Advancing Local Potential by Developing a Digital Marketing and Digital Personal Branding Application for Local Economic Growth Through Bamboo-Based Innovation

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ABSTRACT

This personal branding and digital marketing application was developed to address the challenge of promoting bamboo-based products and increasing market visibility for PT. Bintang Mitra Kencana. The company faced difficulties in building a strong market identity and reaching a wider audience. To address these challenges, the application emphasizes the benefits of bamboo products, the company's commitment to sustainability, and the distinctiveness of its raw materials. Through interactive features such as a product catalog and direct purchasing options, users can easily explore, select, and purchase products. By enhancing user engagement through an intuitive digital experience, this solution supports PT. Bintang Mitra Kencana in increasing brand awareness and significantly expanding its market reach. In the long term, this digital initiative is expected to drive consistent sales growth and positively contribute to the local economy by creating greater demand for eco-friendly bamboo products.

Keywords: *personal branding, digital marketing, bamboo-based product, product catalog*

1. INTRODUCTION

In the digital era, technology and information have become an inseparable part of daily life. In the economic sector, mastering technology is considered an unavoidable necessity for both business operators and consumers. The use of technology not only affects the way business is conducted but also transforms consumer behavior, where quick access to information and services is increasingly expected **(Kurniawati et al., 2023)**. Personal branding is the effort by an individual to control how others perceive them. Through

personal branding, a person can shape how they want to be perceived by others, whether in a professional or personal context, by consistently and strategically projecting the desired image **(Rangarajan et al., 2017)**. In the business world, personal branding plays a crucial role and has a significant impact. It serves as a tool to build and manage a person's image in the public eye **(Adani & Vinda Maya Setianingrum, S.Sos., 2024)**. A strong personal brand helps differentiate an individual from competitors, adds value, and builds trust among audiences or customers. In today's digital age, where information is easily accessible and reputations can be quickly formed, effective personal branding is key to professional success and recognition in a competitive market **(Diana Novita et al., 2024; Franzia, 2018)**. Digital marketing is a tool used to promote products by utilizing various internet-based platforms. Through digital marketing, companies or individuals can reach a wider audience effectively and efficiently **(Firdaus et al., 2022).** By using media such as websites, social media, email, and online advertising, digital marketing allows for real-time, measurable promotion at relatively lower costs compared to traditional marketing methods. In the context of modern business, digital marketing is a crucial element in enhancing visibility and expanding market share **(Rifqi et al., 2024)**. It is viewed as one of the most effective approaches to marketing products, ensuring they reach customers quickly and timely **(Pratiwi & Rohman, 2023)**. Over time, information and communication technology have been widely utilized to run and support business activities. With the application of this technology, marketing processes become more efficient, allow broader market access, and support business operations optimally. This trend underscores the importance of adapting to digital developments in supporting business success **(Fadhilah & Pratiwi, 2021; Idah & Pinilih, 2020)**. PT. Bintang Mitra Kencana is facing challenges in introducing its bamboo products to a broader market due to limited digital marketing strategies. Bamboo-based products, such as furniture and handicrafts, struggle to compete in the marketplace without adequate exposure. Digital marketing solutions become highly relevant as they can enhance product visibility and attract consumer interest through more efficient approaches compared to conventional methods.

2. METHOD

Figure 1 refers to the stages of the Software Development Life Cycle (SDLC), which consist of six key stages: Planning, Defining, Designing, Building, Testing, and Deployment.
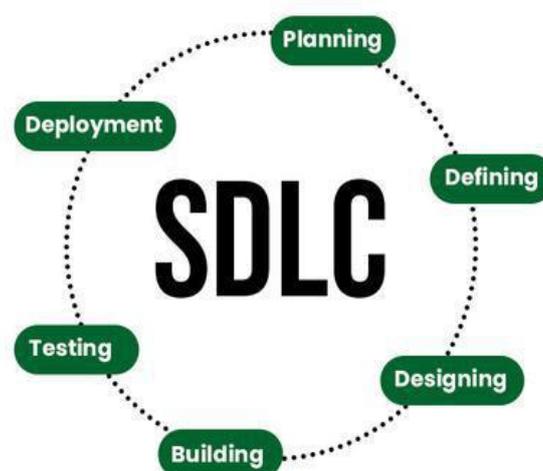

Figure 1. Software Development Life Cycle

Each stage is critical to ensure the successful development of an application that meets the business needs and user expectations. The process begins with the **Planning Stage**, where a detailed analysis is conducted to identify system requirements. This involves gathering information from the Person in Charge (PIC) to ensure that the application meets the company's goals and expectations. Proper planning minimizes potential errors and lays the foundation for an efficient and organized development process. In the **Defining Stage**, the collected requirements are documented and consolidated to establish the system's scope, ensuring a shared understanding of the intended functionality among all stakeholders.

Next, in the **Designing Stage**, the system's user interface (UI/UX) and overall architecture, including database structures and process flows are created. Input from the Person in Charge (PIC) is incorporated during this stage to ensure the design meets the organization's requirements and vision. This collaboration ensures the system is efficient, secure, and user-friendly. Once the design is completed, the **Building Stage** commences, where the application is developed according to the established specifications. The back-end, front-end, and database components are implemented and integrated to ensure seamless functionality and performance.

After the application is developed, the **Testing Stage** begins with User Acceptance Testing (UAT) to verify that the system meets the specified requirements. The functionality, security, and reliability of each feature are tested thoroughly and feedback is recorded for further refinement. Any discrepancies identified during testing are addressed to ensure the system operates as intended. In the final **Deployment Stage**, the completed application is delivered and installed. Training is provided for administrators, and final checks are conducted to ensure the system functions effectively in a real-world environment.

The proposed activities for PT. Bintang Mitra Kencana include developing a digital marketing application equipped with e-commerce and personal branding features. This application is designed to help the company expand the market reach of its bamboo products and strengthen its brand identity digitally. Through this digital platform, PT. Bintang Mitra Kencana can effectively showcase its products, increase consumer engagement, and build a strong online presence.

3. RESULTS AND DISCUSSION

The Pengabdian Kepada Masyarakat (PKM) program conducted at PT. Bintang Mitra Kencana focuses on addressing marketing issues and educating the public about bamboo-based products. Before the intervention, PT. Bintang Mitra Kencana faced significant challenges in promoting their bamboo-based products. Despite the environmental benefits and sustainability of bamboo, these products struggled to gain traction in the market. Limited consumer awareness about the advantages of bamboo products worsened this issue. The company's reliance on traditional marketing methods such as local advertising. The lack of a digital marketing strategy limited PT. Bintang Mitra Kencana's ability to showcase its products beyond the local region, reducing its market reach and slowing sales growth.

This PKM program involved a series of activities, beginning with a comprehensive needs analysis to understand the specific challenges faced by the company. Based on these insights, a digital application was designed to help PT. Bintang Mitra Kencana manage its product marketing more efficiently and expand its market reach.

A thorough evaluation is conducted to ensure that the developed application can function optimally according to the needs and objectives of PT. Bintang Mitra Kencana. This evaluation covers various aspects, from user needs to application performance, to ensure that the solution provided effectively supports the company's operations. The following are some evaluation points carried out during the application implementation and testing process:

1. Evaluation of user needs, including administrators and management of PT. Bintang Mitra Kencana, to ensure that the features and functionalities provided in the bamboo-based product marketing application meet the company's expectations and requirements.
2. Evaluation of the application's user interface, including ease of navigation, clarity of product information, and layout designed to ensure an optimal user experience in managing and marketing products.
3. Evaluation of the application's main functionality, such as product stock management, sales recording, and accessibility of sales and inventory data by relevant parties to ensure smooth operational processes.
4. Evaluation of the application's security to protect the company's business data, including encryption of transaction and product data to safeguard the company's sensitive information.
5. Evaluation of the application's performance and reliability, including response speed and overall system availability, to ensure a smooth and uninterrupted user experience during operational processes.
6. Evaluation tests are conducted to gather direct feedback from the company's administrators regarding their experience using the application and to identify if there are any errors or technical issues that need to be addressed.

Program Pengabdian Kepada Masyarakat (PKM) was carried out by a team consisting of 17 people, including 8 students and 3 supervisors from ITENAS, 2 Person in Charge (PIC), and 4 support staff from PT. Bintang Mitra Kencana. The activity took place at PT. Bintang Mitra Kencana, located in Mekarsari, Kecamatan Cipongkor, Kabupaten Bandung Barat, West Java 40564. During the system requirements analysis stage, the team conducted observations and interviews with relevant parties in the company. The Person in Charge (PIC) from PT. Bintang Mitra Kencana played an active role in the interview process, aiming to identify the problems faced by the company, especially regarding the marketing and management of bamboo-based products.

Figure 2 refers to the focus group discussion with PT. Bintang Mitra Kencana regarding the progress of the application.

Figure 2. Focus Group Discussion with PT Bintang Mitra Kencana

The next stage involved designing the system based on the information gathered from the interviews. At this stage, system development and testing were conducted. After being tested several times by the development team and the Person in Charge (PIC) from PT. Bintang Mitra Kencana, the developed system could be used by the company's administrators to facilitate the marketing and distribution management of bamboo-based products. Figures 3-7 refer to the displays of the created application.
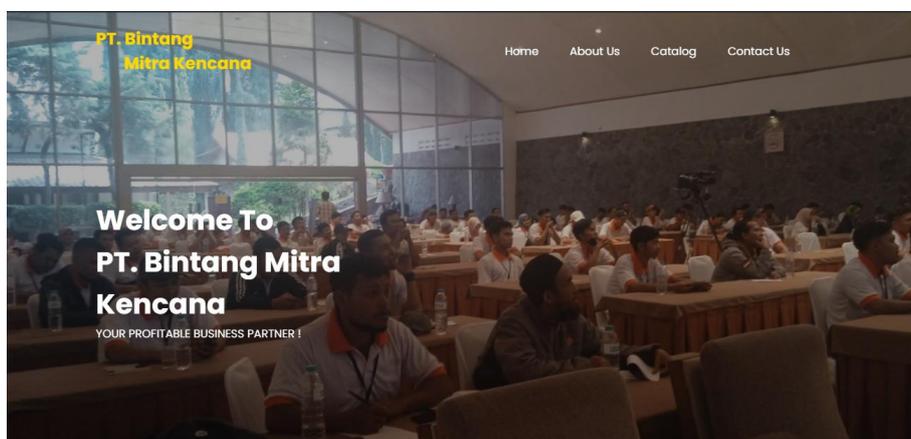
Figure 3. PT. Bintang Mitra Kencana's Company Profile Display

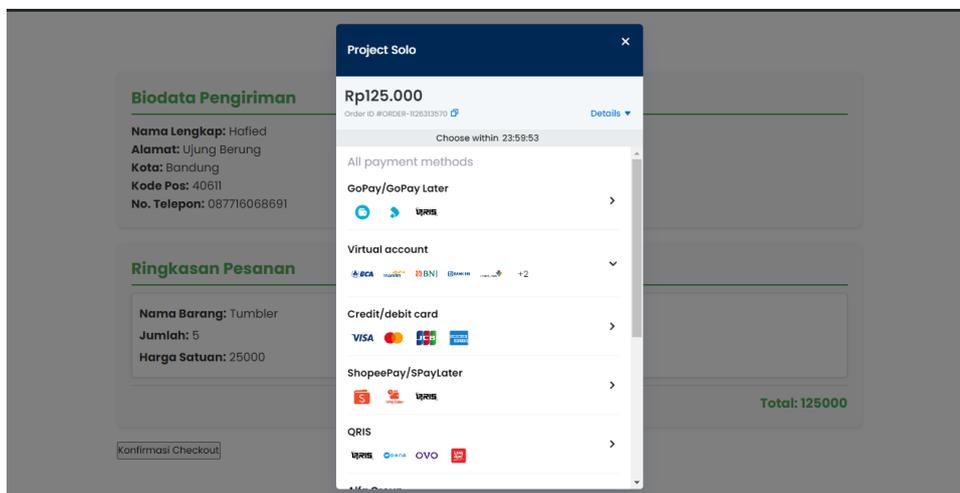**Figure 4. Product Purchase Checkout Page**

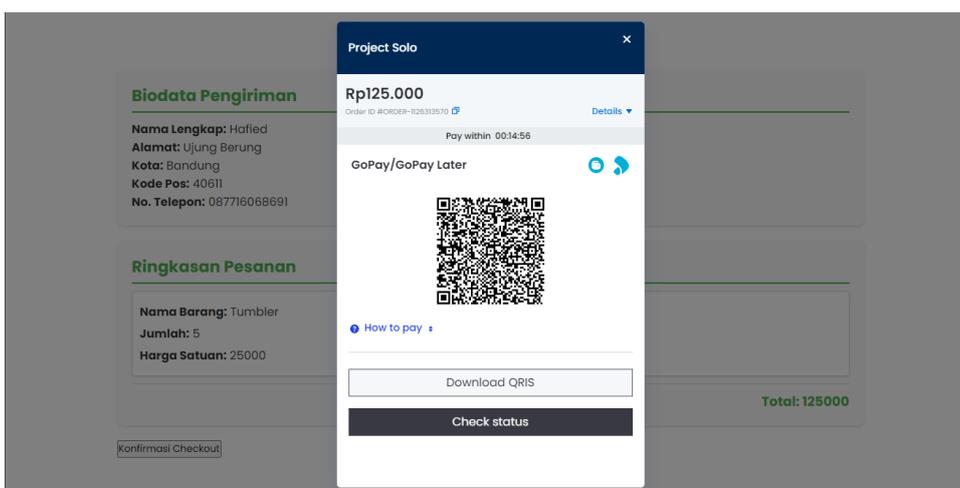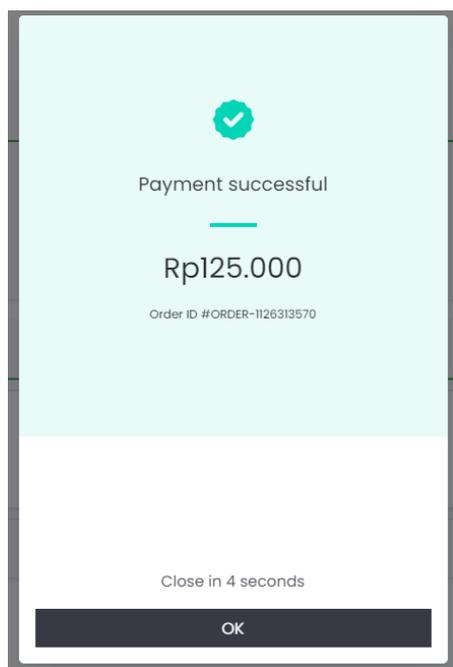**Figure 5. Available Payment Methods Page**

Figure 6. Payment Display

Figure 7. Payment Successful Display

The final stage of the Pengabdian kepada Masyarakat (PKM) at PT. Bintang Mitra Kencana involved handing over the web-based digital marketing application to the company. During this stage, a socialization and training session was conducted on the use of the digital marketing and personal branding application, which aimed to enhance the effective marketing of bamboo-based products. The training was held in October 2024, at the Lab. Basis Data, Institut Teknologi Nasional Bandung, Kota Bandung, West Java. The training provided to the PIC and administrative staff of PT. Bintang Mitra Kencana included:

1. Implementation of digital marketing technology to optimize the marketing of bamboo-based products.
2. Design and development of a digital personal branding application that supports product image enhancement.
3. Effective database management for systematic storage and management of customer and transaction data.
4. Understanding data security and privacy, including the implementation of access control, encryption, and data recovery methods in line with security standards.

Figure 8 refers to the training and deployment of the app provided to PT. Bintang Mitra Kencana. Training was conducted for PT. Bintang Mitra Kencana's staff to ensure optimal use of the application and to support the company's independence in digital marketing. The training session lasted 8 hours and covered two main topics:

1. Admin Training: covering product data management, stock monitoring, sales report access, and data security.
2. User Training: covering application use for product search, ordering, and interaction with app features.

This training is intended to enable staff to use the application effectively to support operational efficiency and market expansion.

Figure 8. Training and Deployment App to PT. Bintang Mitra Kencana
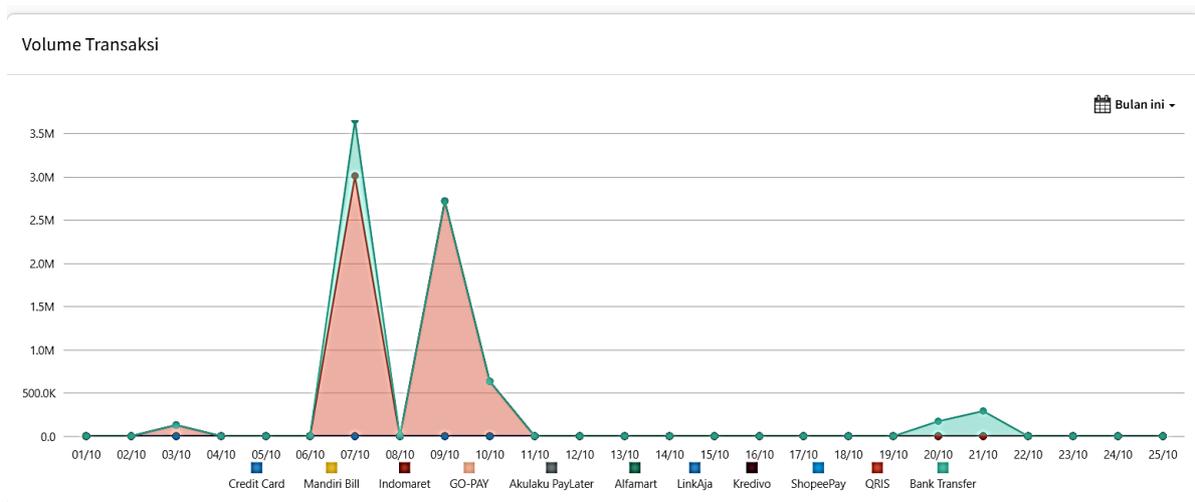

Figure 9. The impact on the operations of PT. Bintang Mitra Kencana

The project has had a significant positive impact on the company's operations, particularly in terms of transaction volume. Prior to the project, transaction volumes tended to be lower, but as shown in Figure 9, there was a major spike after implementation, indicating increased customer activity. Additionally, the project enabled the diversification of payment methods, including GOPAY, Akulaku Paylater, and several others, providing more options for consumers. The highest spike is observed shortly after the project launch, likely reflecting the introduction of new features or successful promotions that attracted consumer interest.

4. CONCLUSIONS

The collaboration with PT. Bintang Mitra Kencana has resulted in the successful implementation of an innovative digital marketing system for bamboo-based products. The system is designed to enhance efficiency in the management of product marketing and distribution, replacing the previously used manual processes. During the Pengabdian kepada Masyarakat (PKM), the application was demonstrated, training sessions were held for the company's administrators, and the application was handed over to support operational and marketing activities. It is hoped that this system will make a positive contribution to improving the effectiveness of marketing and product distribution management at PT. Bintang Mitra Kencana.

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