

## Business Digitalization and Green Economy Practices for Enhancing the Competitiveness of Laundry MSMEs in Bekasi City

Suharyanto<sup>1</sup> Pamela Magdalena<sup>2</sup> Riza Zahrotun Nisa<sup>3</sup> Markonah<sup>4</sup>

Department of Accounting, Faculty of Economics and Business, Perbanas Institute, Indonesia<sup>1</sup>

Department of Management, Faculty of Economics and Business, Perbanas Institute, Indonesia<sup>4</sup>

Associate Degree Program, Faculty of Economics and Business, Perbanas Institute, Indonesia<sup>2,3</sup>

Corresponding Author: Suharyanto (anto@perbanas.id)

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### ABSTRACT

The laundry MSME sector is one of the rapidly growing service sectors in urban areas, including Bekasi City. Most business owners still face challenges in using digital technology, managing financial records, and operating in an environmentally friendly manner. Therefore, this Community Service (PKM) activity was carried out through three main programs: business digitalization training (social media, websites, and digital marketing), financial record training using the Accurate Online application, and socialization of the use of environmentally friendly soap made from soap nuts. The PKM program was held on October 18, 2025, at the Taman Harapan Baru Housing Complex, Pejuang Village, Medan Satria District, Bekasi City, in collaboration with Paguyuban Manunggal Karya and Taurus Mitra Aspact Laundry. The implementation included lectures, demonstrations, hands-on practice, discussions, and technical assistance by a team of lecturers and students. The results of the activity showed an increase in MSMEs' understanding of utilizing digital platforms, the ability to generate automatic financial reports through Accurate Online, and awareness of environmentally friendly business practices. In addition, the activity also included the handover of a washing machine to support the increase in MSME production capacity. This activity has a positive impact and is becoming an empowerment model that can be replicated in other regions.

Keywords: Business Digitalization, Green Economy, Accurate Online, Laundry MSMEs, Eco-Friendly Laundry.



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## INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) constitute the backbone of Indonesia's economy and make a significant contribution to the national Gross Domestic Product (GDP). According to data from the Ministry of Cooperatives and MSMEs (2024), MSMEs account for more than 60% of Indonesia's GDP and absorb over 97% of the national workforce (<https://www.ekon.go.id>). In urban areas, service-based sectors such as laundry businesses have experienced rapid growth,

driven by changes in urban lifestyles, high population mobility, and the increasing demand for fast and practical clothing cleaning services.

Bekasi City, as one of the metropolitan buffer zones supporting Jakarta, has shown substantial growth in the service sector in recent years, including the laundry industry. This development is closely associated with increasing residential density in areas such as Medan Satria District, West Bekasi, and North Bekasi. Based on the Annual Performance Report of the Bekasi City Office of

Cooperatives, Small and Medium Enterprises (2024), service-sector MSMEs face major challenges in enhancing their competitiveness, including low productivity, limited market access, and insufficient recognition of leading products for broader market penetration (<https://sakip.bekasikota.go.id>). Although opportunities in the laundry sector continue to expand and new entrants are emerging, most laundry MSMEs still encounter obstacles such as ineffective marketing practices, poorly organized transaction records, and limited adoption of environmentally friendly business practices. A study on laundry MSMEs in Bekasi Regency found that entrepreneurial characteristics significantly influence business success; however, individual motivation and self-reliance contribute only marginally, indicating that structural and operational factors remain key constraints. (Saepudin & Widodasih, 2023). The latest data (as of October 2025) shows that there are approximately 205 laundry businesses in Bekasi, an increase of about 3.5% compared to previous years. The majority of these businesses are single-owner operations (~90%), while the rest are part of a franchise or larger network. The average age of laundry businesses in Bekasi is around 3.5 years, indicating that this business is relatively new but is growing rapidly in line with the changing needs of the community. (Rentech Digital)

The priority issues often faced by laundry services in Bekasi City (from upstream to downstream) range from initial operational processes, management, and customer services, along with practical solutions that business owners can implement. Upstream issues related to Resources and Basic Operations are as follows.

1. Location Planning and Initial Capital. Business owners often rent a location immediately without surveying customers, competitors, road access, and target markets around the laundry. This can make the business less optimal from the start. The solution that can be offered is to conduct a location survey (within a 300–500 m radius) before renting to ensure there are many target customers (boarding houses, residential areas, employees) and to plan capital carefully, including allocation of funds for machines, renovations, operations for the first 3–6 months, and unexpected reserves.
2. High Operational Costs Laundry uses heavy machines, water, electricity, and cleaning supplies in large quantities, resulting in high operational costs. Solutions that can be provided include investing in energy- and water-efficient equipment, routine maintenance (preventive maintenance) to reduce machine damage and repair costs, and negotiating electricity and water rates with providers or using saving technologies. Problems in the Middle, Internal Management
3. Human Resource Management Employees who are undertrained or do not understand SOPs cause inconsistencies in washing quality, mistakes, and even loss of customer items. Solutions that can be provided include creating and implementing operational SOPs (color sorting, washing techniques, ironing procedures), training new employees and conducting regular evaluations, and providing incentives or rewards to increase motivation and work loyalty.
4. Stock Recording and Control  
Many businesses still manually record transactions, inventory of detergent, plastic, or dirt, making them prone to counting errors or loss of goods. The solution provided is the use of a financial system or application for transaction and inventory recording, and assigning barcodes to each laundry item to minimize sorting errors and loss of goods.
5. Cash Flow Control  
Cash flow problems often occur because some customers pick up their laundry the following month or sometimes not at all, which hinders business capital. The solution that can be offered

is to implement a minimum down payment (DP) of 30%–50% before the laundry process, establish a penalty or discount system in case of cancellation or late pickup (coordinated with the customer's schedule), and prepare daily/weekly cash flow reports to monitor financial flow. Downstream Issues, Customer Service, and Expansion

6. Service and Delivery Quality

With many competitors, especially pick-up and delivery services, maintaining washing quality, delivery times, and service consistency becomes a major challenge. The solution that can be offered is to integrate simple digital order tracking features, such as notifications via WhatsApp, train drivers and service staff on delivery SOPs and handling customer items, and establish packaging standards to ensure clothes remain neat when they reach customers.

7. Lack of Marketing and Digital Exposure

Many laundry businesses still rely on walk-in customers and have minimal digital marketing strategies, making it difficult to grow. The solution provided is to leverage digital marketing, such as social media and marketplace platforms, to increase visibility, create loyalty promotions, referral programs, or discounts for regular customers, and build educational content (clothing care tips) to attract attention and strengthen the brand.

8. Intense Competition

The large number of laundry businesses in the same area leads to price wars and makes it difficult to maintain profit margins. The solution provided is to offer service differentiation (e.g., fast service, premium laundry, special ironing, or shoe services), develop subscription and membership packages to secure customer loyalty, and focus on local advantages (friendly customer service, speed, and attention to quality).

In response to these challenges, a team of lecturers and students from Perbanas Institute implemented a Community Service Program (Pengabdian Kepada Masyarakat/PKM) entitled “Business Digitalization and Green Economy Implementation for Strengthening the Competitiveness of Laundry MSMEs in Bekasi.” The program was conducted on October 18, 2025, in the Taman Harapan Baru Residential Area, Pejuang Sub-district, Medan Satria District, in collaboration with Paguyuban Manunggal Karya (Community Association) and Taurus Mitra Aspact Laundry, which supports several laundry MSME operators in the area. The program focused on three main aspects: (1) improving market access through business digitalization, particularly via social media utilization, basic website development, and digital marketing strategies; (2) enhancing financial literacy and bookkeeping capabilities through training on the Accurate Online application to generate automated financial reports; and (3) implementing green economy practices through socialization and demonstrations on the use of soapnut-based natural detergents as alternatives to chemical detergents. In addition to training activities, the program also included the provision of one washing machine unit as a tangible form of support to increase MSMEs’ production capacity. Overall, this initiative is expected to strengthen entrepreneurs’ competencies, enhance competitiveness, and serve as a model of MSME empowerment based on technology adoption and environmental sustainability.

#### **Characteristics of Laundry MSMEs in Bekasi**

Bekasi City is one of the major urban areas within the Greater Jakarta (Jabodetabek) region that has experienced significant population growth in recent years. According to the publication Bekasi City in Figures 2025 issued by the Central Bureau of Statistics (BPS) of Bekasi City, the total population of Bekasi City was estimated at approximately 2.53 million in 2024 (<https://databoks.katadata.co.id/>). The city comprises several densely populated districts, such as Medan Satria, North Bekasi, and West Bekasi, which serve as residential hubs for commuters working in Jakarta and its surrounding areas. High residential density in these districts has led to increasing demand for daily services, including household and kilogram-based laundry services, as part of an urban lifestyle that prioritizes practicality and efficiency.

### Marketing Challenges

One of the main challenges faced by laundry MSMEs in Bekasi City is their limited capacity to conduct promotion and marketing through digital channels. From a consumer behavior perspective, the e-Economy SEA Report 2023, published by Google, Temasek, and Bain & Company (<https://economysea.withgoogle.com/>), indicates that search engines and location-based platforms constitute the primary channels through which people in Southeast Asia, including Indonesia, discover local services and businesses. Nevertheless, many local service MSMEs, including laundry businesses, have not yet optimally utilized digital platforms such as Google Search and Google Maps through Google Business Profile, resulting in low visibility at the local level. Digital marketing challenges among laundry MSMEs typically include low levels of digital literacy, limited capacity to manage business-oriented social media accounts, minimal use of Google Business Profile as a tool for local visibility, and the absence of a consistent brand identity, such as logos, brand colors, and coherent promotional messages. In addition, intense price competition in densely populated residential areas and limited availability of appealing visual content further weaken the competitiveness of laundry MSMEs in attracting and retaining customers.

In line with these conditions, the research conducted by Panduwinata et al. (2025) emphasizes that service-oriented MSMEs that are not connected to digital platforms tend to have narrower market reach and slower business growth compared to those that have adopted digital marketing practices. Therefore, strengthening digital marketing capabilities and local branding has become a critical factor in enhancing the competitiveness and sustainability of laundry MSMEs in urban areas such as Bekasi.

### Financial and Business Administration Issues

Financial management issues represent one of the most dominant challenges faced by laundry MSMEs in Bekasi City. Various national surveys indicate that the majority of MSMEs in Indonesia do not yet maintain orderly and systematic financial records, which hampers effective business management and access to formal financing. Otoritas Jasa Keuangan (OJK), through the National Survey of Financial Literacy and Inclusion (SNLIK), highlights that low levels of financial literacy among MSMEs directly contribute to weak financial recording and management practices. These conditions are also evident among laundry MSMEs in Bekasi, which commonly face several financial-related problems: (1) irregular and unstructured daily transaction recording; (2) the absence of clear separation between personal and business finances; (3) the lack of formal financial statements such as income statements, balance sheets, and cash flow statements; (4) difficulties in determining appropriate service pricing due to limited knowledge of actual operating costs; and (5) restricted access to financing from financial institutions owing to the unavailability of accountable financial reports. Several studies suggest that the adoption of cloud-based accounting applications can assist MSMEs in improving transaction recording quality, accuracy in financial statement preparation, and financial information transparency (Sandra & Suryna, 2022). The use of digital accounting applications has also been shown to support managerial decision-making and enhance MSMEs' readiness to access formal financing, including within service sectors such as laundry businesses. (Hayati et al., 2025).

### Environmental Issues in Laundry Businesses

Laundry services represent a form of household-based service enterprise characterized by relatively intensive detergent usage and a significant contribution to the domestic wastewater load in urban areas. Numerous studies indicate that detergent wastewater contains synthetic surfactants that are difficult to decompose naturally, have the potential to contaminate water bodies, and negatively affect aquatic organisms and the quality of urban water environments. These issues are particularly relevant in Bekasi City, which has a high population density and faces challenges related to limited domestic wastewater treatment infrastructure. Not all urban households in Indonesia, including metropolitan buffer zones such as Bekasi, are connected to centralized

wastewater treatment systems, resulting in household and small business wastewater often being discharged directly into local drainage channels. In the context of laundry MSMEs in Bekasi, common environmental issues include the excessive use of chemical-based detergents, the absence of wastewater filtering or treatment processes before discharge, and limited awareness among business operators regarding environmentally friendly cleaning agents and eco-laundry practices. These conditions highlight the need for more sustainable alternative approaches.

Accordingly, the introduction of environmentally friendly cleaning agents derived from local natural resources, such as natural soaps or detergents made from soapnut (*Sapindus rarak*), is highly relevant as part of green economy implementation and sustainable development efforts in micro-scale laundry businesses. Soapnut is known to contain saponins, which function as biodegradable natural biosurfactants and thus have the potential to reduce water pollution compared to detergents based on synthetic surfactants. (Aryanti et al., 2021).

## THEORETICAL FRAMEWORK AND HYPOTHESES

### Digitalization of MSMEs

MSME digitalization refers to the process of leveraging digital technologies in operational activities, marketing, and business management in order to enhance efficiency, productivity, and overall business competitiveness (Ministry of Cooperatives and MSMEs, 2022). Digital transformation among MSMEs encompasses the use of digital media for marketing purposes, the adoption of online platforms for transactions, the implementation of application-based financial recording systems, and the integration of information technology into business decision-making processes. In Indonesia, MSME digitalization is widely regarded as a strategic approach to strengthening national economic resilience, particularly in response to increasingly competitive market dynamics and shifts in consumer behavior toward digital channels. Numerous studies indicate that MSMEs capable of adopting digital technologies effectively have greater opportunities to expand market reach, improve service quality, and achieve sustainable business performance. Furthermore, MSME digitalization functions not only as a marketing tool but also as a mechanism for enhancing business governance. The application of digital technologies enables MSMEs to record transactions more accurately, monitor business performance in real time, and improve financial transparency and accountability. Empirical evidence from Indonesia demonstrates that digitalization has a positive impact on MSME performance, including increased sales, improved cost efficiency, and enhanced competitiveness. Accordingly, MSME digitalization serves as a critical foundation for strengthening the capacity of micro and small enterprises, including service-based sectors such as laundry businesses, enabling them to adapt to the evolving digital economy and contribute more effectively to sustainable economic development.

### Digital Marketing Theory

Digital marketing refers to a marketing strategy that leverages digital technologies and the internet to promote products or services in a more effective and measurable manner. According to Chaffey et al. (2022) Digital marketing encompasses marketing activities conducted through social media platforms, search engines, email, websites, and mobile applications, offering key advantages such as broader market reach, greater cost efficiency, and the ability to analyze consumer behavior in real time. In the context of MSMEs, digital marketing plays a strategic role as it enables small businesses to reach new customers and build customer loyalty at relatively low costs. For instance, a study on the implementation of information technology among MSMEs in Pekanbaru, Riau, demonstrates that the adoption of IT (including digital marketing) has a significant positive relationship with marketing efficiency. (Juliandra et al., 2024). Digital channels such as Instagram, Facebook, and WhatsApp Business are commonly utilized by MSMEs due to their ease of use and large user bases. Consequently, for laundry MSMEs that require effective promotional strategies both to strengthen customer loyalty and to expand local and regional market reach, digital marketing is particularly relevant. Key tools in digital marketing include Search Engine

Optimization (SEO), social media marketing, content marketing, Google Business Profile, and online advertising. Empirical studies indicate that the utilization of social media and content marketing enhances local customer engagement through location-based searches, customer reviews, and service bookings, particularly within the service sector. (Sifwah et al., 2024). Nevertheless, despite the wide availability of digital opportunities, many MSMEs, including laundry businesses in metropolitan buffer cities, have yet to fully optimize their digital marketing strategies. This condition poses a competitiveness challenge that needs to be addressed through targeted assistance and the systematic implementation of digitalization initiatives.

### **Digital Financial Literacy Theory**

Digital financial literacy refers to an individual's ability to understand, use, and effectively leverage digital technology-based financial services to support transaction activities, financial record-keeping, and business decision-making. According to Vasavi (2025), Digital financial literacy comprises three main components: (1) basic financial knowledge, (2) the ability to use digital devices and platforms, and (3) awareness of digital risks, including data security and consumer protection. In the context of MSMEs, digital financial literacy plays a crucial role as it enables business owners to manage cash flows more effectively, interpret financial statements, and enhance access to formal financing services. The Indonesian National Survey of Financial Literacy and Inclusion (SNLIK) conducted by the Financial Services Authority (OJK) in 2022 reported that the national financial literacy rate stood at 49.68%, highlighting substantial room for improvement, particularly as digital literacy has become an increasingly critical competency given that most financial transactions are now conducted through digital platforms (<https://www.ojk.go.id>).

The use of cloud-based financial recording applications, such as Accurate Online, Jurnal.id, and BukuWarung, has been shown to assist MSMEs in improving the efficiency of bookkeeping processes, producing more accurate financial reports, and facilitating transaction reconciliation. (Monica et al., 2025). Empirical evidence provided by Aryanto et al. (2023) indicates that the adoption of digital accounting applications significantly enhances the effectiveness of MSME financial management and improves the quality of financial reporting. Furthermore, the effectiveness and efficiency of cloud-based accounting applications have also been found to significantly improve the quality of MSME financial statements. (Ade et al., 2025). Accordingly, digital financial literacy and the utilization of cloud-based accounting software constitute essential elements in strengthening MSME competitiveness, including laundry MSMEs in Bekasi City.

### **Green Economy Concept**

The green economy concept refers to a model of economic development that aims to improve human well-being and social equity while significantly reducing environmental risks and ecological scarcities. The United Nations Environment Programme (UNEP) defines a green economy as an economic system that is low-carbon, resource-efficient, and socially inclusive, in which economic growth is achieved without environmental degradation and while maintaining social justice (UNEP, 2011). In the context of Micro, Small, and Medium Enterprises (MSMEs), the implementation of green economy principles can be realized through improvements in energy and water efficiency, waste reduction, the use of environmentally friendly materials, and shifts in production patterns toward more sustainable practices. Within the laundry sector, green economy issues are particularly relevant because laundry operations typically involve high water consumption and the use of detergents and chemical agents that may cause environmental pollution if not properly managed. Laundry wastewater is known to contain pollutants such as surfactants and phosphates, which can increase organic pollution loads in aquatic environments and trigger eutrophication. Studies on the characteristics of laundry wastewater in Indonesia indicate that phosphate and surfactant concentrations often exceed environmental quality standards, thereby posing risks to surface water quality and aquatic ecosystems. (Siahaan & Sudarmadji, 2016).

Accordingly, the adoption of environmentally friendly laundry practices such as the use of natural or eco-friendly detergents, the utilization of water- and energy-efficient washing machines, and the proper treatment of wastewater before discharge represents a practical application of green economy principles. Beyond contributing to environmental protection, these practices have the potential to enhance operational efficiency, strengthen business reputation, and improve the long-term competitiveness and sustainability of laundry MSMEs (Porter & Kramer, 2011).

#### **Eco-Friendly Detergents and Soapnut (*Sapindus rarak*)**

Eco-friendly detergents are cleaning agents that do not contain harmful chemical substances such as phosphates, synthetic surfactants, or artificial fragrances, which are known to contribute to water pollution and environmental degradation (Chae et al., 2025). One natural alternative that has received considerable research attention is soapnut (*Sapindus rarak*), a plant-based resource containing naturally occurring saponins that function as cleaning agents. (Handayani et al., 2024).. According to Sari et al. (2023). The saponins present in soapnut act as natural surfactants capable of removing dirt from fabrics, producing mild foam, and remaining safe for both human skin and the environment. Soapnut offers several advantages, including high biodegradability, the absence of chemical residues, suitability for sensitive skin, preservation of fabric texture, and a reduction in wastewater pollution. As a more environmentally sustainable cleaning alternative, soapnut (*Sapindus rarak*) has attracted increasing attention due to its high saponin content, which enables the generation of cleansing foam without the use of synthetic chemicals. (Aryanti et al., 2021). Several studies demonstrate that soapnut extracts are effective in removing stains and are safer for the skin than conventional detergents. For instance, research on the formulation of eco-friendly detergents using ethanol extracts of soapnut seeds found that soapnut-based detergent formulations meet Indonesian National Standard (SNI) physical requirements and exhibit good foam stability. Putri et al. (2023). In addition, community education initiatives have shown that the use of soapnut as a detergent alternative can reduce environmental pollution associated with chemical detergents.

Given these attributes, the utilization of soapnut is highly relevant for laundry MSMEs seeking to implement green economy practices by reducing the use of hazardous chemicals, promoting environmental sustainability, and simultaneously strengthening business competitiveness. In particular, soapnut-based detergents support the development of “eco-laundry” services, which are increasingly valued by environmentally conscious consumers and represent a growing source of competitive advantage in the modern service industry. (Muliasari et al., 2025).

#### **Laundry MSMEs in Indonesia**

Laundry MSMEs are categorized as service-based enterprises whose growth has increased significantly over the past decade. This trend has been driven by rising levels of urban activity, an increasing number of workers, university students, and young families who require fast and practical laundry services. (Purie et al., 2023).. According to data from the Indonesian Laundry Association, the market value of the laundry industry in Indonesia reached approximately IDR 10 trillion in 2023, with an annual growth rate of around 15% (<https://www.softwareseni.co.id>). Despite this growth, laundry MSMEs face several common challenges, including limited production capacity, intense price competition, insufficient marketing strategies, poorly organized financial record-keeping, high reliance on chemical-based detergents, and limited production facilities. (Pratama & Noprisson, 2024). In Bekasi City, the expansion of laundry MSMEs has been strongly influenced by the presence of densely populated residential areas such as Medan Satria District and North Bekasi. Many laundry MSMEs in these areas are home-based enterprises and require targeted assistance, particularly in the areas of digitalization and business sustainability.

At the national level, laundry MSMEs form part of the personal and household services subsector, which continues to expand alongside urbanization and changing lifestyles. Independent statistical sources report similar trends, indicating that Indonesia's urbanization rate exceeded 58% in 2023

(<https://goodstats.id>), which has directly contributed to increased demand for convenience-oriented services, including laundry services. This condition positions laundry MSMEs as a highly adaptive service sector that responds effectively to ongoing social and demographic dynamics in urban areas. On the other hand, digital transformation has emerged as a critical factor in enhancing the competitiveness of laundry MSMEs in Indonesia. The Ministry of Cooperatives and MSMEs emphasizes that most service-based MSMEs, including laundry businesses, still face significant constraints in adopting digital technologies across marketing, financial record-keeping, and operational management. Government-led MSME digitalization programs are therefore designed to encourage the use of social media, service-based marketplaces, and simple financial recording applications to improve business efficiency and sustainability. Furthermore, increasing consumer awareness of environmental issues has accelerated the emergence of the eco-laundry concept, which emphasizes the reduction of hazardous chemicals, efficient use of water and energy, and the adoption of sustainable business practices as a source of competitive value for laundry MSMEs.

## METHODS

### Method of PKM Implementation

The implementation of this Community Service Program (Pengabdian kepada Masyarakat/PKM) adopted a participatory and collaborative approach, positioning laundry MSME operators as the primary subjects of the program rather than merely passive beneficiaries. This approach involved lecturers acting as facilitators and resource persons, students serving as field assistants, and laundry MSME operators participating as active partners throughout all stages of the program. The implementation method was designed to encourage direct participant engagement in problem identification, knowledge delivery, hands-on practice, and evaluation processes, thereby ensuring that the knowledge and skills acquired could be practically applied in daily business operations. Operationally, the PKM activities were conducted through several systematic stages: (1) a preparation stage, which included coordination with laundry MSME partners, needs assessment, and the development of training materials; (2) an implementation stage, consisting of educational sessions, interactive discussions, and hands-on practice tailored to the specific needs of the partners; (3) a mentoring stage, aimed at assisting participants in applying the acquired knowledge and skills within their respective businesses; and (4) an evaluation stage, conducted to assess participants' levels of understanding, behavioral changes, and the overall benefits of the program for the partner MSMEs. This methodological framework is expected to ensure that the PKM activities are not only educational in nature but also generate sustainable impacts on enhancing the capacity and performance of laundry MSMEs.



**Figure 1. Group Photo**  
Source: Primary Documentation



**Figure 2. Handover of the Washing Machine and Application**

Source: Primary Documentation

## RESULTS AND DISCUSSION

The results of the activities based on the implementation method are as follows.

### 1. Problem Identification Stage (Upstream)

The methods used were field observation, interviews with laundry business operators (MSMEs), and limited group discussions. At this stage, it was successfully identified that the main problems of laundry services in Bekasi City from the upstream side are as follows.

- Limited managerial capacity of business operators, especially in business planning, financial management, and cost-based pricing.
- Dependence on inefficient production inputs, such as excessive use of detergent, high water and electricity consumption, and household washing machines that are not suitable for business scale.
- Low environmental awareness, as shown by the disposal of liquid waste without treatment and the absence of environmentally friendly operational standards.

These upstream issues have the potential to reduce production efficiency, increase operational costs, and cause environmental impacts in the densely populated residential areas of Bekasi.

### 2. Capacity Building Stage (Production Process)

The methods used are training, technical assistance, and demonstration of good practices. At this stage, the activities produce several important achievements, as follows:

- Improved understanding among laundry operators related to standard operating procedures (SOP), the efficient use of detergent and water, and machine maintenance to extend asset lifespan.
- Improvements in the production process, such as more measurable washing times, reduced raw material wastage, and more consistent laundry quality.
- Gradual adoption of environmentally friendly practices, such as reducing detergent doses, sorting laundry, and raising awareness of the importance of laundry waste management.

This stage of the process shows that an educational approach and direct mentoring are effective in improving the operational efficiency of laundry MSMEs in Bekasi.

### 3. Management Strengthening and Downstreaming Stage

The methods used include business management training, simple digitalization, and marketing assistance. The results obtained from these activities are as follows:

- a. Improvement in business governance, demonstrated by the implementation of simple financial recording, separation between business and personal finances, and more rational service pricing.
- b. Strengthening of the downstream aspect (services and market), demonstrated by increased awareness of the importance of service quality, implementation of pick-up and delivery services, and utilization of social media and local digital platforms.
- c. Increased competitiveness, especially seen from higher customer trust, better customer retention, and a more professional business image.

Downstreaming through management and marketing strengthening can address the challenges.

#### 4. Monitoring and Evaluation Stage

The methods used are participatory evaluation and joint reflection with partners. The results obtained include a gradual increase in partner capacity, particularly in managerial and operational aspects, with partners showing changes in business behavior, transitioning from merely surviving to starting to focus on sustainability. The main remaining challenges are limited capital for machine investments, consistency in implementing SOPs, and access to still basic technology. Comprehensively, the results of the activity show that the problem of laundry services in Bekasi City is systemic and interrelated from upstream to downstream. The multi-level implementation method, ranging from problem identification to capacity building to strengthening downstreaming, has been proven to reduce production inefficiencies, improve service quality, strengthen the competitiveness of laundry MSMEs, and encourage more sustainable business practices. Thus, the implementation method applied not only solves technical problems but also builds the foundation for the transformation of the laundry business as part of the urban service economy in Bekasi City.

The results of the Community Service Program (Pengabdian Kepada Masyarakat/PKM) indicate a noticeable improvement in the understanding and skills of laundry MSME operators with regard to business digitalization. Following a series of extension activities and hands-on practices, participants began to recognize the importance of leveraging digital media to support business promotion and visibility. This was reflected in the increased interest among participants in utilizing business-oriented social media and location-based platforms as marketing tools. Discussions conducted during the program also revealed that most participants had previously been unaware of the potential of digital marketing to reach customers within their immediate surroundings. Consequently, the PKM activities played a significant role in broadening participants' perspectives on more effective and efficient marketing strategies. Beyond digitalization, the PKM activities also had a positive impact on participants' understanding of financial record-keeping and business financial management. Participants demonstrated increased awareness of the importance of maintaining regular and structured transaction records as a foundation for informed business decision-making. Through the mentoring sessions, MSME operators began to understand the benefits of separating personal and business finances, as well as the role of simple financial statements in controlling operational costs and determining service prices more accurately. These findings suggest that the hands-on approach applied in the PKM activities was effective in enhancing the financial literacy of micro-scale business operators.

From an environmental perspective, the PKM activities contributed to raising awareness among laundry MSME operators regarding environmentally friendly business practices. Participants gained insights into the environmental impacts of chemical-based detergents and the potential application of eco-laundry concepts through the use of more environmentally friendly cleaning agents. The discussions and educational sessions encouraged participants to consider adopting more sustainable business behaviors in line with green economy principles. Overall, the results demonstrate that integrating digitalization education, financial management training, and environmental awareness within a single PKM framework can generate a comprehensive impact on strengthening the capacity of laundry MSMEs in the Bekasi area.

### Analysis of the Impact of Digitalization on Laundry MSMEs

The results of the PKM activities show that the implementation of digital marketing had a positive impact on the readiness of laundry MSMEs to utilize digital technologies. Although most participants possessed basic digital literacy, such as the personal use of social media, these skills had not been fully leveraged for business purposes. Through the education and training provided, participants began to understand the functions of social media, simple websites, and Google Business Profile as promotional tools that can increase business visibility, particularly at the local level. This understanding represents an important initial step toward encouraging the transformation of laundry MSME marketing practices from conventional approaches to more structured digital strategies. Furthermore, the impact analysis indicates that the use of digital platforms has the potential to expand market reach and increase customer interaction. Participants recognized that maintaining a digital presence enables customers to easily access information regarding business location, services, and pricing, thereby enhancing trust and transaction opportunities. However, the evaluation results also suggest that successful marketing digitalization requires continuous assistance, particularly in content management, consistency in information updates, and the development of digital communication strategies tailored to the characteristics of local customers. Thus, digitalization should not be viewed merely as the adoption of technology, but rather as an integral component of a long-term business development strategy oriented toward sustainability and competitiveness among laundry MSMEs.

### Potential Adoption of Sabun Lerak as an Eco-Friendly Alternative

The PKM results indicate that the introduction of soapnut as an environmentally friendly cleaning alternative demonstrates a relatively high adoption potential among laundry MSME operators. Through educational sessions and practical demonstrations, participants gained an understanding of the characteristics of Sabun Lerak, including its saponin content as a natural surfactant, methods of use, and its environmental benefits in reducing pollution impacts. Participant responses reflected a strong interest in experimenting with soapnut as part of daily business operations, particularly because it is perceived as being more environmentally safe and posing a lower risk of skin irritation compared to conventional chemical detergents. Further analysis of discussions and program evaluations suggests that the successful adoption of soapnut is influenced not only by environmental considerations but also by technical and economic factors. Laundry MSME operators take into account cleaning effectiveness, ease of application, and material availability as key determinants in adoption decisions. Nevertheless, the PKM outcomes demonstrate that, with appropriate guidance and mentoring, soapnut can be gradually integrated into laundry operations, particularly for customer segments that exhibit higher environmental awareness. Accordingly, the utilization of Sabun Lerak can form part of an eco-laundry strategy that supports green economy principles while simultaneously enhancing the value proposition and competitiveness of laundry MSMEs.



**Figure 3. Sabun Lerak**  
Source: Primary Documentation

## CONCLUSION

The laundry problem in Bekasi is not only technical (machinery, water, electricity), but also management, marketing, and customer service. Addressing this problem from upstream to downstream with integrated strategies such as the use of technology, strong SOP standards, and digital marketing will not only solve operational problems but also strengthen the competitiveness and profitability of laundry businesses in urban cities like Bekasi. Community service activities conducted for laundry business operators in Bekasi City have successfully achieved the main goal, which is to comprehensively enhance the capacity of partner businesses from upstream to downstream. Through systematic methodological stages—including problem identification, operational and managerial capacity building, strengthening of services and marketing, to monitoring and evaluation—partners have shown improvements in understanding and skills in managing laundry businesses. The main achievements of the activities include improved production process efficiency, implementation of better operational standards, more organized financial management, and enhanced service quality for customers. The implications of these activities indicate that an integrated mentoring approach can address the structural issues faced by laundry SMEs in urban areas like Bekasi City, which generally face challenges such as high operational costs, stiff business competition, and managerial limitations. Enhancing partner capacity not only impacts short-term business performance but also encourages a shift in entrepreneurs' mindset towards sustainability, professionalism, and competitiveness. Additionally, this activity contributes to strengthening the local economy and providing higher-quality services for urban communities.

As a recommendation, the continuity of mentoring programs is needed, particularly in aspects such as business digitalization, environmental management (laundry wastewater), and access to capital to support investment in more efficient equipment. Moving forward, collaboration between universities, local governments, and business actors needs to be strengthened so that this laundry service SME empowerment model can be replicated and developed on a larger scale, both in Bekasi City and other urban areas.

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