



Workshop on Modification and Innovation of Processed Banana Products by the MBKM Program of Indo Global Mandiri Students

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ABSTRACT

Natural resources are resources acquired from the environment and can be utilized to fulfill human needs. One agricultural commodity that is abundant in this region is bananas. However, bananas that are sold directly tend to have a lower price and cannot be stored for a long time after being harvested due to their rapid ripening process, which leads to spoilage. Therefore, diversifying the product is necessary, and one way to do this is by processing bananas into chips. In this endeavor, we utilized the ABCD (Asset Based Community Development) method. Our activities aim to support the MBKM 2023 program, with a focus on creating positive change around km 20 Palembang. The assistance process involves several steps, starting from studying scenarios, uncovering the past (discovery), envisioning the future (dream), planning actions (design), engaging in participatory action (define), and finally monitoring and evaluating activities (destiny). By utilizing easily accessible raw materials, such as bananas, and adding innovative flavors, we hope to enhance the community's skills and creativity, as well as provide entrepreneurial opportunities to increase the selling value of bananas. The evaluation results indicate that the banana chip business is profitable, with an R/C ratio of 3.4. However, further evaluation and assistance in overall marketing strategy are still required.

Keywords: Banana, Processed Food, Taste Innovation, Selling Value

1. Introduction

Banana is one type of agricultural commodity in the fruit group that is widely recognized by local and global communities. The availability of bananas in Indonesia is very abundant, because the nature of the plant is suitable for the growth climate in the tropics so that it is easy to grow and bear fruit regardless of the season. (Purnamasari & Hartati, 2023). Banana plants can be found in almost all regions in Indonesia, grown either in home yards, fields, or in the form of plantations. Banana production in Indonesia increased to 8,182,756 tons in 2020, which in the previous year amounted to 7,280,658 tons. This amount of banana production is still ranked first in the category of fruit crop production every year. Banana fruit is one of the agricultural products that has a short shelf life, ranging from only 21-30 days (Susanti et al., 2023). As a climatic fruit, harvested bananas will experience a sudden increase in respiration rate by emitting CO₂ (Lesi Hertati, 2012). This substance breaks down flour and converts it into sugar, thus accelerating the ripening of the banana fruit. Overripe bananas have the potential to spoil and can no longer be consumed. (Marlina et al., 2023). Eventually the bananas become wasted and redundant (Syabitha et al., 2022). Therefore, in anticipation of such damage, product diversification through banana processing such as chips is required (Hertati & Safkaur, 2021).

Banana chips are favored by the public as a 'snacking companion' during leisure time. Banana chips are processed dried food made by frying banana slices to produce savory and crispy chips. Banana chips are usually made from unripe bananas, with or without other food additives (Sari et al., 2022). The most widely

used type of processed banana for banana chips is kepok banana, because of its good taste and easy to process form. The production process of banana chips is also quite easy to do for the layman. With the expanding market share and growing consumer demand, banana chip snacks have incorporated intriguing flavor innovations. For instance, the addition of caramel enhances the chips' taste, providing a delightful sweetness (Safkaur & Hertati, 2020).

2. Methodology

The implementation of this activities is carried out around Banyuasin km 20. For activities that produce products for consumers. Every Sunday there are 5 flavors produced, namely spicy, salty, sweet, chocolate, and sesame. Main ingredients used in making banana chips (Hasan et al., 2023). Other ingredients used are salt, powdered sugar, brown sugar, red chili, garlic, shallots, cocoa powder, meizena flour, sesame seeds and oil for frying. (Safkaur et al., 2021). While the tools used are a large basin, colet, wok, furnace, knife, pasah, cutting board, sutil, ulekan, spoon, bowl. Implementation method, as a start, information gathering activities were carried out to find out the location conditions and real needs. (Cahyani & Hertati, 2023). Furthermore, the author will do the service (Cahyani & Hertati, 2023). Namely, conducting education, the purpose of this activity is to provide new innovations in the processing of garden products (bananas) into a food in the form of banana chips that can be made as a specialty food and improve the economy of the people in Banyuasin km 20.

1. Activity Location and Time

Marketing activities to the community were carried out in Banyuasin Regency, Talang Kelapa. At 10:00am- finish.

2. Approach Method

Social media Facebook, WhatsApp and Instagram are also one way to upload delicious and hygienic snacks that are ready to be sold in the market Online with simulation and discussion methods (Hertati 2020).

2.1. Activity Implementation

The potential for abundant garden products with one of the horticultural commodities from the fruit group that is currently quite calculated in Banyuasin village is the banana plant (Rabiah et al., 2022). The development of banana commodities aims to fulfill the need for consumption and improve the economy of the community (Lesi Hertati et al., 2021). Along with the increasing population and increasing public awareness of the importance of processing garden products into products and can increase innovation and can improve the community's economy (Hertati 2012). Besides being tasty, highly nutritious and relatively cheap, bananas are also one of the plants that have bright prospects because almost everyone likes to consume bananas (Mustaghfiroh, 2020). The following are the steps or stages of training on modification and innovation of processed banana fruit in the MBKM program for students of Indo Global Mandiri University (IGM):

1. Topic Selection and Training Objectives:
 - Identification of training objectives, such as creative skills development, improved market understanding, or stimulation of entrepreneurship among students (Azmi et al. 2023.).
2. Analysis of Student Needs and Potential:
 - Conduct a needs analysis of the students to understand their level of knowledge about the food industry, culinary skills, and interest in banana fruit modification. (Priandi et al., 2022).
3. Planning of Training Materials:
 - Develop comprehensive and relevant training materials, covering the basics of banana fruit processing, modification techniques, product innovation, marketing, and sustainability aspects. (Lesi Hertati & Safkaur, 2020).
4. Curriculum Development:
 - Organize the training curriculum by considering lesson modules, hands-on practice, and discussion sessions. Ensure the curriculum covers both theory and practical application (Purnamasari & Hartati, 2023).
5. Collaboration with Industry Practitioners:

- Invite practitioners or experts in the food industry to collaborate in developing materials and provide insights from a practical point of view (Rachmat et al. 2023).
- 6. Preparation of Field Practice Plan:
 - Determine field practice activities where students can directly apply the skills they have learned in the development of processed banana fruit products. (Marlina et al., 2023)
- 7. Selection of Advisor or Mentor:
 - Determine a supervisor or mentor who has expertise in banana fruit modification and innovation to provide guidance and support to students. (Lesi Hertati & Safkaur, 2020).
- 8. Development of Evaluation Methods:
 - Establish appropriate evaluation methods, including written exams, product development projects, presentations or product trials. Ensure the evaluation reflects the training objectives (Sari et al., 2022).
- 9. Preparation of Facilities and Infrastructure:
 - Ensure the availability of facilities and infrastructure required for the training, including an experimental kitchen, raw materials, cooking utensils, and food processing equipment. (Awalia et al., 2022) .
- 10. Development of Presentation Materials and Guidelines:
 - Create clear and engaging presentation materials and training guides for students. Ensure materials are accessible and well understood.(Hariyanti, 2019).
- 11. Training Implementation:
 - Organize the training sessions by following the plan and schedule. Provide opportunities for students to actively participate in training activities.(Mustofa et al. 2023.).
- 12. Evaluation and Feedback:
 - After the training is completed, conduct a thorough evaluation of the program. Get feedback from students, mentors, and industry practitioners for future improvements.(Nugraha et al. 2023).
- 13. Development of Follow-up Plan:
 - Create a follow-up plan to support students who want to apply the skills they learn, such as marketing support, financial assistance, or further mentoring. (Oktaria et al., 2023).

Through these steps, it is hoped that the banana fruit modification and innovation training program in the MBKM program at Indo Global Mandiri University can provide optimal benefits for students and help them develop in the culinary industry. Banana fruit contains high nutrition, low cholesterol and high vitamin B6 and vitamin C. The largest nutrients in ripe bananas are potassium at 373 milligrams per 100 grams of banana, vitamin A at 250-335 grams per 100 grams of banana and chlorine at 125 milligrams per 100 grams of banana. Bananas are also a source of carbohydrates, vitamins A and C, and minerals. The largest carbohydrate component in banana fruit is starch in the pulp, and will be converted into sucrose, glucose and fructose when the banana is ripe (15-20%).

1. Facebook and Instagram Profiles

Is your basic home on Facebook and Instagram describing who lives where, occupation, address etc.

2. Facebook and Instagram Groups

Is a discussion or selling forum. You can enter information in groups that match your products or general discussions to introduce yourself and make more friends.

3. Facebook Page

Facebook Pages is one of the features of Facebook for those who want to introduce or increase the popularity of the products they sell.

Business Profile :

- Business name: Banana Chips
- Business Type : Digital Marketing (Instagram, WhatsApp and Facebook)
- Product Type : Snacks (snacks or desserts)
- Business Location: Banyuasin Km 20 Palembang.

Prepare 2 to 4 banana slices then peel them after soaking them in water and add enough salt to make the sap disappear. Next, the bananas are sliced thinly in an elongated slicing shape using a pasah, so that the slicing process is faster and has the same thickness. (Lesi Hertati et al., 2023). Next, the 14 banana slices are fried in hot oil over medium heat. Wait until cooked or when the color turns bright yellow-brown. Remove and let stand for a while until the heat level adjusts to room temperature. Next, to make spicy seasoning, we prepare $\frac{1}{4}$ kg of red chili, 3 cloves of garlic, 4 cloves of shallots, 2 spoons of salt, add a little ginger for a delicious taste, then grind the spices, after that we fry the spices until cooked, add a little water, brown sugar according to taste, after that we put the fried banana chips we mix with the spices until evenly distributed, if it is evenly distributed, let stand for 15 minutes and then the banana chips are ready to be packaged.



Figure 1. Kepok Banana that will be made into chips

Prepare 2 to 4 banana slices then peel them after soaking them in water and add enough salt to remove the sap. Next, the bananas are sliced thinly into elongated slices using a pasah, so that the slicing process is faster and has the same thickness. Next, the 14 banana slices are fried in hot oil over medium heat (Harahap, 2011). Wait until cooked or when the color turns bright yellow-brown. Remove then let stand for a while until the heat level adjusts to room temperature. Next, to make this sesame flavor variant after frying, sprinkle with powdered sugar until evenly distributed while frying on a low heat then gradually add sesame seeds to taste until evenly distributed when it is evenly distributed let stand for about 15 minutes then the banana chips are ready to be packaged (Lesi Hertati & Safkaur, 2021).

Modification and innovation of banana fruit preparations in the MBKM (Work-Based Course) program for students have several significant benefits. Students will gain practical skills in modifying and producing innovations in banana fruit preparations. This includes skills in ingredient selection, processing techniques, and new recipe development. This training can stimulate students' creativity in banana processing. They may learn to create new variations, combine bananas with other ingredients, or create unique presentations. Students will learn about the concept of value addition in the food and beverage industry. They can understand how modifications and innovations to banana fruit preparations can increase product value and competitiveness in the market (Purnamasari & Hartati, 2023).



Figure 2. Frying banana chips

This training can serve as a foundation for the development of student entrepreneurship in the food and beverage sector (Syabitha et al., 2022). They can learn how to start a small business or develop new products for a wider market. Students will gain insight into the latest consumer tastes and preferences through banana fruit processing innovations (Sari et al., 2022). This can help them understand the market better and produce products that match market demand. MBKM programs that involve practical training provide more in-depth experiential learning. Students can be directly involved in the banana fruit processing process, understand the challenges that may arise, and learn how to overcome them. This training can be an opportunity for students to build networks with food and beverage industry practitioners. Collaboration with relevant parties can help them understand the dynamics of the industry more deeply. Students can understand the importance of utilizing local raw materials, such as bananas, in product development. This can support the principle of sustainability and support the local economy (Safkaur & Hertati, 2020).

Students will develop research and product development skills in the context of banana fruit preparations. This can give them a better understanding of the creative and innovative processes in the culinary industry. An MBKM program that focuses on banana fruit modification and innovation can enhance students' professional competencies in the culinary field, particularly in product development. With these benefits, training in banana fruit modification and innovation in the MBKM program can make a positive contribution to the development of students' skills and knowledge, while preparing them to engage in the world of the food and beverage industry.

3. Results and Discussion

Banana Chips Business Opportunities for Students. Banana chips are one type of light snack that has quite a lot of fans. Even fans of this light snack include all groups of both children and adults. Banana chip snacks are familiar to the public, because processed banana chips have been around for a long time. Bananas are one of the plants that grow well in the city of Banyuasin, so they are very easy to find. Bananas that are sold directly generally have a very low selling value. To increase the selling value, we can process them into banana chips. Therefore, processing banana chips is one of the business opportunities for students because from the usual processed bananas with creativity and innovation from students so that they can produce banana chips with variants of flavors such as spicy, sweet, salty, sesame, chocolate and other flavors so as to make bananas have a higher selling value with a capital that is not too large. Banana chips are usually used as a snack when relaxing such as watching TV, chatting, and others. The sale of banana chips must also be different from before so that it is more attractive to the public, namely by paying attention to packaging, taste, and a good image in the minds of consumers.

Improving Student Creativity Through Banana Chips Business. The emergence of new producers in the banana chip business world today proves that the banana chip snack business is so promising to be used as a business opportunity. However, the emergence of many new producers who offer the same product indirectly also adds to competitors in this business. Therefore, we are asked to be more creative in running this business so as not to lose competitiveness by existing banana chip producers. But as students, we must understand the competition in the business world. We are led to be more creative and innovative in running a business. We can see how banana chip snacks are so popular with the public and how many banana chip producers have sprung up. But as a student, of course we can still see the opportunity to jump into this business, all we need is to make new innovations and add our creativity in producing them. If banana chips are usually only sold with the original flavor, then we can innovate by making a variety of flavors that are certainly liked and in demand by the public. Not only about the flavor, we can also make the packaging more attractive so that it attracts consumers to buy the product when they see it. We can also take advantage of the technological advances that exist today, we can promote banana chip products through social media to reach a wider market.

They learn how to tailor products to market demands. MBKM programs that involve practical training provide in-depth experiential learning. Students not only hear theory, but are also directly involved in the production process. The training provides an understanding of the importance of utilizing local raw materials, such as bananas, which supports sustainability and contributes to the local economy. Students had the opportunity to network with food and beverage industry practitioners during the training. This can open doors for future collaborations and a better understanding of the dynamics of the industry. The program

encourages the development of research and product development skills, equipping students with the ability to identify innovation opportunities in the culinary industry. Through this training, students improve their professional competencies, particularly in culinary product development. They become better prepared to engage in the food and beverage industry. By utilizing banana fruit as a local raw material, students can play a role in positively contributing to the local economy, supporting local farmers and reducing dependence on imported ingredients. The training on banana fruit modification and innovation in the MBKM program provides extensive benefits, shaping students into creative, entrepreneurial individuals who care about the sustainability of the local economy.

4. Conclusion

Based on the results of the discussion, it can be concluded that by making various innovations that utilize banana fruit garden products which are superior products from Banyuasin Village, it is expected to be able to create new jobs and of course the economic sector from products sold as souvenirs of Banyuasin Village, namely banana chips, can attract local and foreign tourists. By continuing to increase community interest in processing and creating new innovations in terms of processing garden products (banana fruit), it is hoped that it can improve the economy of the Banyuasin village community, and the community is more varied and creates new flavors and new designs in accordance with market trends. The training on banana fruit modification and innovation in the MBKM (Work-Based Course) program can be described as follows: Through this training, students experience increased creativity in processing bananas and modifying them. They developed practical skills needed in the culinary industry. Students learned that modification and innovation in banana fruit processing can add value to the product, increase competitiveness, and create better business opportunities. The program provides insight into entrepreneurship in the food and beverage field. Students are invited to consider business potential, product development, and marketing strategies that support small business growth. Students are trained to understand the needs and tastes of consumers through innovations in processed banana fruit.

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