

# AI-Based Market Intelligence as a Strategic Tool for Local MSME Development in West Java

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## Abstract.

*Local Micro, Small, and Medium Enterprises (MSMEs) in Purwakarta, particularly ceramic craftsmen in Plered District, have strong potential to contribute to regional economic growth and enter broader export markets. However, they still face several major problems, including inconsistent product quality, limited design innovation, weak packaging standards, insufficient branding, limited digital marketing capacity, and low readiness to meet export market requirements. The gap identified in this activity is the limited integration between traditional ceramic production practices and modern market-oriented strategies, especially in quality control, product differentiation, digital promotion, and export preparation. Current developments show that MSME competitiveness is increasingly influenced by product innovation, digital marketing, branding, packaging quality, and export readiness. Therefore, this community service activity applied a participatory mentoring approach through field observation, discussion, consultation, and practical recommendations for ceramic craftsmen in Plered. The proposed solution focused on strengthening product quality, improving design and packaging, developing brand identity, optimizing digital marketing, and preparing MSMEs for export-oriented market access. The results indicate that the mentoring activity increased the awareness of ceramic craftsmen regarding product competitiveness, market standards, and the importance of continuous innovation. In conclusion, ceramic MSMEs in Plered have strong potential to improve their competitiveness in the export market when supported by consistent mentoring, quality standardization, strategic branding, digital promotion, and collaboration between higher education institutions, local industry, and community stakeholders.*

**Keywords:** MSMEs, ceramic craftsmen, Plered, product quality, export competitiveness, digital marketing and community service.

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## 1. INTRODUCTION

Local Micro, Small, and Medium Enterprises (MSMEs) in Purwakarta, particularly ceramic craftsmen in Plered District, have strong potential to contribute to regional economic growth and enter broader export markets. MSMEs are important economic actors because they support employment, strengthen local entrepreneurship, and preserve community-based creative industries [1], [2]. In Purwakarta, the ceramic craft industry in Plered has long been recognized as one of the local creative industries with artistic, cultural, and economic value.

However, despite this potential, ceramic MSMEs still face several major problems, including inconsistent product quality, limited design innovation, weak packaging standards, insufficient branding, limited digital marketing capacity, and low readiness to meet export market requirements. These challenges are commonly experienced by MSMEs that seek to expand beyond local markets, especially when they are required to meet product quality standards, buyer expectations, and international market demands [3], [4].

The main gap identified in this activity is the limited integration between traditional ceramic production practices and modern market-oriented strategies, particularly in quality control, product differentiation, digital promotion, branding, and export preparation. Ceramic craftsmen have strong production experience and local craftsmanship, but they still require structured mentoring to improve competitiveness in broader markets. Previous studies show that SME internationalization and export performance are closely related to innovation capability, export readiness, quality management, digitalization, and institutional support [4], [5], [6].

Current developments show that MSME competitiveness is increasingly influenced by product innovation, digital marketing, branding, packaging quality, and export readiness. In the global market context, MSMEs are required not only to produce goods, but also to ensure consistent quality, attractive design, safe packaging, clear product identity, and effective market communication [7], [8]. Digital marketing and branding are increasingly important because they allow MSMEs to reach wider consumers, communicate product value, and strengthen market positioning [9], [10].

Therefore, this community service activity was conducted as a form of assistance and empowerment for local MSMEs in Purwakarta, especially ceramic craftsmen in Plered District. This activity aimed to strengthen product quality, improve design and packaging, develop brand identity, optimize digital marketing, and prepare MSMEs for export-oriented market access. Through collaboration between higher education institutions, local industry actors, and the community, the activity was expected to support sustainable MSME development and improve the competitiveness of local ceramic products.

## II. METHODS

This community service activity applied a participatory mentoring approach through field observation, discussion, consultation, and practical recommendations. The participatory approach was used because MSME empowerment requires direct involvement of business actors, observation of real production conditions, and practical problem-solving based on the actual needs of the partner [1], [9]. The activity was conducted at a ceramic craft production site in Plered District, Purwakarta Regency, West Java. The participants involved ceramic craftsmen, MSME actors, lecturers, and the activity team from Jatiluhur Polytechnic.

The implementation method consisted of several stages. First, field observation was conducted to observe the ceramic production process directly, including raw material preparation, shaping, drying, firing, coloring, finishing, and product display. This stage was important to identify the strengths and challenges faced by ceramic craftsmen in maintaining product quality and production consistency. Quality control and production consistency are important aspects for MSMEs that aim to improve competitiveness and export performance [11], [12].

Second, discussions were held with ceramic craftsmen and business management to understand the production workflow, product development process, market conditions, customer demand, and obstacles in reaching wider markets. Through this discussion, the activity team identified several key issues related to quality control, design adaptation, packaging limitations, branding, and export readiness. Business mentoring, digital capability, and quality management capacity are important factors in strengthening MSME export performance [11], [13].

Third, mentoring and consultation were provided by lecturers from Jatiluhur Polytechnic. The mentoring focused on product quality improvement, design innovation, packaging, branding, digital marketing, and export-oriented product development. The activity also emphasized the importance of product catalogues, professional product photos, product specifications, and buyer communication. Digital marketing training and branding development are considered relevant strategies for improving MSME competitiveness in digital business environments [10], [14], [15].

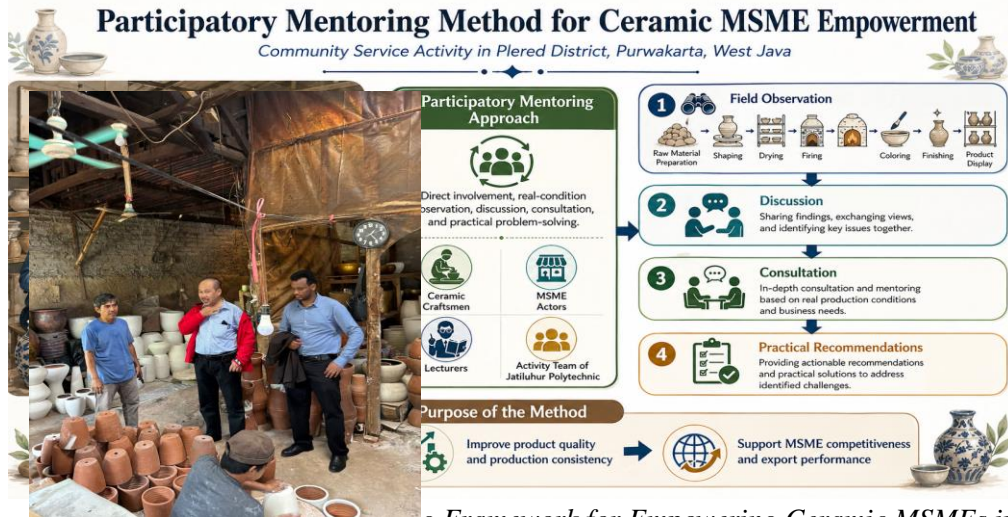


Fig 1. Participatory mentoring Framework for Empowering Ceramic MSMEs in Plered, Purwakarta."

Fourth, evaluation and recommendations were formulated based on the findings from observation and discussion. The recommendations were designed to be practical, realistic, and suitable for the current capacity of the ceramic MSME partner. This stage was important to ensure that the mentoring activity did not stop at theoretical explanation, but also produced applicable improvement strategies for the partner.

### III. RESULT AND DISCUSSION

The mentoring activity produced several important results. First, ceramic craftsmen gained broader insight into the importance of product quality improvement and production consistency. Product quality is an essential factor in building customer trust and increasing competitiveness, especially when products are intended for broader domestic and export markets. Quality management capacity also contributes to MSME export readiness and performance [11], [12].

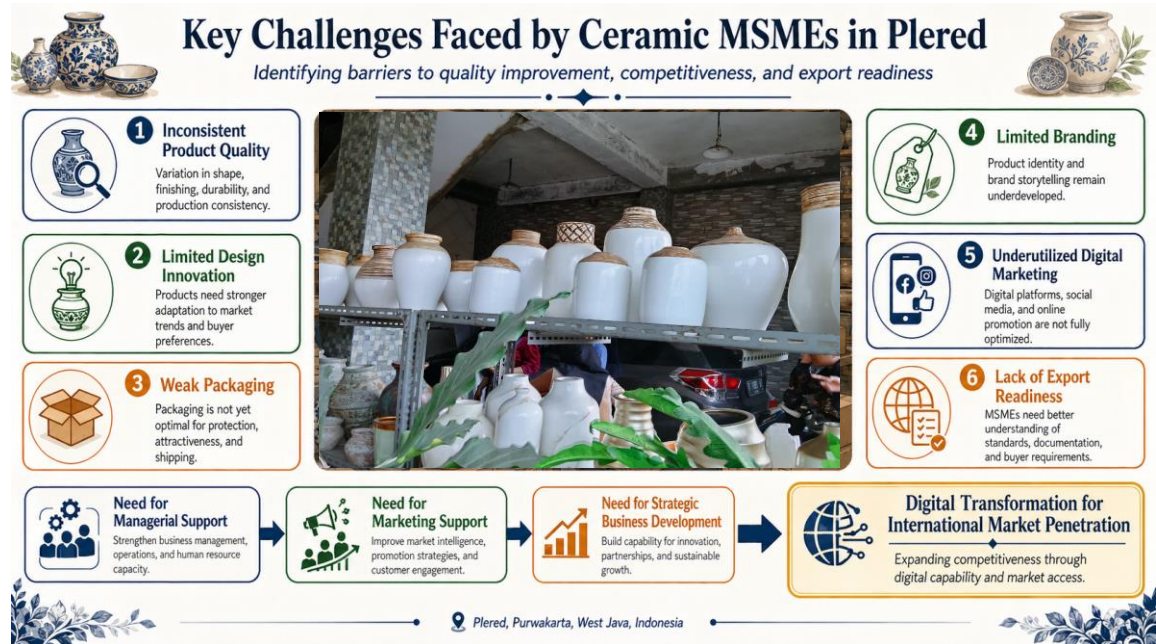
Second, the activity helped identify several challenges faced by ceramic MSMEs in Plered. These challenges included inconsistent product quality, limited design innovation, weak packaging, limited branding, underutilized digital marketing, and lack of export readiness. These challenges indicate that ceramic MSMEs need more than technical production skills; they also need managerial, marketing, and strategic business development support. Digital transformation is also important because many Indonesian MSMEs have not fully utilized digital technology to strengthen international market penetration [12], [15], [17].

#### Impact of Mentoring on Ceramic MSME Quality and Competitiveness



Fig 2. Impact of Mentoring on Ceramic MSME Quality and Competitiveness

Third, the craftsmen received practical input regarding product design development and the need to adjust products to target market preferences. Ceramic products for export markets need to consider not only artistic value, but also functionality, durability, market trends, packaging safety, and buyer expectations. Product innovation is therefore necessary to strengthen differentiation and market appeal. Previous studies show that product innovation can support export intensity, particularly when supported by government support, favorable business environment, and quality certification [20].



**Fig 3.** Key Challenges Faced by Ceramic MSMEs in Plered

Fourth, the activity increased awareness that packaging and product presentation are important factors in entering wider markets. Packaging should not only protect ceramic products from damage during distribution, but also enhance product attractiveness and brand image. Stronger and more visually appealing packaging can support consumer confidence and improve product competitiveness. Packaging quality and design have been shown to influence purchase intention and consumer perception [7], [8], [19].

Fifth, the discussion encouraged MSME actors to improve branding and use digital platforms more strategically. Branding should highlight the uniqueness of Plered ceramics as local creative products with cultural and artistic value. Digital marketing through social media, marketplaces, product catalogues, and promotional content can help MSMEs reach wider audiences and potential buyers. Digital marketing is increasingly important for MSMEs because it supports market expansion, customer engagement, and competitiveness in electronic transaction ecosystems [2], [5], [14].

The activity also showed that the export competitiveness of ceramic MSMEs cannot rely only on production capability. It must be supported by consistent quality control, market-oriented design, proper packaging, professional branding, digital promotion, and continuous mentoring. In the context of SME internationalization, export performance is influenced by readiness, innovation capability, digitalization, and access to market information [4], [6], [11], [18]. Therefore, the role of higher education institutions is important in providing applied knowledge, technical guidance, and strategic assistance to local MSMEs.

Several recommendations were proposed from the activity. Ceramic MSMEs should develop a simple quality control checklist for every production stage. Product designs should be developed based on market trends while maintaining the cultural identity of Plered ceramics. Packaging should be improved using stronger, safer, and more attractive materials. MSMEs should also prepare professional product catalogues

containing product photos, specifications, prices, minimum order quantity, and contact information. In addition, digital marketing should be strengthened through social media, marketplace platforms, short promotional videos, and consistent product photography. These recommendations are aligned with current studies emphasizing digital branding, product identity, innovation, and digital transformation as key drivers of MSME competitiveness [9], [16], [17].

#### IV. CONCLUSION

The community service activity entitled “Assisting and Empowering Local MSMEs in Purwakarta to Enhance Product Quality and Competitiveness in the Export Market” was successfully conducted at a ceramic craft business in Plered District, Purwakarta, West Java. This activity provided valuable insights and practical recommendations for ceramic MSMEs in improving product quality, strengthening design innovation, developing branding, improving packaging, and preparing for export market opportunities.

The results indicate that the mentoring activity increased the awareness of ceramic craftsmen regarding product competitiveness, market standards, and the importance of continuous innovation. Ceramic MSMEs in Plered have strong potential to improve their competitiveness in the export market when supported by consistent mentoring, quality standardization, strategic branding, digital promotion, and collaboration between higher education institutions, local industry, and community stakeholders.

However, this activity should not stop at one-time mentoring. Continuous assistance is necessary so that the recommendations can be implemented gradually and measured effectively. Further mentoring should focus on export documentation, buyer communication, product standardization, packaging development, digital marketing, and international market access. Without sustained follow-up, the recommendations may remain conceptual and may not produce measurable improvement in MSME competitiveness.

#### V. ACKNOWLEDGMENTS

The authors would like to express their gratitude to Jatiluhur Polytechnic for supporting this community service activity. Appreciation is also extended to the ceramic craftsmen and MSME actors in Plered District, Purwakarta, West Java, for their participation, openness, and cooperation during the mentoring activity.

The authors also acknowledge all parties involved in the implementation of this activity, including lecturers, activity team members, local partners, and community stakeholders who contributed to the success of the program. Hopefully, this activity can provide meaningful benefits for local MSMEs and serve as a useful reference for future community service programs.

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