


The role of technology in community economic empowerment: opportunities and challenges

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Article Info	ABSTRACT
Keywords: Digital Technology, Community Empowerment, MSMEs, Covid 19	This research aims to explore the role of technology in community empowerment efforts, with a focus on the opportunities and challenges that arise for MSME actors in its implementation. This research uses a qualitative approach with descriptive methods. The research results show that economic empowerment through the application of technology provides significant opportunities for Micro, Small and Medium Enterprises (MSMEs). Access to information and education via the internet increases the democratization of knowledge, while alternative financing through crowdfunding and peer-to-peer lending expands access to capital. Marketing and sales supported by digital technology enable MSMEs to reach global markets at affordable costs. Operational efficiency through automation and artificial intelligence has a positive impact on productivity. Nonetheless, the digital divide, skills shortages, security and privacy challenges, potential unemployment, and infrastructure and regulatory barriers demand serious attention to ensure the use of technology provides equitable and sustainable benefits.
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INTRODUCTION

The Covid-19 pandemic that has hit the world has had a significant impact on various aspects of life, including in the technological and economic domains. Along with physical and mobility limitations, people around the world are forced to look for innovative solutions to maintain the continuity of daily life (Hartati et al, 2021). This pandemic, in turn, has become a key momentum for accelerating digital transformation, with digital technology considered the main driving force to facilitate daily life and accelerate national economic recovery (Emiliani et al, 2021).

Digitalization, as a response to the need for solutions that can be accessed online, has emerged as a key factor in national economic recovery amidst the pandemic (Pranoto & Yusuf, 2014). In this case, the application of digital technology does not only involve the large corporate sector, but also touches aspects of community empowerment directly. New opportunities emerge along with the adoption of digital technology, providing opportunities for MSMEs and community groups to be more actively involved in the digital economy (Emiliani et al, 2021).

It is important to note that, in order to improve the digital economy through the use of digital-based innovation, community empowerment approaches play a key role (Muafani, 2021). Community empowerment in this context includes providing technological access and knowledge to various levels of society, ensuring that no one is left behind in the digital transformation process. By empowering people, especially vulnerable groups, we can create an inclusive and sustainable environment in the digital economy (Muzdalifah et al, 2020).

Digital-based innovation can also be used to increase the economic capacity of society through digital skills training, supporting access to digital markets, and developing online-based small and medium enterprises (Ibrahim, 2022). Thus, the use of digital technology is not just a tool to increase economic efficiency, but also as a means to create positive social impacts through economic empowerment of society as a whole (Candra & Ismail, 2023).

In the midst of the Covid-19 pandemic, community empowerment can be strengthened by introducing digital marketing strategies, especially for Micro, Small and Medium Enterprises (MSMEs) (Herman et al, 2023). Digital marketing is an effective solution to help MSMEs remain competitive in a market that is increasingly digital and connected online. Through digital marketing, MSMEs can utilize various platforms such as social media, websites and online marketplaces to promote their products or services (Saputra et al, 2020).

The use of social networks as the main digital marketing tool can provide opportunities for MSME players to expand market reach efficiently (Khumayah, 2021). By building an online presence, MSMEs can connect directly with potential consumers, provide product information, and even carry out transactions electronically (Harti et al, 2019). Apart from that, digital marketing also allows MSMEs to collect feedback from customers in real-time, gain market insights, and adapt their marketing strategies according to changing trends and consumer needs (Efendi et al, 2021).

The importance of digital marketing in empowering society, especially MSMEs, does not only lie in increasing online visibility, but also in increasing the capacity and understanding of business actors related to the digital world (Arumsari et al, 2022). Training programs and technical support can be introduced to help MSMEs understand digital marketing best practices, online inventory management, and the use of analytical data to optimize their business performance (Fakhriyyah et al, 2022).

The presence of digital technology has opened up new opportunities for MSME players to create platforms that can empower society on a larger scale (Fadhillah & Yuniarti, 2023). Data collected by We Are Social in February 2022 shows significant growth in social media use in Indonesia. The number of active social media users in this country increased by 12.6% compared to the previous year, reaching around 21 million people (Sri Adiningsih, 2019). This growth reflects the rapid adoption of digital technology among Indonesian society.

Apart from that, the data also records an increase in the number of internet users in the country by 2.1 million people within one year, an increase of 1.0%. This phenomenon indicates that internet access is becoming more evenly distributed throughout the country, opening up opportunities for MSMEs or groups to develop platforms that can utilize a wide user base (Indriana et al, 2022). By understanding these trends, digital innovators and entrepreneurs can design more effective solutions to harness the potential of digital technology to empower communities, whether through education, skills training, or supporting local economic initiatives (Hamin et al, 2021).

Even though the potential to improve the digital economy through digital marketing for Micro, Small and Medium Enterprises (MSMEs) is very large, a number of critical obstacles still remain. Limited technological capabilities and internet access are one of the main challenges faced by some MSMEs. In some areas, uneven technological infrastructure and internet networks can prevent MSMEs from fully utilizing digital marketing potential. The inability to access a stable internet signal and adequate speed can hamper their efforts in managing and promoting products via digital platforms (Akhmad & Purnomo, 2021).

Apart from that, the perception that marketing products through digital marketing, especially through social media and marketplaces, is troublesome is also a significant obstacle (Anisah et al, 2023). Some MSMEs may feel less confident or have limited knowledge regarding digital marketing strategies, thus preventing their intention to switch to online platforms. Concerns regarding the security of online transactions and data privacy can also be factors that make some MSME players reluctant to market their products online (Nurhajati et al, 2018).

The aim of this research is to investigate the critical role of technology in the context of community empowerment, with a particular focus on the opportunities and challenges that have arisen along with the Covid-19 pandemic. This research aims to gain an in-depth understanding of how technology adoption, especially through digital marketing and digital-based innovation, can concretely strengthen and empower Micro, Small and Medium Enterprises (MSMEs) in the midst of a pandemic situation. By focusing on the role of technology in community empowerment, it is hoped that this research can make a significant contribution to developing more targeted policy strategies and practical solutions to support the growth and sustainability of MSMEs. The expected benefits of this research include a better understanding of the dynamics between technology and community empowerment, as well as providing practical guidance for policy makers, business people and academics to increase the contribution of technology in overcoming challenges and exploiting opportunities in the current digital era.

METHOD

This research applies a qualitative approach to gain an in-depth understanding of the role of technology in community empowerment. By using a qualitative research approach, the author can detail information from the various parties involved, enabling the disclosure of contextual facts according to the social situation in the field. A qualitative approach was

chosen with descriptive purposes, allowing the author to carefully describe the social conditions related to the adoption of technology in empowering communities in the midst of the Covid-19 pandemic (Yuliana, 2022). In the data collection process, the author used a combination approach of primary and secondary data. Interviews were used as the main method of primary data collection, providing an opportunity to hear the views and direct experiences of the various stakeholders involved. Meanwhile, secondary data collection involves direct observation in the field at relevant agencies and collecting documents relevant to the research focus. This approach allows the authors to build a comprehensive data base. Data analysis in this research adopts data condensation techniques, presents relevant information, and draws conclusions supported by empirical findings. By combining both types of data, it is hoped that this research can provide a holistic understanding of how technology can empower society and the extent of its impact in the context of the Covid-19 pandemic.

RESULTS AND DISCUSSION

Technology has changed the world in unprecedented ways. The development of digital technology has provided extensive opportunities to change the way we work, interact and access information. In an economic context, technology also has great potential to accelerate community economic empowerment, especially for MSMEs. This article will explain the opportunities and challenges associated with economic empowerment through the application of technology.

Opportunity

1. Access to Information and Education

Through the internet, MSMEs have open access to various information resources, covering topics ranging from education, health, to current news. This strengthens the democratization of access to knowledge, ensuring that no group is excluded from important information that can impact their daily lives. Moreover, advances in communications technology facilitate the quick and easy exchange of information, connecting MSMEs throughout the world regardless of location or economic status.

Furthermore, the role of the internet as a learning platform also makes a major contribution to opening access to education. Online courses, digital learning resources and e-learning platforms open up opportunities for economically disadvantaged MSMEs to gain knowledge and skills. This initiative not only includes formal education but also various courses and training that can improve the capabilities of MSME players in various fields. With these resources, MSME actors who previously may have been limited in accessing higher education or skills training can now develop their potential without being constrained by financial or geographical limitations.

In addition, with increased competence and knowledge gained through internet access, MSMEs from lower economic backgrounds can increase their competitiveness in finding work or even starting their own business. In this way, technology not only increases

business opportunities, but also strengthens the economic empowerment of MSME actors who may have previously been limited in accessing these opportunities.

2. Alternative Financing

Changes in the business financing landscape brought about by technology, especially through crowdfunding and peer-to-peer lending platforms, are creating a significant transformation in supporting Micro, Small and Medium Enterprises (MSMEs). First of all, with the existence of crowdfunding platforms, individuals and business groups can get financial support from a number of people collectively. This not only opens up wider access to capital, but also creates community involvement in supporting the growth of MSMEs. Through direct participation from the community, business actors can build closer relationships and get more support than involving larger financial institutions.

Furthermore, peer-to-peer lending eliminates dependence on traditional financial institutions as a source of financing. MSME players can establish direct relationships with lenders without intermediaries, speeding up the process of collecting funds and providing greater flexibility in determining loan terms. This helps overcome the challenges of access to formal banking that may be faced by MSMEs, especially those operating in areas with limited financial services. That way, MSME players can more easily access the capital needed for business development without having to rely on approval from conventional financial institutions.

Not only providing access to capital, but also providing opportunities for those who previously did not have access to formal banking to develop their businesses, crowdfunding and peer-to-peer lending platforms also create a wider economic impact. Empowering MSMEs through this source of financing not only increases their business capacity, but also creates new jobs. With business growth supported by this technology, MSMEs can become agents of local economic growth by creating jobs for local communities, reducing unemployment rates, and improving the welfare of the community as a whole.

3. Marketing and Sales

Technological developments have brought about a paradigm shift in marketing and sales strategies, especially for Micro, Small and Medium Enterprises (MSMEs). Through the internet and social media, MSMEs now have unlimited access to reach global markets without requiring large investments. The use of e-commerce platforms and digital marketing techniques is the main key in exploiting this opportunity. First, the internet allows MSMEs to market their products or services globally at relatively low costs. By having an online store or participating in an e-commerce platform, they can showcase their products to a much wider audience than can be achieved locally. This allows MSME players to compete effectively in the global market, even without having a physical presence in various countries.

Furthermore, social media has become a very effective channel in creating direct interactions with consumers. Through this platform, MSMEs can build their brands, interact with customers and collect feedback directly. Digital marketing strategies such as paid advertising, valuable content, and creative campaigns can be used to increase visibility and

attract the attention of potential consumers. Social media is not only a marketing tool, but also a means of building strong relationships between MSMEs and their consumers. By understanding how to effectively use the internet, e-commerce platforms, and social media, they can develop a global presence, reach new consumers, and significantly increase their business growth. This opens the door for MSME players to compete equally in a market that is increasingly connected digitally.

4. Operational Efficiency:

The opportunities presented by technology to improve operational efficiency create a significant positive impact in various economic sectors. One of the key advances is in the automation of production processes. Through the use of automation, companies can automate repetitive and time-consuming tasks, allowing human workers to focus on tasks that require creativity and strategic decisions. This not only increases production efficiency, but also reduces human errors, improves product quality and reduces operational costs.

Apart from that, the application of intelligent algorithms or artificial intelligence is also key in increasing operational efficiency. These algorithms can be used to analyze big data quickly and accurately, providing valuable insights for decision making. In this context, companies can optimize supply chains, identify market trends and better adapt business strategies. The use of artificial intelligence also supports more timely decision making, helping companies adapt quickly to changes in the market and business environment. This positive impact is not only felt by the company, but also provides benefits for the economic development of a region. Companies that apply technology to improve their operational efficiency tend to be more competitive, attract investment, and create more jobs.

Challenge

1. Digital Divide

One of the critical challenges in efforts to empower the economy through technology is the significant digital divide. This gap creates disparities in access to technology among Micro, Small and Medium Enterprises (MSMEs), especially in rural areas and communities with low income levels. Not all MSME actors have equal access to infrastructure and technological resources, which can strengthen economic inequality. This digital divide not only limits the potential for business growth among MSMEs, but can also become a serious obstacle to economic inclusivity. In this way, the challenge of the digital divide illustrates the potential for inequality in the distribution of technological benefits, which requires holistic solutions to ensure that all levels of society can experience the positive impacts of technological progress.

2. Skills and Capacity

The application of technology as a means of economic empowerment requires adequate skills and capacity to be used effectively. Unfortunately, many individuals and Micro, Small and Medium Enterprises (MSMEs) still lack the digital skills needed to make maximum use of technology. Therefore, efforts are needed to improve education and training in the field of technology at all levels, both for workers and entrepreneurs. This initiative will not only provide the skills necessary to adapt to new technologies, but can

also reduce skills gaps that can hinder access to the economic opportunities offered by the technological revolution. By increasing the level of digital skills in society and MSME players, a positive impact can be produced in increasing economic inclusiveness, ensuring that every individual has an equal opportunity to benefit from technological advances.

3. Security and Privacy

The use of technology brings significant challenges in terms of security and privacy. In an increasingly advanced digital era, data has become a valuable asset, and along with it, cyber security challenges are increasing. Personal and business data becomes vulnerable to cyberattacks, identity theft, and misuse of information. To overcome these challenges, it is essential to develop adequate policies and infrastructure for the protection of sensitive data and information. This includes implementing strong cybersecurity measures, strict privacy policies, as well as education and awareness regarding cybersecurity risks among individuals and businesses. Only with a concerted effort in building a solid foundation of security and privacy can we ensure that the use of technology remains profitable without sacrificing essential security and privacy.

4. Dependency and Unemployment

Although technology opens up great opportunities to increase productivity, the risk of dependency is also an aspect that cannot be ignored. Especially in some sectors, such as automation and artificial intelligence, the use of technology can replace the role of human workers, giving rise to the potential for structural unemployment. In this case, it is important to consider the social impacts that may arise from the massive application of technology. Therefore, a wise strategy is needed to overcome potential consequences, such as unemployment and economic inequality that can occur. This includes developing training and education policies that support workers' transition to sectors requiring more creative and complex human skills. Thus, a deep understanding of the social aspects of technology is crucial to ensure that technological progress has an overall positive impact on society and the economy.

5. Infrastructure and Accessibility:

Economic empowerment through technology cannot be separated from strong infrastructure and widespread accessibility. Reliable telecommunications infrastructure and fast internet connections are the main prerequisites for optimizing the use of technology. This accessibility is very important to ensure that individuals, especially Micro, Small and Medium Enterprises (MSMEs), can be equally involved in the digital era. Apart from digital infrastructure, physical accessibility is also a key factor. Stable electricity is fundamental to running the technology, and affordable hardware plays an important role in ensuring that the technology can be adopted evenly across regions. Thus, building strong and affordable infrastructure is a crucial step in empowering the economy through technology, ensuring that its benefits can be enjoyed by all people without exception.

6. Regulations and Policies

The development of appropriate regulations and policies is essential in facilitating economic empowerment through technology. Regulations that are too strict have the

potential to stifle innovation and new business development, while inadequate regulations can increase risks and vulnerabilities. Therefore, a balanced approach is needed to regulate the use of technology, which can protect the interests of all stakeholders. Careful and adaptive regulations need to create a framework that is conducive to innovation, allowing companies and Micro, Small and Medium Enterprises (MSMEs) to develop without being too hampered by rigid regulations. It is also important to create regulations that are able to respond to rapid developments in technology, so that the resulting policies can provide clear and relevant guidance in supporting sustainable economic growth through the use of technology.

CONCLUSION

Economic empowerment through the application of technology brings great opportunities for Micro, Small and Medium Enterprises (MSMEs). Access to information and education, alternative financing, effective marketing and sales, and operational efficiency are positive aspects that can change business paradigms and increase competitiveness. However, significant challenges such as the digital divide, skills shortages, security and privacy issues, potential unemployment, and infrastructure and regulatory barriers require serious attention. The importance of a holistic and inclusive approach in addressing the digital and skills gap must be a key focus. Adequate education and training initiatives need to be stepped up to ensure that all levels of society can benefit from technological developments. Data security and privacy must also be a priority with concrete steps to protect sensitive information. Additionally, challenges related to infrastructure and accessibility require strong investments in the development of affordable telecommunication networks and hardware. Wise and adaptive policies and regulations are also needed to create a conducive business environment without compromising the protection of public interests. In facing the technological revolution, collaboration between government, the private sector and society is the key to creating an ecosystem that supports inclusive and sustainable economic growth. By overcoming these challenges, economic empowerment through technology can become a positive force that drives overall social and economic progress.

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