

Digital Branding–Based Transformation of DNA Crab MSMEs to Enhance Local Product Competitiveness

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ABSTRACT

MSMEs DNA Crab is one of the potential Micro, Small, and Medium Enterprises (MSMEs) that focuses on collecting (supplier) and developing mangrove crabs located in Blacanan Village, Siwalan District, Pekalongan Regency, Central Java. Through this community service program, MSMEs DNA Crab is assisted in the digital transformation process to increase the competitiveness of local products. The objective of this activity is to create an effective digital branding strategy through innovative visual media-based promotion and the use of communicative language. One form of digital transformation that has been carried out is the creation of MSMEs' profile videos that showcase the business process, product advantages, and the story behind the brand as a form of attractive visual promotion. The methods used include surveys, field observations, in-depth interviews with partners, as well as literature studies from various previous references, training, and mentoring. The results show an increase in digital literacy among MSME players, the creation of structured visual branding assets, such as e-catalogues, branding videos, and the launch of online promotion platforms, which indicate that local products are better prepared to compete in the digital market.

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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in Indonesia's economy, contributing significantly to job creation, economic growth, and community welfare. These businesses account for approximately 60.5% of Indonesia's GDP and employ nearly 97% of the national workforce, cementing their position as the backbone of the economy (Aprilia et al., 2025). However, in practice, many MSMEs have not received attention or assistance from the government or relevant educational institutions. Efforts to digitize MSMEs have not been well coordinated between the central and regional governments, resulting in unequal access to digital economy programs (Aziz & Budiatri, 2024).

MSMEs are small-scale businesses owned by individuals or small groups that produce goods or services. Improving the quality of MSMEs is very important because they have great potential to boost the national economy. Several aspects need to be considered in improving the quality of the MSME economy, such as production and marketing. This is because marketing plays an important role in increasing product access. Especially in this era of globalization, marketing has become a key part of a company's strategy to compete with other products or companies. Marketing plays an important role in the sustainability of a company, in generating profits, and in the development of a company. To face competition at the global level, marketing strategies enable companies to stand out and maintain their competitive advantage (Gamalael et al., 2022).

With the development of technology and the current era of globalization, the role of digital branding has become increasingly crucial in a company's marketing strategy, including MSMEs (Micro, Small, and Medium Enterprises). (Tiani et al., 2024). Digital branding is not limited to introducing products or services to a wide audience, but also creating a strong brand identity, building brand awareness, and increasing consumer trust through various digital platforms. With the advent of the internet and social media, consumers can now access information about a brand instantly and more personally, so companies need to build a consistent and attractive digital image.

Branding is not just about introducing products or services to a wide audience, but also about creating a strong brand identity, building brand awareness, and increasing consumer trust through various digital platforms. With the internet and social media, consumers can now access information about a brand instantly and more personally, so companies need to build a consistent and attractive digital image. Digital branding plays an important role in conveying the values and uniqueness of a product to the target market through visual, narrative, and interactive communication strategies. One of the most representative and effective media for digital branding is marketing videos, which are able to convey messages more emotionally and engagingly through a combination of images, sound, and storytelling (Falah et al., 2024).

In addition, various forms of digital marketing content, such as infographics, reels, blogs, and live streaming, can also be utilized by MSME players to reach a wider range of customers or audiences at a relatively affordable cost compared to conventional media. Therefore, the ability to utilize digital media creatively and strategically is an important key for MSMEs to compete and grow amid increasingly competitive market competition.

Interactive content engages followers, making product promotion more targeted. Branding strategies are part of the process of introducing and expressing product identity, making it easier for consumers to remember and understand. In the world of marketing, including for MSMEs, branding strategies can create a positive image for products, making them more appealing to consumers (See Athoillah & Arifianto, 2023; Sitorus & Sumantika, 2023).

Activities that promote or market products using digital media facilities or tools to attract consumers more quickly and widely are referred to as digital marketing. Interactive content, which is part of digital marketing, can introduce products to a wider audience and engage consumers more actively. Therefore, brand and image strategies are key to the development of MSMEs. Through digital branding, MSMEs can own and utilize existing social media so that their products and descriptions are easily accessible. Ultimately, digital and interactive content make products more widely known and increase sales potential (See Sitorus & Sumantika, 2023; Nusopa & Wibowo, 2024).

Consumer characteristics can be used to understand their product preferences, so that the use of appropriate advertising media can be more effective in reaching consumers. Consumer characteristics can be seen from factors such as age, education, family members, occupation, and average income (See Putri, 2015; Nesterenko, 2023). Understanding preferences is crucial so that every decision made is in line with consumer expectations. In addition, as material for evaluation or review, the impressions and assessments provided by consumers are also important for improving product quality (Li et al., 2019). However, limited studies and community service programs focus on visual-based digital branding assistance tailored to fisheries-based MSMEs in coastal villages, such as Blacanan.

Competition among MSMEs in the digital era is becoming increasingly fierce, creativity and innovation are needed in terms of management, marketing, and products. One approach that has proven effective is the digital branding strategy, which is a way of building and communicating product identity through digital media so that it is more easily recognized and remembered by consumers. For SMEs such as DNA Crab, which operates in the crab processing sector, digital branding is not only a promotional tool but also a means of shaping a positive image in the eyes of the public and expanding market reach. DNA Crab is also expected to become a model SME that is able to introduce the village's superior products and improve the welfare of the surrounding community involved.

METHOD

The method used to obtain information in this activity was to conduct interviews with DNA Crab partners, where our group asked questions directly and recorded the answers to obtain information about the DNA Crab production process. The team conducted a survey related to the production process at DNA Crab as a first step in designing a digital branding strategy through the creation of a DNA Crab profile video. In this activity, the team also presented the concept for the video production along with the shooting timeline, including the schedule for interviews with relevant parties. As part of the preparation, the team also compiled a list of questions to be used in the interview session to gather important information about operational activities and company values. The activity was carried out at the home of the owner of DNA Crab. The participants of the activity were the owner and members of DNA Crab. The community service activity was carried out using the interview method in early July 2025 at DNA Crab partners. This was done to obtain information about the production process from the initial capture to packaging at DNA Crab. The filming of the production process at DNA Crab was carried out in early July 2025. The purpose of filming was to document the production process at DNA Crab from the initial increase to packaging. After all the video footage and interview videos were obtained, the videos were edited and finally presented to MSME partners on July 8, 2025. The video profile presentation was held on July 9, 2025. The team also provided training and assistance related to digital marketing and the creation of social media and product e-catalogs. Then evaluate the results to see the program's success indicators. The effectiveness of the program is evaluated based on the completion of digital branding results, the level of participant engagement, and the ability of MSMEs to manage digital platforms independently.

RESULTS AND DISCUSSION

The results of community service activities show that the profile of MSMEs plays a crucial role in marketing strategies to build identity and expand the market for DNA Crab. Why is that? DNA Crab, as an MSME engaged in the processing and marketing of mangrove crabs, began with the personal experience of its founder, which then developed into an authentic entrepreneurial story that was easily accepted by consumers. The use of social media, especially Facebook or Instagram, in the early stages of the business proved to be effective as a community-based promotional tool and was able to reach a wider market, in line with previous studies stating that social media can increase the visibility of MSMEs, strengthen emotional relationships with consumers, and reduce marketing costs. The “DNA Crab” branding, derived from the initials of the founder and his partner, also highlights the importance of a simple yet personal brand identity in building consumer recall, as emphasized in SME-based digital marketing research. However, when compared to previous studies in the fisheries and aquaculture sector, these findings also reveal the structural limitations still faced by mangrove crab SMEs. Although mangrove crabs (*Scylla serrata*) are a national commodity with high economic value and are supported by the Ministry of Maritime Affairs and Fisheries' policies, technical challenges such as suboptimal breeding and the need for special handling in cultivation remain serious obstacles, as revealed by Sunarto et al. (2015) and Djunaedi (2016). However, compared to previous studies that emphasized technical aspects of cultivation, this community service highlights an important gap in the downstream aspect, namely, marketing and strengthening the profile of MSMEs. Thus, this review emphasizes that the sustainability of mangrove crab MSMEs is not only determined by improvements in cultivation technology, but also by the integration of marketing strategies, business narratives, and consistent use of digital media to respond to increasingly competitive market challenges. These findings align with the research by Kwanda et al. (2019), which emphasizes that visual branding can enhance emotional engagement and consumer trust, particularly for SMEs with limited market access. Below is a more detailed explanation of the community service activities for DNA Crab.

DNA Crab Business Profile

SME profile as part of marketing. DNA Crab is a micro, small, and medium enterprise (SME) engaged in the processing and marketing of wild-caught crabs. This SME is located in Blacanan Village, Siwalan District, Pekalongan Regency, and has been operating since 2022 with Dwi Suryanto as the owner and founder. The establishment of DNA Crab began with the owner's childhood experience of searching for crabs to sell to collectors. Over time, circumstances motivated the owner to take advantage of business opportunities arising from increasing demand, especially on social media.

In the early stages of the business, DNA Crab promoted itself through social media, particularly Facebook, by targeting communities of food and seafood lovers. Positive responses from consumers who placed direct orders encouraged the growth of the business, which initially only caught crabs itself but later collected catches from several local crab farmers. The name “DNA Crab” was taken from the initials of the founder and his wife as an easily memorable brand identity.

DNA Crab has three permanent employees to carry out daily production activities. This business markets fresh crab products to various regions such as Surabaya and Madura. Operational activities include catching crabs using fishing rods and traps, sorting them based on size and quality, and packaging them in cardboard or styrofoam, depending on the shipping distance. The products sold vary, ranging from soka crab seedlings, crabs for traditional markets, to high-quality crabs for restaurants and food stalls. Despite its growth, DNA Crab still faces a major obstacle in the form of weather dependence, which affects fishermen's catches. The rainy season often reduces production volume, while the dry

season is more favorable. The owner plans to expand marketing beyond the island through a stronger digital strategy. This digital development is expected to increase brand popularity, attract new customers, and strengthen the competitiveness of local products in a wider market.

Product Description

Mangrove crab (*Scylla serrata*) is the main flagship product of DNA Crab MSMEs, given that this commodity has high economic value and great potential for development in the aquaculture sector. Data shows that mangrove crab production in Indonesia has been increasing every year, in line with the Ministry of Maritime Affairs and Fisheries' program that designates crabs as one of the leading commodities in efforts to increase national fisheries and aquaculture production (Hastuti, 2016). Despite its promising economic potential, mangrove crab farming still faces a number of complex technical challenges. One of the main obstacles is suboptimal breeding. In addition, the molting process is not uniform within a single maintenance cycle, and aspects of cultivation and maintenance require special handling (Sunarto et al., 2015; Djunaedi, 2016).



FIGURE 1. Documentation of the Mangrove Crab DNA Crab

MSMEs DNA Crab developed a cultivation approach through a mangrove crab fattening system as one of the innovations to overcome these obstacles. This approach allows for the optimization of product added value while contributing to the development of the local fisheries sector in Blacanan Pekalongan Village.

E-Catalog of Products

The implementation of product e-catalogs as a technology for MSMEs, DNA Crab, serves to display product information digitally, in a structured manner, and in a way that is easily accessible to consumers. E-catalogs help expand marketing reach, facilitate the promotion process, and increase professionalism and customer trust. In addition, e-catalogs enhance transaction efficiency by integrating with social media and online sales platforms.



FIGURE 2. E-Catalog of Product

Marketing System

The marketing system implemented by DNA Crab is relatively simple but quite effective for micro and medium-scale businesses. Marketing begins on social media, specifically through the personal Facebook account of the business owner, Dwi Suryanto. He utilizes online communities to post his crab catches, which then receive responses from individual consumers. Initial orders are made directly through a cash-on-delivery (COD) system at Dwi's home.

As demand increased, Dwi began to act as a collector by purchasing crabs from other farmers and expanding his distribution network. The mangrove crab products, which are sorted based on size and intended use, are marketed to various regions, such as Surabaya, Madura, Tuban, Yogyakarta, Karawang, Cirebon, and Pati. Deliveries are made using intercity buses, without involving general shipping companies such as JNE, J&T, or other online-based couriers.

The main consumers consist of regular customers, including food stalls and local markets, with different needs based on the quality and size of the crabs. For example, crabs with firm meat are prioritized for food stalls, while thin crabs are supplied to traditional markets. In addition, healthy young crabs are prepared for soka breeding purposes. Although it has reached several major cities, limited promotion is a challenge in developing DNA Crab marketing. Promotion still relies on personal social media and has not reached digital platforms such as Tokopedia and Shopee, or other e-commerce sites that can expand consumer reach. This is an obstacle to expansion, especially in reaching consumers outside the island and improving distribution efficiency.

Efforts to improve the competitiveness of local products, digital branding strategies are an important step that can be integrated into the development of DNA Crab's business. One relevant approach is the use of MSME profile videos. Profile videos have visual power that can illustrate the business process, product quality, the background of the business owner, and even the local values that are promoted. Visual branding not only serves as an identifier for a product but also as a means to build consumer trust through the visual elements it contains. Visual branding also acts as a brand identity that provides direction, meaning, and purpose to the brand. The role of visual branding is very important in shaping the characteristics and identity of a brand, as well as conveying the message it wants to convey to consumers. Thus, visual branding is able to create an emotional bond between the brand and its consumers (Kwanda et al., 2019).

Development Challenges

Weather conditions in Blacanan Village, particularly tidal flooding, have had a significant impact on the operations of DNA Crab as a supplier of mangrove crabs. One of the main problems faced is the unpredictability of tidal fluctuations, which are difficult to forecast. According to Syafitri and Rochani (2021), the factors that influence tidal fluctuations are the shape of the coastline and the height of the water. One of DNA Crab's business development efforts is to fatten the crabs before sending them to buyers. However, this activity has failed due to the fluctuating tidal waters and unstable temperatures, which cause the crabs to become stressed and many of them die. According to Nugroho (2013), when the atmospheric temperature increases, the surface layer of the sea will experience a rise in temperature, causing its volume to increase and the sea water level to rise. The instability of environmental conditions due to weather makes the fattening process ineffective and economically detrimental. Tidal flooding also disrupts daily activities such as transporting crabs to shipping companies. DNA Crab prefers to focus on direct distribution from fishermen to buyers without additional processes. Unpredictable weather is one of the main risk factors in crab business management.

Many residents who used to work as farmers have had to switch to running simple crab farms because their rice fields were affected by tidal flooding, while others have no steady job. The DNA Crab SME started out as a hobby of catching crabs around the river mouth. Over time, this business has developed into a more serious economic activity and has become the main source of income for its practitioners. However, limited education means that the management of DNA Crab is still traditional, without proper business records or digital marketing strategies. Knowledge about packaging, branding, and market expansion is also said to be lacking in Central Java. Promotional efforts are only carried out through simple social media such as Facebook. According to Rose et al (2020), engaging language plays a crucial role in conveying information, serving not only as a communication tool but also as a means to market goods and services both offline and online. Many rural youth choose to migrate to cities, resulting in decreased involvement of the younger generation in developing local businesses. Digital marketing makes it easier for consumers to find products, and the chances of them being accessed and purchased are high. As a product that has not been around for long (3 years), promotion through digital marketing needs to be done continuously (Falah, 2024).



FIGURE 3. Sales Flyer for DNA Crab Mangrove Crabs

Blacanan Village has business potential in the fisheries sector, one of which is through the DNA Crab SME, which acts as a supplier of mangrove crabs. According to Budi et al. (2018), mangrove crabs have high nutritional value and a taste that is popular with consumers. This SME collects crabs from local and

non-local fishermen, then distributes them to large collectors and other middlemen in various regions. In addition, some of the catch is also delivered to soka crab farmers for the growing process. The demand for crabs is quite high, but the main challenge faced is limited stock, while market demand continues to increase. This situation often makes it difficult to fulfill large orders, especially during the low fishing season. In terms of marketing, DNA Crab has begun to utilize social media such as Facebook to expand its market reach. Although still done simply, digital marketing has had a positive impact on increasing orders. With the support of mentoring and business capacity building, this SME has the potential to become one of the leading economic drivers in Blacanan Village. Through SMEs, new jobs can be created, contributing to growth and improving the welfare of the community (Fauzi, 2020).

DNA Crab MSMEs, as a supplier of mangrove crabs, face serious challenges related to the risk of fraud in their business processes. One of the most common methods is when buyers from outside the region place large orders, but after delivery, payment is not completed as agreed. According to Rahmanto et al. (2019), the potential for perpetrators of crime is enormous and difficult to catch because most people in the virtual world are fictitious. This type of fraud is not only financially damaging but also has an impact on the trust and stability of DNA Crab's business. It is also often difficult to distinguish between genuine buyers and fraudsters, especially when transactions are conducted online without face-to-face contact. The lack of digital literacy and legal protection are major obstacle in handling such cases. To date, there is no adequate verification system to guarantee the security of online transactions. Residents and business owners are not yet accustomed to using secure payment methods such as joint accounts or digital contracts. According to Afif and Maryanto (2021), joint accounts make it easier for owners or sellers to increase consumer trust. This situation shows that transaction security is still a vulnerable issue that needs more attention in micro-scale business activities. This finding aligns with Kwanda et al. (2019), who emphasized that visual branding enhances emotional engagement and consumer trust, particularly for MSMEs with limited market access.

Solution

Marketing obstacles such as limited digital literacy and the risk of fraud faced by MSMEs, DNA Crab, this community service program provides solutions through branding-based digital transformation assistance. The initial stage was carried out by creating a visual identity and a professional profile video that showcases the business process, product quality, and local values of DNA Crab as a supplier of mangrove crabs. This content is projected to become the main promotional media that can be disseminated through digital platforms, while also strengthening the brand image in the eyes of consumers. The next step includes training in social media management and e-commerce marketing to expand market reach, especially outside the island. Business owners are guided in optimizing promotional content on Instagram, Facebook, and TikTok, as well as registering products on marketplaces such as Tokopedia and Shopee with the support of secure payment systems such as joint accounts. Additionally, basic digital business management literacy is provided so that DNA Crab can operate more professionally and sustainably. This approach is expected to not only enhance product competitiveness but also position DNA Crab as a model for digital-based SME development in Blacanan Pekalongan Village.

CONCLUSION

The community service program for DNA Crab MSMEs has helped strengthen product competitiveness through the introduction of digital branding strategies and improved online marketing skills. The creation of profile videos, the development of visual identities, and training in the use of social media and e-commerce

were the first steps that encouraged these businesses to begin adapting to the digital market. Although the implementation of digital strategies still requires further assistance, particularly in content management, online platform maintenance, and the application of secure transaction systems, this program has increased business owners' understanding and readiness to expand their market reach. This program demonstrates that structured digital branding assistance can serve as an effective entry point for MSME digital transformation in coastal and rural areas. With continuous development and support from academic and government partners, DNA Crab has the potential to grow into an SME that is not only competitive in the local market but also capable of gradually expanding its network to markets outside the region. Therefore, a follow-up program is needed.

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