

Design and Development of MSMEs Jerky Kale Products in Candiharjo Village

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ABSTRACT

Objective: This research aims to develop processed kale products into snacks with high economic value in the form of kale jerky as an effort to increase the added value of local commodities and strengthen the competitiveness of MSMEs in Candiharjo Village.

Method: The implementation method includes observation of local potential, deepening the production process, socializing market strategies, developing packaging and product design, as well as active promotion through social media and digital content creation.

Results: The results show that the design and development of DEKACAN (Dendeng Kangkung Candiharjo) products includes comprehensive stages, ranging from product rebranding, label creation, and visual identity (packaging, posters, x-banners), to online marketing strategies. The primary packaging used in the form of a transparent stand-up pouch with an attractive label sticker design has been proven to be able to increase consumer interest in products. In addition, the use of social media, especially Instagram Business, is considered effective for expanding market reach because it offers features that support visual and interactive promotions at a low cost. **Novelty:** The novelty of this research lies in the transformation of kale into a jerky product that is not yet common in the market, as well as the combination of visual design strategies and digital marketing based on local potential that has a direct impact on the growth of MSMEs. This approach also shows how traditional products can be developed into modern products that are able to keep up with trends and increase market attractiveness in a sustainable manner.

INTRODUCTION

Indonesia is an agrarian country rich in biodiversity, including in the horticultural sector which has great potential to be developed into a new economic resource. One of the horticultural crops that is widely spread in various regions is kale, a vegetable crop that is known to be easy to grow, has a fast harvest period, and has high nutritional value. Based on 2022 data, national kale production reached 329,616 tons, with East Java contributing around 38,223 tons, making it one of the largest kale producing provinces in Indonesia. However, although the potential of kale is very large, its use so far is still limited to fresh consumption, while post-harvest processing opportunities are still not optimally cultivated [1], [2], [3].

Along with the development of the creative industry and healthy lifestyle trends, the opportunities for the development of vegetable-based food products have increased significantly. MSMEs as the spearhead of the people's economy are important actors in realizing the added value of local agricultural products. In the midst of globalization pressure and fierce market competition, MSMEs are required to be more innovative in

their product development and marketing strategies. Strengthening the capacity of MSMEs through product innovation and digital transformation is one of the keys in strengthening a sustainable local economy [4], [5], [6], [7].

Candiharjo Village, located in Ngoro District, Mojokerto Regency, is a village with dynamic social and economic characteristics. This village has three main hamlets, namely Bangkal, Perjito, and Kesono, with a population of 2,223 people. The fertile topography of the area makes this village suitable for agricultural activities, including kale cultivation. Based on data from the Central Statistics Agency of Mojokerto Regency, the agricultural sector and the processing industry are the largest contributors to the structure of the Gross Regional Domestic Product (GDP), with the processing industry accounting for 57.9% and agriculture reaching 8.15% in 2024, BPS Mojokerto.

One of the local innovations that emerged in Candiharjo Village is a processed product called "Jerky Kangkung", which was developed by PKK women from Working Group 3. This product is a real representation of the utilization of local potential supported by empowerment initiatives through the Real Work Lecture (KKN) program of the University of Muhammadiyah Sidoarjo. This collaboration not only provides technical support in the production process, but also strengthens aspects of product design, packaging visual arrangement, and digital marketing strategy. The integration between design innovation and the use of digital media can significantly increase the competitiveness of MSMEs [8].

Product design and development are two important aspects in creating products that are not only functional, but also have high selling value and appeal. Product design includes planning the shape, function, and aesthetic value of a product, while product development encompasses the entire process from initial idea to ready for market. In the context of MSMEs, these two aspects can be the main strategy in improving product quality, strengthening brand identity, and reaching a wider range of consumers through visual and digital approaches. This is becoming increasingly important considering that many food products have recently been found to contain harmful chemicals such as tofu, meatballs, noodles, and school snacks, so consumers need to be more selective and vigilant in choosing food. Processed kale products that are well designed and developed can be one of the healthy food solutions that are safe, nutritious, good for the health of our body and have a high selling value [9], [10], [11], [12].

Several previous studies support the importance of product development and design as the key in strengthening the competitiveness of MSMEs. Previous relevant research also revealed that increasing partners' understanding of the importance of product innovation has a positive impact on the sales of processed kale, which is supported by flavor development, packaging improvement, social media utilization, and PO-based ordering systems; This finding is in line with efforts to develop processed kale products that are oriented towards increasing selling value and competitiveness [13], [14], [15], [16], [17]. Meanwhile, previous research emphasized that digital branding through social media such as Instagram is highly effective in reaching consumers and building market loyalty. Other research shows that product innovation and proper

visualization can significantly increase the turnover of MSMEs. These studies are the basis that product development strategies and digital branding are important steps in developing the potential selling value of a product, so that it is profitable [18], [19], [20], [21], [22], [23], [24], [25].

Based on this background, this research aims to develop processed kale products into snacks with high economic value in the form of kale jerky as an effort to increase the added value of local commodities and strengthen the competitiveness of MSMEs in Candiharjo Village. This effort is carried out through the observation of local potential, strengthening the production process, developing product and packaging designs, and digital promotion strategies through social media. This research also explores how product rebranding, visual design, and digital-based marketing can be effective strategies in elevating local potential into modern, attractive, and competitive products in the market.

RESEARCH METHOD

The implementation method in this study was carried out by going directly to the location which began with observation of local potential in Candiharjo Village. Observations were carried out directly to identify MSME activities that have been running, especially the production of kale jerky by Working Group 3 PKK. This activity includes observation of the production process from the selection of raw materials to final packaging, as well as additional materials used to improve the taste and quality of the product. In addition, a deepening of the production process was carried out to find out the extent to which potential improvements can be applied both in terms of product quality and work process efficiency.

The next stage is the implementation of market strategy socialization to MSME actors. This activity aims to increase partners' understanding of the importance of market segmentation, product positioning, and appropriate marketing strategies. Discussions are conducted in a participatory manner to design a marketing approach that suits the characteristics of the target consumer. Along with that, the development of packaging and product design that is more attractive and functional, taking into account the visual appearance, brand identity, and information needed by consumers.

As a final step, the promotion of kale jerky is actively carried out through social media with interesting digital content such as videos, photos, testimonials, and product information. Social media accounts are specifically created to share content on a regular basis. This strategy aims to expand market reach, attract consumer interest, build closeness, and strengthen the image of kale jerky as a superior product of Candiharjo Village.

RESULTS AND DISCUSSION

Results

The design and development of DEKACAN MSME products (Dendeng Kangkung Candiharjo) is a product innovation born from a collaborative and planned process,

which aims not only to present quality products but also to strengthen the identity and competitiveness of local MSME products. This product was initially known as "Denny Cak Nan Dendeng Kangkung" which was then relabeled to DEKACAN to create a more professional, standardized brand, and reflect the origins of products that are typical of Candiharjo Village.

Product Development

The development of DEKACAN products does not only stop at the creation of delicious and nutritious kale jerky products, but includes a series of processes oriented towards improving product quality, consistency, and competitiveness. Kale was chosen as the main raw material because of its abundant local potential and high nutritional content, such as vitamin A, vitamin C, iron, and fiber that are good for digestive health. The drying method applied is carefully carried out to ensure a crispy jerky texture, distinctive aroma, and authentic taste. In addition, development is carried out through taste tests involving various target groups to obtain objective responses on the level of deliciousness, aroma, and texture of the product. This feedback is used as evaluation material to modify recipes until the best formula is obtained that is able to satisfy the taste buds of consumers of various ages.

In addition to the taste aspect, product development also prioritizes hygienic factors and food safety. Testing is carried out to ensure that the product is free from contamination of harmful microorganisms so that it is safe to consume. Development also includes innovations in packaging that function to maintain the quality and freshness of products so that they are durable when stored and distributed. Thus, the development of this product leads to efforts to produce kale jerky that is not only innovative and has high nutritional value, but also has high quality standards so that it is worthy of competing in an increasingly tight market.

Designing (Design)

Product design is one of the main aspects that are considered in the development of DEKACAN, considering that product packaging plays an important role in attracting consumer attention while maintaining product quality. The choice of stand-up pouch as primary packaging is very strategic because it is able to protect the product from external factors such as air, moisture, and contamination during storage and shipping. In addition, transparent plastic material with special windows in the packaging allows consumers to see firsthand the condition of the product, which psychologically increases confidence in the quality of the product. Here is a picture of the documentation when doing design planning, Figure 1.



Figure 1. Doing design planning.

The packaging design process is carried out by paying attention to ergonomic and aesthetic aspects. The compact and easy-to-carry packaging shape suits the lifestyle of modern consumers who want products that are practical and easy to store. The information listed on the packaging, such as the composition of the ingredients, the date of production, the expiration date, and the way of storage, is made complete and easy to understand, so that consumers get enough knowledge before buying. The design aspect is also optimized to display the product's identity by including the logo, product name, and visual elements typical of Candiharjo village which are the unique value of the product. All of these elements are designed in harmony so that the packaging is not only a physical protector, but also an effective medium of communication and branding.

Product Packaging Sticker Visualization



Figure 2. DEKACAN product packaging stickers.

DEKACAN packaging stickers are made with a modern and attractive design concept while still reflecting traditional values and product authenticity. The use of contrasting colors and the selection of easy-to-read fonts are very important so that important information on the packaging can be conveyed optimally to consumers. Product names, expiration dates, and official social media are strategically positioned on the sticker for easy to find and read. The packaging sticker also includes the name of the product originator as a form of appreciation for local innovation, while strengthening the emotional connection between the product and the community of origin.

The sticker manufacturing process goes through several revisions and trials to ensure a sharp, durable, and non-fading print even if exposed to oil or moisture. The quality of stickers is important because it is directly related to the product image and the first impression of consumers. The stickers are also designed to match the size and shape of the stand-up pouch packaging so that it looks harmonious and professional. Through this effective and attractive sticker design, DEKACAN products are able to stand out in the midst of market competition, as well as increase consumer interest and trust.

Poster Visualization

DEKACAN promotional posters are compiled as a visual communication tool that functions to attract the attention of potential consumers and provide information quickly and interestingly. The poster design uses a combination of ripe yellow and green colors that represent the freshness, warmth, and naturalness of the product, these colors also give a fresh and crispy impression, in accordance with the character of the kale jerky itself. The addition of white line accents that frame the poster gives it an elegant and neat touch, making the poster look more professional and easy to read. Here is a picture of the DEKACAN poster, Figure 3.



Figure 3. DEKACAN poster.

In addition to aesthetic aspects, posters contain key information such as product advantages, how to order, and clear contacts, making it easier for consumers to make purchasing decisions. Posters are also used as an educational means to introduce new products to the market and build brand awareness. The presence of posters at marketing events, MSME bazaars, and other strategic locations is able to significantly increase DEKACAN's marketing reach. A well-designed poster also serves as a branding medium that helps strengthen the product's image in the minds of consumers.

X-Banner Visualization

X-banner was chosen as one of the practical and effective outdoor promotional media to strengthen DEKACAN's existence in various strategic locations. With a large size of 60 x 160 cm, the x-banner is able to display product visuals clearly as well as important information such as product name, appetizing kale jerky images, product

originators, social media, and order contact numbers. The placement of x-banners in crowded locations such as markets, shopping malls, and MSME community events allows products to be known by a wide audience and expand the target market. Here is an X-Banner image of DEKACAN products, Figure 4.



Figure 4. DEKACAN product X-Banner.

This X-banner is also very flexible to be used many times at various events or moved according to marketing needs. This practicality is very helpful for MSME actors in carrying out promotions at relatively low costs but having a big impact. An informative and attractive x-banner design plays an important role in making it easier for consumers to get to know DEKACAN products, speed up the brand recognition process, and increase sales opportunities.

Digital Marketing through Instagram

In the digital era like now, the use of social media is a strategic step to optimize the marketing of MSME products. The creation of a DEKACAN business Instagram account is an important effort to expand market reach and build direct interaction with consumers. Through the product catalog feature on Instagram, potential buyers can see various products offered with high-quality photos, price information, and complete product descriptions to make the purchase process easier.

Instagram as a digital platform provides many advantages, including allowing two-way communication between sellers and buyers, providing space for free promotions, and facilitating the rapid and wide dissemination of information. Here is an Instragam of DEKACAN products, Figure 5.



Figure 5. About the Indians.

The use of digital marketing strategies through Instagram also allows MSME actors to build a strong brand image, increase customer loyalty, and collect testimonials as social proof that increases the trust of potential new buyers. In addition, through Instagram, DEKACAN MSMEs can follow the latest marketing trends such as video content, stories, and collaborations with local influencers that further increase sales opportunities. With this digital marketing approach, DEKACAN can compete effectively in the modern market and reach a wider range of customers without geographical restrictions.

Discussion

The design and development of DEKACAN products proves that local potential can be processed into valuable and competitive MSME products. Kale was chosen as the main ingredient because of its abundant availability in Candiharjo Village and its high nutritional content such as vitamins and fiber. Taste tests are carried out repeatedly involving various consumer groups to obtain the best taste formula that suits the market. Food safety testing is also carried out to ensure that products are safe to consume and able to build consumer trust. Product packaging uses a stand-up pouch with a transparent model that is functional, informative, and attractive, thus helping consumers in recognizing the content of the product as well as an educational medium. Visual designs such as stickers, posters, and x-banners also support product branding with a look that reflects fresh and local impressions. Marketing strategies are strengthened through business Instagram that displays product catalogs in a practical and interactive manner, making it easier for consumers to get to know and order products. This combination of strategies shows that DEKACAN MSMEs are able to adapt to the needs of the modern market and utilize digital technology for sustainable growth.

Relevant research also supports that kale has great potential as a key ingredient in innovative value-added food products, such as kale jerky. Other studies also revealed

that processing kale into dry products not only maintains nutritional content such as fiber, vitamins, and minerals, but also increases the shelf life of the product so that it is more practical for MSME distribution. In addition, the development of attractive and functional packaging is essential to maintain quality and strengthen consumer attractiveness so as to increase profits for farmers [26], [27], [28], [29], [30]. This is very relevant to the development of jerky kale products in Candiharjo Village which combines product innovation and effective marketing strategies to support the growth of local MSMEs.

Thus, a comprehensive approach in DEKACAN product development shows that innovations based on local potential can produce MSME products that have high selling value and are competitive. Starting from the selection of nutritious raw materials such as kale, systematic taste test stages, to food safety testing, all contribute to the creation of products that are suitable for consumption and in demand by the market. Supported by a functional and aesthetic packaging design strategy, as well as promotion through visual media such as stickers, posters, and x-banners, DEKACAN has succeeded in building a strong and recognizable product image. Wider market penetration is achieved through the utilization of business Instagram which enables direct interaction with consumers, speeds up the marketing process, and expands reach without high costs.

This conclusion is in line with the results of previous research, which proves that product design and development, as well as digital marketing strategies through Instagram significantly increase the competitiveness and sales of local MSME products. Therefore, the synergy between product development, visual design, and digital marketing is an important foundation for MSMEs like DEKACAN to grow sustainably in an increasingly dynamic and competitive market.

CONCLUSION

Fundamental Finding : The conclusion of the results and discussion shows that the design and development of DEKACAN products has gone through planned and strategic stages to support sustainability and encourage the growth of MSMEs in a modern and competitive manner. This product, which is the result of TP PKK Candiharjo's innovation and developed into DEKACAN (Candiharjo Kangkung Jerky), goes through a process ranging from product development, label design, to packaging visualization and promotional media. The use of stand-up pouch packaging with a transparent shape is able to increase attractiveness and build consumer trust. Digital marketing strategies through Instagram were chosen because they are efficient and able to reach a wider market. **Implication :** The platform also helps optimize branding and interaction with consumers. With this approach, DEKACAN has a great opportunity to become a modern, adaptive, and popular MSME product. **Limitation :** Although the DEKACAN development strategy appears effective, the current findings are limited to initial implementation outcomes and observations within a specific community context, particularly TP PKK Candiharjo. Broader consumer behavior analysis, long-term sustainability metrics, and comparative studies with similar MSME products are not yet

explored. **Future Research** : In the future, this strategy can continue to be developed to increase the competitiveness of products in the wider market. Further research can evaluate the long-term impact of digital branding, assess scalability to other MSME sectors, and analyze consumer response metrics across different digital platforms to enhance product reach and sustainability.

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