

Developing and Managing MSME Websites to Improve Kampoeng Ilmu's Operational Performance

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ABSTRACT

Background: MSMEs in Kampoeng Ilmu Surabaya continue to face obstacles in product marketing and digital adoption, which limit their operational growth. This program aims to address these issues by developing an integrated website and improving digital literacy among MSME partners to strengthen their online visibility and business sustainability.

Contribution: The program contributes to the community by providing a digital platform (UMKMCerdas website) that enables MSMEs to independently manage product data, storefront profiles, and promotional information. It also enhances partners' capacity to operate digital tools, supporting long-term empowerment and competitiveness.

Method: The implementation consisted of five structured stages: needs analysis through interviews, website design with UI/UX and database planning, website development using PHP (Laravel), MySQL, Tailwind, and Filament, training and mentoring for MSME partners, and evaluation through continuous monitoring. A participatory approach was used to ensure active involvement and skill transfer to 82 MSME actors.

Results: The integrated website successfully provides features such as bookstore profiles, product catalogs, Google Maps integration, WhatsApp contacts, and an admin dashboard. Post-training responses showed significant enhancement in partners' confidence and ability to use digital tools for promoting their businesses and managing information.

Conclusion: The program effectively strengthens the digital capabilities of Kampoeng Ilmu MSMEs, enabling them to manage business content independently and expand their market reach.

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1. Introduction

The business sector has seen substantial changes as a result of the advancement of digital technology, particularly for micro and small businesses. Several existing challenges, such as a lack of human resources, technological knowledge, and access to integrated online platforms [1], have forced MSMEs to seek alternative ways to market their products [2]. Websites are the most effective way to cross geographic borders and boost MSMEs' operational effectiveness [1], but prior studies indicate that only a tiny percentage of business players have adopted them [2]. One of the MSMEs in the education sector, Kampoeng Ilmu Surabaya, is dealing with comparable issues. The company's best use of digital technology to market its goods to a larger audience has not kept pace with the fall in offline buyer interest and the growing trend of consumers shopping online [3], [4].

This is supported by several previous studies, which show that developing a website can be a useful way to introduce MSMEs, increase exposure, expand marketing reach, and simplify operational procedures with interactive elements [5]. This is in accordance with the problems faced by Kampoeng Ilmu Surabaya, namely not yet having an integrated platform that can connect various MSMEs into one digital environment that is easily accessible to customers [6]. In order to give Kampoeng Ilmu Surabaya a solution, the UMKMCerdas website was created. It is intended to show the Kampoeng Ilmu profile, a list of bookstores, a catalog of the books that have been sold, and admin tools that allow them to add, update, and remove store and product data on their own [7]. Additionally, Kampoeng Ilmu's address information is available on this website through Google Maps, along with the manager's contacts, which facilitates communication between parties that wish to work together. Interactive elements that enhance operational effectiveness and business managers' autonomy in sustaining and growing websites sustainably include admin dashboards and location map integration [8], [9]. Interactive features that enhance operational efficiency and business managers' autonomy in managing and creating sustainable websites include admin dashboards and location map integration [10], [11]

In general, earlier research only developed static profile websites with few interactive elements that allowed MSME actors to manage their own data and did not support dynamic management of store and product data [9]. Our research's innovation is the creation of the UMKMCerdas website, which integrates Google Maps integration, admin dashboards, product catalogs that can be updated independently, profile features, and WhatsApp contacts into a single, user-friendly platform for Kampoeng Ilmu MSME actors. Research on operational efficiency and digital technology-based community empowerment is lacking because the installation of integrated websites specifically for literacy MSME clusters in Surabaya has not received significant attention in previous publications [8], [10]–[14]. This research contributes to designing, implementing, and evaluating the UMKMCerdas website platform, which provides independence for the bookstore community in Kampoeng Ilmu Surabaya in managing their business profiles and product catalogs independently and professionally, increasing operational efficiency, expanding promotional reach, and offering a model that can be replicated by other literacy UMKM clusters [15], [16].

As previously explained, the MSME community in Kampoeng Ilmu Surabaya is using digital technology less effectively than it should, as seen by the lack of an integrated platform

for information and promotion. Therefore, this community service activity is carried out in the form of digital technology solutions needed to support business operations and enable MSMEs to act independently. The UMKMCerdas website was created to address this, functioning as a promotional and information media as well as an educational tool to raise awareness of the value of digital technology, in encouraging business sustainability and competitiveness. The latest in digital technology is the main focus of this community service activity. It is anticipated that this community service project will socialize the use of technology, particularly websites, and inspire the community to become effective digital content managers who can handle data on their own and market products more extensively, thereby increasing MSMEs' operational efficiency and market reach [12]. In the age of a technology-based economy, MSMEs in Kampoeng Ilmu can also sense the benefits that are sustainable and adaptable.

2. Method

The methods used in implementing community service are socialization and mentoring. Socialization and mentoring were carried out on June 26, 2025, at Kampoeng Ilmu Surabaya, which is an MSME center consisting of 82 bookstores. This method was chosen because it has proven effective in increasing the capacity of MSME partners to adopt digital technology and ensuring the sustainability of the program [16], [17]. The target of this activity is MSME actors in Kampoeng Ilmu, the majority of which are micro and small businesses with the use of digital technology in marketing, which is still not optimal. This community service method uses a participatory approach by combining web-based system development utilizing the Laravel and Bootstrap frameworks, as well as digital literacy training for UMKM actors in Kampoeng Ilmu Surabaya. The stages of community service activities are divided into five main stages that are structured and interconnected. The flow of community service activities can be seen in Figure 1.

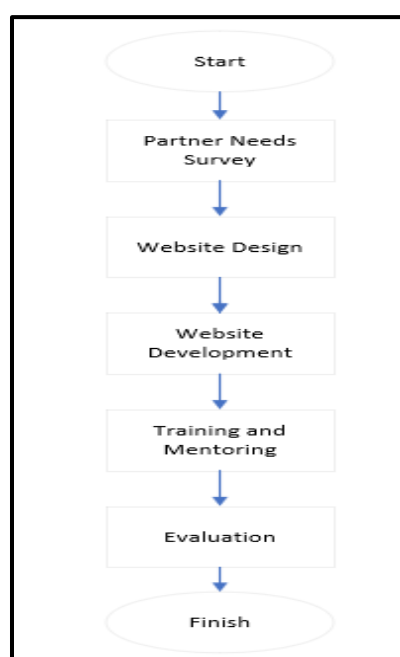


Figure 1. Community Service Activity Flow

2.1. Partner Needs Survey

To find out the primary issues, the first step was to conduct a survey of partners through direct interviews. During this stage, a survey was conducted with partners in Kampoeng Ilmu to discuss challenges with their website design and development, particularly those related to the lack of a digital system that facilitates business management for the convenience of MSMEs in Kampoeng Ilmu Surabaya and the limited availability of promotional media.

2.2. Website Design

The website design process begins with identifying user needs, namely MSME owners and Kampoeng Ilmu managers. After the partner's needs are identified, the process continues with website design and planning. At this stage, a user interface (UI/UX) design is created that prioritizes ease of access and user comfort. In addition, a database design is carried out with previously mapped features. Design The website design focuses on presenting the Kampoeng Ilmu profile, a list of bookstores, a book product catalog, and interactive features such as admin pages, Google Maps integration, and WhatsApp contacts. A thorough design at this stage aims to ensure that the website can be managed effectively and efficiently by partners.

2.3. Website Development

Implementing the design outcomes into program code completes the website development stage. JavaScript, CSS, and HTML are used for the front end of the implementation, while PHP is used for the back end. The backend system is constructed using the Laravel framework, the interface display is handled by Tailwind and Preline, and the admin page features are created more quickly with Filament. The Niaga Hoster service is used for hosting, while the MySQL database is chosen for data storage. Validity can be determined by testing whether the website runs properly or if errors occur. Up until the website is prepared for internet access, every feature is functionally tested, and any mistakes or inconsistencies are fixed.

2.4. Training and Mentoring

Training and implementation of websites are carried out at Kampoeng Ilmu. At this point, partners receive training on how to use the admin page, interactive features, and basic troubleshooting to learn how to maintain shop and product data on the website and become self-sufficient. Additionally, a user manual is sent to partners to facilitate their usage of the website. In order to help partners, use the website's services and solve any technical issues that may arise, assistance is also offered.

2.5. Evaluation

Website usage mentoring was used to assess how successfully the website supported Kampoeng Ilmu MSMEs' operations and marketing [18]. For the next few months following training and socialization, this evaluation also involves ongoing mentoring to guarantee the sustainability and autonomy of partners' website maintenance. In order to provide long-term technical help and assess how website usage affects Kampoeng Ilmu's operating efficiency and promotion, the community service team offers continuous WhatsApp contact channels. Periodically, assessments are carried out to make sure the final website can benefit partners.

3. Results and Discussion

Surveying partner needs was the first step in community service activities. Issues were then identified, and solutions were discovered through the creation of the Kampoeng Ilmu Surabaya website. An initial conversation with Partners is depicted in Figure 2.



Figure 2. Initial discussions with partners

Creating a website is the next step after discussing it with relevant partners. The website of Kampoeng Ilmu is a digital platform created to assist the book business actors in the Kampoeng Ilmu Surabaya area with their digitalization process [19]. With multiple outlets selling a wide variety of books, Kampoeng Ilmu needs a more contemporary and cost-effective way to manage information and promote itself to the general public. This website was created in order to digitally present each bookstore, showcase the goods they sell, and make it easy for users to obtain information in a timely and useful manner [20].

As seen in Figure 3, This website has several main sections that are integrated to support its informative and interactive functions. On the main page, visitors can find the Kampoeng Ilmu profile along with a brief description of its history and goals.

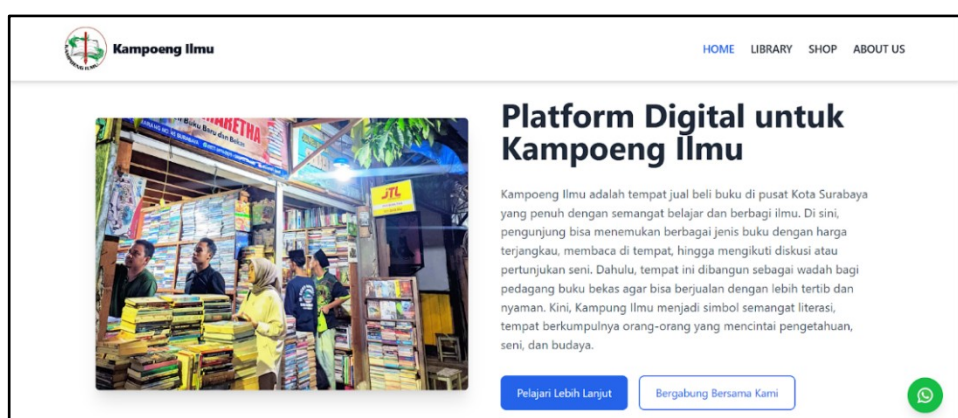


Figure 3. Website Home Page View

As seen in Figure 4, A list page for bookstores follows, which shows details about each store, including name, address, brief description, and links to their marketplace or social network accounts. Additionally, every business has a product catalog that lists all of the books they sell along with the title, price, and a brief synopsis.

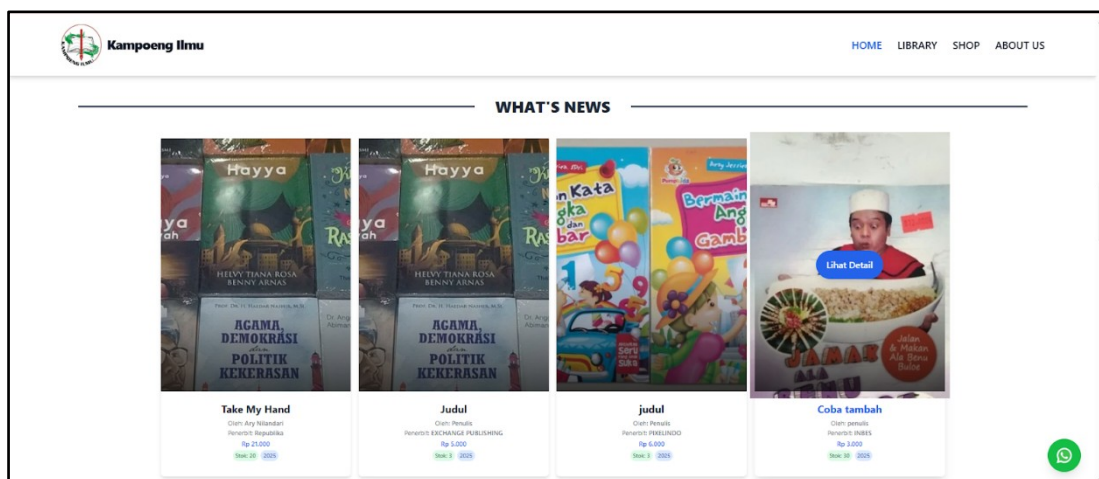


Figure 4. Bookstore List and Product Catalog Page

All of this information aims to provide visitors with a comprehensive overview of the stores and products available at Kampoeng Ilmu. To support functionality and ease of management, the website also provides an admin page that can only be accessed by the administrator [18], [21].

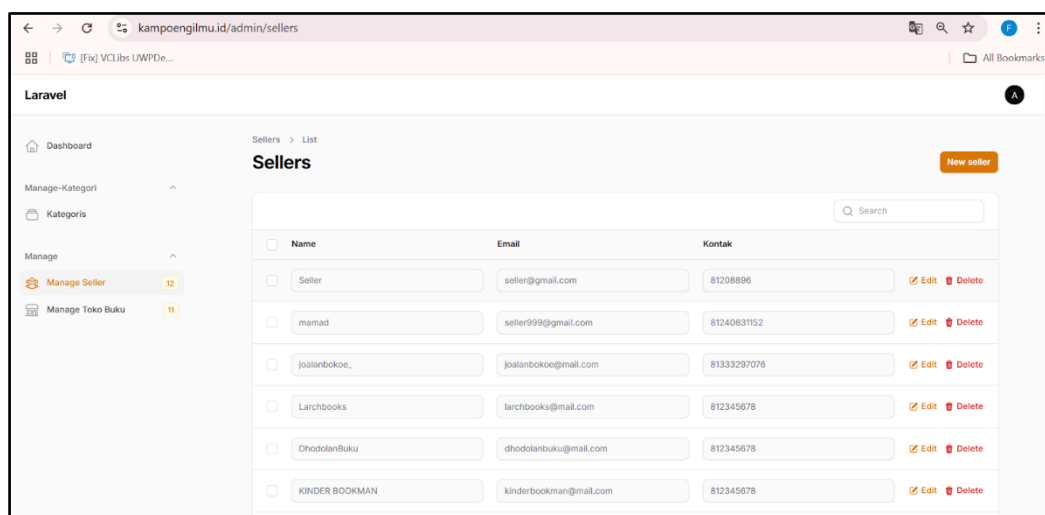


Figure 5. Admin Page (Dashboard)

As seen in Figure 5, managers can book products or add, update, and remove shop data on this page without directly altering the program code [22]. Additionally, there is an official WhatsApp contact button to help with communication with managers in case someone wants to work together or ask for more information, and a Google Maps interface that shows Kampoeng Ilmu's location in real time [23].

As seen in Figure 6, the website display has also been designed responsively, so it can be accessed well via desktop, laptop, or mobile devices. Technically, the Kampoeng Ilmu website was developed using the Laravel framework for the backend with PHP programming language support. On the front end, HTML, CSS, and JavaScript are used with the Tailwind CSS framework and the Preline library to build a neat and modern interface. The use of the Filament library also speeds up the process of building admin pages in terms of appearance and data management. Website data is stored in a MySQL database, and the entire system is

hosted using the Niaga Hoster service. During the development process, the team used Trello as a project management tool to ensure that work stages ran according to schedule [24].

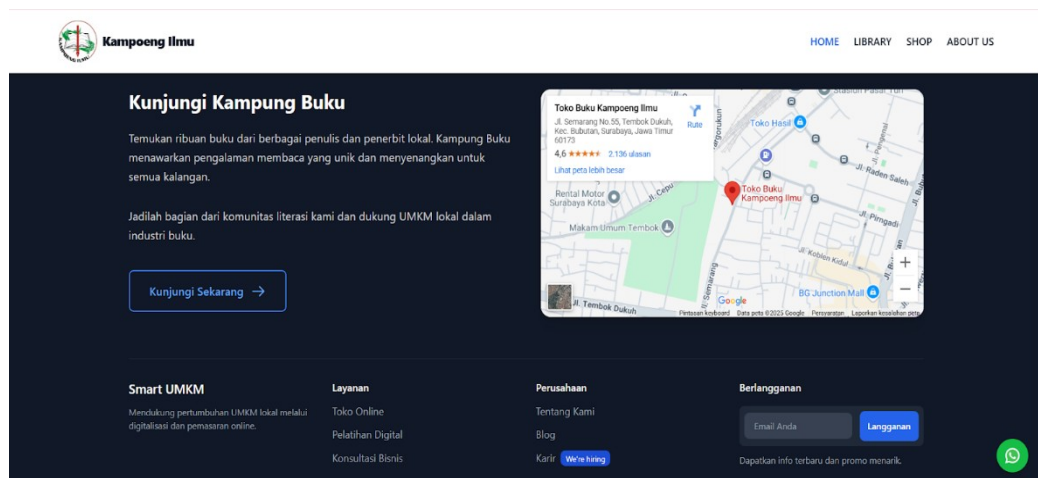


Figure 6. Google Maps Integration & Whatsapp Button

As seen in Figure 6, Kampoeng Ilmu interviews are used to gather information about needs, which is followed by feature mapping, database and interface design, program implementation, and feature testing. If an error is discovered, the system is debugged until it functions correctly. Following the completion of the implementation procedure, the website is uploaded to the hosting server for internet access. In the future, Kampoeng Ilmu will be able to directly control the system after the development team completes the initial data. Upon completion of the development phase, partners can utilize this website as their primary digital platform for business introduction and management [25].

Following the completion of the website, Mitra Kampoeng Ilmu Surabaya receives support and socialization from the Telkom University Surabaya Campus Community Service Team. Explaining the purposes and advantages of creating this website serves as the first step in socialization and support. The website's features, functions, and management from the perspectives of the customer, seller, and administrator are then explained [26] [27]. The socializing activities that the Community Service Team is currently conducting are depicted in Figure 7.

In addition to presenting the website's outcomes, the Community Service Team gave partners hands-on experience in website management. If certain topics or presentations were thought to be unclear, Kampoeng Ilmu Surabaya partners were also permitted to speak with each other directly during the socialization and mentorship exercises. In the next months, the Community Service Team will offer direct and sporadic mentorship to assist partners with any issues they may have encountered since the website's launch [28], [29]. This activity also serves as a monitoring and assessment of the Community Service Team's ongoing operations.

The implementation of the Kampoeng Ilmu MSME website has produced significant outcomes in improving the digital capacity and operational efficiency of local entrepreneurs. A total of 82 MSME partners participated in the training and mentoring sessions, representing diverse sectors such as book retail and creative services. Furthermore, post-training surveys showed that 87% of participants experienced improvement in digital literacy and confidence in online marketing activities.



Figure 7. Socialization and Assistance for the Development of the Kampoeng Ilmu Surabaya Website

The analysis of these results demonstrates that digital training combined with direct implementation of web-based systems is effective in enhancing MSME adaptation to technology. This aligns with findings from previous studies, which emphasize that structured digital mentoring programs can accelerate MSME digital transformation. From a theoretical perspective, these outcomes reflect the principles of the Technology Acceptance Model (TAM), where perceived ease of use and perceived usefulness significantly influence user adoption. Similarly, according to Diffusion of Innovation Theory, the participatory mentoring approach used in this project facilitated faster acceptance of digital innovations among partners.

In summary, the development of the Kampoeng Ilmu MSME website demonstrates a successful integration of community service and technological empowerment. Beyond improving operational efficiency, this initiative provides a replicable model for MSME clusters in other regions, combining needs-based design, participatory training, and iterative evaluation. The approach effectively bridges the digital divide among small enterprises while contributing to the broader discourse on sustainable digital empowerment in developing economies.

4. Conclusion

This community service project successfully developed an integrated website that enhanced the operational performance and digital engagement of MSMEs in Kampoeng Ilmu, Surabaya. Through systematic stages, the program improved digital literacy and management capabilities among participants. A total of 82 MSME partners took part in the program, with 87% reporting improved confidence and digital competence. These results demonstrate that website-based digital empowerment, when combined with structured mentoring, effectively increases the visibility and sustainability of local MSME operations. Academically, this study

contributes to the literature on digital MSME empowerment by showing how integrated website development can serve as a practical framework for community-based digital transformation.

Despite these positive outcomes, the study has several limitations. The evaluation did not include a long-term impact assessment, and the current platform has yet to be integrated with e-commerce systems or electronic payment features. Future programs could address these aspects by developing marketplace integration, online payment gateways, and AI-based product recommendation systems to further enhance the platform's usability and competitiveness. Additionally, future research could explore longitudinal assessments of MSME digital adoption to better understand sustainability factors and behavioral changes over time. Overall, the project provides a replicable and scalable model for empowering MSMEs through digital transformation initiatives.

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