



Assistance in Creating Nutrition Fact Labels and Packaging for Cassava Chips Products at CV Eka Pratama Sejahtera Cirebon

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ABSTRACT

Micro, small, and medium enterprises (MSMEs) frequently encounter numerous challenges, including the incorporation of nutrition fact labels and product packaging – this community service aimed to facilitate the creation of nutrition fact labels and new packaging for MSME products. The partner of this program was CV Eka Pratama Sejahtera in Cirebon Regency, focusing on cassava chip products. This program included observation, problem identification, activity implementation, and evaluation. Observations and problem identification indicated a necessity for new flavor varieties, nutritional fact labels, and updated packaging for cassava chip products. The results showed that CV Eka Pratama Sejahtera provided positive feedback during this assistance program. This program successfully generated a nutrition facts table for a new flavor variant of cassava chips using the BPOM format. Additionally, this program developed a new packaging design for the product. The result of this program was the redesigned packaging, which included nutritional information for the latest flavor variants of cassava chip products at CV Eka Pratama Sejahtera.

Usaha mikro, kecil, dan menengah (UMKM) seringkali memiliki beberapa kendala, salah satunya adalah pencantuman ING dalam kemasan produk. Tujuan dari kegiatan ini adalah melakukan pendampingan dalam pembuatan informasi nilai gizi dan kemasan pada produk UMKM. Mitra dalam kegiatan ini adalah CV Eka Pratama Sejahtera di Kabupaten Cirebon dengan produk unggulannya adalah keripik singkong. Kegiatan ini dilakukan dengan beberapa tahapan yaitu observasi, identifikasi masalah, pelaksanaan kegiatan, dan evaluasi. Hasil observasi dan identifikasi masalah yang telah dilakukan merumuskan bahwa perlu adanya varian rasa baru, perhitungan informasi nilai gizi, dan pembuatan kemasan dari produk keripik singkong di UMKM mitra. Hasil kegiatan ini menunjukkan bahwa mitra memberikan respon yang positif selama kegiatan dilaksanakan. Tim dan mitra telah berhasil membuat tabel informasi nilai gizi yang sesuai dengan format BPOM untuk dicantumkan dalam kemasan produk. Selain itu, tim dan mitra juga telah membuat desain kemasan untuk produk keripik singkong varian rasa baru yaitu pedas daun jeruk. Luaran dari kegiatan ini adalah terciptanya kemasan yang telah ditambahkan informasi nilai gizinya untuk



produk keripik singkong varian rasa pedas daun jeruk di UMKM mitra.

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A. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are integral to enhancing Indonesia's economy (Sarfiyah et al., 2019). However, MSMEs frequently encounter numerous challenges, including finance constraints, restricted marketing access, and intense competition from competitors (Maulida & Ahmad, 2017). MSMEs must persist in enhancing the quality of their products to ensure high consumer demand and gain significant benefits. Packaging is an essential factor in improving product quality (Ramadhina & Mugiono, 2022; Sufaidah et al., 2022). Nowadays, packaging provides not only to protect food from external environmental contaminants but also to preserve product longevity. Nonetheless, packaging can serve as a medium for advertising and information dissemination when presenting products to consumers (Pratama et al., 2023; Putri et al., 2023; Ramadhina & Mugiono, 2022). Packaging is often referred to as "the silent salesman" because it can convey product information in the seller's absence (Kushe Shekhar & Raveendran, 2017). Consequently, packaging must convey essential information consumers require, including the nutritional label.

The Indonesian Food and Drug Supervisory Agency (BPOM), by Regulation Number 16 of 2020, mandates that processed foods manufactured by MSMEs must feature nutrition fact labels (Badan Pengawas Obat dan Makanan, 2020b). Nutrition fact labels provide a detailed enumeration of processed food's nutritional and other component contents as it is marketed. The format established by BPOM creates nutrition fact labels (Badan Pengawaas Obat dan Makanan, 2021; Badan Pengawas Obat dan Makanan, 2020b). Therefore, MSMEs must comprehend how to incorporate Nutrition Fact labels into their packaging.

CV. Eka Pratama Sejahtera is a micro, small, and medium enterprise (MSME) in Cirebon Regency, created by Mr. Eka Moelyadi on January 1, 2020. This MSME primarily produces cassava chips, which have garnered significant market share. Primary observations indicate the necessity for a new flavored version of the cassava chip to appeal to teenage and adult consumers. Moreover, the classification of cassava chips as processed food mandates the inclusion of a nutrition label on the packaging.

This community service activity aims to assist in the creation of nutritional labels for new flavor variants of cassava chip products at CV Eka Pratama Sejahtera. It also intends to improve the packaging design by including a nutrition label. This program is intended to improve the quality of products for MSME stakeholders, strengthening their competitiveness and expanding their market scope.

B. LITERATURE REVIEW

1. Food Packaging

The packaging of food products represents a critical process within the food industry, serving to preserve the quality of food items throughout the stages of storage, transportation, and distribution (Nosáľová et al., 2018; Wikström et al., 2019). Packaging serves as a



component that encases or envelops a product, ensuring its protection and preservation of quality. The BPOM Regulation number 20 of 2019 defines that food packaging serves the purpose of containing and/or wrapping food that is in direct contact with the food itself (Badan Pengawas Obat dan Makanan, 2020b).

Packaging serves four fundamental functions: it acts as a container, facilitates communication, provides protection, and enhances convenience (Waluyo et al., 2021). Packaging serves as a container designed to hold products, facilitating ease of transport, preventing scattering, and enabling efficient storage. Packaging serves as a communication medium that functions as an intermediary between manufacturers and consumers. The packaging label contains every relevant details that the manufacturer intends to communicate, thereby enabling consumers to gain a deeper understanding of the product. Packaging serves as a form of protection, preserving the product from substances that may compromise its quality, whether caused by internal factors or external environmental factors. The meaning of packaging for convenience refers to the ability of packaging to facilitate ease of transport and consumption for consumers.

Micro, Small, and Medium Enterprises (MSMEs) need to focus on their product packaging (Kurniawan et al., 2021; Saputro et al., 2022). Effective packaging serves to protect and preserve the quality of the products offered. Furthermore, packaging plays a crucial role in establishing a competitive advantage for MSMEs. It can be strategically designed to satisfy consumer preferences, enhance market share, reduce costs, boost profitability, impart distinctiveness to a product, and streamline distribution and transportation processes (Apriyanti, 2018; Kurniawan et al., 2021; Ramadhina & Mugiono, 2022; Suprpto et al., 2020).

2. Food Labels and Nutrition Fact Table

The primary elements of packaging consist of packaging materials and labels (Waluyo et al., 2021). Packaging material refers to the specific substance utilized in the creation of packaging, whereas the label refers to information pertaining to the food, which may be presented through images, text, a combination of both, or alternative formats. BPOM Regulation No. 31 of 2018 determines food labels as any information pertaining to processed food, which may be presented in the form of images, written text, a combination of both, or other formats. This information is incorporated into, attached to, or constitutes part of the Food Packaging. Food labels provide essential information, including the product name, a comprehensive list of ingredients, net weight or content, the name and address of the producing or importing entity, halal certification when applicable, production date and code, expires details, distribution permit number, and the origin of specific food ingredients. Furthermore, processed food labels are mandated to incorporate nutrition fact table, a 2D Barcode, and additional details as stipulated by relevant laws and regulations (Badan Pengawas Obat dan Makanan, 2020a).

The nutritional fact table presented on food labels constitutes a critical component of food product transparency. The BPOM Regulation number 16 of 2020 mandates that processed food produced by MSMEs must include nutritional fact table (Badan Pengawas Obat dan Makanan, 2020b). The inclusion of nutrition fact table is not applicable to ground coffee, powdered tea, tea bags, bottled drinking water, herbs, spices, seasonings, and condiments.

The nutrition fact table provides detailed information regarding the types and quantities of nutrient content, the percentage of nutrient adequacy (AKG), as well as accompanying footnotes for further clarification. The nutritional components that should be incorporated include total energy, total fat, saturated fat, protein, total carbohydrates, sugar, and salt (sodium). The implementation of the inclusion of nutrition fact table on processed food



produced by MSMEs occurs in a systematic manner, guided by the nutritional content of the processed food (Badan Pengawaas Obat dan Makanan, 2021; Badan Pengawas Obat dan Makanan, 2020b).

C. METHODS

The partner in this community service activity is MSME CV. Eka Pratama Sejahtera, a manufacturer of cassava chips located in Wanasaba Kidul Village, Talun District, Cirebon Regency. The assistance activities occurred from November to December 2024. The entire procedure proceeds in several stages: observation, problem identification, activity implementation, and evaluation (Figure 1).

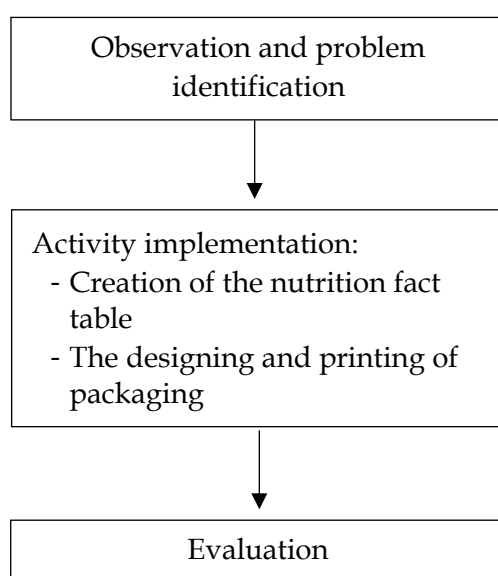


Figure 1 Stages of community service activities

The preliminary observation took place at CV's production facility. Eka Pratama Sejahtera, located in Wanasaba Kidul Village. This observation aimed to establish an understanding of detecting problems and offering alternate solutions to the identified problems. After discussions with partners, it was concluded that the key issue was the necessity of new flavor variants and more appealing packaging designs. We concluded that we would formulate a spicy lime leaf flavor variant to reach teenage and adult consumers who like the taste.

The stages of activity implementation included the creation of a nutrition fact table and packaging design. After consulting with partners, the team created the nutrition fact table and packaging design. The team manually calculated the nutrient content by estimating the product's nutrient content per serving size using the Indonesian Food Composition Table (TKPI). We did this to ensure the nutritional content closely resembles the original product. We estimate the nutritional content by considering the quantity and type of ingredients used to prepare the product. Next, the team calculated the percentage contribution of nutrients using the general group nutrition label reference guidelines, which require 2150 kcal of energy. The data that has been obtained is then compiled into a nutrition fact table that BPOM has implemented. In addition, the team also created packaging designs using computer

graphic design software. The team then prints the completed design on the packaging material.

The team and partners conducted the evaluation stage to assess the conformity of the printed packaging design. We evaluated collaboratively, enabling the team and partners to provide their respective assessments. The final output of this activity was the product packaging equipped with a nutrition fact table on its packaging for the new flavor variant product at the MSME CV Eka Pratama Sejahtera.

D. RESULTS AND DISCUSSION

The cassava chips produced by CV Eka Pratama Sejahtera are pretty popular among the local community. This product's distinctive, crispy, and delicious taste makes it ideal for consumption as a side dish or snack. There are two flavor variants with high sales: the original and cheese. However, the team asserts that a new flavor variety for the chip product is essential to broaden the market's appeal to a larger customer demographic, particularly teens and adults. We conducted the first activity to discuss the flavor variants and the new product name. This activity involved suggestions and input from the MSME owner of CV, Eka Pratama Sejahtera. The discussion results concluded that the selected flavor variant is a spicy lime leaf flavor with the product Threepik. Documentation of the discussion process between the team and the MSME owner is presented in Figure 2.



Figure 2 Documentation of the discussion process between the team and the MSME owner.

The next step was to design a nutrition fact sheet for the new product flavor variety. We manually calculated the nutritional content by estimating the amounts and types of ingredients in the product. Table 1 displays the nutrition fact table. Table 1 indicates that each container has three servings, with each serving weighing 20g. One serving of spicy lime leaf-flavored cassava chips has 96 kcal of total energy, with 44 kcal derived from fat, total fat content of 5 g, total carbs of 12 g, sugars amounting to 2 g, and salt at 20 mg.

Table 1 Nutrition fact table of cassava chips per serving size

INFORMASI NILAI GIZI/ NUTRITION FACT
Takaran saji/ <i>Serving size</i> 20 g
Jumlah sajian per kemasan/ <i>Serving per container</i> : 3
Energi Total/ <i>Total Calories</i> : 96 kkal

Energi dari lemak/ <i>Calories from fat</i> : 44 kkal		
		% AKG % Daily Value
Lemak total/ <i>Total fat</i>	5 g	7%
Protein/ <i>Protein</i>	0 g	0%
Total Karbohidrat/ <i>Total Carbohydrate</i>	12 g	4%
Gula / <i>Sugar</i>	2 g	
Natrium / <i>Sodium</i>	20 mg	1%
*Persen AKG berdasarkan kebutuhan energi 2150 kkal Kebutuhan energi Anda mungkin lebih tinggi atau lebih rendah *Percent Daily Values are based on a 2150 calorie diet Your daily values may be higher or lower depending on your calorie needs		

The team then incorporated the calculated nutrition fact table into the packaging design. This activity produced a new packaging design that takes a modern approach, catering to the target market of teenagers and adults. The package included the brand name, flavor variants, ingredient composition, allergen information, nutritional value information, PIRT number, and expiration date. Furthermore, the packaging design created was printed onto standing pouch packaging material. We chose to use standing pouches for their ease and practicality. Figure 3 presents the packaging design.

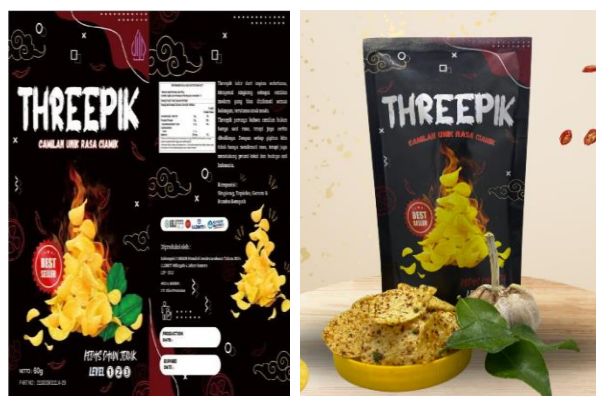


Figure 3 The new packaging design for the cassava chip product equipped with nutrition facts and other food label components.

The evaluation results from the team and MSME owner concluded that the packaging design has successfully created a professional and aesthetic impression. The design presented the illustration image, packaging labels, and the nutrition fact table, resulting in a more informative appearance for the consumer. The choice of a standing pouch was considered to maintain the quality of the contents inside and provide aesthetic value to the product. The packaging design also featured illustrations of spicy images and lime leaves to help strengthen the brand's identity and make it easier for consumers to understand the flavor variants. This product design aims to improve the product's competitiveness through more innovative packaging relevant to the target market groups of teenagers and adults. Packaging is one of the factors that can influence the purchasing power of the public towards food products. Attractive packaging will increase consumers' trust in the quality of the product, leading to more purchases (Apriyanti, 2018; Khoiriyah et al., 2024; Ramadhina & Mugiono, 2022).

This community service activity has been conducted well, with positive responses from the MSME owner. This activity has successfully produced product packaging designs that have been equipped with a nutrition fact table for the new variant of spicy cassava with kaffir lime



leaves. Product packaging plays a crucial role in maintaining the quality of the products inside and is an effort to increase the marketing volume of MSME products. (Apriyanti, 2018; Suprpto et al., 2020).

The results of this community service activity are expected to be used by MSME owners to improve product quality and increase the product's selling value. The packaging design, which has been optimally created with the inclusion of a nutrition fact table on the packaging label, is expected to increase consumer trust, expand marketing reach, and serve as an effort to implement more effective marketing strategies.

There are still some limitations to this activity. One of them is that the team can only manually perform nutrition content calculations based on estimated nutrient content due to existing resource limitations. As recommended by BPOM, the nutrition content in processed food products should be proven by the results of nutrient analysis in government laboratories and/or other accredited laboratories (Badan Pengawas Obat dan Makanan, 2021). The nutritional content value of the product will be more accurate if obtained from a direct laboratory analysis. This evaluation can improve future community service activities to conduct nutrient content analysis more directly in the laboratory.

E.CONCLUSION

The MSME partner, CV Eka Pratama Sejahtera, has provided positive feedback on the successful execution of this community service activity. This activity has produced the nutrition fact table and new packaging of the new variant flavour of cassava chip product. This result is expected to be used by MSME partners to improve the quality of the product and its packaging to increase public trust and the number of product sales.

F. ACKNOWLEDGEMENTS

We extend our gratitude to the partner, CV. Eka Pratama Sejahtera, for cooperating and trusting in this community service activity. We also extend our gratitude to all team members who ensured the smooth and successful execution of this activity.

G. AUTHOR CONTRIBUTIONS

Team contributions include Nur Khoiriyah, who is responsible for the entire activity process, including article writing and publication. Ayu Cindy Fazdilah was tasked with preparing all the data and documentation. Wiwi Hartati is in charge of revising the articles compiled based on input from the team.

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