



A Marketing Communication–Based Design of Occupational Health and Safety Campaigns in Traditional Blacksmith Communities in Mekarmaju Tourism Village

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ABSTRACT

Traditional blacksmiths in the Mekarmaju Tourism Village face persistent challenges related to low awareness and limited implementation of Occupational Safety and Health (OHS) practices. Production activities are largely conducted in traditional workspaces with minimal ventilation, inadequate fire safety measures, and unstructured workflows, while occupational risks are generally considered normal and manageable through personal precautions. Previous safety interventions have shown limited effectiveness due to cultural norms, low safety literacy, and discomfort with personal protective equipment. To address these challenges, this community engagement project used a marketing communications-based approach to design an OHS campaign framework rather than directly implementing technical interventions. The methodology consisted of field observations and needs assessments, campaign strategy development, and mentoring and conceptual evaluation involving key stakeholders, including blacksmith business owners, workers, village officials, and the Tourism Awareness Group (Pokdarwis). The resulting campaign design emphasized a family-centered narrative, positioning the craftsmen as primary breadwinners whose safety directly impacts family well-being, and used word-of-mouth communication, WhatsApp status content, and visual posters as primary channels. This study concludes that a culturally grounded and communication-driven campaign design offers a viable and contextually appropriate platform for raising OHS (Occupational Safety and Health) awareness in traditional craft communities and provides structured guidance for future implementation and impact evaluation.

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A. INTRODUCTION

Mekarmaju Village, located in Pasirjambu District, Bandung Regency, is a rural area with a long-standing heritage of traditional blacksmithing and Maranggi woodcarving, which has been preserved across generations. The village was officially designated as a Mandala Tourism Village in 1982 and, until the late 1990s, functioned as an important production center



for agricultural tools and household metalware (Tantra et al., 2025). However, the decline of tourism activities in subsequent years has led local communities to increasingly rely on blacksmiths as their primary source of livelihood (Tantra et al., 2025).

From a demographic perspective, Mekarmaju Village is inhabited by 8,864 residents across 2,873 households, with a human resource structure characterized by low formal educational attainment. The Village Data Dashboard indicates that 64.4% of the population have completed only elementary school, did not complete elementary education, or have never attended formal schooling. Meanwhile, 32.6% attained junior to senior secondary education, and only 2.95% pursued higher education. This educational profile limits access to formal employment and reinforces dependence on experience-based and hereditary skills as the main economic capital of the community

Blacksmithing is the primary livelihood for 243 active artisans in Mekarmaju Village and contributes significantly to the local economy, generating a monthly turnover of approximately IDR 9 billion (Tantra et al., 2025). Despite its economic significance, production processes remain largely traditional, with 85% of artisans relying on legacy methods without the integration of modern technology or standardized operational procedures (Tantra et al., 2025). This situation not only leads to production inefficiencies but also environmental and occupational health risks, including exposure to metal dust, excessive heat, poor air circulation, and inadequate waste management.

A critical challenge faced by blacksmith craftsmen in Mekarmaju Village is the low level of awareness and implementation of Occupational Safety, Health, and Hygiene (OSH/K3) practices. Field observations reveal limited use of personal protective equipment (PPE), unsafe working environments, and a general perception that occupational risks are an unavoidable aspect of blacksmithing. Such conditions have resulted in health issues ranging from eye and skin irritation to chronic respiratory diseases, while simultaneously threatening productivity and business sustainability.

Despite the recognized importance of Occupational Safety and Health (OSH) in improving worker protection, existing OSH-related efforts in traditional craft communities often fail to generate meaningful behavioral change. In Mekarmaju Village, previous safety initiatives were predominantly delivered through conventional, one-way approaches that emphasized technical instructions rather than contextual understanding. These approaches did not adequately consider the craftsmen's work culture, low formal education, and strong reliance on hereditary practices, resulting in limited acceptance and sustainability of OSH messages.

This condition reflects a service gap between the intended objectives of OSH promotion and the actual needs and characteristics of traditional blacksmith communities. While safety standards and training models are widely available, they are rarely translated into communication strategies that resonate with informal workers' daily realities. As a result, OSH is often perceived as inconvenient, costly, and detached from productivity and family welfare, rather than as a relevant and supportive component of work practices.

Addressing this gap requires a shift from purely technical interventions toward a context-sensitive communication approach. Rather than asking whether OSH standards exist, the more critical question is how OSH messages should be communicated to align with local values, social influence structures, and existing interaction patterns within the community.

Based on these issues, this community service activity is directed at the preparation and formulation of a contextual Occupational Safety and Health (K3) campaign design for



blacksmiths in Mekarmaju Village. This activity does not focus on the direct technical implementation of K3, but rather on developing a communication strategy framework that is able to address the social character, work culture, and interaction patterns of the local community. Through a marketing communication approach, the K3 campaign is designed to explain how occupational safety messages should be communicated in a structured, easy-to-understand, and relevant manner to the craftsmen's daily lives, so that it can serve as a basis for the implementation and evaluation of the K3 campaign in the next stage.

B. METHODS

This community service program adopts a marketing communications approach to design and formulate an Occupational Safety and Health (OHS) campaign framework, rather than implementing technical interventions directly in the field. This approach aims to address the low awareness and limited behavioral changes related to OHS practices among blacksmiths, as well as the relatively low level of education.

The campaign framework is developed through three primary communication channels. First, social media campaigns are designed to deliver visual, engaging, and easily accessible OSH messages, particularly targeting active craftsmen and younger community members. Second, poster-based communication is formulated as a physical medium to disseminate key OSH messages in workshops and public spaces within the village. Third, Word-of-Mouth (WoM) strategies are incorporated by identifying and engaging local opinion leaders, such as senior craftsmen and community figures, who are positioned as OSH ambassadors to organically spread safety messages within the community.

Methodologically, the program is divided into several stages. The preparatory stage involves field observation and needs assessment to identify key OSH issues and socio-cultural characteristics of the target community. The design stage focuses on developing the campaign strategy, communication messages, and media content aligned with local contexts. Finally, the conceptual mentoring and evaluation stage ensures that the proposed campaign framework is relevant, feasible, and adaptable for future implementation by local stakeholders.

C. RESULTS AND DISCUSSION

1.1. Field Observation and Needs Assessment

Field observations were conducted on July 24, 2025, in Mekarmaju Village, through visits to several blacksmith workshops, followed by a discussion session at the Pasirjambu

Sports Center. The assessment revealed that production activities were conducted in very traditional workshops, mostly constructed from bamboo, wood, and simple brick structures.



Figure 1. The working situation at a blacksmith's workshop

These workshops lacked proper ventilation, fire safety equipment, and an organized workflow layout, resulting in overlapping production activities and increased exposure to heat, smoke, and metal particles. From a behavioral perspective, the craftsmen perceived these conditions as normal, as blacksmithing practices have been passed down through generations. Occupational risks were perceived as manageable through personal precautions. The use of personal protective equipment (PPE) was minimal due to perceived inconvenience and high costs, leading to the absence of structured OHS practices in daily production routines.



Figure 2. Discussion sessions

These findings can be understood through the lens of risk normalization in informal work settings, where repeated exposure to hazardous conditions leads workers to perceive risks as routine and acceptable. In traditional craft industries, safety is often framed as individual responsibility rather than a collective or systemic concern. This perspective explains why OSH is perceived as unnecessary unless an accident occurs, reinforcing resistance toward formal safety practices.

Based on field observations and discussion sessions, the primary target group for the Occupational Health and Safety campaign consisted of blacksmith business owners, who played a central role in determining production practices and workplace conditions. These



owners hold decision-making authority regarding work processes, equipment use, and daily operational norms. Supporting groups included blacksmith workers, village officials, and members of the Tourism Awareness Group (Pokdarwis), all of whom influence the broader work and social environment of the craftsmen. Their involvement was deemed crucial to strengthening and sustaining safety messages within the community.

The assessment also revealed a strong structure of social influence within the village. Community members tend to listen to and trust respected senior figures, especially individuals perceived as charismatic and influential. These findings suggest that informal leadership and social legitimacy play a significant role in shaping attitudes and behaviors regarding work practices. The strong reliance on respected senior figures reflects the role of social norms and informal leadership in shaping workplace behavior. According to social influence theory, individuals are more likely to adopt new practices when messages are delivered by trusted and legitimate actors within their social network (Barrett, 2017) This explains why peer-based and leader-driven communication is more effective than formal instruction in community-based work environments.

1.2. The design stage

At second stage, the community service activity has entered the design phase, with a specific focus on developing an OHS campaign strategy based on field findings and stakeholder characteristics. The primary objective of the campaign is to build awareness and basic understanding of the importance of occupational safety and health (OHS). The campaign focuses on artisans as the primary breadwinners of their families, whose safety is directly linked to the well-being of their wives and children. This family-oriented framing has been identified as highly relevant across various stakeholder groups. The campaign's core message is formulated as: "Working, earning a living, and family well-being require protection". This message positions OHS as a shared responsibility for family sustainability, rather than a technical or regulatory obligation.

The effectiveness of a family-centered message aligns with value-based communication theory, which suggests that behavioral change is more likely when messages resonate with deeply held personal values (Gasteiger et al., 2023). By linking OSH to family responsibility and long-term welfare, safety communication shifts from technical compliance toward moral and emotional relevance.

The chosen communication channels prioritize familiarity and trust. Word-of-mouth (WoM) is positioned as the primary communication channel, utilizing respected and influential community figures to disseminate OHS messages through everyday informal interactions. The informal nature of WoM enables messages about OHS to be integrated into daily conversations, making them more relatable and memorable for workers. By leveraging respected community figures to share safety messages through everyday interactions, organizations can enhance the perceived value of the information communicated, leading to better acceptance and implementation of safety practices (Wibowo & Junaedi, 2019).

This approach is reinforced by WhatsApp status content, which allows for concise and repeated exposure of key messages, and posters or banners, which serve as visual markers in the workplace and public areas. Research has shown that social networking sites effectively promote electronic word-of-mouth (eWOM) and can significantly influence users' perceptions and behaviors regarding safety practices (Farzin & Fattahi, 2018). The interactive nature of these platforms encourages community engagement and facilitates ongoing communication about safety issues among peers (Matosas López, 2018).



The campaign design outcomes include: (1) a Word of Mouth (WoM) activation concept, in which senior figures and trusted business owners communicate Occupational Health and Safety (K3) messages with an emphasis on family protection; (2) a WhatsApp status content concept, designed as short visual text messages highlighting simple safety cues related to family well-being; and (3) a poster design featuring strong visual elements of artisans and their families, minimal text, and a clear message to strengthen awareness and recall.

1.3. The Conceptual Mentoring and Evaluation

In the final stage, the community service activity entered the mentoring and conceptual evaluation phase. This phase involved consultation and discussion sessions with Tourism Awareness Groups (Pokdarwis) to evaluate and refine the proposed OHS campaign design. The consultation results indicated that the campaign's family-centered messaging was deemed highly relevant and aligned with local values. Pokdarwis members emphasized that framing OHS in relation to family responsibilities strengthened message acceptance and emotional engagement among artisans. The emphasis on person-to-person communication supports the principle of interpersonal communication effectiveness, particularly in communities with low formal education levels (Xiang et al., 2023). Direct interaction allows message clarification, trust-building, and adaptive explanation, which are critical factors in early-stage behavioral engagement.

Feedback from Pokdarwis highlighted the importance of using simple, clear, and non-technical language in all communication materials to ensure accessibility for artisans with diverse educational backgrounds. Furthermore, Pokdarwis strongly recommended a face-to-face communication approach, particularly when engaging blacksmith business owners, as direct interpersonal interaction was seen as crucial for building trust and encouraging openness to OHS-related messages.

D. CONCLUSION

This community service activity demonstrated that occupational health and safety (OHS) challenges among traditional blacksmiths in Mekarmaju Village are deeply rooted in work culture, customs, and social norms, not simply technical deficiencies. Field assessments revealed that unsafe working conditions have been widely normalized, while OHS is perceived as uncomfortable, expensive, and incompatible with daily production routines.

In response to these conditions, the program successfully formulated an OHS campaign strategy using a marketing communications approach. The campaign framework emphasized a family-centered narrative, positioning the craftsmen as primary breadwinners whose safety directly impacts their families' well-being. This framework was validated through community consultations as culturally relevant and emotionally resonant.

The results also highlighted the importance of social influence and interpersonal communication in the village context. The identification of blacksmith business owners as the primary target group, supported by workers, village officials, and the Community Empowerment Group (Pokdarwis), underscored the strategic role of informal leadership. The prioritization of word-of-mouth (WoM), reinforced by WhatsApp status content and visual posters, reflects an adaptive strategy aligned with local communication habits.

Future community engagement initiatives are recommended to focus on the implementation and systematic evaluation of the proposed OSH campaign framework to



assess its effectiveness in influencing safety behavior, health outcomes, and long-term sustainability of traditional craft industries.

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F.AUTHOR CONTRIBUTIONS

All authors contributed to accordance with the sequential stages of the community service methodology. Activity preparation and field observation were conducted by Elvira Aziz (EA). Community engagement and discussion facilitation with local stakeholders were carried out by Abdurrahman Faris Indriya Himawan (AFIH). The design of the Occupational Safety and Health (OSH/K3) campaign strategy and framework, as well as article preparation and writing, were undertaken by Tarandhika Tantra (TT).

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