasonable

price increase strategy once it has achieved market coverage and a stable customer base. The appropriate time to adjust the price is usually around 12–18 months after launch, when the product has gained credibility and is favored by consumers. The price increase should be in the range of 2–5% so that customers can easily accept it, while also reflecting changes in input costs (such as the price of fresh sweet potatoes, no preservatives) or improvements in product quality. More importantly, the price increase needs to be associated with the brand positioning as a product of “High-quality Khoai Deo – Clean ingredients – Worthy value”, rather than being perceived as a simple profit-driven price hike.

More importantly, the price increase is not only aimed at optimizing profits but also helps reinforce the product’s positioning in the mid-to-high-end segment, bringing a perception of “value worth the price” in the minds of customers. However, to ensure customer acceptance, the business needs to communicate clearly the reasons for the price increase, emphasizing the added value that the product offers, thereby maintaining customer trust and willingness to pay.

Cost Price (also known as Cost of Goods Sold – COGS) is the total cost including the cost of production or product procurement (also known as the product's manufacturing cost) and necessary incurred expenses such as labor, packaging, transportation, handling, marketing, etc., to make the product ready for sale. The cost price of the product can be determined using the following formula:

$$\text{Cost Price (COGS)} = \text{Manufacturing Cost} + \text{Other Incurred Expenses (if any)}$$

Table 3. 4. Product Cost Price

Unit: million VND

No	Item	Cost Price
1	Traditional Khoai Deo	0.085
2	Soft – dried Khoai Deo	0.1
3	Ginger – flavored Khoai Deo	0.125

In the **retail channel**, the target profit margin is set at around **35%**. Although the sales volume is not high, establishing this profit level aims to optimize revenue per unit of product. However, during the market penetration strategy phase, the profit margin needs to be adjusted reasonably, avoiding setting it too high to ensure competitiveness and attract consumers. Listed price to consumers:

$$\text{Retail price} = \text{Cost price} + (\text{Cost price} * \text{Desired profit \%})$$

Table 3. 5. Product Retail Price

Unit: million VND/kg

No	Item	Cost Price	Desired profit	Retail price
1	Traditional Khoai Deo	0.085	35%	0.115
2	Soft – dried Khoai Deo	0.1	35%	0.135
3	Ginger – flavored Khoai Deo	0.125	35%	0.169

For the **wholesale channel**, the target profit margin ranges from **15% to 30%**. This margin reflects the characteristics of the wholesale market — which focuses on large volumes, strong competition, and demands for cost reduction to maintain market share. Maintaining a reasonable profit margin helps the business meet partners’ discount requirements and ensures competitiveness with other players in the market.

Wholesale prices based on order quantity are calculated as follows:

Orders from 10 to 49 kg: *profit margin = 30%*

Table 3. 6. Product Wholesale Price

Unit: million VND/kg

No	Item	Cost Price	Desired profit	Wholesale price
1	Traditional Khoai Deo	0.085	30%	0.111
2	Soft – dried Khoai Deo	0.1	30%	0.130
3	Ginger – flavored Khoai Deo	0.125	30%	0.163

Orders from 50 to 99 kg: *profit margin = 25%*

Unit: million VND/kg

No	Item	Cost Price	Desired profit	Wholesale price
1	Traditional Khoai Deo	0.085	25%	0.106
2	Soft – dried Khoai Deo	0.1	25%	0.125
3	Ginger – flavored Khoai Deo	0.125	25%	0.156

Orders from 100 to 299 kg: *profit margin = 20%*

Unit: million VND/kg

No	Item	Cost Price	Desired profit	Wholesale price
1	Traditional Khoai Deo	0.085	20%	0.102
2	Soft – dried Khoai Deo	0.1	20%	0.112
3	Ginger – flavored Khoai Deo	0.125	20%	0.15

Orders from 300 kg and above: *profit margin = 15%*

Unit: million VND/kg

No	Item	Cost Price	Desired profit	Wholesale price
1	Traditional Khoai Deo	0.085	15%	0.098
2	Soft – dried Khoai Deo	0.1	15%	0.115
3	Ginger – flavored Khoai Deo	0.125	15%	0.144

3.2.3. Distribution Channel System

3.2.3.1. Defining the Structure of the Distribution Channel

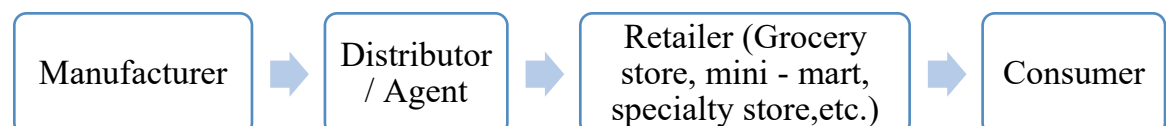
In order to deliver products to consumers in the most convenient way and to build a complete, smooth distribution channel structure, Khoai Deo Co Nuong develops an indirect distribution system. Utilizing this channel allows Khoai Deo to gain significant benefits in increasing sales and promoting its products to a wide range of customers nationwide.

Indirect distribution channel: this method is widely applied due to its ability to quickly reach customers while also generating considerable revenue for the business. For Khoai Deo Co Nuong, the indirect distribution channel includes level 1 and level 2 channels.

Level 1 channel: This is the modern distribution channel that Khoai Deo Co Nuong will focus on. The products will be widely distributed to retailers nationwide and directly reach end consumers without going through intermediaries or agents.



Level 2 channel: This is the traditional distribution channel, which is still used effectively. In addition to developing Khoai Deo Co Nuong stores to strengthen the role of this channel in product distribution, the company continues to value traditional distribution channels due to their effectiveness in the current business context. In this channel, products are distributed to retailers through agents or wholesale intermediaries and then sold directly to end consumers.



Advantages: Distribution costs for the company will be reduced, market coverage is wide, and it is convenient for consumers to easily purchase the product anywhere.

Disadvantages: Managing and controlling the flow of product information becomes more difficult. Therefore, ensuring product quality and packaging is

extremely important during storage and transportation through this distribution channel.

Conclusion: The combination of indirect distribution channels by Khoai Deo Co Nuong for its products is a smart strategy to expand the market, increase sales, and help the business reach more customers. However, the company must ensure effective management and control of the distribution channel to achieve the best business performance.

3.2.3.2. Product Distribution Strategy Through Channels

In the initial stage of brand building, Khoai Deo Co Nuong applies a *push distribution strategy* to proactively bring products to the market through intermediary channels. This is a suitable strategy for a newly launched local specialty, helping to quickly expand market share and enhance brand awareness.

The business focuses on developing a traditional distribution system such as: sales agents, specialty stores, market vendors, and stalls in tourist areas. These intermediaries are encouraged to stock the product with a discount policy from 15–35% depending on quantity, and are also supported with promotional materials such as flyers, posters, display stands, and product introduction aids.

In addition, the company also establishes a home delivery policy, offering free shipping within a 50km radius to reduce costs for agents and increase convenience in cooperation. Moreover, to maintain good relationships with agents, Khoai Deo Co Nuong organizes quarterly sales bonus programs, gives Tet gifts, or provides media support if agents proactively livestream or promote the product.

The push distribution channel not only helps increase product coverage quickly and save advertising costs, but also leverages the trust and existing relationships between market vendors and local consumers. This forms a solid foundation for the product to penetrate deeper into the market, especially in rural areas and provincial towns – where customers still have the habit of shopping at markets and nearby stores.

Focusing on the push distribution channel during the introduction and early growth phase is a rational move, helping to optimize direct marketing costs, utilize the advantage of the existing distribution network, and quickly bring the product to market widely and effectively. In the coming time, the company needs to continue strengthening relationships with intermediaries, updating flexible support policies, and ensuring that products are always well displayed with complete information, thereby enhancing competitiveness and consumption efficiency.

3.2.3.3. Organizing Activities and Channel Management Solutions

3.2.3.3.1. Organizing Activities

Under the push distribution strategy applied during the initial stage of launching the product to the market, organizing distribution activities and effectively managing intermediary channels is a prerequisite for the business to quickly reach consumers—especially in rural areas, towns, and tourist destinations. As *Khoai Deo* is a newly introduced local specialty, proactiveness in distribution activities plays a crucial role in expanding market share and building brand awareness.

The business applies two main forms of delivery, tailored to each type of distribution partner:

– *Direct Delivery*: For sales points within a short distance (under 50km), the business uses small transport vehicles (motorbikes or light trucks) for direct delivery. This method ensures product quality control, on-time delivery, and timely customer support.

– *Scheduled or Flexible Delivery by Order*: For agents or fixed stores, the company sets up a weekly delivery schedule or delivers based on demand. Small retail units can place orders via phone, Zalo, or online platforms.

The product is packed in 500g kraft paper boxes, then placed into 5-layer corrugated cardboard cartons (with options of 6, 12, or 24 boxes per carton) to ensure safety during transportation. For long-distance customers in other provinces, the business cooperates with professional delivery services (such as Viettel Post, GHTK, J&T Express) for nationwide shipping, with the option of cash on delivery (COD).

Payment can be made in cash upon delivery or via bank transfer. The business establishes a system of delivery notes, invoices, and receipts to ensure transparency, easy tracking, and convenient debt management. Depending on the type of distributor, the following payment methods are applied:

– *Immediate Payment (COD)*: Applied to small sales points, new customers, or those without signed contracts.

– *Deferred Payment*: Applied to large agents or those with long-term contracts, with payment terms from 7 to 15 days, depending on sales volume and credit reliability.

3.2.3.3.2. Distribution Channel Management Solutions

Distribution channel management is the process of managing and operating all activities related to distributing products or services from the manufacturer to the end customer. This is a critical step in business operations, ensuring that the company’s products are delivered to customers efficiently and on time. Effective management

ensures that goods move through the distribution channel in alignment with the company’s goals, enabling products to reach customers quickly and accelerating business growth.

In today’s highly competitive market, distribution channels serve as an essential bridge for businesses to connect products with consumers. Managing these channels effectively is a challenge that requires managers to have deep knowledge of the product, the consumption market, and the distribution system. They must also stay updated on market trends to make timely and accurate decisions, thereby maximizing the performance of the distribution channels. To ensure effective management and operation, businesses should consider the following strategies:

– *Build a clear and suitable distribution system aligned with the business model:* To ensure effective distribution operations, the first step is to build a distribution system with a clear structure that matches the nature of the product and the business scale. For specialty products like *Khoai Deo*, the distribution system should be clearly divided into specific channels such as direct retail channels (e.g., at the factory or trade fairs), wholesale agent channels, and online channels. A well-organized and segmented system helps businesses manage the flow of goods more effectively, avoid overlap or unhealthy competition among sales points, and protect the interests of each channel.

– *Apply technology to distribution channel management:* Integrating technology into distribution channel management helps save time, reduce errors, and improve operational efficiency. Businesses can use simple sales management software or Google Sheets to track product in–out quantities, individual agent orders, outstanding balances, and incentive/discount programs. A digital data system also helps companies monitor sales performance by region, enabling them to make informed decisions regarding production and distribution planning.

– *Monitoring and evaluation:* The company should regularly monitor and assess the effectiveness of its established distribution strategy. By comparing actual results with strategic distribution goals, *Khoai Deo Co Nuong* can identify gaps and shortcomings. If objectives are not met, the company will analyze the root causes and propose corrective actions. This enables continuous adjustment and improvement of the distribution system moving forward.

3.2.4 Promotion Mix

3.2.4.1. Defining the Promotion Mix System

The Promotion Mix system (also known as the Marketing Communication Mix) is a collection of communication tools that a business uses to promote its products, build brand awareness, and stimulate consumer behavior. Defining an effective promotion mix plays a crucial role in the overall marketing strategy, with the primary objective of delivering product information to target customers efficiently—thereby persuading and encouraging them to experience the product. For the Khoai Deo Co Nuong brand, an integrated communication approach will be implemented, combining tools such as advertising, sales promotion, and sales promotion. The coordinated application of these activities not only helps expand the market but also enhances brand recognition and builds customer trust in this traditional local specialty.

In summary, the core goal of the promotion mix system is to bring the product closer to consumers—at the right time, right place, and in the right way—in order to stimulate purchase decisions, increase sales, and strengthen the brand’s competitive position in the market. For a regional specialty like Khoai Deo Co Nuong, the promotion mix is not only a sales support tool but also a bridge to convey cultural, historical, and regional identity values to both domestic and international consumers.

3.2.4.2. Develop a promotional mix strategy for the product

3.2.4.2.1. Advertising

Advertising is one of the core tools in the promotion mix strategy, aiming to build brand recognition and attract customer attention to the *Khoai Deo Co Nuong* product. Advertising activities are implemented synchronously across both online and offline platforms, targeting the dissemination of the product’s image associated with elements of nature, tradition, and regional specialty.

On online platforms, the business utilizes social media channels such as Facebook, TikTok, and YouTube to upload short videos and vivid, visual images of the production process, sweet potato drying stages, and moments of consumers experiencing the product. These contents are designed to be approachable and authentic, emphasizing safety, no preservatives, and the origin of Quang Binh’s specialty sweet potatoes, thereby building consumer trust. In addition, running Google Ads and displaying banners on websites related to cuisine, health, and local specialties also helps reach the target audience—people who love natural food, regional specialties, and housewives who care about clean products.

In addition, the business also focuses on traditional advertising (offline) by designing posters, banners, and standees placed at specialty stores and mini

supermarkets. The advertising content highlights the origin of local ingredients, traditional values, characteristic flavor, and natural chewiness as the factors that differentiate the product. In particular, printed advertising materials such as flyers and catalogues are also used to provide full and clear information about the product, helping customers easily access and remember it.

In general, advertising activities are deployed in a synchronized manner, combining modern and traditional methods, visual imagery and storytelling content, aiming to fully convey the message that *Khoai Deo Co Nuong* is a clean, delicious specialty rich in the cultural identity of Quang Binh.

3.2.4.2.2. Sales Promotion

Sales promotion is one of the key tools in the promotion mix strategy of *Khoai Deo Co Nuong*, aimed at stimulating short-term consumer demand, motivating purchases, and increasing brand awareness. In the initial launch phase, the business will implement special promotional programs, including discounts and lucky draw events to celebrate the grand opening. Customers will not only be able to purchase products at preferential prices but also have the opportunity to receive attractive gifts through lucky draws. This is an effective approach to attract initial attention, increase engagement, and create a positive product experience.

In addition, the business will organize free sampling programs at supermarkets, specialty fairs, and retail points in Hanoi, Da Nang, Ho Chi Minh City, etc., to allow consumers to directly experience the product before making a purchase decision. This activity not only builds trust but also increases the likelihood of converting potential customers into actual buyers.

Furthermore, gift with purchase is also an effective promotional form, such as giving away fabric bags or paper bags with the brand logo when customers purchase 2 kg or more of *Khoai Deo*. This approach not only shows appreciation for the buyers but also helps to naturally spread the brand image in daily life. The business also applies combo discounts or special holiday and Tet promotions to encourage bulk purchases for consumption or gifting purposes.

For frequent customers, *Khoai Deo Co Nuong* develops a loyalty program and point card system, creating incentives for repeat purchases and building long-term relationships with the brand.

One of the most effective sales promotion activities is participating in trade fairs. *Khoai Deo Co Nuong* will regularly attend regional specialty fairs and OCOP fairs at provincial and national levels, with a frequency of 2–3 times per year. These fairs are not only direct product promotion channels but also opportunities for the business to

connect with agents, distributors, and seek market expansion. Organizing professional booths that combine product displays, sampling, and on-site promotions helps attract customers, increase sales, and leave a strong brand impression in the minds of consumers.

3.2.4.2.3. Promotional Activities

The promotion strategy is one of the key promotional tools that helps Khoai Deo Co Nuong reach new customers, increase sales, and build customer loyalty. As a traditional product rich in regional identity, Khoai Deo needs to be encouraged for real-life experience so that consumers can fully appreciate its distinctive flavor. Therefore, applying programs such as free trials, value combo packages, and seasonal promotions is entirely appropriate.

In addition, forms of gift-giving such as paper bags, greeting cards, or thank-you notes sent after purchase also contribute to enhancing the emotional value of the product — especially when used as a meaningful gift. Furthermore, the implementation of a points-based reward system, membership cards, or birthday promotions will help create a long-term bond between customers and the brand.

Thus, the promotion strategy is not merely about offering discounts, but rather an investment in building a sustainable relationship with consumers.

CHAPTER 4. ANALYSIS AND EVALUATION OF THE PROJECTED FINANCIAL EFFICIENCY

4.1. Total Investment Cost

The total investment cost is the estimate of all construction investment costs of the project. It serves as the basis for the investor to develop plans and manage investment capital during project implementation, and to determine the investment efficiency of the project. Accurate calculation of the total investment cost is very important for determining the feasibility of the project. According to Decree No. 10/2021/NĐ-CP dated February 9, 2021, of the Government on the management of construction investment costs, the total investment cost includes:

- Land rental cost (GTĐ).
- Construction cost (XD).
- Equipment cost (GTB).
- Working capital (VLĐ).

The total investment cost is determined according to the formula:

$$TMĐT = GTĐ + GXD + GTB + VLĐ$$

4.1.1. Land Rental Cost

According to Decision No. 40/2019/QĐ-UBND dated December 20, 2019, of the People's Committee of Quang Binh Province, the land use term for types of land with a definite duration is set at 70 years. The land rental price is determined based on the public information provided by the Department of Investment of Quang Binh Province. The land rental price in Cam Lien Industrial Park, Le Thuy District, is 0.5 million VND/m² with a total area of 2100 m². The land rental cost is calculated using the formula:

Land rental cost = Land rental price × Rented land area = 0.5 × 2100 = 1050 million VND.

4.1.2. Construction Cost

The total construction cost of the project includes the cost of constructing the following items: production workshop, administrative area, and production support areas. The total land area for building the specialized and production zones of the factory is 2100 m². The construction cost is calculated based on Decision No. 510/QĐ-BXD dated May 19, 2023, of the Ministry of Construction on the Announcement of Construction Investment Unit Prices and General Construction Prices for Structural

Components in 2022. The construction cost is calculated using the following formula:

$$GXD = Area (m^2) \times Unit\ price/m^2.$$

The construction cost before VAT is: **4854.85 million VND.**

The construction cost after VAT is: **5340.34 million VND.**

See details in APPENDIX 1: **Construction Cost.**

4.1.3. Machinery and Equipment Cost

According to Clause 2, Article 8 of Circular No. 09/2019/TT-BXD, the equipment cost is determined based on the volume, quantity, and types of equipment specified in the technological and construction design, along with the corresponding purchase prices. The equipment purchase price is based on supplier/manufacturer quotations, market prices at the time of calculation, or prices from projects using similar equipment (in terms of capacity, technology, and origin) that have been or are being implemented.

Equipment cost before VAT: **567.5 million VND.**

Equipment cost after VAT: **624.25 million VND.**

See details in APPENDIX 2: **Machinery and Equipment Cost**

4.1.4. Working Capital

The initial working capital of the project is the advance cost required to generate revenue. It is the capital prepared in advance to ensure the production process can begin immediately after the investment phase is completed.

The working capital turnover cycle $NL\text{Đ} = 3$. Monthly working capital before VAT is: 1057.99 million VND. Monthly working capital after VAT is: 1154.18 million VND.

Working capital includes expenses for electricity and water, salaries, advertising, marketing, and raw material costs.

See details in APPENDIX 3: **Working Capital**

4.1.5. Estimated Total Investment Capital

The total investment capital of the project represents the entire estimated cost for constructing the facility as stated in the investment decision. It serves as the basis for the investor to develop plans and manage capital during the construction investment process.

The total investment capital of the project before VAT is: **9646.34 million VND,** and after VAT: **10477.14 million VND.**

See details in APPENDIX 4: **Total Investment Capital**

4.2. Production Scale

4.2.1. Projected Operating Capacity and Product Output

4.2.1.1. Projected Operating Capacity of the Factory

In reality, the operating capacity of the factory is often lower than the designed capacity during the initial years due to various factors such as unstable market demand, limitations in raw material supply, personnel, and initial operation challenges. In the first year (2026), as the factory is still completing technological processes, training personnel, and developing the market, the projected operating capacity is about **75%** of the designed capacity. From 2027 to 2029, capacity will gradually increase, approaching a range of **85% - 90%**, reflecting optimization of operations and a more stable market. From 2030 onward, the operating capacity is maintained at a stable level of **95%**, indicating that the factory has entered an efficient and stable operation phase, nearly reaching its maximum designed capacity.

Therefore, the operating capacity is forecasted by year as follows:

Table 4. 1. Projected Operating Capacity

Year	2026	2027	2028	2029	2030	2031	2032
Capacity (%)	75	85	90	90	95	95	95

4.2.1.2. Projected Product output

The projected total product output refers to the estimated quantity of products that a business can produce within a specific period of time. This forecast will help Khoai Deo Co Nuong develop a production plan, manage human resources, and allocate the budget appropriately. Based on survey results, actual supply capacity, production capability, and the company’s goals, the product mix is expected to be as follows:

– *Year 1:* In the first year, the company will prioritize products that are familiar to consumers, easy to market, and help quickly enter the market. Therefore, traditional khoai deo will account for approximately 75%. Soft-dried Khoai Deo will account for 20%, and ginger-flavored Khoai Deo will make up only 5%, as it is still new and requires time for testing and promotion.

– *Year 2:* The product ratio will be adjusted to 50% traditional Khoai Deo, 35% soft-dried Khoai Deo, and 15% ginger-flavored Khoai Deo. This adjustment is based on consumption results and market feedback from the first year, which show that consumers are beginning to accept new products - especially soft-dried Khoai Deo,

thanks to its easy storage and convenience, matching modern consumption trends. Ginger-flavored Khoai Deo also shows development potential in niche markets that prefer unique flavors and new experiences.

– *Years 3–7:* The product structure will be stabilized and oriented toward diversification and value enhancement, with 35% traditional Khoai Deo, 35% soft-dried Khoai Deo, and 30% ginger-flavored Khoai Deo. In this stage, the company diversifies its offerings, focusing on high value-added products with better profit margins while still maintaining traditional products to retain loyal customers.

This allocation of sales volume aims to meet actual market demand, avoid overstocking, and improve production efficiency. The projected of products over the next seven years is shown in the table below:

Table 4. 2. Projected total production output

Unit: kg

Year		2026	2027	2028	2029	2030	2031	2032
Projected total output		135000	153000	162000	162000	171000	171000	171000
By product type	Traditional Khoai Deo	101250	76500	56700	56700	59850	59850	59850
	Soft – dried Khoai Deo	27000	53550	56700	56700	59850	59850	59850
	Ginger – flavored Khoai Deo	6750	22950	48600	48600	51300	51300	51300

4.2.2. Projected Selling Price and Revenue

4.2.2.1. Selling Price

In the case of using only indirect distribution channels, the product selling price will be determined based on the average wholesale price for each product type. The wholesale price is divided into four tiers, depending on the order volume, with corresponding profit margins ranging from 15% to 30%. The product price is projected to increase by 3% annually to account for rising input costs, inflation, and profit orientation.

Table 4. 3. Projected Selling Price of Products

Unit: million VND/kg

No	Product	2026	2027	2028	2029	2030	2031	2032
1	Traditional Khoai Deo	0.104	0.107	0.110	0.114	0.117	0.121	0.124
2	Soft – dried Khoai Deo	0.123	0.126	0.130	0.134	0.138	0.142	0.146
3	Ginger – flavored Khoai Deo	0.153	0.158	0.162	0.167	0.172	0.178	0.183

4.2.2.2. Projected Total Revenue

Projected revenue helps the enterprise estimate the possible financial results in each year of operation. This is also the basis for setting business targets and allocating responsibilities to relevant departments, especially the sales department. Total revenue is calculated using the formula:

$$\text{Revenue} = \text{Output} \times \text{Selling price of product}$$

See details in APPENDIX 5: **Projected Total Revenue**

4.3. Production Costs and Projected Business Results

4.3.1. Production Costs

4.3.1.1. Projected Raw Material Costs

Material cost is determined by the formula:

$$\text{Material Cost} = \text{Quantity} * \text{Material Norm} * \text{Unit Price.}$$

Due to the impact of inflation and fluctuations in input market prices, the unit price of materials is assumed to increase by 3% annually.

See details in APPENDIX 6: **Projected Raw Material Costs**

4.3.1.2. Projected Direct Labor Costs

Production workers’ wages: Production workers operate machinery or perform manual tasks to process, manufacture, and complete products from raw materials. For this work, about 10 workers are needed in the production workshop. Assuming a wage of 5 million VND/month/person, the total wages for production workers are estimated at 600 million VND/year and increase once every 3 years by 2% each time.

Statutory contributions based on wages: According to the 2014 Social Insurance Law and its guiding documents, the employer’s social insurance contribution rate is 17.5%; according to the 2008 Health Insurance Law and related documents, the employer’s health insurance contribution is 3%; according to the 2013 Employment

Law and guiding documents, the employer’s unemployment insurance contribution is 1%. Therefore, the total wage-based contribution rate is 21.5%.

See details in APPENDIX 7: **Projected Direct Labor Costs**

4.3.1.3. Projected Manufacturing Overhead Costs

4.3.1.3.1. Projected Indirect Labor Costs

Technical staff salaries: Technical staff are responsible for building and maintaining equipment, machinery, and systems within the enterprise or production area. They also oversee operations related to technology and machinery, ensuring timely maintenance and repair to keep all systems running smoothly and efficiently. For this work, approximately 2 technical staff are needed. With an estimated salary of 7 million VND/month/person, the total annual salary for technical staff is 168 million VND and increase once every 3 years by 2% each time.

Marketing staff salaries: Marketing staff are responsible for developing and executing the company's communication and promotion plans. They manage the company's official fanpages and social media accounts to carry out marketing activities. For this work, 3 staff are needed. With an estimated basic salary of 8.5 million VND/month/person, the total annual salary for marketing staff is 306 million VND and increase once every 3 years by 2% each time.

Management salaries: Managers are responsible for overseeing production activities at the company’s workshop. This includes managing personnel, machinery, environment, product quality, handling orders, resolving arising issues, and ensuring task completion according to assigned plans and technological processes. For this role, about 2 managers are required. With an estimated salary of 10 million VND/month/person, the total annual salary for managers is 240 million VND and increase once every 3 years by 2% each time.

See details in APPENDIX 8: **Projected Indirect Labor Costs**

4.3.1.3.2. Projected Electricity and Water Costs

Electricity and water costs are a significant part of the total production cost, directly affecting the product's final price. These costs are calculated based on the production process, including: washing sweet potatoes, steaming/drying, cleaning equipment, lighting, ventilation, and operating processing machinery.

See details in APPENDIX 9: **Projected Electricity and Water Costs**

4.3.1.3.3. Projected Depreciation Costs

For construction costs and equipment costs, the Company chooses the straight-line depreciation method. The straight-line depreciation method helps us easily calculate and check, and effectively control depreciation costs. In addition, it facilitates

the preparation of a depreciation plan. More importantly, straight-line depreciation helps keep the project stable, avoiding sudden fluctuations in product prices during the project’s life cycle.

Specifically, the depreciation period for construction costs is 10 years, for equipment costs is 7 years, and for office equipment is 5 years. The depreciation cost of the project is **569.41 million VND**.

See details in APPENDIX 10: **Projected Depreciation Costs**

4.3.1.3.4. Projected Other Costs

Maintenance and equipment repair costs: this is one of the mandatory expenses for the business. If the machinery stops operating, the business almost cannot continue the production process, leading to a series of consequences such as: production delays, wasted employee time, disruption in finished product delivery, reduced credibility with customers, loss of revenue and profit, etc. The cost for maintenance and repair of equipment and factory is **83 million VND per year**.

Other costs: include costs incurred during the production and business process of the enterprise. For this cost, the business estimates about **50 million VND per year**.

See details in APPENDIX 11: **Projected Other Costs**

4.3.1.3.5. Projected General Production Costs

Manufacturing overhead is an important component of product cost, including all expenses incurred in the production workshop but not directly forming part of the product. Manufacturing overhead includes costs such as indirect labor costs, electricity and water costs, depreciation costs, and other costs.

See details in APPENDIX 12: **Projected General Production Costs**

4.3.2. Projected Selling Expenses and General Administrative Expenses

4.3.2.1. Selling Expenses

Selling expenses are all costs incurred directly to serve the product consumption activities of the enterprise, including organizing, operating, and maintaining the sales system. For the product “dried sweet potato” – an agricultural processed product usually distributed through channels such as agents, retail stores, online channels, or fairs – selling expenses include all costs directly related to the process of delivering the product from the warehouse to the consumer.

See details in APPENDIX 13: **Projected Selling Expenses**

4.3.2.2. General Administrative Expenses

General administrative expenses are common costs incurred in the process of operating and managing the business production activities. This is an indirect cost

group, not directly creating products but playing a role in maintaining a stable, efficient, and lawful operating system.

See details in APPENDIX 14: **Projected Administrative Expenses**

4.3.3. Projected Business Performance Results of the Enterprise

The Business Performance Result is a comprehensive indicator that reflects the level of efficiency in the production and business activities of an enterprise within a specific accounting period. Through this indicator, it is possible to assess whether the enterprise is operating effectively, thereby providing insight into its financial status and operational performance. This serves as an important basis to support managerial, investment, and operational decision-making in the future.

The business performance result is determined according to the following formulas:

- $\text{Gross profit} = \text{Revenue} - \text{Cost of goods sold}$
- $\text{Profit before tax} = \text{Gross profit} - \text{Selling expenses} - \text{Administrative expenses}$
- $\text{Income tax} = \text{Profit before tax} \times 20\%$
- $\text{Profit after tax} = \text{Profit before tax} - \text{Income tax}$

See details in APPENDIX 15: **Projected Business Performance Results of the Enterprise**

4.4. Evaluating Financial Performance

4.4.1. Break-even Output

The relevant costs in break-even analysis include both **fixed** and **variable costs**. **Fixed costs** are all expenses related to fixed inputs. These costs do not change with the level of output or sales revenue. They include: indirect labor costs, depreciation, maintenance and repair costs, general and administrative expenses, and other production-related costs. **Variable costs** are all expenses related to variable inputs. These include raw material costs, electricity and water expenses, packaging inspection, transportation, and other related costs...

See details in APPENDIX 16: **Projected Fixed Costs**

See details in APPENDIX 17: **Projected Variable Costs by Product Type**

Assuming: The company is producing three types of products: Traditional Khoai Deo, Soft-dried Khoai Deo, Ginger-flavored Khoai Deo. In 2026, the company sold: 96187.5 kg of Traditional Khoai Deo at 0.104 million VND/kg; 25650 kg of Soft-dried Khoai Deo at 0.123 million VND/kg; 6412.5 kg of Ginger-flavored Khoai Deo at 0.153 million VND/kg. The following formulas are applied:

- $\text{Contribution Margin} = \text{Revenue} - \text{Variable Costs}$
- $\text{Sales Structure Ratio} = \text{Revenue of each product} / \text{Total revenue} \times 100\%$

- Company’s Contribution Margin Ratio = Total Contribution Margin/ Total Revenue
- Company-wide Break-even Revenue = Fixed Costs / Contribution Margin Ratio
- Break-even Revenue per Product = Company-wide Break-even Revenue × Sales Structure Ratio
- Break-even Output = Break-even Revenue of product i / Unit price

See details in APPENDIX 18: **Break-even Output**

Therefore, to break even, the company needs to achieve the following sales revenue for each product:

– Traditional Khoai Deo has a break-even revenue of *6264.44 million VND*, corresponding to a break-even output of *60162.69 kg*.

– Soft-dried Khoai Deo has a break-even revenue of *1965.31 million VND*, corresponding to a break-even output of *16043.38 kg*.

– Ginger-flavored Khoai Deo has a break-even revenue of *614.16 million VND*, corresponding to a break-even output of *4010.85 kg*.

4.4.2. Net Present Value (NPV)

The Net Present Value (NPV) method is used to evaluate investment projects by examining the difference between the present value of cash inflows and the present value of cash outflows related to the project. The formula for calculating NPV is as follows:

$$NPV = \sum_{t=1}^n \frac{C_t}{(1+r)^t} - C_0$$

where:

- n is the total duration of the project (number of periods).
- t is the time period at which the cash flow occurs.
- r is the discount rate.
- C_0 is the initial investment cost for the project.
- C_t is the net cash flow at time t .

Assuming the company has a discount rate of **8%** and the following projected data (using the straight-line depreciation model over the project life):

$$\begin{aligned} NPV &= \frac{2149.74}{1+0.08} + \frac{3201.01}{(1+0.08)^2} + \frac{4106.94}{(1+0.08)^3} + \frac{4256.95}{(1+0.08)^4} + \frac{4796.02}{(1+0.08)^5} + \frac{4997.54}{(1+0.08)^6} + \frac{8349.19}{(1+0.08)^7} - 9646.34 \\ &= 12762.78 \text{ million VND.} \end{aligned}$$

See details in APPENDIX 19: **Net Cash Flow by Year**

Since the NPV is greater than zero, the project is considered financially feasible.

4.4.3. Internal Rate of Return (IRR)

The Internal Rate of Return (IRR) is an indicator used to assess the attractiveness of a project. It represents the rate of return generated by the project. Given that NPV = 0, we have:

$$\text{NPV} = \frac{2149.74}{1+x} + \frac{3201.01}{(1+x)^2} + \frac{4106.94}{(1+x)^3} + \frac{4256.95}{(1+x)^4} + \frac{4796.02}{(1+x)^5} + \frac{4997.54}{(1+x)^6} + \frac{8349.19}{(1+x)^7} - 9646.34 = 0$$

After calculation, the IRR is determined to be **33%**.

With an IRR of 33%, the project involving *Khoai Deo* demonstrates a high potential for profitability. The profits generated from *Khoai Deo* can be reinvested into new projects or used for business development and expansion. Furthermore, this strong return may attract investment and facilitate loan opportunities to capitalize on potential business growth.

4.4.4. Payback Period

The payback period is the amount of time required to recover the initial investment.

After calculation, the payback period is **3 years and 16 day**.

A payback period of only 3 years and 16 day indicates that the project is financially efficient and presents a relatively low investment risk. From the third year onward, the business can reach a stable operating phase, as cumulative cash flow turns sustainably positive. If the company takes advantage of opportunities to scale up, diversify its product portfolio, and expand distribution channels, it has the potential to achieve breakthrough growth and high profitability in the following years.

See details in APPENDIX 20: **Cash Flow and Payback Period**

CHAPTER 5. PRODUCTION DEPLOYMENT AND PRODUCT MARKET LAUNCH PLAN

5.1. Plan for Establishing the *Khoai Deo* Production Enterprise

5.1.1. Enterprise Establishment

Based on the production scale, long-term development goals, and current financial capacity, the enterprise is established in the form of a single-member limited liability company (LLC), under the name: Khoai Deo Co Nuong Co., Ltd.

The company is oriented to develop into a unit specializing in the production and trading of the specialty product *Khoai Deo*, applying modern technology in combination with traditional processing methods to create products that meet quality standards, ensure food safety, and reflect the unique characteristics of local culture.

In the initial stage, the company aims to build a small to medium-scale production factory, ensuring a stable supply for the domestic market. In the long term, the company will gradually expand its market, develop export activities, and build a Vietnamese specialty brand in the international arena.

The company is established with a total initial charter capital of VND 3 billion, primarily invested in:

- Construction of the production workshop and procurement of processing machinery and equipment;
- Operating costs and recruitment of personnel;
- Marketing activities and brand development.

Reasons for choosing the single-member limited liability company model:

- *Limited liability*: The owner or capital-contributing members are only liable within the scope of the contributed capital, helping to minimize personal risk in case the company encounters financial difficulties.

- *Effective financial management*: The LLC model allows for tight capital control, transparency, and ease in monitoring cash flow, production costs, and business performance.

- *High confidentiality*: Unlike joint-stock companies, LLCs are not required to publicly disclose financial statements, thereby protecting proprietary production technologies, business strategies, and internal financial information.

- *Suitable for the startup stage*: The LLC model is appropriate for small to medium-sized production enterprises while providing a solid legal foundation for future scaling or business model transformation.

With these advantages, the LLC model will help the enterprise operate stably, maintain a clear legal status, and lay a solid foundation for sustainable development in the field of specialty food processing.

5.1.2. Enterprise Organizational Structure

The enterprise is organized according to a functional structure model, appropriate to the characteristics of a specialty food production enterprise – *Khoai Deo*. At the top is the Director, who is responsible for managing all operations, under whose authority are specialized functional departments.

Organizational Structure Chart:

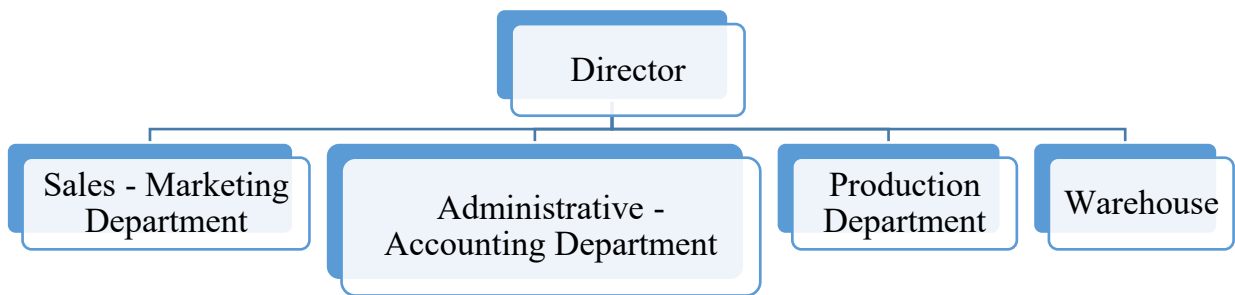


Figure 5. 1. Organizational Structure Chart

Director: The Director is the head of the enterprise, responsible for managing and directing all production and business activities. The role of the Director includes setting development strategies, making key decisions, and monitoring the performance of each department. In addition, the Director is also responsible for building relationships with partners, suppliers, and customers to ensure the sustainable development of the enterprise.

Sales – Marketing Department: This department plays an important role in boosting sales and building the brand.

– *Marketing Section:* Focuses on market research, developing branding strategies, and implementing marketing activities such as advertising, communications, and digital marketing. This group ensures the product reaches the right target customers and creates strong brand recognition.

– *Sales Section:* Responsible for finding new customers, maintaining relationships with existing customers, developing sales strategies, and implementing promotional programs to increase revenue.

Administrative – Accounting Department: Responsible for managing all tasks related to finance, accounting, and internal administration of the company.

+ *Accounting*: This section is in charge of recording, tracking, and summarizing income and expenditure activities, preparing financial reports and periodic tax reports, ensuring compliance with legal regulations on finance and accounting.

+ *Administration*: Handles internal administrative tasks such as recruitment, personnel file storage, timekeeping, payroll calculation, drafting labor contracts, and other administrative documents. In addition, this department supports legal procedures, documentation, and ensures a stable, efficient working environment for the entire enterprise.

Production Department: Responsible for managing the production line, planning production, and controlling progress to meet market demand. This department also operates machinery, supervises product quality, and coordinates with other departments to optimize production processes, minimize costs, and increase productivity.

Warehouse: In charge of inspecting, controlling, and testing raw materials and finished products; arranging, classifying, and packaging according to orders for delivery to customers and businesses.

5.2. Pilot Production Plan

To evaluate consumer feedback and finalize the product before officially launching to the market, the enterprise has carried out a small-scale pilot production of *Khoai Deo*.

Pilot production quantity: 50 kg of *Khoai Deo* was processed using a semi-industrial formula, ensuring quality and compliance with food hygiene and safety standards.

❖ Pilot Testing

Objective: The pilot testing aims to collect sensory evaluations, consumer preferences, and distribution feedback from the target customers, thereby refining the product in terms of quality and packaging design.

Test subjects:

- Individuals aged 36–60, particularly those interested in clean food and local specialties.

- Some small traders and specialty food stores, who are potential distribution partners.

Testing location: At the pilot production facility in Lê Thủy, Quảng Bình – a location close to the raw material source, allowing easy input control. Sampling and feedback were also conducted at traditional markets, specialty stores, schools, and local food fairs.

Duration: Within one week, ensuring product freshness and timely collection of customer feedback.

Method of information collection: After product tasting, customers’ feedback was gathered through usage evaluation and sensory assessment (color, texture, taste, etc.). The results showed that the product was highly rated by consumers for its quality, naturalness, and safety (no preservatives). This serves as a crucial basis for the enterprise to adjust the formula, improve packaging, and prepare for the commercial production stage.

❖ **Production Plan**

The production plan is designed to ensure stable manufacturing of *Khoai Deo*, maintaining quality, meeting domestic market demand, and laying the foundation for future export development. The specific objectives include:

- Organizing periodic production with suitable capacity according to the development stage of the enterprise.
- Applying a semi-automated production line to ensure quality, food safety, and preserve the product’s natural flavor.
- Controlling costs effectively, minimizing waste and risks during processing.
- Meeting the initial pilot production volume of 50 kg, with scalable capacity based on market demand.
- Ensuring synchronization across all stages: raw material intake – preliminary processing – processing – packaging – preservation – delivery.

5.3. Product Launch Implementation Plan

Table 5. 1. Tasks for Product Launch Implementation

No	Task	Start date	Duration (days)	End date	Responsible Department
1	Market Research				
1.1	Customer demand survey	02/01/2025	15	18/01/2025	Marketing Department
1.2	Market and competitor analysis	02/01/2025	15	18/01/2025	
1.3	Define target market	20/01/2025	10	04/02/2025	
2	New Product Development				
2.1	New product ideation	05/02/2025	15	21/02/2025	Production Department
2.2	Define product	05/02/2025	20	27/02/2025	

No	Task	Start date	Duration (days)	End date	Responsible Department
	development goals, opportunities, and potential				
3	Product Design				
3.1	Preliminary product design	28/02/2025	12	13/03/2025	Marketing & Production Departments
3.2	Design of production process, technology, and packaging	28/02/2025	20	22/03/2025	
3.3	Purchase of production equipment	24/03/2025	25	22/04/2025	Production Department
4	Testing & Adjustment				
4.1	Trial production and product testing	23/04/2025	15	13/05/2025	Production Department
4.2	Collect feedback	14/05/2025	10	24/05/2025	Marketing Department
4.3	Finalize product	26/05/2025	10	05/06/2025	Production Department
5	Marketing Strategy Development				
5.1	Define target market and product positioning	06/06/2025	17	25/06/2025	Marketing & Sales Departments
5.2	Determine selling price	06/06/2025	15	23/06/2025	
5.3	Develop integrated promotional strategy	26/06/2025	12	09/07/2025	
5.4	Social media marketing strategy	26/06/2025	15	12/07/2025	
5.5	New product launch program	14/07/2025	15	30/07/2025	
6	Product Distribution				
6.1	Select distribution channels	31/07/2025	10	11/08/2025	Marketing & Sales Departments

No	Task	Start date	Duration (days)	End date	Responsible Department
6.2	Choose reliable logistics partners and optimize delivery process	31/07/2025	10	11/08/2025	Sales & Warehouse Departments
7	Financial Analysis & Forecasting				
7.1	Determine production costs	12/08/2025	10	22/08/2025	Management Department
7.2	Forecast production and financial plans for upcoming years	23/08/2025	15	10/09/2025	
7.3	Profit analysis	11/09/2025	10	22/09/2025	
8	Mass Production				
8.1	Develop production plan, manage resources and production line	23/09/025	15	09/10/2025	Production Department
8.2	Quality control products	10/10/2025	30	13/11/2025	
8.3	Manufacture and stock products to meet market demand	10/10/2025	30	13/11/2025	Production & Warehouse Departments
9	Monitoring & Evaluation				
9.1	Collect customer feedback, analyze data, evaluate sales and marketing effectiveness	14/11/2025	30	18/12/2025	All Departments

Gantt Chart:

5.4. Customer Support Policy and Issue Resolution during Product Distribution

5.4.1. Customer Support Policy

To enhance customer satisfaction, build loyalty, and support distribution partners, *Khoai Deo Co Nuong* implements a comprehensive customer support policy focused on the following areas:

- *Fast and flexible delivery policy:* The company commits to delivering within 24–48 hours in the Central region and Hanoi, in collaboration with reputable delivery services such as GHTK and Viettel Post. A system of transit warehouses and regional hubs helps shorten delivery times and optimize logistics costs.
- *Shipping support policy:* Free delivery is offered for inner-city orders worth 500,000 VND or more. For customers in remote provinces—especially agents and distributors—the company will support 30–50% of the shipping cost depending on distance and order value.
- *Discounts and distributor support:* Preferential pricing and attractive discounts are provided to agents, specialty stores, and wholesale partners. The company also supports marketing materials such as product images, flyers, and free product sampling programs at points of sale.

5.4.2. Issue Resolution Policy

During the distribution and consumption of *Khoai Deo* products, problems may arise. To maintain customer satisfaction and loyalty, the company has established appropriate handling policies as follows:

– *Damaged or incorrect products:* When a customer reports damaged or incorrect items, the company must promptly receive, inspect, and process the complaint. Depending on the situation, a replacement or refund will be issued as quickly as possible. If the error is due to shipping or production, the product will be replaced free of charge and may include a discount for the next order.

– *Product does not meet taste or quality expectations:* If customers are dissatisfied with the flavor, texture, or sweetness of the product, their feedback should be acknowledged. The company should explain the product's unique characteristics and provide usage guidance. Constructive feedback may lead to formula adjustments to better match market preferences.

– *Delayed or missed deliveries:* In case of delivery delays, the company should proactively contact customers, explain the reason, and commit to a specific new delivery time. Compensation may include free shipping or a discount on the next order.

– *Improper storage of product:* To prevent damage from improper storage, clear storage instructions should be printed on the packaging and published on online sales platforms. The company should use high-quality packaging to protect the product during transport and storage.

– *Difficulties with ordering or payment:* The ordering system should be user-friendly and support various payment methods such as cash, bank transfer, and e-wallets. An online support team should be available to quickly assist customers with any issues.

CONCLUSION

After the process of researching, surveying, and comprehensively analyzing the market, product, technology, marketing, and finance, the investment project in establishing a Khoai Deo production facility is assessed to have high feasibility and strong potential for sustainable development. Specifically:

Firstly, through the survey of market demand and modern consumption trends, the study has identified Khoai Deo as a specialty product that carries local identity, capable of meeting consumer preferences, while also contributing to product diversification and increasing the value of local agricultural products.

Regarding the product, the project has designed a product that ensures food safety standards, with appropriate packaging and a modern production process, while still retaining traditional elements. The trial production has verified the product’s preservation capability and commercial viability.

On that basis, the project has conducted market segmentation based on key criteria such as age and income, in order to accurately identify the target customers. Selecting appropriate customers will help improve market access efficiency and optimize costs. A comprehensive 4P marketing strategy has been developed:

- **Product:** Focus on quality, attractive packaging, and a clear brand identity.
- **Price:** Apply a competition-based pricing strategy, suitable for the target customer segments.
- **Place (Distribution):** Combine traditional channels (markets, specialty stores) with modern channels (supermarkets, e-commerce).
- **Promotion:** Promote through social media, participate in trade fairs, and engage in local communication activities.

In terms of finance, the analytical indicators show that the project achieves high efficiency:

- Net Present Value (NPV): 12762.78 million VND, reflecting strong financial performance and high added value.
- Internal Rate of Return (IRR): 33%, significantly higher than the cost of capital, indicating good profitability.
- Payback Period (PP): 3 years and 16 days, demonstrating a fast capital recovery capability.

In addition, the production implementation plan has been clearly and specifically developed—from factory construction, production organization, machinery operation,

and product distribution to quality management. At the same time, long-term development solutions have been proposed, such as product improvement, market expansion, product diversification, and brand development associated with local identity.

Therefore, it can be affirmed that the Khoai eo production investment project is a sound direction—effective not only in terms of economics but also aligned with the orientation of developing local agricultural products through deep processing and added value creation. With a well-developed strategy, a regionally distinctive product, and a broad market potential, the project is entirely feasible for practical implementation, contributing to rural economic development and enhancing the brand of Vietnamese specialty products.

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