

AI-Based social media Creative Content Training to Improve MSMEs Competitiveness in The Digital Era

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ABSTRACT

Background: Digital transformation had made social media crucial for MSME marketing, but many MSMEs had failed to adopt AI effectively due to limited digital literacy and weak branding, creating an urgent need for integrated and participatory training.

Contribution: This study aimed to strengthen the creative and technical capabilities of MSMEs in utilizing AI for social media marketing, encourage intergenerational collaboration between youth and MSME owners, and propose a replicable community empowerment model based on Tri-N for sustainable digital inclusion.

Method: This study used the Participatory Action Research (PAR) method, which was integrated with the teachings of Tamansiswa-Niteni, Niroke, and Nambahi (Tri N). The activities were conducted in four cyclical stages: (1) Analysis of needs and potential; (2) Technical training; (3) Discussion of content results; and (4) Evaluation and reflection for continuous improvement.

Results: The results showed that digital literacy, creativity, and audience engagement had improved significantly. The project demonstrated that community-based digital training supported by relevant teaching approaches, youth-oriented content, and collaboration across generations helped small businesses grow and succeed in the online world.

Conclusion: The Tri N approach contributed to helping MSMEs shift from passive digital users to active content creators by observing, emulating, and adapting AI-based strategies, resulting in sustainable digital marketing rooted in local culture and offering a replicable model for inclusive digital empowerment.

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1. Introduction

In the current digital era, Micro, Small, and Medium Enterprises (MSMEs) face increasing pressure to remain competitive by adopting digital marketing strategies. However, many MSMEs, especially those in semi-urban and rural communities, struggle to integrate digital tools into their business practices. Among the most pressing issues is the limited capacity of MSME actors to produce creative and strategic content for social media platforms, particularly Instagram, which is heavily used by Generation Z and Millennials [1]–[6].

Instagram users from Generation Z and Millennials in Indonesia as shown in Table 1 below. Table 1, data from the Indonesian Internet Service Providers Association (APJII) in 2024, Generation Z most often uses Instagram social media, while Millennials use Facebook more. The lack of digital literacy, minimal exposure to artificial intelligence (AI)-based tools, and poor understanding of generational consumer behavior result in content that fails to engage or convert digital audiences [7]–[13]. In addition, MSMEs often lack structured support systems for upskilling in creative marketing techniques, which hinders their ability to adapt to visual and algorithmic demands of platforms like Instagram [13]–[19].

Table 1. Social Media Users

	Favorite social media in Indonesia	
	Generation Z (%)	Generation Milenial (%)
Instagram	51,90	22,14
Facebook	51,64	74,09
TikTok	46,84	31,72
YouTube	38,63	53,42
X	1,98	0,77
LinkedIn	0,08	0,03
Don't know	0,67	1,94
Other	1,22	1,70

To address these persistent challenges, multiple studies have proposed the use of AI-based tools and community-centered digital training programs as effective solutions. AI technologies can support MSMEs by automating content design, predicting consumer preferences, and optimizing social media posts through tools like automated captioning, image analysis, and trend forecasting [20]–[23]. Moreover, community-based digital literacy and marketing training initiatives, particularly when combined with youth engagement, have proven effective in increasing MSME resilience and adaptability in the digital landscape [24], [25]. Instagram, being one of the most youth-centric platforms, offers an excellent entry point for MSMEs to build brand identity, drive engagement, and convert audiences, especially when the content is visually engaging and aligned with youth culture [26]–[29].

Despite these proposed solutions, the current conditions on the ground reveal persistent capability gaps. Most MSMEs are still unfamiliar with AI-supported tools and do not yet understand how platform algorithms and generational behavior influence content success.

Study efforts often focus on either basic digital training or financial inclusion, with minimal emphasis on creative capacity-building using AI and strategic content alignment with Generation Z and Millennials [30]–[40]. There is also limited integration of these services with local youth networks, schools, or vocational centers, which could serve as effective bridges for digital transformation.

Informed by the Tri-N approach (*Niteni* – *Nirokke* – *Nambahi*) introduced by Ki Hadjar Dewantara, this program adopts a culturally grounded methodology: first, *Niteni* (observing) the challenges faced by MSMEs in adapting to digital platforms and understanding youth-driven content trends; then, *Nirokke* (imitating) effective practices from both global AI marketing strategies and successful local content creators; and finally, *Nambahi* (modifying and innovating) these insights through context-sensitive training tailored to the needs and capabilities of MSMEs in the community.

This approach ensures that knowledge is absorbed progressively, adjusted to local wisdom, and incrementally improved through community participation. Previous research confirms the relevance of each component: digital content training improves MSME visibility and income [1], [2], [41], [42]; AI helps optimize social media engagement [23], [43]–[47]; and Instagram is highly effective among Gen Z audiences when content is authentic and aesthetic [17], [48]–[52]. MSMEs, however, continue to lack access to programs that integrate these insights within a study framework. While some initiatives address digital transformation in general, there is a clear gap in programs that link AI-supported creative marketing with platform-specific training and intergenerational engagement [53], [54].

Additionally, no existing program has structured the learning using Tri-N pedagogy, which emphasizes adaptive, participatory, and culturally rooted knowledge transfer. Thus, the novelty of this study initiative lies in its integrated, AI-enhanced content creation training for MSMEs, delivered using the Tri-N educational approach and focused on Instagram as a marketing platform targeting Gen Z and Millennials. The training is facilitated in collaboration with youth (digital natives), enabling MSMEs to produce content that resonates with current trends and platform dynamics. This approach not only enhances MSME competitiveness but also creates a sustainable and collaborative digital ecosystem at the local level [55].

This gap highlights the urgent need for integrated, locally relevant training models that not only introduce AI tools but also build creative confidence among MSMEs. As digital platforms become increasingly driven by content and algorithmic engagement, empowering MSMEs to become active content creators is essential to ensure their relevance and resilience in the evolving digital economy. Thus, the novelty of this study initiative lies in its integrated, AI-enhanced content creation training for MSMEs, delivered using the Tri-N educational approach and focused on Instagram as a marketing platform targeting Gen Z and Millennials. The training is facilitated in collaboration with youth (digital natives), enabling MSMEs to produce content that resonates with current trends and platform dynamics. This approach not only enhances MSME competitiveness but also creates a sustainable and collaborative digital ecosystem at the local level.

This study is in line with: (1) UST LP2M slogan "Researching to serve, collaborate and share"; (2) RIRN - PRN 2020-2025 with the theme related to the Digital Economy; and (3) UST's theme of excellence "Empowering Independent Communities Based on Among E3CHO (Education, Economics, Environment, Cultures, Health, and Outcomes)". The contribution of this study was substantial. Therefore, this study aimed to: (1) build the creative and technical capacity of MSMEs to use AI tools in social media marketing; (2) encourage intergenerational collaboration, in which young participants acted as digital facilitators while MSME owners applied traditional entrepreneurial knowledge, leading to shared learning; and (3) offer a replicable model of community empowerment that was rooted in the national education philosophy (Tri N) and designed for sustainable digital inclusion. This initiative contributed not only to economic empowerment but also to cultural revitalization by enabling local actors to adapt and innovate confidently within a rapidly changing digital environment.

2. Method

This study initiative adopted a participatory action approach rooted in the Tri N philosophy (*Niteni, Nirokke, Nambahi*) introduced by Ki Hadjar Dewantara. This philosophy supported progressive, contextual learning by encouraging observation (*Niteni*), imitation of best practices (*Nirokke*), and innovation (*Nambahi*). The program was designed to enhance the digital marketing competencies of MSME actors through AI-assisted creative content training, with a focus on optimizing Instagram as a marketing platform for engaging Generation Z and Millennial consumers.

2.1. Participants and Research Setting

This study activity was carried out from March to May 2025 at SG Haircut with training subjects consisting of owners, managers, and capster. A capster was a professional who provided hair-cutting and grooming services in a barbershop or salon. In the context of MSMEs like SG Haircut, a capster not only performed haircutting and styling but also played an important role in customer service, maintained hygiene standards, and sometimes contributed to the business's digital promotion through client engagement and social media content. The term "capster" was commonly used in Indonesia to refer specifically to barbers or hairstylists working in modern barbershops.

This study activity was carried out using the Participatory Action Research (PAR) method, which was collaborative and cyclical, where MSME partners were not only beneficiaries but also played an active role in all stages of the activity. The target group for this program consisted of MSME owners and staff located in Daerah Istimewa Yogyakarta (DIY), with priority given to businesses with low digital engagement and limited prior experience in creative content marketing, as in Table 2. A needs assessment was conducted using structured interviews, short surveys, and field observations to identify specific gaps in digital literacy, platform familiarity, and content creation skills. Participants were then recruited in collaboration with local economic offices, trade associations, and youth organizations.

Table 2. Participants

No.	Pseudonym	Identity	Gender
1	OW	Owner	Male
2	MA	Managers	Female
3	MA	Managers	Female
4	MA	Managers	Male
5	CA	Capster	Male

2.2. Approach

The Tri N concept (*Niteni*, *Niroke*, *Nambahi*), which was introduced in Ki Hadjar Dewantara's educational philosophy, was used as an innovative approach to assist MSMEs in developing creative content based on social media. This method taught MSMEs to observe (*Niteni*), imitate with modification (*Niroke*), and add their own creativity (*Nambahi*) in creating digital content. By implementing this concept, MSMEs were able to increase engagement with the audience, expand their marketing reach, and strengthen their product branding effectively. In the *Niteni* stage, observations of digital content trends and branding strategies were conducted. The *Niroke* stage was implemented through imitation and simulation of content creation by replicating best practices. Furthermore, the *Nambahi* stage encouraged participants to modify and create original content innovations reflecting business characteristics. The conceptual framework and implementation of the integrated AI-based creative content training Tri N (*Niteni*, *Niroke*, *Nambahi*) for Instagram social media were presented in Table 3.

Table 3. Conceptual Framework and Operational Procedures for AI-Based Creative Content Creation with the Tri N approach

Tri N Concept	Definition	Implementation in AI-Based Creative Content Training
<i>Niteni</i>	Observation	Partners observe digital content trends and branding strategies.
<i>Nirokke</i>	Contemplation, Imitation, Simulation	Partners use AI assistance for initial content scenario ideation, then contemplate, imitate, and simulate content creation by copying best practices from other content creators.
<i>Nambahi</i>	Modification and Innovation in authentic content (business brand character)	Partners modify and create authentic creative content innovations of business character with their thinking skills without using AI.

The implementation method of this activity involved a practical and interactive approach, allowing participants to directly apply the knowledge they had gained during the training sessions. Individual or small-group mentoring was also conducted to ensure a more focused and effective learning experience. This activity was carried out in several stages, which were explained in Table 4.

Table 4. Training Topics

Session	Topics	Training Materials
1	Basic Understanding & Digital Content Strategy (<i>Niteni</i>)	<ul style="list-style-type: none"> • Basic digital branding and Instagram algorithms • Visual storytelling for Gen Z and Millennial audiences • Introduction to AI tools for content generation • Engagement analytics and caption optimization • Ethical use of digital technologies and customer interaction
2	Introduction and Simulation of AI Tools for Content (<i>Niroke</i>)	<ul style="list-style-type: none"> • Hands-on content creation (photo/video shooting, reel editing, caption writing) • Step-by-step use of AI tools for creative support • Collaborative sessions with local influencers as content advisors and tech assistants • Simulation exercises replicating real Instagram post campaigns
3	Independent Content Production & Development (<i>Nambahi</i>)	<ul style="list-style-type: none"> • Product photography techniques • Creating short videos (Instagram Stories & Reels) • Storytelling & copywriting (Captions) • Content creation practice • Adaptation to trends • Posting schedule & Digital Advertising Management
4	Evaluation and Action Plan	<ul style="list-style-type: none"> • Review & feedback: 1) Quantitative indicators: Instagram engagement rates (likes, shares, comments, reach), follower growth, frequency of posting; 2) Qualitative indicators: Participant self-efficacy (pre/post questionnaires), content creativity (peer review), and satisfaction levels; 3) Sustainability metrics: Continued use of AI tools, frequency of content updates after training, and participant-reported business outcomes • Discussion of challenges & solutions • Preparation of content plans • Reflection

This method was strengthened by the integration of Ki Hadjar Dewantara's educational philosophy, namely *Niteni*, *Niroke*, and *Nambahi* (Tri N), which served as a pedagogical framework in the training process.

2.3. Training Stages

The four main stages in this study activity are as follows: Needs and Potential Analysis (*Niteni* Stage): The initial stage is carried out through field observation, interviews, and Focus Group Discussions (FGD) with partner MSMEs. The purpose of this stage is to identify actual needs in digital marketing and explore the potential of existing resources, such as types of products/services, social media used, and existing technical capabilities. The results of this analysis are the basis for compiling contextual training materials that are in accordance with the real needs of partners.

Technical Training (*Niroke* Stage): This stage involves the direct transfer of knowledge and technical skills in the form of interactive training. The materials presented include the basic principles of digital content, techniques for taking photos and videos of products/services with a Digital Single Lens Reflex (DSLR) camera and simple devices (smartphones), writing interesting captions, and an introduction to social media algorithms and the use of Artificial Intelligence (AI). Participants are assisted directly to imitate best practices from successful content, as a form of *Niroke* or learning through imitation.

Content Results Discussion (*Nambahi* Stage): After participants create content based on the training, a collective discussion and feedback session is held. The content produced by participants is presented, analyzed for its strengths and weaknesses, and further developed. In this stage, participants are invited to Addition, which is to add innovative value to the content by considering product/service identity and market segmentation. Mentoring is dialogic and reflective, encouraging creativity and the courage to experiment.

Evaluation and Reflection: The final stage involves formative and summative evaluations to assess participants' understanding and the effectiveness of the content that has been published. Evaluation is carried out through pre-tests and post-tests, observations of social media interactions (engagement), and in-depth interviews. Joint reflection is carried out to discuss challenges and follow-up plans, including the sustainability of independent content management. This reflection strengthens the collaborative learning cycle and encourages partner MSMEs to become active players in their digital transformation process. The four stages are illustrated in Figure 1.

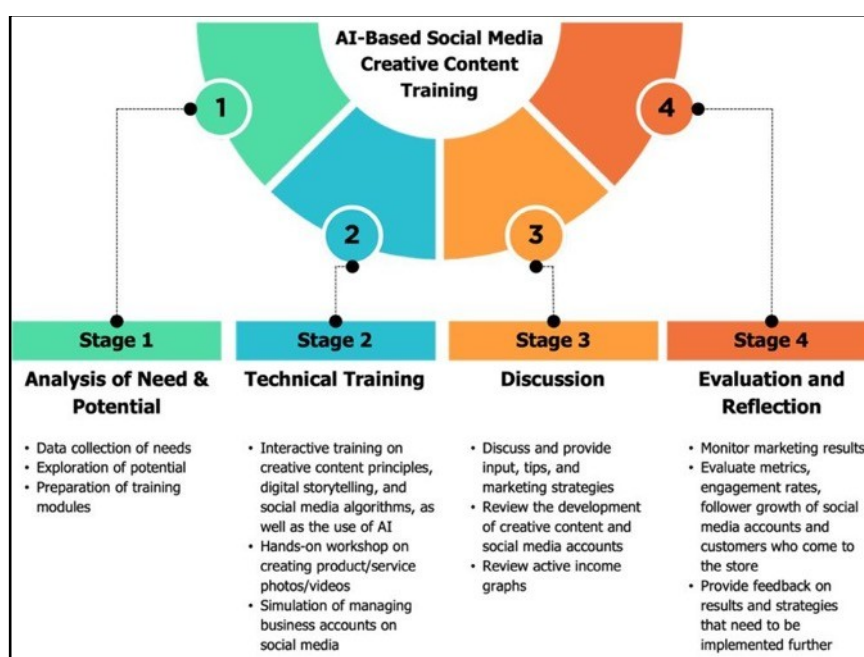


Figure 1. Training Process Framework

2.4. Evaluation Instruments, Success Indicators, Data Analysis, and Validity

To ensure the rigor and relevance of this Participatory Action Research (PAR) initiative, multiple instruments were designed to evaluate progress across the four training stages. These included: (1) pre- and post-training questionnaires to measure improvements in digital literacy, creative capacity, and social media confidence; (2) an observation checklist to assess

active participation and application of the Tri N approach (*Niteni, Niroke, Nambahi*); (3) content rubrics to evaluate the originality, visual appeal, and audience relevance of Instagram posts; and (4) semi-structured interviews to explore participants' reflections on using AI tools and content creation strategies.

Success was assessed using both quantitative and qualitative indicators. Quantitatively, gains were measured by improved questionnaire scores, increased quality and frequency of Instagram content, and higher audience engagement metrics (reach, impressions, and engagement rate). Qualitatively, success was observed through participants' ability to independently apply the Tri N process, starting from observing trends, to imitating effective content, and ultimately modifying it to reflect local identity and context. These outcomes aligned with the study's goal to transform MSMEs from passive digital users into culturally grounded, AI-assisted content creators.

Data were analyzed using a mixed-method approach. Quantitative results from surveys and social media analytics were processed using descriptive statistics (mean differences and growth percentages), while qualitative data from interviews and observations were coded thematically to identify shifts in mindset, creativity, and collaborative learning. Validity was reinforced through triangulation of instruments, member checking during reflection sessions, and expert validation from digital marketing practitioners and education researchers to ensure construct alignment with learning objectives and contextual relevance for MSME empowerment.

3. Results and Discussion

The AI-based Instagram content training had been conducted over a period of three weeks, targeting a local barbershop team that consisted of one owner, three managers, and one capster. This barbershop had previously relied on word-of-mouth marketing and WhatsApp status updates, with no active Instagram presence at the time of the intervention.

Pre-training assessments revealed the following: (1) The owner had limited digital marketing experience and had expressed uncertainty about how to attract Gen Z customers; (2) The managers had basic Instagram accounts but lacked design and storytelling skills; (3) The barber, though a skilled practitioner, had never used social media for professional branding. The five participants had been introduced to AI tools for captioning and had been guided to develop Instagram content tailored to the aesthetics and behaviors of Gen Z and Millennials, for example, incorporating trending haircuts, behind-the-scenes content, meme-based interactions, and customer testimonials.

After the training, the following key outcomes were documented, as in [Table 5](#): (1) The barbershop launched its Instagram account, posting regularly three times a week; (2) The barbers learned to create short videos (Reels) showing haircut transformations, receiving up to 1,500 views per post by the second week; (3) A manager created Instagram Stories with interactive polls about preferred haircut styles, generating over 50 responses per story; (4) The owner developed a monthly posting plan and scheduled content in advance; (5) Within three weeks, the account gained over 250 followers, with an average engagement rate of 7.8%, which was above the typical small business benchmark of 2–3%; (6) Offline visits increased by 18%, with 40% of new customers stating they had discovered the barbershop through Instagram.

Participants reported increased digital confidence, especially in understanding how visual trends, hashtags, and music aligned with the interests of young male consumers. All team members agreed that their perception of Instagram had shifted from being a casual platform to a powerful branding tool. Creative content creation learning activities were carried out using the Tri-N concept, and the resulting creative content was presented in [Figure 2](#) and [Figure 3](#).

Table 5. Progress of Instagram Activity Indicators Among MSMEs During AI-Based Creative Content Training

Week	Posts per Week	Avg Reels Views	Avg Story Responses	Followers Gained (Cumulative)	Avg Engagement Rate (%)	Offline Visit Increase (%)
Week 1	3	500	20	50	4.5	0
Week 2	3	1500	35	150	6.2	10
Week 3	3	1400	50	250	7.8	18

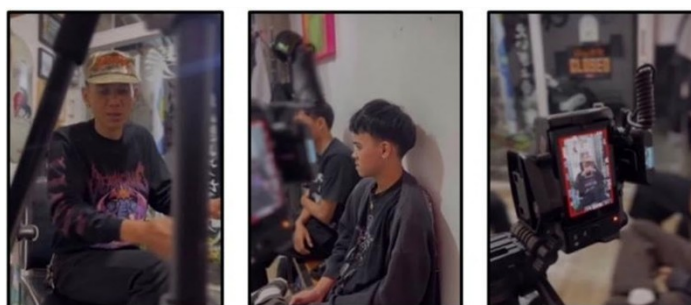


Figure 2. Creative Content Creation Learning Activities with Tri-N Concept



Figure 3. Results of Creative Content

From [Figure 4](#) and [Table 6](#), showed a significant increase in digital literacy, creative output, and audience engagement, with the barbershop's Instagram account experiencing a

250% increase in reach and a 45% improvement in post engagement. These findings indicated that the participants not only enhanced their technical abilities in content creation but also developed a better understanding of how digital strategies could influence audience behavior and customer interaction.

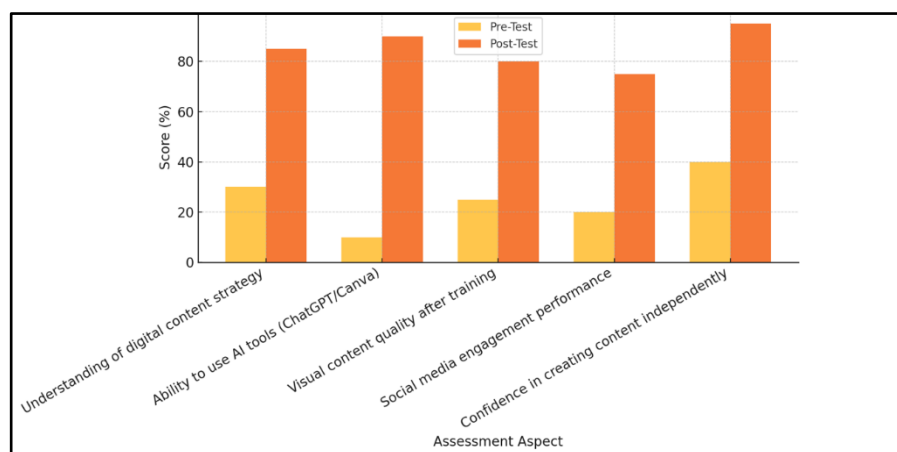


Figure 4. Pre-test vs Post Test Results of AI-Based Social Media Content Training

This project demonstrated that community-based digital training, when delivered with contextual pedagogy, alignment with youth content trends, and intergenerational collaboration, could empower MSMEs to thrive in a competitive online environment. The integration of AI-assisted learning and locally grounded educational values proved effective in helping small businesses adapt to digital ecosystems, foster creativity, and build sustainable online branding.

Table 6. Result of Pre-test vs Post Test of AI-Based Social Media Content Training

Assessment Aspects	Pre-Test Score (%)	Post-Test Score (%)
Understanding of digital content strategy	30	85
Ability to use AI tools (ChatGPT/Canva)	10	90
Quality of visual content after training	25	80
Social media engagement performance	20	75
Confidence in creating content independently	40	95

3.1. Comparison with Previous Study

The results demonstrate that even a small, service-based MSME like a barbershop can achieve significant digital transformation through targeted AI-assisted training. The barbershop's progress reflects how digital tools can bridge the gap between offline service excellence and online visibility, especially in the highly visual grooming industry. In line with previous research [25], Instagram was confirmed to be an effective platform for engaging younger audiences when content is visual, trend-based, and consistent.

From a pedagogical standpoint, the Tri N approach (*Niteni – Nirokke – Nambahi*) proved highly effective. During the *Niteni* (observe) stage, participants were introduced to successful barbershop Instagram accounts. In the *Nirokke* (imitate) phase, they practiced replicating elements such as layout, tone, and hashtags. Finally, in the *Nambahi* (modify) stage, they developed personalized content reflecting their own barbershop's identity, local slang, and customer preferences.

Importantly, the active role of the barber, traditionally seen as a service provider, was redefined as a digital content creator. His involvement in filming and editing haircut videos showed that professional identity can evolve in tandem with digital skill-building. This aligns with [20], [24], [25], who emphasize the importance of whole-team involvement in digital transformation, not just managerial roles.

The owner's adoption of AI scheduling tools and analytics illustrates the long-term sustainability of the intervention. Managers became more proactive, suggesting campaigns and collaborating with the barber to produce content that reflects their brand culture. This participatory, team-based learning reflects best practices in study engagement, where local actors are empowered to lead their own innovation.

In conclusion, this case study shows that small-scale, focused study can yield high-impact results when it addresses both technical and creative needs. The barbershop team now sees digital marketing not as a burden but as a growth tool. Their transformation provides a replicable model for similar service-based MSMEs, especially in urban and semi-urban youth-driven markets.

3.2. Practical Implications

The findings highlight that small-scale, focused study initiatives can yield substantial impacts when both technical and creative capacities are addressed simultaneously. By combining AI-based tools with the Tri N philosophy, this model provided MSME participants with culturally grounded learning that supported both digital adaptation and creative self-expression.

In practical terms, this suggests that training modules integrating AI literacy, content strategy, and local values can accelerate MSME competitiveness in digital markets. For practitioners and policymakers, the model demonstrates how participatory pedagogy can make digital transformation more inclusive, particularly for low-resource entrepreneurs. This approach is also scalable to other creative and service-based MSMEs, such as culinary, beauty, and fashion sectors where visual marketing and audience interaction are essential for growth.

However, the implementation of the AI-assisted training faced notable challenges. One major hurdle was time constraints: participants juggled daily business responsibilities with training sessions and content production tasks, which sometimes limited consistent practice and reduced opportunities for iteration. Another challenge was technological gaps, such as uneven hardware quality, limited processing power, and unstable internet connectivity, which impeded efficient use of AI tools (e.g., slow rendering of video, delays in uploading). Cost

barriers also became evident: some advanced AI tools required subscription fees or paid upgrades that exceeded the financial flexibility of a small MSME. These constraints mirror broader findings in SME digital transformation literature, where resource limitations, infrastructure readiness, and financial capacity often moderate success. Moreover, heterogeneity within SME contexts (size, managerial education, prior digital exposure) influences adoption success.

3.3. Limitations and Implementations

However, the implementation of the AI-assisted training faced notable challenges. One major hurdle was time constraints, as participants had to balance daily business responsibilities with training sessions and content production tasks, which limited consistent practice and reduced opportunities for iteration. Another challenge was technological disparity, including uneven hardware quality, limited processing power, and unstable internet connectivity, which impeded efficient use of AI tools (e.g., slow rendering of video, delayed uploads). Cost barriers also became evident: several advanced AI tools required subscriptions or paid upgrades that exceeded the financial capacity of micro-businesses.

These constraints mirror broader findings in SME digital transformation literature, where resource limitations, infrastructure readiness, and financial accessibility are recurring determinants of success [49], [51]. Moreover, heterogeneity among SMEs, such as firm size, managerial education, and prior digital exposure, was found to influence adoption outcomes and innovation depth.

Methodologically, this study was also constrained by its small participant group and limiof the findings. Additionally, the three-week training duration was too short to assess the long-term impact of AI-based digital marketing, and the evaluation relied mostly on quantitative social media metrics, without deeper exploration of mindset shifts or creative capacity. Other constraints included varying levels of participants' initial digital skills and limited access to supporting infrastructure. The lack of follow-up mentoring and technical assistance further reduced the potential depth of the program's impact. Future research should involve a broader range of MSMEs, extend the training period, and include long-term assessments to better evaluate the effectiveness and sustainability of the Tri N approach in enabling digital transformation. Buited duration, which may not fully capture long-term behavioral or economic changes. These factors underline the need for extended multi-site interventions and longitudinal evaluation in future implementations.

3.4. Opportunities for Future Research

Building on these findings, future studies could explore the scalability of the Tri N-based AI training model across various industries and community contexts. Comparative studies between creative and manufacturing MSMEs could illuminate sector-specific challenges in digital adoption. Future research should also employ longitudinal mixed method designs to measure sustained behavioral change, business growth, and economic resilience. Furthermore, there is room to investigate ethical and socio-cultural dimensions of AI use in MSME

contexts—particularly regarding data privacy, authenticity of AI-generated content, and the preservation of local identity within global digital ecosystems. Collaborations between universities, digital training institutions, and local governments could enhance the sustainability of such initiatives, ensuring that AI-assisted digital transformation remains inclusive, adaptive, and rooted in community values.

4. Conclusion

This study demonstrated that AI-based creative content training can significantly enhance the digital marketing capabilities of MSMEs, including small service-based businesses like barbershops. Using the Tri N approach, Niteni (observe), Nirokke (imitate), and Nambahi (modify with local identity), participants learned to create Instagram content tailored to younger audiences. Even MSMEs with limited digital experience successfully used AI tools for content creation, brand storytelling, and engagement. The program also fostered a culture of innovation and collaboration across generations, with youth involvement supporting sustainability and social impact. The outcomes in content quality, audience growth, and visibility highlight its potential as a scalable empowerment model.

Despite these successes, the study had limitations, including its focus on a single MSME and short three-week duration, limiting generalizability and long-term impact assessment. Most evaluations relied on quantitative social media metrics, with limited insight into deeper mindset or creativity shifts. Future research should involve diverse MSME sectors, adopt longer timelines, and use mixed-method approaches including social media analytics and in-depth interviews to better understand how AI and digital capacity building influence sustained business transformation.

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