

# Socialization of Strategies for Utilizing Technology and Applications to Enhance Productivity and Sustainability of SMEs in Pematang Serai Village, Langkat Regency

1<sup>st</sup> Mohammad Yusuf  
Universitas Pembangunan Panca Budi  
Medan, Indonesia  
[yusuf@pancabudi.ac.id](mailto:yusuf@pancabudi.ac.id)

3<sup>rd</sup> Arpan  
Universitas Pembangunan Panca Budi  
Medan, Indonesia  
[arseven@pancabudi.ac.id](mailto:arseven@pancabudi.ac.id)

2<sup>nd</sup> Muhammad Donni Lesmana  
Universitas Pembangunan Panca Budi  
Medan, Indonesia  
[donilesmana@pancabudi.ac.id](mailto:donilesmana@pancabudi.ac.id)

4<sup>th</sup> Rezky Kurniawan  
Universitas Pembangunan Panca Budi  
Medan, Indonesia  
[kurniawan08@gmail.com](mailto:kurniawan08@gmail.com)

*Abstract*— This study aims to enhance the utilization of technology and digital applications by Small and Medium Enterprises (SMEs) in Pematang Serai Village, Langkat Regency, with the goal of improving their productivity and business sustainability amidst an increasingly digital market competition. The primary focus of the research is on training for the use of e-commerce platforms (Shopee) and digital payment systems (QRIS), which are expected to help SMEs expand their market reach and facilitate transactions. The methods used in this study include surveys and questionnaires to assess the development of digital skills, as well as hands-on training through direct guidance on using digital platforms. The findings indicate a significant improvement in the understanding and use of digital applications among SME actors, with the majority of participants successfully implementing digital technology in their daily business operations. SMEs were able to use e-commerce to market products online and leverage QRIS for digital payment services, ultimately supporting their efficiency and accessibility to broader markets. However, the study has several limitations, including a focus restricted to one village location and a short training duration, which may affect the scope and generalizability of the results. Nevertheless, this research provides a valuable contribution to the development of SMEs in the field of digital empowerment, particularly in local economies and business management. These findings are expected to serve as a reference for SME digitization initiatives in other areas and to enhance their competitiveness in the digital era.

**Keywords:** SME Digitization, E-commerce, Digital Payment, SME Empowerment, Technology.

## I. INTRODUCTION

Amid the development of the digital economy, SMEs have significant opportunities to enhance productivity and business sustainability through the adoption of digital technology and applications. SMEs in Pematang Serai

Village, Langkat Regency, which play a vital role in supporting the local community's economy, face challenges in keeping up with the wave of digitalization. However, many SMEs in this village have not yet utilized technology optimally. This is due to limited understanding of technology use, lack of access to training, and insufficient funding to invest in the necessary digital tools.

These conditions have made SMEs in Pematang Serai less competitive and hindered their growth in an increasingly competitive market. Therefore, there is a need for socialization on strategies for utilizing technology and applications for SMEs, aimed at providing an understanding of how technology can enhance operational efficiency, open access to wider markets, and support long-term business sustainability.

This socialization activity aims to help SMEs overcome existing challenges and leverage digital advancements to support their continuity and growth. It is hoped that through this socialization, SME actors in Pematang Serai Village can acquire practical knowledge and skills needed to implement digital technology and applications in daily business operations, thereby increasing productivity and competitiveness in broader markets.

Small and Medium Enterprises (SMEs) play a significant role in supporting local and national economies. In Pematang Serai Village, Langkat Regency, SMEs are a primary source of livelihood for the community and contribute to regional economic development. However, in the rapidly evolving digital era, many SMEs still face challenges in leveraging digital technology and applications to support their operations.

The main problems faced by SMEs in Pematang Serai Village include a lack of knowledge and understanding of the appropriate use of technology, limited access to training and technological tools, and insufficient funding for comprehensive technology implementation. Without this understanding and support, the productivity and competitiveness of SMEs in the area are difficult to improve, potentially hindering their sustainability in an increasingly competitive market.



Therefore, it is essential to socialize strategies for utilizing technology and applications that can encourage SMEs in Pematang Serai Village to embrace digital advancements. Through this socialization activity, it is hoped that SMEs can become more productive and sustainable, optimize business processes, expand market access, and enhance competitiveness in wider markets.

## II. LITERATURE REVIEW

### 1. *Technology Adoption Theory and Digital Skill Development in SMEs*

Technology adoption theory provides a crucial conceptual framework for understanding how individuals and organizations accept new technologies. This model highlights two primary factors influencing technology adoption: perceived usefulness and perceived ease of use (Brasier & Wan, 2010). In the context of Small and Medium Enterprises (SMEs), technology adoption can offer significant benefits, such as improved operational efficiency, access to broader markets, and enhanced competitiveness in an increasingly digital marketplace (Lynn et al., 2022).

However, despite the clear benefits, technology adoption by SMEs is often hindered by perceptions regarding ease of use. Research indicates that factors such as access to technology and technological education play a vital role in determining SMEs' capability, especially in rural areas (Hoque et al., 2016). Limitations in access to and training in technology can impede adoption, even when the benefits offered by technology are substantial (Norris, 2020).

Further studies show that the main constructs in TAM, namely perceived usefulness and perceived ease of use, significantly shape attitudes and intentions to adopt new technology (Oktaria, 2024). This aligns with findings indicating that SMEs with a better understanding of technology's benefits are more likely to adopt it (Widodo, 2022). Additionally, research by Brasier and Wan emphasizes the importance of trust in technology and subjective norms in influencing technology adoption. They demonstrate that social factors also affect SMEs' decisions to adopt technology (Brasier & Wan, 2010). Therefore, promoting technology adoption among SMEs requires an approach that focuses not only on technical aspects but also on education and awareness about technology's benefits.

Overall, technology adoption in the SME context is heavily influenced by perceptions of ease of use and perceived benefits. To encourage broader adoption, it is essential to implement a holistic approach that includes education, training, and adequate social support.

### 2. *The Importance of Digital Skills for SME Competitiveness*

Digital skills are crucial for enhancing SME competitiveness in today's digital era. These skills include the ability to effectively use information and communication technology in various aspects of business, such as data management, digital marketing, and product innovation. Digital literacy theory emphasizes that these skills involve not only technical capabilities but also the ability to critically and creatively understand and use digital information (Raharja & Natari,

2021). In the SME context, adequate digital skills enable entrepreneurs to optimize the use of technology in daily operations.

With strong digital skills, SMEs can adopt technology-based business strategies such as e-commerce and customer relationship management (CRM). Social media, as a marketing tool, has proven effective in enhancing SME competitiveness. It allows businesses to reach a broader audience and interact directly with customers (Pasaribu, 2021). Additionally, leveraging digital marketing can help SMEs recover from setbacks experienced during the pandemic (Yuniarti et al., 2022). Digital skills also contribute to improving SME productivity and profitability. By utilizing digital platforms, SMEs can accelerate business processes and open opportunities for product and service innovation (Azizah & Wahono, 2021).

Therefore, it is crucial for SMEs to continually adapt and innovate to survive and compete in an increasingly competitive market (Rojikun, 2022). Overall, the development of digital skills among SMEs not only supports business sustainability but also contributes to overall economic growth. Efforts to enhance digital literacy and technological skills among SMEs should be a priority in local economic development strategies (Rachmawati et al., 2021).

## III. METHOD

### 1. Research Methods

#### 1) **Socialization**

This socialization aims to provide understanding to SME actors in Pematang Serai Village regarding the use of e-commerce platforms (such as Shopee) and digital payment systems (QRIS). Through this activity, SME actors are expected to gain a better understanding of technology and realize the importance of applying it to improve the efficiency and competitiveness of their businesses in wider markets.

#### 2) Training

##### a) Digital Payment Training (QRIS)

This training involves hands-on practice on how the QRIS system operates. Through this training, SME actors are expected to understand the process of using QRIS, making it easier for them to conduct digital transactions with consumers.

##### b) E-commerce Training (Shopee)

This training includes hands-on practice on how to use the system and sell products through e-commerce platforms like Shopee. The objective of this training is to simplify the process for SMEs to sell their products online, expand market reach, increase revenue, and support the growth of SME businesses in Pematang Serai Village.

#### 3) Mentorship

Mentorship is provided to assist SME actors in preparing for the implementation of digital payments (QRIS) and online marketing through e-commerce platforms like Shopee. This mentorship aims to help

SMEs become more open and knowledgeable about digital technology. The mentorship is conducted over 4 hours, divided into three sessions, ensuring continuous support for optimizing the use of technology.



figure: 1 Socialization and Mentorship Program

#### IV. RESULT AND DISCUSSION

##### 1) Impact of Training on SME Business Performance in Pematang Serai Village:

- a) **Improved Operational Efficiency:** With newfound knowledge of office applications and other digital tools, SME actors reported higher efficiency in administrative and managerial processes. For instance, the use of inventory management and accounting software has enabled SMEs to manage stock and financial transactions more easily and promptly. This reduces the burden of manual work, allowing more time to be allocated to business development.
- b) **Market Expansion and Sales Growth:** By utilizing e-commerce platforms and social media, SME actors are now able to reach a broader customer base, even beyond their local area. E-commerce and digital marketing not only help increase the visibility of their products but also support higher sales volumes. Some SMEs that previously relied solely on offline sales are now using Shopee to market their products nationwide.
- c) **Data Management and Analysis Skills:** Data analysis skills have become one of the key competencies gained after the training. Some SME actors can now monitor sales performance, analyze customer feedback, and make more informed business decisions based on data. This data management capability enables them to adjust marketing strategies and develop products in line with market trends and demands.

##### 2). Challenges and Obstacles Faced:

Despite the positive changes brought about by the training, several challenges need to be addressed to ensure its long-term impact:

- **Limited Access to Technology:** Some SME actors still face limitations in accessing technology, such

as unstable internet connections and inadequate devices. These factors affect the effectiveness of implementing the digital skills acquired.

- **Mental Readiness to Adapt to New Technologies:** Some participants encountered difficulties in adapting to fully digital business methods. Continuous mentoring is crucial to build confidence in using technology.
- **Limited Advanced Knowledge:** In addition to basic training, SME actors require guidance in advanced technical aspects, such as digital market analysis and customer relationship management (CRM), to ensure they can fully and sustainably utilize technology.

##### 3) Recommendations for Program Sustainability:

Based on the analysis, the digital skills training program can be sustained with several additional recommendations to enhance its sustainability and effectiveness:

- **Strengthening Technology Infrastructure:** Providing support for internet access or facilitating appropriate devices for SME actors so they can continue operating their digital businesses without obstacles.
- **Long-Term Mentorship Program:** Extended mentorship, such as through monthly consultations or online learning sessions, will help SME actors address technical challenges that may arise during business development.
- **Advanced Training in Digital Business Strategies:** Offering more in-depth training on digital marketing strategies, CRM, and data-driven product development to enhance SMEs' adaptability in the rapidly evolving digital era.
- **This training program has laid a vital foundation for SMEs in Pematang Serai Village to develop their businesses through digital technology. By addressing key support factors such as technology access, continuous mentorship, and advanced training, this program can further empower SMEs to achieve sustainable business success in the digital era.**



## V. CONCLUSION

The socialization activities held in Pematang Serai Village aimed to introduce and enhance SME actors' understanding of the importance of digital technology as a strategic tool to expand markets, improve efficiency, and strengthen their business competitiveness. With materials covering e-commerce via Shopee and the QRIS digital payment system, SME actors were provided with practical understanding and skills in relevant technologies for their businesses.

The results of this activity show that SME actors became more prepared and open to adopting technology in their business operations. The digital skills gained from the socialization and training not only helped SME actors expand their marketing and sales networks but also made it easier to manage transactions digitally. Additionally, the mentoring sessions provided continuous support, helping SME actors gain confidence and proficiency in implementing the skills they had learned.

This socialization activity successfully delivered positive impacts by equipping SME actors in Pematang Serai Village with the fundamental understanding and skills needed to face the increasingly digital market landscape. Through this support, SME actors can optimize technology as part of their long-term strategy to enhance productivity, competitiveness, and business sustainability in the digital era.

### Limitations and Future Studies

This activity faced several challenges, such as limited access to technology and internet connectivity, which hindered optimal implementation, varying levels of digital literacy among participants, and the limited time available for mentoring. Furthermore, the long-term impact of technology adoption has yet to be evaluated, so the program's effectiveness is not fully measured. Recommended future studies include: Analyzing the long-term impact of technology use on SME performance. Developing more adaptive and sustainable training models. Researching alternative, user-friendly technologies that can function in areas with limited internet access to address connectivity issues..

### Acknowledgments

We extend our gratitude to all parties who contributed to this activity. Your support and participation have been invaluable in promoting the development of SMEs in Pematang Serai Village. We hope that the outcomes of this activity will be beneficial and have a positive impact on business sustainability in the future.

## REFERENCES

- [1] Drydakis, N. (2022). Improving entrepreneurs' digital skills and firms' digital competencies through business apps training: A study of small firms. *Sustainability*, 14(8), 4417. <https://doi.org/10.3390/su14084417>
- [2] Haro, A., Waspodo, A., & Lestari, F. (2020). Marketing strategy of local products through social media in Segarajaya Village. *Jurnal Pemberdayaan Masyarakat Madani (JPMM)*, 4(2), 161-170. <https://doi.org/10.21009/jpmm.004.2.01>
- [3] Noor, T., & Suprayoga, A. (2019). Women empowerment through e-commerce training. *Proceedings of the 1st Workshop on Women in Science, Engineering and Technology*, <https://doi.org/10.4108/eai.8-12-2018.2283978>
- [4] Norris, L. (2020). The spatial implications of rural business digitalization: Case studies from Wales. *Regional Studies, Regional Science*, 7(1), 499-510. <https://doi.org/10.1080/21681376.2020.1841674>
- [5] Pasaribu, R. (2021). Analisis media sosial sebagai media pemasaran untuk meningkatkan daya saing UMKM di Kota Medan. *Journal of Economics and Business*, 2(1), 50-60. <https://doi.org/10.36655/jeb.v2i1.495>
- [6] Rachmawati, D., Afrianti, R., & Lianardo, S. (2021). Komunikasi pemasaran digital bagi UMKM Desa Tridaya Sakti sebagai wujud literasi digital UMKM di Kabupaten Bekasi. *Prosiding Konferensi Nasional Pengabdian Kepada Masyarakat Dan Corporate Social Responsibility (Pkm-Csr)*, 4, 30-38. <https://doi.org/10.37695/pkmesr.v4i0.1304>
- [7] Raharja, S., & Natari, S. (2021). Pengembangan usaha UMKM di masa pandemi melalui optimalisasi penggunaan dan pengelolaan media digital. *Kumawula Jurnal Pengabdian Kepada Masyarakat*, 4(1), 108. <https://doi.org/10.24198/kumawula.v4i1.32361>
- [8] Ramadhanti, A. (2023). Sosialisasi pemanfaatan digital marketing bagi para pelaku UMKM di Desa Karangpatri. *Jurnal Masyarakat Madani Indonesia*, 2(4), 449-454. <https://doi.org/10.59025/js.v2i4.151>
- [9] Yuniarti, T., Faujiyah, F., Rizal, M., & Bani, F. (2022). Digitalisasi pemasaran dalam upaya peningkatan penjualan produk usaha mikro kecil menengah (UMKM) di wilayah Jakarta Selatan. *Jurnal Pustaka Mitra (Pusat Akses Kajian Mengabdi Terhadap Masyarakat)*, 2(2), 121-126. <https://doi.org/10.55382/jurnalpustakamitra.v2i2.202228>
- [10] Yusup, M. (2023, December). The Importance of Using Logo Design as a Brand Image in Marketing MSME Products Using Digital Technology in Kelambir V Village. In *International Conference on Sciences Development and Technology (Vol. 3, No. 1, pp. 79-84)*.
- [11] Yusup, M., & Kurniawan, R. (2024). Understanding the Impact of Chatbot Technology in Learning: Analysis of Utilization at SMA Negeri 5 Binjai. *Journal of Information Technology, computer science and Electrical Engineering*, 1(1), 49-55.
- [12] Yusup, M., & Ahmad, A. (2024). Building a Strong Image Logo Design: Human Centered Design Approach in Logo Design for SMEs in Pematang Serai Village.

Formosa Journal of Computer and Information Science, 3(1), 69-82.

[13] Yusup, M., & Ahmad, A. (2024). Pelatihan Pemanfaatan Teknologi (IoT) Internet Of Thing Untuk Sekolah Pintar dan Pembelajaran Yang Lebih Baik di

SMA Negeri II Binjai. Jurnal Hasil Pengabdian Masyarakat (JURIBMAS), 3(1), 324-330.

[14] Yusup, M., & Ahmad, A. (2024). Implementation of a Smart School Learning system with Internet of Things Technology at SMA Negeri II Binjai. Instal: Jurnal Komputer, 16(01), 1-9.