Improving Digital Literacy of Grass Jelly (Cincau) based MSMEs through Digital Marketing and Website Management Training

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ABSTRACT

Background: Grass Jelly Village (Cincau) based Micro, Small, and Medium-sized Enterprises (MSMEs) in Surabaya, Indonesia, has started digitalization by building a website profile to promote their products. However, they need help managing the website and selling their brands since they have lower digital literacy resources, and their website only has a single admin.

Contribution: This community service program contributes to enhancing digital literacy in Grass Jelly Village by providing structured training in digital marketing and website management, aiming to empower local residents in utilizing digital platforms for economic and social development.

Method: The course process involves three stages: preparation, implementation, and evaluation. Preparation includes analyzing requirements and designing course materials, followed by practical implementation, and evaluation consists of evaluating the course through feedback and evaluation forms.

Results: Based on the satisfaction survey on digital marketing training received a score of 89.33%, copywriting training received a score of 85%, website training received a score of 90.66%. Then there is a satisfaction survey on the speaker by getting a score of 92%.

Conclusion: The digitalization training for Grass Jelly Village's MSMEs was highly effective, resulting in enhanced digital literacy and improved business practices. The program's long-term sustainability is supported by follow-up strategies, including forming a dedicated digital team and ongoing mentorship.
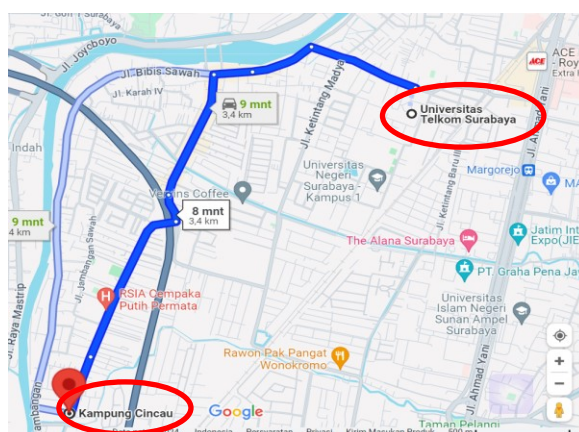
1. Introduction

Current technological developments, especially information technology, provide opportunities for the public to be used to promote and disseminate information due to its rapid trends [1]–[3] This happens because of the pandemic, which has previously limited people from buying things. Digitalization in Indonesian markets comes up through e-commerce and online marketplace, digital advertisement through social media, e-wallets, and other implementations [4], [5]. Thus, people need to have digital literacy to adapt to wider social life in Indonesia nowadays, even in Micro, Small, and Medium Enterprises (MSMEs) [6]–[8].

MSMEs play a pivotal role in Indonesia's economy, contributing over 60% to the national Gross Domestic Product (GDP) and employing more than 97% of the country's workforce [9]. MSMEs are not only key drivers of economic growth, but also act as crucial pillars for poverty alleviation and inclusive development. However, despite their strategic importance, many MSMEs in Indonesia continue to face significant challenges in adapting to the rapidly evolving digital economy. One of the most pressing issues is the low level of digital literacy among MSME actors, which limits their ability to leverage digital tools such as websites, e-commerce platforms, and social media for business development. The COVID-19 pandemic has further underscored the urgency of digital transformation, as consumer behavior has shifted dramatically toward online transactions. Digital literacy is crucial for MSMEs, especially during the COVID-19 pandemic, as highlighted by Sari 2022 [10]. The influence of digital literacy and market orientation on MSME performance has been well-documented by Suryani (2021) [11]. Digital marketing, online branding, and website management are no longer optional but essential competencies for MSMEs to remain competitive. Nevertheless, many MSMEs, especially those in rural or semi-urban areas, lack access to structured training, digital infrastructure, and human resources with the skills to implement these tools effectively. This gap has been identified in studies such as Yanti et al. (2024) and Mukhibad et al. (2024), which highlight the barriers MSMEs face in adopting digital solutions despite the availability of basic internet access [12], [13].

Most researchers have done digital literacy development as part of their community service to the nation. Participatory Action Research has been implemented to train MSMEs in digital marketing and social media for society [14]. Global market strategy training is given to improve 42 MSME participants in Bandung, which can lead to a sustainable market [15]. TikTok has been utilized to develop 30 startups in West Java by giving them further training with follow-up [16]. In Ponorogo, MSMEs are strengthened through training and monitoring digital marketing analysis and strategy, leading to a fabulous impact on brand recognition [17]. Service Learning and Asset-based Community Development have been implemented as digital literacy training [18]. Uniquely from others, home intelligence has been initiated to build digital literacy in Desa Mallongi-Longi, Sulawesi Selatan, using several software, including Microsoft and social media [19]. Several MSMEs in Sidoarjo, East Java, have been accompanied to create an online shop to

train and monitor digital literacy [20]. Furthermore, MSMEs are empowered in Kabupaten Batang to digitalize their products through e-commerce by conducting training and monitoring [21]. Digital marketing literacy has been presented to MSMEs in Ngempit Village Kraton Pasuruan about using social media to explore the benefits of utilizing e-commerce for their business [22]. Most community services use social media and further e-commerce utilization to develop MSMEs in society [23], [24] and several users create websites or software for MSMEs' digitalization [25]–[27]. However, most existing programs have focused on basic social media use or general e-commerce onboarding.

There is limited emphasis on sustainable website development and management, a long-term digital infrastructure that can offer greater autonomy and control to MSMEs over their branding and customer interaction. Recent studies have emphasized the importance of digital literacy in enhancing MSMEs' ability to adopt new technologies and improve business performance. For instance, a study by Coco et al. (2025) explores how MSMEs can overcome resistance to digitalization through open innovation and design thinking techniques [28]. The research highlights the role of training, networking, and co-creation initiatives in promoting digital literacy and technology adoption among MSMEs. Another study by Kahveci (2025) proposes the DASAT framework, which includes Digital Awareness, Digital Strategy and Roadmap, Digital Adoption and Implementation, and Digital Transformation Continuous Improvement, as a structured approach to building digital capabilities in MSMEs [29]. These frameworks provide a stronger foundation for the proposed training by offering practical strategies and models that can be adapted to the specific needs of MSMEs in Grass Jelly Village. as seen in Figure 1, By leveraging these insights, the training program aims to address the challenges faced by MSMEs in adapting to the rapidly evolving digital economy and enhance their competitiveness through improved digital literacy.

Figure 1. Digital maps of Grass Jelly Village from Telkom University, Surabaya Campus

This community service program focuses on Grass Jelly Village, a village-based MSME cluster in Surabaya that produces and sells traditional grass jelly (cincau) products. Although a website (https://www.kampungcincau.com) was developed in a previous program [30], it

remains underutilized due to limited digital skills among local stakeholders and the absence of systematic training in content management and digital marketing. Therefore, there is a need for training that can provide knowledge and methods for managing websites and conducting digital marketing in Grass Jelly Village, especially on social media. Website training in Grass Jelly Village will provide benefits and ease in accessing information quickly and accurately. This program can affect village progress, significantly increasing village income through socialization to the people [31], especially to the younger generations. It could teach the older generations to understand the utilization of information technology in the digital era [32].

The urgency of this research lies in the pressing need to bridge the digital literacy gap among MSMEs in Indonesia, especially in community-based clusters such as Grass Jelly Village. Although a website was previously developed to support digital transformation, it remains underutilized due to the limited digital competencies of local actors. Existing community service efforts across the country have predominantly focused on social media and basic e-commerce training, leaving a significant gap in sustainable website management and strategic digital marketing. This gap is critical because without the ability to maintain and leverage a website effectively, MSMEs lose a key opportunity for long-term branding, customer engagement, and market expansion. The COVID-19 pandemic has further accelerated the digital shift, making it imperative for MSMEs to possess not only digital access but also digital capability. Therefore, this training program is vital to enable MSMEs in Grass Jelly Village to independently manage digital platforms, expand their market reach, and enhance economic resilience in a digital-first economy. The program also supports broader national goals for inclusive digital transformation and community empowerment.
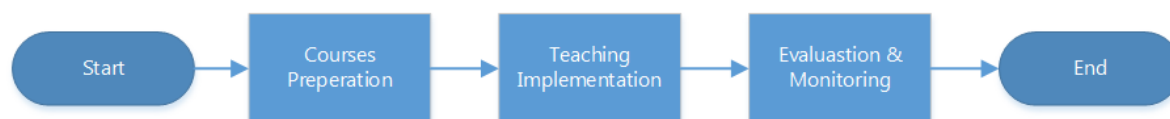
This program aims to improve the digital literacy of Grass Jelly Village's MSMEs through structured training in website management and digital marketing as continuity of previous program. It addresses both technical and strategic aspects, including visual content creation, copywriting, and platform operations. The objectives of this community service initiative are as follows: (1) To enhance the participants' skills in managing and updating website content for Grass Jelly Village's MSMEs. (2) To introduce effective digital marketing techniques, including persuasive copywriting and product presentation. (3) To empower the local community to utilize digital tools for expanding market reach and improving economic resilience.

2. Method

The approach methods for implementing training activities in the Grass Jelly Village community include training methods with learning by doing. The techniques used in this activity through flexible training can create or operate a village website. Figure 2 shows the stages or processes involved in implementing the training program, which consists of three steps to begin the courses, i.e., course preparation, teaching implementation, and evaluation.

Courses Preparation, at this stage, a comprehensive discussion and analysis of the needs of

the Grass Jelly Village community is carried out. The training content is designed to meet specific digital literacy and website management needs. This includes developing relevant materials and resources that are easily understood and practical for participants. The course development process is conducted by adjusting to current industrial updates and following the needs of Grass Jelly Village. The material creation process takes approximately one month. The participants were selected based on their involvement in micro, small, and medium enterprises (MSMEs) within the Grass Jelly Village. Criteria included their active role in product marketing, willingness to learn digital skills, and availability to attend all training sessions. A pre-training survey was conducted to identify the most relevant and skills gaps among potential participants.

Figure 2. Stages of implementing the program

Teaching Implementation, the implementation phase involves a per-session delivery of the training. There are four sessions in the training. There are three sessions in the training, namely the first session on introducing Digital Marketing, which teaches the basics of marketing, concepts, strategies, and tools used, such as websites and social media, to increase visibility and attract customers. The second session is about copywriting, which adds writing skills to attract consumers. In contrast, the third session is about content management and managing features on the website, as well as tutorial domain payment and hosting on the website. In the second session, the instructor also taught how to take product photos because of the need for digital marketing. The last session was an evaluation and monitoring of the training that had been obtained. The sessions were conducted through direct practical exercises at Telkom University, Surabaya Campus. Each session lasts approximately four hours and consists of theory and practical sessions. Participants are guided in managing social media and websites step by step, allowing them to gain practical experience and effectively improve their digital skills. To assess participant satisfaction, a structured questionnaire was distributed at the end of each session using a 5-point Likert scale ranging from "Not very useful" to "Very useful". The questionnaire covered aspects such as material relevance instructor delivery, practicality, and overall satisfaction.

Evaluation and Monitoring, Following the training sessions, an evaluation and monitoring phase is conducted. This stage is crucial for assessing the effectiveness of the training. Participants are asked to provide feedback on the training content and delivery. The feedback was collected through both qualitative (Likert scale questionnaire). In the validation and reliability of the training evaluation instrument section, we tested the validity and reliability of the survey instrument using a 1-5 Likert scale to measure aspect such as content clarity, benefits,

media effectiveness, and assessments of the instructors and interactions. The validity test results showed an item-total correlation greater than 0.3, indicating the instrument validity. Meanwhile, the reliability test using Cronbach's Alpha yielded a value of 0.82, demonstrating a high level of consistency. Therefore, the instrument is both valid and reliable, ensuring trustworthy evaluation results.

Monitoring continues as participants apply their new skills, with instructors providing follow-up support to ensure the skills are used effectively. Beyond participant satisfaction, training effectiveness was measured by comparing pre-test and post test score related to digital literacy and website management tasks. Evaluation forms, follow-up interviews, and ongoing monitoring are used to measure the impact of the training and identify any areas of improvement.

3. Results and Discussion

3.1. Results

Creative This community service program presents several activities to achieve goals. The activities are divided into three parts, i.e., Courses Preparation, Teaching Implementation, and Evaluation. Details of the activities are presented in Table 1.

As the first stage of this community service, preparation was conducted by visiting the Head of RT 07 (Grass Jelly Village), Mr. Suhardi, to introduce the continuity of the previous program as the first activity. There have been discussions between the lecturers and Mr. Suhardi about following up on the continuation of the website profile handed over from previous community service [30], at https://www.kampungcincau.com. Mr. Suhardi said he has difficulties handling the website alone since no one has helped him before due to many activities in the village. Additionally, he was confused about creating good content to promote his and people's business. The discussion of requirement analysis can be seen in Figure 3.

Figure 3. Discussion of Requirement Analysis at Grass Jelly Village

The community service team offered Mr. Suhardi two solutions to handle the problems. Firstly, Mr. Suhardi should not hold the website only by himself, but he needs to ask for help from the people of Grass Jelly Village. Thus, the community service team advised 5-10 people to help develop the website. Lastly, the community service team would like to train Mr. Suhardi

and the people to manage the Grass Jelly Village website and create digital content to develop their digital marketing.

Table 1. Schedule of Community Service Activities

	Meeting 1 (Courses Preparation)
Activity	Introducing the continuation of the previous program [30]
	Communicating the sessions of the training
	Finding the suitable participants from the people of Grass Jelly Village
	Creating training modules for participants
Goal	To introduce the objective of the community service program
	To understand the basic requirements of Grass Jelly Village in digital training
	To design good learning experiences for the people of Grass Jelly Village
	Meeting 2 (Teaching Implementation)
Activity	Teaching the digital literacy training to the participants
	Practicing through assignments
Goal	To teach about digital marketing in daily life
	To teach about copywriting for social media
	To teach about website management
	Meeting 3 (Evaluation and Monitoring)
Activity	Discussing problems and challenges from previous training
	Initiating further development for the next community service
	Distributing evaluation form
Goal	To gather suggestions from participants
	To evaluate the effectiveness of the training sessions

According to the discussion result, 3 (three) training sessions will be held at Telkom University, Surabaya Campus, with Mr. Suhardi and the people of Grass Jelly Village. The community service team would begin by introducing digital marketing to the participants. Next, people would like to know about copywriting to promote their products. Lastly, the last session will discuss managing the website profile further.

Furthermore, the community service team is giving recommendations about the qualifications of the participants who will join the training. Firstly, the people must have come initially from Grass Jelly Village. They must avoid outsiders joining. Secondly, they need to keep things confidential since the training would like to share the username and password of Grass Jelly Village's website account. They must be people from Grass Jelly Village who can be trusted. Lastly, they must commit to fully joining the training and contributing to Grass Jelly Village in the future. Willingness to learn new things is a must.

The last preparation activity is preparing the training sessions' learning materials. This includes creating a training module for the people of Grass Jelly Village to access and learn for their excellent understanding. The cover of the training module is seen in Figure 4. The training module has also been approved as the intellectual property of the community service team of Grass Jelly Village in Telkom University, Surabaya Campus. The module covers 4 (four) session materials to be presented in the digital literacy training to people.

Figure 4. Cover of Training Module of Grass Jelly Village

At the teaching implementation stage in improving the digital community of Grass Jelly Village through website management, there are 3 (three) training sessions designed to enhance participants' digital knowledge and skills of digital learners.

Figure 5. Training session 1 (one) Introduction to Digital Marketing for Business

Figure 5 is the implementation of the training in session 1 (one). Topics covered in the first session were technology changing the marketing world by using websites, the concept and urgency of digital marketing, and marketing channels. This first training session provides people with the basics of digital marketing, including basic concepts, practical strategies, and tools, namely a website that can be used to increase the interest of many customers. In training session 1 (one), participants will practice from the material presented about digital marketing; the practice is the initial stage to later continue in training session 2 (two).

A notable improvement in visual content creation was observed following the training, as illustrated in the comparison between two promotional images for "Burger Tementa." The pre-training image in Figure 6 (Left) displays raw packaging components, such as bread, vegetables, and condiments, which, while informative, fail to evoke a sense of culinary appeal. The layout is visually cluttered and lacks a focal point that highlights product desirability. In contrast, the post-training image in Figure 6 (Right) adopts a more strategic and professional approach. It

features a well-styled burger with beef, egg, cheese, and lettuce presented against a clean background, directly appealing to consumer appetites. The captioning is concise, persuasive, and aligned with branding goals, showcasing the product's ready-to-eat nature rather than its individual ingredients. This transformation reflects the participants' improved understanding of persuasive visual marketing, a core objective of the digital literacy program.
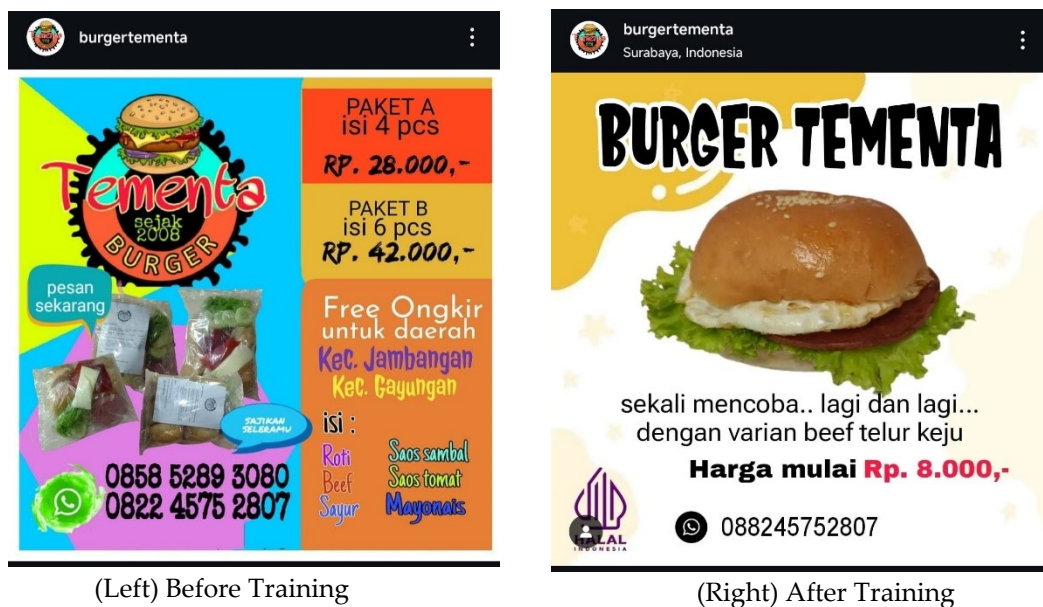

(Left) Before Training   (Right) After Training

Figure 6. The Output of Training Session 1 (one), Product Photos in Digital Marketing

Figure 7 is the implementation training session 2 (two). In the digital improvement training of the Grass Jelly Village community, the focus is on the introduction of copywriting. In this session, participants were taught the importance of persuasive writing skills as a key to attracting consumer interest. Students learn the basic principles of copywriting, including structuring sentences that attract attention, arouse interest, and turn the reader's mind into attention, interest, desire, and action. This session not only delivered the material but also gave examples and practices in the correct copywriting, such as how to headline interesting sentences, relevant and valuable content, and persuasive invitation sentences for potential customers to take action.

Another significant outcome of the training can be observed in the evolution of Instagram marketing content. The pre-training post in Figure 8 (Left) primarily relied on visual elements without any structured or persuasive copywriting. Although visually appealing, the image lacked supporting text that could communicate value propositions, create urgency, or guide customer actions. In contrast, the post-training content in Figure 9 (Right) integrates both visual and textual elements effectively. The image is accompanied by a concise and engaging caption that highlights the uniqueness of the product, its affordability, and a clear call to action. Additionally, the copy employs emotionally resonant language such as "*Burger dengan cita rasa Indonesia yang membuat Anda akan selalu ketagihan*" (a burger with a taste that makes you crave

for more), which enhances the marketing appeal. This improvement demonstrates the participants' increased ability to apply copywriting techniques learned during the training, thereby enhancing their capacity to attract and retain customer attention on digital platforms.
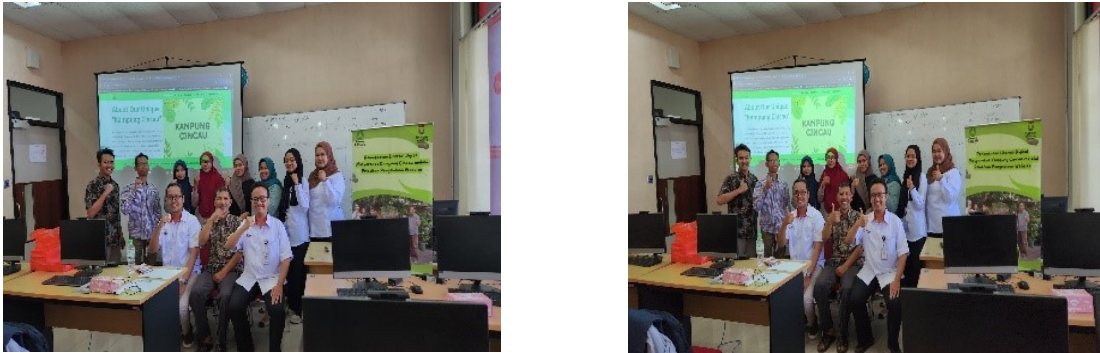

Figure 7. Training session 2 (two) Copywriting

Furthermore, participants began to be told about website management. At the end of the second session, the trainers give the importance of website management, fundamental definitions of specific website's vocabularies, i.e., domain and hosting, and how to modify the "Home" menu to impress visitors from the beginning. The trainers will make a demo in front of the class, which will be continued by practices from the participants. The website management training can be seen in Figure 9. The website management training in the last Session 2 can be considered the first part of the website training. This will continue to the last session (Session 3) for further training features of the website.

(Left) Before Training　　　　　　　　　　(Right) After Training

Figure 8. Training session 2 (two) Copywriting

Session 3 (Three) attempts to teach the core output of this community service, teaching the website management to sell their products from previous design materials. Participants should be prepared at home for the design materials as told in Sessions 1 and 2. Then, they should create and design their own "store" on the website to promote their products. They should not forget to impress buyers by providing pictures of their best products and clear descriptions. The session is done using the previous model of training. The trainers are making small demonstrations in the classroom, and the participants are practicing on their personal computers. The documentation is seen in Figure 10.

Figure 9. Website Management Part 1 in Session 2

Figure 10. Website Management Part 2

The last stage, evaluation and monitoring, focused on evaluating the training materials and getting participant feedback. This stage is done in Mr. Suhardi's house in Grass Jelly Village. We discussed challenges and opportunities after the training. The challenge of Grass Jelly Village in developing the designed website is the commitment of the human resources, but it has been done by the training conducted. We maintain a connection through the WhatsApp group to monitor future confusion and questions while managing the website and creating digital marketing in Grass Jelly Village. Then, for future opportunities, business incubation can be designed to cover the requirements of digitalization in Grass Jelly Village's MSMEs. This needs future collaboration between Telkom University and Grass Jelly Village. Documentation on evaluation and monitoring can be seen in Figure 11.

After discussing challenges and future opportunities for future community service in Grass Jelly Village, we handed over the completed and revised hard copy of the training book to Mr. Suhardi. The other participants also get the soft copy version from the WhatsApp group with terms and conditions for keeping the username and password of the account confidential. The documentation of the handover is in Figure 12.

Figure 11. Discussing Monitoring and Evaluation

The community service program aimed to improve digital literacy among MSMEs in Grass Jelly Village through structured training in digital marketing and website management. Digital marketing training received a satisfaction score of 89.33%. Participants demonstrated a better understanding of digital marketing concepts and strategies, which they applied to increase their online visibility and customer engagement. Specific improvements included the ability to create and manage digital marketing campaigns, use social media effectively, and analyze marketing metrics to optimize their strategies. Copywriting training received a satisfaction score of 85%. Participants improved their skills in creating persuasive and engaging content for social media and websites. They learned to craft compelling headlines, write clear and concise product descriptions, and use storytelling techniques to connect with their audience. This led to more effective communication and increased customer interest in their products.

Website management training received a satisfaction score of 90.66%. Participants learned to manage and update website content effectively, including uploading product images, creating structured copywriting captions, and integrating social media with their websites. Specific improvements included the ability to navigate website dashboards, update product listings, and use SEO techniques to improve website visibility. Overall satisfaction with trainers reached a score of 92%. Participants appreciated the trainers' ability to deliver material clearly and answer questions effectively. The interactive sessions enhanced their learning experience, allowing them to practice new skills in a supportive environment. Including visual representations of before-and-after scenarios can illustrate the impact of the training. For example, promotional images before training that were cluttered compared to more professional and appealing images after training with persuasive captions.

Figure 12. Handover the Training Book

Several challenges faced during the training and the solutions implemented were addressed. Technological unfamiliarity among older participants was tackled by implementing a peer-support model, where younger participants assisted seniors during hands-on sessions. Low attendance in the third session due to local community events was addressed by conducting a make-up session two days later. Limited devices, with few participants having personal laptops, were addressed by borrowing devices from the university and grouping participants to work collaboratively.

In conclusion, the digitalization training for Grass Jelly Village's small businesses was highly successful. Participants reported high satisfaction with the training materials and delivery, particularly in digital marketing and website management. The program's long-term sustainability is supported by follow-up strategies, including the formation of a dedicated digital team and ongoing mentorship. Future community service initiatives can build on this success, with potential for scalability and further training opportunities.

3.2. Discussion

Digitalization training that has been conducted aims to improve the ability of small businesses in Grass Jelly Village to market products through the website platform. Digitalization of Grass Jelly Village community with a focus on three training sessions, namely Digital Marketing, Copywriting, and Website Management, to determine the satisfaction of participants with the training that has been done, the survey of satisfaction with the training was conducted. Based on the survey data presented in graphics, here are the evaluation results for three training sessions covering Digital Marketing, Copywriting, and Website Management.

Figure 13 satisfaction survey results in training session 1 (one) Digital Marketing from category clarity of material, material about digital marketing is considered to have 88% clarity, indicating that the information conveyed is clear enough for participants. Material benefit at 96% suggests that participants feel a very high benefit from the material studied, allowing them

to apply it in their professional context. Media and learning strategies are at 84%, which indicates that the learning methods and approaches used are effective, although there is room for improvement to increase participant engagement and understanding further.
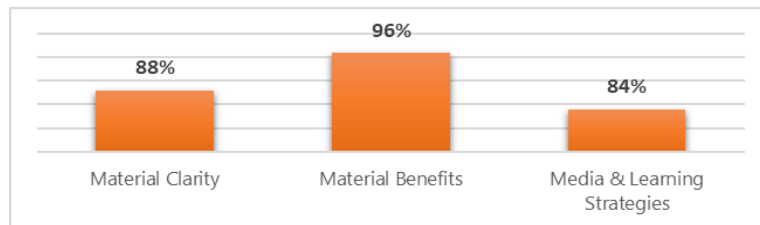

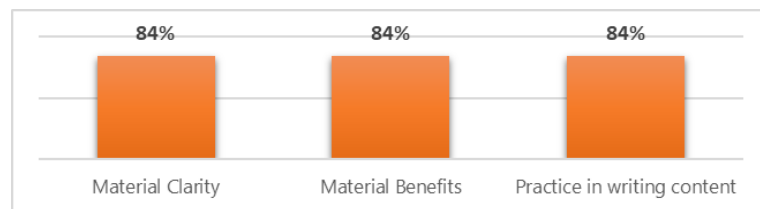**Figure 13**. Survey graphics of participants' satisfaction with 1 (one) training

Figure 14. Survey graphics of participants' satisfaction with 2 (two) training

Figure 14 Satisfaction survey results in training session 2 (two) Copywriting, from category clarity of the material, the clarity of this material is rated at 84%, reflecting a good understanding of effective writing techniques. Category benefit of the material: participants also rated the benefit of this material at 87%, demonstrating the immediate usefulness of the skills taught in daily practice. While practicing content writing, participants also rated their ability to apply concepts in content writing at 84%, showing consistency between material clarity, benefit, and practical application.
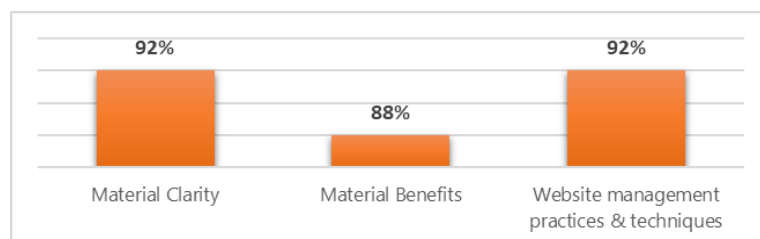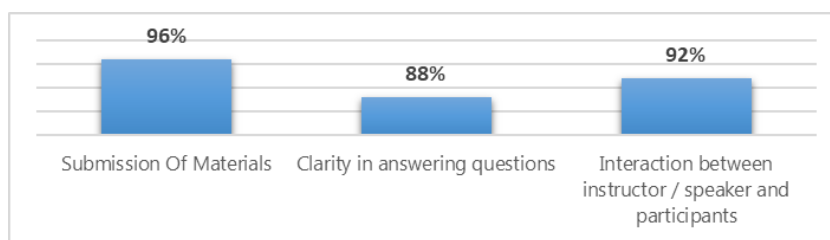

Figure 15. Survey graphics of participants' satisfaction with 3 (three) training

Figure 15 satisfaction survey results in training sessions 3 (three) Website Management, from material clarity reached 92%, indicating that the material presented is evident and easy to understand by participants. From category material benefits at 88%, participants feel that they get substantial benefits that can be applied to the management of the website. While management practice and techniques, 92% of management practices and techniques learned demonstrate success in using the methods taught.

Figure 16. Survey graphics of participants with the speaker

Not only about the satisfaction of training implementation but also to the presenters, as seen in Figure 16. In the material delivery, 96% showed a very effective and exciting delivery. Then, in terms of clarity in answering questions, by 88%, the presenters showed good ability in answering questions, but there was an increase. The interaction between the presenters and participants was 92%, which was described as an outstanding interaction, improving the understanding and learning experience of participants. In conclusion, these three training sessions achieved high satisfaction among participants, with the website management sessions showing the most favorable results in all aspects.

To ensure the sustainability of this digital empowerment effort, several long-term strategies have been proposed. First, a dedicated digital team is being formed from trained local residents to regularly manage website content and promotions. Second, a monitoring and mentorship group via WhatsApp has been established to offer ongoing support, troubleshooting, and content guidance. Third, the service team is planning a business incubation model in future collaborations with Telkom University to provide continuous assistance in branding, digital campaigns, and financial literacy. Finally, establishing community-led knowledge sharing, here trained participants mentor new members, will be a key component in institutionalizing digital skills within Grass Jelly Village. These follow-up actions aim to shift the training from a one-time intervention into a self-sustaining digital ecosystem within the village, supporting long-term growth of local MSMEs.

4. Conclusion

The implementation of community service has been completed by covering digital marketing training, copywriting, and website usage. The residents of Grass Jelly Village Surabaya attended this training as well as learning to practice from the material presented. This training is expected to provide in-depth knowledge and skills to the residents of Grass Jelly Village. In addition to the training, this activity was closed with an evaluation meeting with the residents of Grass Jelly Village to get criticism and suggestions from the residents of Grass Jelly Village as well as handing over the training modules that have been carried out to the residents of Grass Jelly Village.

The hope for the next implementation of community service in Cincau Village is to provide in-depth digital marketing training to residents of Cincau Village such as CRM with AI to

predict potential customers or analyse sentiment towards the products they produce in order to get input from consumers and form a digital marketing team for each MSME and form a team of administrators for website management so that the website continues to provide the latest information and can be used in the promotional media for Cincau Village. So that the implementation of community service can continue to be sustainable and continue to have a positive impact.

Acknowledgment

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