



EMPOWERING VILLAGE COMMUNITIES THROUGH DIGITAL LITERACY BASED ON THE UTILIZATION OF E-COMMERCE IN KARANGSARI VILLAGE - KULON PROGO

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Abstract

This research aims to explore how digital literacy can empower the village community of Karangsari, Kulon Progo, through the use of e-commerce. With increasing access to the internet and digital technology, Karangsari Village holds significant potential to enhance its local economy via e-commerce platforms. The study employs a qualitative approach, involving in-depth interviews, observations, and documentation with micro, small, and medium-sized enterprises (MSMEs), as well as direct observation of community empowerment activities conducted by the Yogyakarta Communications and Informatics Office. Findings reveal that while substantial support for internet infrastructure in the village is crucial, it must be accompanied by high-quality digital literacy education to be truly effective. Strengthening digital literacy can improve the community's ability to raise their standard of living—particularly by enabling MSME actors to market their products online, thereby increasing income and overall community welfare. The study concludes that more structured and sustainable digital literacy training programs are essential to effectively support the empowerment of rural communities in the digital era.

Keywords: Community Development; Digital Literation; E-Commerce.

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Abstrak

Penelitian ini bertujuan untuk mengeksplorasi bagaimana literasi digital dapat memberdayakan masyarakat desa di Karang Sari, Kulon Progo, Yogyakarta melalui pemanfaatan e-commerce. Dengan meningkatnya akses terhadap internet dan teknologi digital, masyarakat Desa Karang Sari memiliki potensi besar untuk mendorong pertumbuhan ekonomi lokal melalui platform e-commerce. Metode yang digunakan dalam penelitian ini adalah pendekatan kualitatif, dengan teknik pengumpulan data berupa wawancara mendalam, observasi, dan dokumentasi. Informan terdiri dari pelaku usaha mikro, kecil, dan menengah (UMKM) serta pengamatan langsung terhadap aktivitas pemberdayaan masyarakat yang dilaksanakan oleh Dinas Komunikasi dan Informatika (Diskominfo) Daerah Istimewa Yogyakarta. Hasil penelitian menunjukkan bahwa dukungan signifikan dari Diskominfo Yogyakarta dalam penyediaan akses internet bagi masyarakat desa perlu diimbangi dengan edukasi literasi digital yang memadai. Literasi digital yang baik dapat meningkatkan kapasitas masyarakat dalam memanfaatkan teknologi secara produktif, khususnya bagi pelaku UMKM dalam memasarkan produk mereka secara daring. Hal ini pada akhirnya berkontribusi terhadap peningkatan pendapatan dan kesejahteraan ekonomi masyarakat setempat. Sebagai hasil akhir, penelitian ini merekomendasikan pentingnya penyelenggaraan program pelatihan literasi digital yang lebih terstruktur, berkelanjutan, dan sesuai dengan kebutuhan lokal. Program tersebut diharapkan mampu mendukung pemberdayaan masyarakat desa secara menyeluruh di era digital saat ini.

Kata Kunci: Pemberdayaan Masyarakat; Literasi Digital; E-Commerce.

INTRODUCTION

In today's digital era, digital literacy has become a crucial skill, especially for rural communities seeking to utilize technology to improve their economic conditions. Digital literacy refers to the ability of individuals to access, analyze, evaluate, and create information using digital technologies. In a broader context, it also includes understanding how technology shapes the way we interact with information and with others. Digital literacy is essential in a world where information is abundant but not always accurate or trustworthy.¹ With strong digital literacy skills, individuals can distinguish between credible and misleading information, thus reducing the risk of exposure to fake news and disinformation.

The Indonesian Internet Service Providers Association (APJII) reports that the number of internet users in Indonesia continues to grow each year. In 2024, there were approximately 221,563,479 internet users out of a total population of 278,696,200 people in 2023. Indonesia's internet penetration rate reached 79.5%, an increase of 1.4% from

¹Danang Dwi Harmoko, "Digital Literacy As A Solution To Improve The Quality Of Indonesia's Human Resources," *Research and Development Journal of Education* 7, no. 2 (2021): 413, <https://doi.org/10.30998/rdje.v7i2.10569>.

the previous year.² This data indicates that almost all Indonesians, including those in rural areas, have been touched by the internet, highlighting the need to strengthen digital literacy among these communities.

In response to this phenomenon, the Communication and Information Office (Diskominfo) plays a key role in promoting digital literacy. In Yogyakarta, Diskominfo implements the IKP (Information and Communication Management) program. One of its public communication duties is to disseminate government program information, strategic initiatives, and general information that must be known by the community.³ Diskominfo's role is not limited to communication alone; it also involves empowering rural communities, especially in developing the potential of villages. One focus is improving the capacity of MSME (Micro, Small, and Medium Enterprises) actors through digital literacy, particularly in using e-commerce platforms.

Karangsari Village, for instance, has abundant natural resources and serves as a producer of Yogyakarta's signature souvenirs, local foods, traditional clothing, handicrafts, and natural tourism potential. However, most villagers have not been able to fully manage or promote these resources effectively, resulting in a low socio-economic condition. Most residents rely on traditional agriculture and MSMEs. According to data from the Central Bureau of Statistics (BPS), the unemployment rate in Kulon Progo was 2.40%, a decrease from 2.80% in the previous year.

However, this remains a challenge, especially considering the rapid development of the western part of Kulon Progo following the construction of Yogyakarta International Airport, which serves as a gateway for international tourists. This condition highlights the need for targeted interventions to enhance community knowledge and skills. Empowering the community to adapt to technological changes and use digital tools to promote and increase their income has become essential. In light of this, the Yogyakarta Communication and Information Office is taking initiatives to improve the digital literacy of MSME actors through training and mentoring.

Digital literacy is especially important for the Karangsari Village community, given its cultural, natural, and artisanal potential. According to observations by Diskominfo, efforts such as installing internet networks in the village have already had a visible impact. However, more structured support is needed. MSME actors in Karangsari need training in digital literacy to promote their products through e-commerce platforms such as Shopee, Lazada, Tokopedia, Gojek, and Grab.

Digital literacy plays a critical role in community empowerment.⁴ The success of MSMEs in utilizing e-commerce is heavily dependent on the level of digital literacy possessed by business actors. Information and Communication Technology (ICT) developments offer opportunities for communities to engage in broader markets.⁵ Improving digital literacy can enhance MSME competitiveness by enabling them to market

²APJII, "Hasil Survei Penetrasi Internet Di Indonesia 2024," APJII, 2024, <https://apjii.or.id/berita/d/apjii-jumlah-pengguna-internet-indonesia-tembus-221-juta-orang>.

³Diskominfo DIY, "Tugas Dan Fungsi Instansi," 2024, <https://diskominfo.jogjaprovo.go.id/>.

⁴Muhamad Affandi, Joni Bungai, and Indra Perdana, "Implementasi Literasi Digital Melalui Pengembangan Website Desa Sebagai Upaya Pemberdayaan Masyarakat," *Jurnal AKRAB* 11, no. 1 (2020): 54-63, <https://garuda.kemdikbud.go.id/documents/detail/1861122>.

⁵Willya Achmad, "MSMEs Empowerment through Digital Innovation: The Key to Success of E-Commerce in Indonesia," *Daengku: Journal of Humanities and Social Sciences Innovation* 3, no. 3 (2023): 469-75, <https://doi.org/10.35877/454ri.daengku1742>.

their products more widely through digital platforms.⁶ This, in turn, helps rural communities access relevant information and seize opportunities in the digital economy.⁷

E-commerce holds great potential as a tool for empowering rural communities. Local products can be marketed online to reach a broader consumer base, even internationally. For example, Ramdhan and Anwari conducted community service projects that provided culinary MSME actors in Pontianak with digital marketing training, resulting in 87.5% of participants feeling enthusiastic and acknowledging the importance of digital skills for business development.⁸ Similarly, training in Karangsari Village in Gianyar, Bali, emphasized the use of digital technology for tourism development, especially post-COVID-19, when online shopping trends increased.⁹ In contrast, a program by Herdiana in Santana Mekar Village, Tasikmalaya, revealed that while MSME actors were aware of digital tools, they had yet to effectively use them for business purposes. After the training, participants could create Google My Business accounts and optimize their Instagram pages.¹⁰

These training initiatives support Choirunnisa's study, which emphasizes how consumer e-commerce usage drives MSMEs to improve their technological skills for marketing.¹¹ Achmad and Desmaryani's research further supports the idea that the growth of digital technology and e-commerce adoption provides new opportunities for MSMEs to expand market reach and enhance competitiveness.¹² However, many MSMEs in Indonesia still struggle to apply e-commerce and benefit from digital innovation. This study seeks to explore how improved understanding of digital literacy can be integrated into a sustainable community empowerment strategy for MSMEs in Karangsari Village.

Community empowerment is a national development priority in Indonesia. It aims to improve the quality of life by strengthening individual and collective capacities, encouraging active participation, and increasing access to resources and information.

⁶Zaifuddin Zaifuddin, "Pemberdayaan Masyarakat Melalui Online Marketing: Penguatan Ekonomi Masyarakat Desa Berbasis Digital," *Jurnal Pemberdayaan Masyarakat* 10, no. 1 (2022): 31, <https://doi.org/10.37064/jpm.v10i1.10044>.

⁷Oktiva Anggraini and Supriyanto Supriyanto, "Literasi Digital: Suatu Kemewahan Bagi UMKM Perikanan Di Era Industri 4.0?," *Prosiding Seminar Dan Lokakarya Kualitatif Indonesia 2019*, 2019, 117-26, <https://doi.org/10.33510/slki.2019.117-126>.

⁸Fuad Ramdhan and Muhammad Khairul Anwari, "Pelatihan Literasi Digital Bagi Pelaku Usaha Mikro Kecil Dan Menengah (UMKM) Kuliner Kota Pontianak," *GERVASI: Jurnal Pengabdian Kepada Masyarakat* 7, no. 2 (2023): 1008-17, <https://doi.org/10.31571/gervasi.v7i2.6281>.

⁹I Gede et al., "Pelatihan Digital Marketing Dalam Upaya Meningkatkan Literasi Digital Umkm Desa Keramas," *BERNAS: Jurnal Pengabdian Kepada Masyarakat* 4, no. 1 (2023): 200-205, <https://doi.org/10.31949/jb.v4i1.3880>.

¹⁰Oding Herdiana, Nuraly Masum Aprily, and Les Ping On, "Pelatihan Skill Literasi Digital Dalam Pengelolaan Data Bagi Pelaku Usaha UMKM," *Jurnal Abdimas Ekonomi Dan Bisnis* 2, no. 2 (2022): 86-95, <https://doi.org/10.31294/abdiekbis.v2i2.1432>.

¹¹Risda Choirunisa and Dety Mulyanti, "Literature Review: Peran E-Commerce Dalam Meningkatkan Pendapatan Umkm Di Era New Normal," *Jurnal EBI* 5, no. 1 (2023): 9-15, <https://doi.org/10.52061/ebi.v5i1.102>.

¹²Achmad, "MSMEs Empowerment through Digital Innovation: The Key to Success of E-Commerce in Indonesia." Susi Desmaryani et al., "Integration of Technology Acceptance Models and Government Support to Improve Digital Literacy," *Heliyon* 10, no. 14 (2024): e34086, <https://doi.org/10.1016/j.heliyon.2024.e34086>.

Empowerment is the process through which individuals or groups gain the strength and ability to change their socio-economic and political conditions.¹³

Empowerment involves more than just support or aid—it requires enhancing knowledge, skills, and self-confidence.¹⁴ It increases community involvement in development by ensuring access to information, resources, and decision-making. This reduces dependence on external parties and enhances self-reliance.¹⁵ Social empowerment focuses on strengthening individuals' and groups' capacities to interact, collaborate, and participate in decisions affecting their lives. For instance, women's empowerment programs often involve skills training, educational access, and legal support to increase their role in society.¹⁶

Economic empowerment, on the other hand, involves increasing access to economic resources such as capital, markets, and technology. This enables communities to improve their income and well-being. For example, supporting MSMEs in rural areas helps communities boost income and reduce reliance on unpaid work.¹⁷

Three core principles of empowerment are: *First*, Equality. Equality is a fundamental principle of community empowerment that emphasizes the importance of providing equal opportunities to all individuals, regardless of their social, economic, or cultural backgrounds. In this context, equality does not only mean equal access to sources of power, but also includes the recognition and respect of every individual's rights. Promoting equality in community empowerment can enhance public participation in decision-making processes that directly impact their lives.¹⁸ However, achieving true equality requires collaborative efforts among the government, civil society, and the private sector. Support from various stakeholders is essential in creating an environment that fosters equality.¹⁹ For instance, tailored training programs and education that address the specific needs of the community can help reduce existing gaps. Therefore, equality in community empowerment is not only a guiding principle but also a crucial step toward inclusive and sustainable development. Ultimately, equality fosters a more just and prosperous society where every individual has the opportunity to grow, contribute, and thrive.

Second, Participation. Public participation is another key principle in community empowerment, highlighting the importance of active engagement by community members in decision-making processes. Participation goes beyond mere physical presence in meetings or forums; it involves meaningful contributions of ideas, opinions, and concrete actions in

¹³Siti Hazar Sitorus and Mukhammad Fatkhullah, "Pemberdayaan Masyarakat Nelayan; Peran Dan Kontribusi Dinas Perikanan Dan Kelautan," *Masyarakat Madani: Jurnal Kajian Islam Dan Pengembangan Masyarakat* 7, no. 1 (2022): 1, <https://doi.org/10.24014/jmm.v7i1.16264>; Siti Hazar Sitorus and Rahmat Hidayat, "Strategi Mitigasi Kebakaran Hutan Dan Lahan Melalui Pemberdayaan Masyarakat Di Sungai Pakning Kabupaten Bengkalis Provinsi Riau," *International Conference Communication and Sosial Sciences (ICCOMSOS)* 1, no. 1 (2020): 23–29, <http://sipongi.menlhk.go.id>.

¹⁴Afriansyah, *Pengertian Dan Konsep Pemberdayaan Masyarakat, Pemberdayaan Masyarakat*, 2023.

¹⁵Kiki Endah, "Pemberdayaan Masyarakat : Menggali Potensi Lokal Desa," *Moderat: Jurnal Ilmiah Ilmu Pemerintahan* 6, no. 1 (2020): 135–43, <https://jurnal.unigal.ac.id/moderat/article/view/3319/2914>.

¹⁶Ansar Firman Andi, "Pemberdayaan Masyarakat Di Desa Berbasis Komunitas," *Jurnal Tata Sejuta STIA Mataram* 7, no. 1 (2021): 132–46.

¹⁷Endah, "Pemberdayaan Masyarakat : Menggali Potensi Lokal Desa."

¹⁸Afriansyah, *Pengertian Dan Konsep Pemberdayaan Masyarakat*.

¹⁹Noor Harini et al., "Pendampingan Pemberdayaan Masyarakat Dalam Meningkatkan Perekonomian Desa," *Amalee: Indonesian Journal of Community Research and Engagement* 4, no. 2 (2023): 363–75, <https://doi.org/10.37680/amalee.v4i2.2834>.

community development efforts. Active participation helps build a sense of ownership among community members toward the programs being implemented. This, in turn, enhances the effectiveness and sustainability of these programs.²⁰

Third, Sustainability. Sustainability is a vital principle in community empowerment, emphasizing the importance of designing programs and initiatives that are long-lasting. In this context, sustainability is not only concerned with environmental aspects but also includes social and economic dimensions. Sustainable community empowerment can be achieved by developing local capacities and strengthening social networks. This ensures that empowerment efforts continue to benefit the community even after external support has ended. Sustainable initiatives are those that are adaptable, community-driven, and capable of evolving alongside the changing needs of the population they serve.²¹

However, achieving sustainability requires commitment from all parties, including the government, the community, and non-governmental organizations. Collaboration among various stakeholders is crucial in developing sustainable solutions. Additionally, periodic monitoring and evaluation are necessary to ensure that the programs remain relevant and effective over time. Communities that are empowered through a sustainable approach will be better equipped to face challenges and seize available opportunities, ultimately improving their overall quality of life.²²

Community empowerment is ideally implemented through a bottom-up approach, which emphasizes active public participation in decision-making and program implementation. A key characteristic of this approach is the presence of initiatives that originate from the community itself, where members play an active role in identifying needs and determining solutions relevant to their local context. This approach aims to empower people by giving them the authority to manage their own resources and make decisions that affect their lives.²³ One of the main advantages of the bottom-up approach is the increased sense of ownership and responsibility among community members toward the programs being implemented. When people are involved in the decision-making process, they are more likely to support and sustain the initiatives. However, this approach also has its challenges—it often requires more time to reach consensus and can be hindered by differing opinions within the community.²⁴

In addition, the purposes of community empowerment include: (1) increasing the capacity of individuals and communities, (2) encouraging independence, and (3) achieving social justice. This means providing equal opportunities for all members of society to participate in the development process and benefit from its outcomes. Community empowerment can serve as a tool to reduce social and economic disparities. In this study, empowerment is specifically linked to enhancing digital literacy.

²⁰Andi, "Pemberdayaan Masyarakat Di Desa Berbasis Komunitas."

²¹Delfiyan Widiyanto, Annisa Istiqomah, and Yasmanto, "Upaya Pemberdayaan Masyarakat Desa Dalam Perspektif Kesejahteraan Ekonomi," *Jurnal Kalacakra* 02, no. 1 (2021): 26–33.

²²Nursalam et al., "Pemberdayaan Masyarakat Desa Melalui Literasi Digital Berbasis Cr Code Di Desa Bonto Jai Kecamatan Bissappu Kabupaten Bantaeng," *Jurnal Pengabdian Kepada Masyarakat MEMBANGUN NEGERI* 4 No. 2, no. 2 (2020): 228–38.

²³Widiyanto, Istiqomah, and Yasmanto, "Upaya Pemberdayaan Masyarakat Desa Dalam Perspektif Kesejahteraan Ekonomi."

²⁴Zaifuddin, "Pemberdayaan Masyarakat Melalui Online Marketing: Penguatan Ekonomi Masyarakat Desa Berbasis Digital."

Digital literacy refers to an individual's ability to access, analyze, evaluate, and create information using digital technology. More broadly, it also includes understanding how technology influences the way we interact with information and with others. Digital literacy is crucial in the modern era, where information is abundant but not always accurate or trustworthy. With strong digital literacy skills, individuals can distinguish between credible and false information, thereby reducing the risk of being misled by misinformation or disinformation.²⁵

Digital literacy also encompasses aspects of security and privacy. Internet users must understand how to protect their personal data and recognize the potential risks present in cyberspace. Studies have shown that interventions in digital media literacy can enhance an individual's ability to distinguish between mainstream and fake news—an essential skill for safeguarding both private and public information.²⁶

Furthermore, digital literacy plays a significant role in societal empowerment. With the appropriate skills, individuals can leverage technology to improve their quality of life—economically, socially, and culturally. For example, in remote villages, access to digital information can open up new opportunities for small and medium-sized businesses, ultimately contributing to local economic growth.²⁷ Therefore, digital literacy is not merely a technical skill but also involves critical and ethical understanding of how to use technology effectively. This includes the ability to adapt quickly to technological changes and to utilize digital tools productively in daily life.

Digital literacy also plays a vital role in increasing public participation in various aspects of life, including politics, social affairs, and the economy. In the digital era, information is easily accessible via the internet, enabling the public to become more actively involved in decision-making processes. Communities with strong digital literacy skills are better equipped to understand issues related to public policy and engage in constructive discussions. A concrete example of this can be seen in the use of social media as a platform for activism.²⁸ Many successful social movements have mobilized support through digital platforms such as Twitter and Facebook. A study by Rianto shows that digital campaigns can raise public awareness on critical issues, such as human rights and environmental protection.²⁹ This demonstrates that digital literacy can empower communities to voice their opinions and actively participate in the democratic process.

In addition, digital literacy significantly contributes to **economic empowerment**. With the ability to utilize digital technologies, individuals can take advantage of online business opportunities such as e-commerce and digital marketing. Many micro, small, and medium enterprises (MSMEs) have successfully increased their income through the use of

²⁵Harmoko, "Digital Literacy As A Solution To Improve The Quality Of Indonesia's Human Resources."

²⁶Sintha Wahjusaputri and Tashia Indah Nastiti, "Digital Literacy Competency Indicator for Indonesian High Vocational Education Needs," *Journal of Education and Learning (EduLearn)* 16, no. 1 (2022): 85–91, <https://doi.org/10.11591/edulearn.v16i1.20390>; Andrew M. Guess et al., "A Digital Media Literacy Intervention Increases Discernment between Mainstream and False News in the United States and India," *Proceedings of the National Academy of Sciences of the United States of America* 117, no. 27 (2020): 15536–45, <https://doi.org/10.1073/pnas.1920498117>.

²⁷Colin Lankshear and Michele Knobel, "Digital Literacies" 30 (2008).

²⁸Endah, "Pemberdayaan Masyarakat : Menggali Potensi Lokal Desa."

²⁹Puji Rianto, "Literasi Digital Dan Etika Media Sosial Di Era Post-Truth," *Interaksi: Jurnal Ilmu Komunikasi* 8, no. 2 (2019): 24, <https://doi.org/10.14710/interaksi.8.2.24-35>.

digital platforms. This shows that digital literacy can open access to broader markets and improve the economic well-being of communities.³⁰

Digital literacy also supports societal empowerment. With the right skills, individuals can leverage technology to improve their quality of life across economic, social, and cultural domains. For example, in remote villages, access to digital information can create new opportunities for MSMEs, which in turn boosts the local economy.³¹ However, a major challenge is the existence of a digital divide that can hinder community participation. Not all individuals have equal access to technology and information, which creates disparities in digital participation. Therefore, it is crucial for governments and civil society organizations to collaborate in developing programs that enhance digital literacy, particularly in underdeveloped and remote areas.

Ultimately, digital literacy is not solely about technical ability; it also encompasses critical thinking and active, participatory engagement in society. With adequate digital literacy, individuals and communities can better understand and respond to issues affecting their lives. For this reason, the development of digital literacy should be a priority in efforts to increase community participation across various sectors.

METHOD

This study employs a qualitative method with a descriptive approach to analyze community empowerment efforts carried out by the Office of Communication and Information (Diskominfo) in improving digital literacy, particularly in the use of e-commerce, to enhance the capacity of local Micro, Small, and Medium Enterprises (MSMEs), locally referred to as UMKM. Data collection methods in this research include direct observation of the real conditions experienced by the Karangsari village community in operating their MSMEs, as well as in-depth interviews with key actors involved in the empowerment process.

The primary informants in this study include two main sources: (1) the Communication and Information Office of the Special Region of Yogyakarta (Diskominfo), represented by Mrs. Riris Puspita Wijaya Kridaningrat, S.T., M.Acc., Head of the Division of Public Communication and Information, and (2) Mr. Parmin, a local UMKM actor and program beneficiary. Additional data were collected through documentation to enrich the variation and depth of the research findings.

The focus of this study is on the initiatives undertaken by the Yogyakarta Communication and Information Office in empowering rural communities through MSME training and efforts to improve community knowledge of digital literacy. The data analysis technique used is data triangulation, in which data from the in-depth interviews with Mrs. Riris and Mr. Parmin are compared with findings from a Focus Group Discussion (FGD) with other local UMKM actors, as well as data from direct observation and documentation. The triangulated data were then grouped, reduced, and filtered to extract relevant information that directly addresses the research problem.³²

³⁰Berghahn Books, "Digital Literacy for Refugees," 2022.

³¹Harini et al., "Pendampingan Pemberdayaan Masyarakat Dalam Meningkatkan Perekonomian Desa."

³²Lexy J Moleong, *Metodologi Penelitian Kualitatif* (Bandung: PT. Remaja Rosdakarya, 2000); Siti Hazar Sitorus and Rahmad Hidayat, "Berdaya Di Era Pandemi : Peran Corporate Social Responsibility Dalam Penanggulangan COVID-19" 1, no. 2 (2020): 37-48.

FINDINGS AND DISCUSSION

Findings

A. Description MSME Development and Improvement Digital Literacy in Karangsari Village

The improvement of digital literacy in Karangsari Village, Kulon Progo, represents a crucial step in advancing community empowerment. Since 2020, the local government and various community-based institutions have implemented structured training programs aimed at enhancing public understanding of information and communication technology (ICT). According to data from the Kulon Progo Communication and Information Service (Diskominfo), approximately 70% of the village population has participated in digital literacy training. These training programs cover the use of social media, messaging applications, and e-commerce platforms.³³

In 2024, the Communication and Information Service expanded its role beyond its standard duties by delivering digital literacy education both online and offline, adapting the material to current themes and societal issues. The agency also promoted positive content dissemination through public outreach and media programs. One notable initiative involves the dissemination of information via radio broadcasts—a relevant strategy given that many villagers, particularly farmers and fishermen, still rely on radio as their primary source of information and entertainment while working.

Additionally, Diskominfo has invested in the installation of ICT infrastructure, such as internet networks, in several rural areas, including Karangsari Village. This infrastructure development is complemented by technical assistance and skill-building efforts targeted at MSME (Micro, Small, and Medium Enterprise) actors. The training provided goes beyond theoretical concepts and includes hands-on, practical learning. For instance, during training sessions organized by the Special Region of Yogyakarta's Communication and Information Service, participants were taught how to create business accounts on e-commerce platforms such as WhatsApp Business, Shopee, Tokopedia, and Google Maps. They also learned how to promote their products through live video sessions and social media platforms.

These initiatives have proven to be impactful. Mr. Parmin, a local MSME actor and training participant, expressed that the internet infrastructure and capacity-building programs have significantly boosted his confidence and ability to use digital tools for business promotion. The improved digital literacy has had a substantial impact, particularly in terms of information access. Residents can now obtain marketing insights, product updates, and market trends that were previously out of reach. This aligns with studies that indicate improved digital literacy enhances the competitiveness of MSMEs in the digital era.

Moreover, the rise in digital literacy has encouraged broader public participation in the digital economy. With a better understanding of ICT, villagers are increasingly active in selling their local products online. For example, a women's group in the village successfully marketed their handmade crafts via Instagram and attracted customers from outside the region. This demonstrates that digital literacy is not merely a set of technical

³³Edhy Sutanta and Catur Iswahyudi, "Perluasan Jaringan Internet Nirkabel Dan Penyediaan Sarana TIK Untuk Mendukung Pengembangan Kampung Digital Di KIM NAS Kulon Progo Daerah Istimewa Yogyakarta," *IJCOSIN: Indonesian Journal of Community Service and Innovation* 3, no. 2 (2023): 08–17, <https://doi.org/10.20895/ijcosin.v3i2.1092>.

skills, but a transformative capability that can improve the economic well-being of rural communities.

B. Impact Utilization of E-commerce for Community Income

The utilization of e-commerce in Karangsari Village has had a significant impact on community income. Prior to the introduction and training of e-commerce, many MSME (Micro, Small, and Medium Enterprises) actors in the village struggled to market their products. Challenges included low consumer purchasing power due to limited sales outlets (often just stalls in front of homes), intense competition among local MSME actors, and limited awareness among outsiders of the village's economic potential. However, following participation in e-commerce programs, not only did the average income of local MSMEs increase by up to 30% within a year, but Karangsari Village also emerged as a tourist destination in the Kulon Progo region due to the growing number of visitors. A concrete example is the tempeh chips business owned by Mr. Parmin. After attending e-commerce training, he began selling his products via Shopee and received orders from various cities, including Jakarta and Surabaya. Previously, he had relied solely on limited local markets. By leveraging e-commerce platforms, he was able to reach a broader market and significantly increase his income.

According to data from Indonesia's Central Statistics Agency (BPS), the MSME sector contributes approximately 60% to the country's Gross Domestic Product (GDP). Therefore, the income growth experienced by Karangsari's residents through e-commerce contributes meaningfully to both local and national economic development. Furthermore, e-commerce usage has helped create new employment opportunities—both directly and indirectly. Despite this progress, challenges remain, such as the need for reliable internet infrastructure. Nevertheless, local government initiatives continue to improve internet access in rural areas, making it easier for communities to engage with digital platforms.

Interviews with several MSME actors reveal that e-commerce not only supports product sales but also offers insights into market trends and consumer preferences. As a result, business owners are better equipped to adapt and develop products that align with market demands, thereby enhancing the competitiveness of local goods.

C. Change Community Behavior in Entrepreneurship

The shift in public behavior toward entrepreneurship in Karangsari Village has become increasingly evident following the implementation of digital literacy programs and the adoption of e-commerce. Prior to these initiatives, many local entrepreneurs still relied heavily on traditional methods of doing business, such as direct sales in local markets. However, there has been a gradual transition toward more modern and efficient practices, without entirely abandoning the traditional sales models that have been passed down through generations. This reflects the community's effort to preserve the cultural identity of Karangsari while embracing innovation.

One of the most notable changes is the growing interest in using social media as a marketing tool. According to the study's findings, approximately 75% of business actors in the village are now actively using social media platforms to promote their products. They do not merely post product photos but also create short, engaging videos demonstrating product usage, which effectively captures consumer attention. Additionally, business owners have started to understand the importance of branding and product image. They are now focusing not only on product quality but also on how information is delivered to

consumers. For example, Mr. Wagiman, a handicraft entrepreneur, has begun improving product design by offering more contemporary models with lasting usability, enhancing material quality, and upgrading product packaging and presentation. These efforts have significantly increased the appeal of his products in both online and offline markets.

This behavioral shift has also been supported by the formation of entrepreneurial communities within the village, where members regularly support one another and share experiences. These groups often hold meetings to discuss marketing strategies, financial management, and product innovation, thereby creating a positive ecosystem for local business development. However, challenges remain, such as difficulties in balancing time between business operations and participation in training activities. Therefore, it is crucial for the government and relevant institutions to continue providing support and mentoring, enabling entrepreneurs to adapt effectively in the digital era.

D. Improving Access to Information and Markets for Product Local

Improved access to information and markets for local products in Karangsari Village is one of the positive outcomes of e-commerce utilization. Through digital literacy training, the community now possesses the ability to seek information related to marketing, consumer trends, and more effective business strategies. This development is particularly important for MSME actors aiming to grow in an increasingly competitive market. Previously, many business owners struggled to reach consumers beyond their immediate area. However, after becoming familiar with and utilizing e-commerce platforms, they are now able to sell their products not only at the local level but also on a national scale. For instance, handcrafted products, traditional Yogyakarta foods, and other unique items produced by the Karangsari community are now available on major online marketplaces such as Shopee, Lazada, and Tokopedia—something that was previously unthinkable.

Data from the Kulon Progo Trade Office (BPS) shows a sharp increase in online transactions involving local products, with a growth rate reaching 40% over the past year. This indicates that the community is beginning to recognize the broader market potential available through e-commerce. With improved access to relevant information, entrepreneurs are better able to tailor their products to market demands and enhance the competitiveness of their offerings. In addition, e-commerce platforms provide businesses with direct consumer feedback through product reviews and ratings. This allows business owners to identify consumer preferences and make necessary improvements, which is a vital step in the process of continuous product innovation.

However, to fully maximize this potential, ongoing support in the form of training and digital skill development is essential. Communities must continue to be encouraged to adapt to technological changes and to strengthen their ability to use information effectively for business development. By doing so, access to information and markets for local products will expand even further, creating greater opportunities for village economic growth.

Discussion

A. Analysis Connection between Digital Literacy and Community Empowerment

Digital literacy refers to an individual's ability to access, analyze, and utilize information available in the digital world. In the context of community empowerment, digital literacy serves as a key factor in enhancing the competitiveness and economic independence of rural communities. In Karangsari Village, Kulon Progo, digital literacy has

become an effective tool for opening access to broader markets through e-commerce. A study by Achmad shows that MSMEs with strong digital literacy skills can increase their income by up to 30% after transitioning to e-commerce platforms.³⁴ This indicates that digital literacy not only enhances knowledge but also has a direct impact on the community's economic well-being.

Community empowerment through digital literacy also involves structured training and mentoring. For example, training programs held by the Yogyakarta Communication and Information Service for Karangsari villagers, along with improvements in telecommunications infrastructure, have significantly enhanced public knowledge of digital literacy. The Communication and Information Service has provided both training and mentoring specifically focused on e-commerce utilization to support the welfare of MSMEs. These training initiatives not only improve technical skills but also build public confidence in marketing their products online. In this way, digital literacy acts as a bridge connecting local products with wider markets.³⁵

Statistics show that internet usage in Indonesia continues to rise, reaching 79.5% of the total population by 2023.³⁶ This presents a major opportunity for rural communities to leverage digital technologies in their business activities. However, challenges remain, particularly the digital divide that limits access to technology in remote areas. Therefore, improving digital infrastructure is crucial to ensuring digital literacy is accessible to all segments of society.

The relationship between digital literacy and community empowerment is also evident in the increased public participation in economic activities. A study by Gede found that communities involved in digital literacy programs demonstrate higher engagement in local economic initiatives.³⁷ Consistent with Gede's findings, MSME actors in Karangsari Village have applied their digital literacy training to promote and sell their products via e-commerce platforms. Additionally, the community has established digital collaborations with suppliers and partners from outside the village to enhance the quality and reach of their business efforts. This highlights that digital literacy not only strengthens individual capabilities but also fosters collaboration within the community.

Overall, digital literacy plays a vital role in empowering rural communities, especially in the context of e-commerce. By enhancing digital competencies, communities can access critical information, expand their networks, and improve the competitiveness of their products in the global market. Such empowerment is expected to foster a more inclusive and sustainable economic ecosystem.

B. Challenges Faced in E-commerce Implementation

Although the potential of e-commerce is vast, its implementation in rural areas such as Karangsari Village faces several challenges. One of the main obstacles is the limitation of infrastructure, particularly the uneven distribution of internet access. Despite the efforts of the Communication and Information Office (Diskominfo) in developing communication infrastructure, there are still many areas within the village that lack

³⁴Achmad.

³⁵Affandi, Bungai, and Perdana, "Implementasi Literasi Digital Melalui Pengembangan Website Desa Sebagai Upaya Pemberdayaan Masyarakat."

³⁶APJII, "Hasil Survei Penetrasi Internet Di Indonesia 2024."

³⁷Gede et al., "Pelatihan Digital Marketing Dalam Upaya Meningkatkan Literasi Digital Umkm Desa Keramas."

sufficient access and public knowledge regarding the use of digital platforms and digital literacy. Many MSME actors in rural communities continue to struggle with understanding the concept and impact of digital literacy, which hinders the effective implementation of online transactions.³⁸

Another significant challenge is the limited digital skills and knowledge among the community. A number of MSME actors are not yet familiar with how to use e-commerce platforms, making it difficult for them to market their products online. Inadequate training often leads to misunderstandings in utilizing digital technologies, resulting in low levels of participation in the e-commerce sector.³⁹ Moreover, public trust in online transactions remains a major issue. Many villagers are still hesitant to engage in e-commerce due to fears of fraud and cybercrime. This reluctance is often rooted in a lack of understanding regarding the security mechanisms involved in digital transactions, which serves as a barrier to broader e-commerce adoption.⁴⁰

Another pressing issue is the constraint of capital needed to develop online businesses. Many MSME actors face difficulties in securing the necessary funding to initiate and maintain e-commerce operations. According to Nurfitriya et al. (2022), limited access to financial resources becomes a significant barrier to investing in the technology required for online business activities. Overall, the challenges in implementing e-commerce in Karangsari Village indicate the need for a comprehensive and holistic approach. It is essential to foster collaboration between the government, educational institutions, and the community to develop effective and sustainable solutions to these problems.

CONCLUSION

The importance of digital literacy in empowering rural communities cannot be overstated. Digital literacy provides villagers with the ability to understand and utilize information technology in their daily activities, including in running businesses. In the context of e-commerce, digital literacy equips micro, small, and medium enterprise (MSME) actors with the skills needed to access broader markets—both local and international. Furthermore, the successful implementation of e-commerce in rural areas can stimulate the creation of new employment opportunities. As demand for local products increases through online platforms, the need for labor also grows across various sectors, from production to distribution.

In general, digital literacy and e-commerce are essential tools in the process of rural community empowerment. By integrating technology into daily life, the residents of Karangsari Village are able to improve their quality of life, strengthen the local economy, and contribute to sustainable development.

This study recommends that the Yogyakarta Communication and Information Office, along with other relevant government agencies, take the following actions: 1) Expand technological infrastructure in rural areas, ensuring equal access and opportunities for all community members; 2) Provide advanced training in digital literacy, tailored to the

³⁸Sutanta and Iswahyudi, "Perluasan Jaringan Internet Nirkabel Dan Penyediaan Sarana TIK Untuk Mendukung Pengembangan Kampung Digital Di KIM NAS Kulon Progo Daerah Istimewa Yogyakarta."

³⁹Ramadhan and Anwari, "Pelatihan Literasi Digital Bagi Pelaku Usaha Mikro Kecil Dan Menengah (UMKM) Kuliner Kota Pontianak."

⁴⁰Harini et al., "Pendampingan Pemberdayaan Masyarakat Dalam Meningkatkan Perekonomian Desa."

specific needs of rural MSMEs; 3) Offer continuous mentoring and guidance, enabling communities to operate their businesses effectively and sustainably.

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