



The Utilization of Media Technology in Industrial Transformation and Development of Local Creative Industries

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Abstract

This research aims to describe the use of media technology in industrial transformation and development of local creative industries. The qualitative method is a method that focuses on in-depth observation. Therefore, the use of qualitative methods in research can produce a more comprehensive study of a phenomenon. The research method used in this article is. Case Study: In this method, researchers will take several examples of businesses that have successfully adopted technology in their business, and analyze how technology plays a role in industrial transformation. Research results Technology has had a significant impact on the way businesses operate Technology has made it possible to increase efficiency and productivity by reducing the costs and time required to run business operations. The application of technology also helps in accelerating innovation and developing better products, so that they can compete better in the market. The use of technology must be considered carefully. The role of digital media which is used for everyone's various needs in the current digital era is growing quite large, especially digital marketing which is utilized by companies or personal businesses in terms of the marketing process for industrial products, especially the creative industry.

Keyword: Utilization of Media Technology, Industrial Transformation, Development of Local Creative Industries

INTRODUCTION

In the present digital age, technology has transformed several facets of human existence, particularly in the realms of economics and commerce. The advent of technical advancements, including the internet, cloud computing, big data, and artificial intelligence, has facilitated significant transformations in the functioning of organisations and economies. The



digital revolution impacts all sectors, including small enterprises, major organisations, governments, and the general public. The exponential growth of technology has significantly influenced several facets of human existence, particularly in the realms of economics and commerce. The advent of the digital age has presented several prospects and difficulties for individuals and organisations involved in business and the economy on a global scale. The digital age brings about a profound economic and corporate revolution, altering not only the methods of labour and communication, but also profoundly impacting the organisation and behaviour of businesses.

The advancement of information technology and media in Indonesia is seeing tremendous growth on a daily and yearly basis. This phenomenon is driven by a multitude of factors, including the expansion of internet coverage, the enhancement of internet bandwidth, the utilisation of advanced and efficient internet and communication technology, the proliferation of smartphones, the emergence of diverse social media platforms and e-commerce, and the growing number of individuals who possess knowledge and actively engage in these domains.

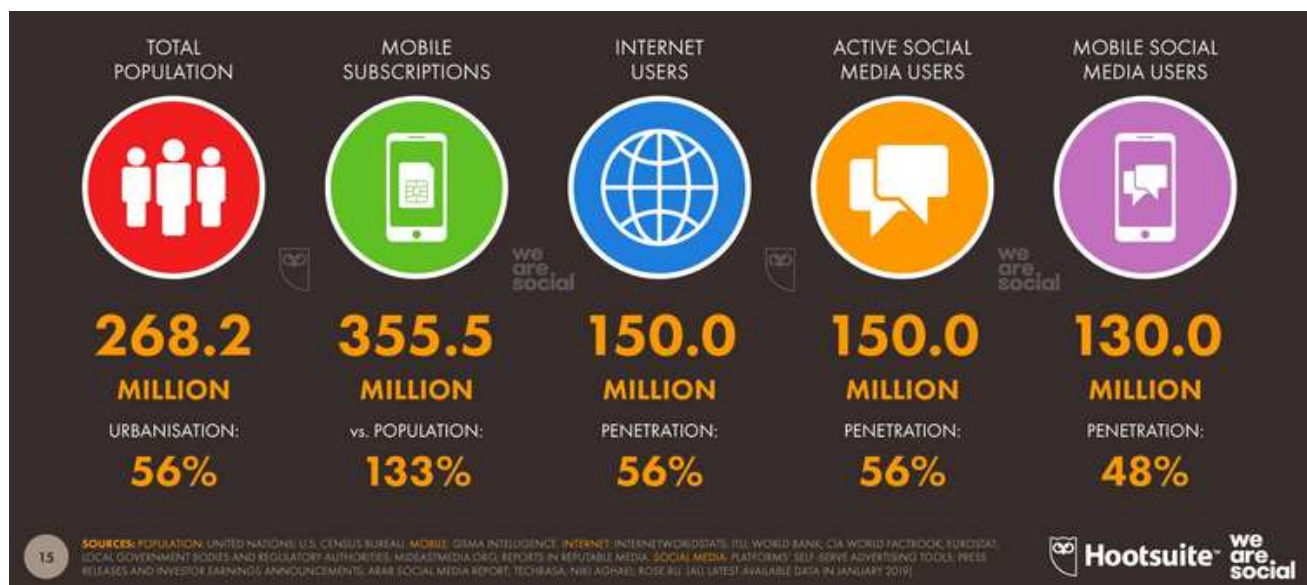


Figure 1. Mobile Users (smartphones and tablets)

According to the infographic, Indonesia's overall population has reached 268.2 million, while the number of mobile users (smartphones and tablets) has reached 355.5 million. This indicates that the number of smart phones and tablets in circulation exceeds the whole

population of Indonesia. It is possible for individuals, particularly wealthy individuals, who own many devices, to often exchange cellphones with one another. Regarding Internet Users, there is a total of 150 million individuals that actively use the internet. This accounts for 56% of Indonesia's whole population. Similarly, almost 50% of the Indonesian population regularly engages with social media platforms.

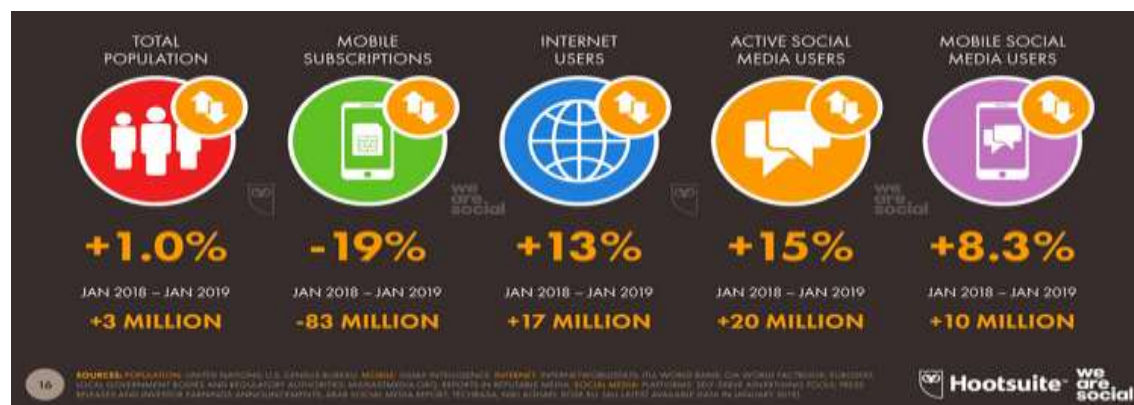


Figure 2. Internet growth (in term of users)

In the following infographic, you can see population growth from 2023 to 2024 of 1%, but internet growth was recorded at 13%, social media 15% and mobile social media 8.3%. This means that the growth of internet and social media users is much faster than population growth, and the trend since previous years has shown a significant increase.

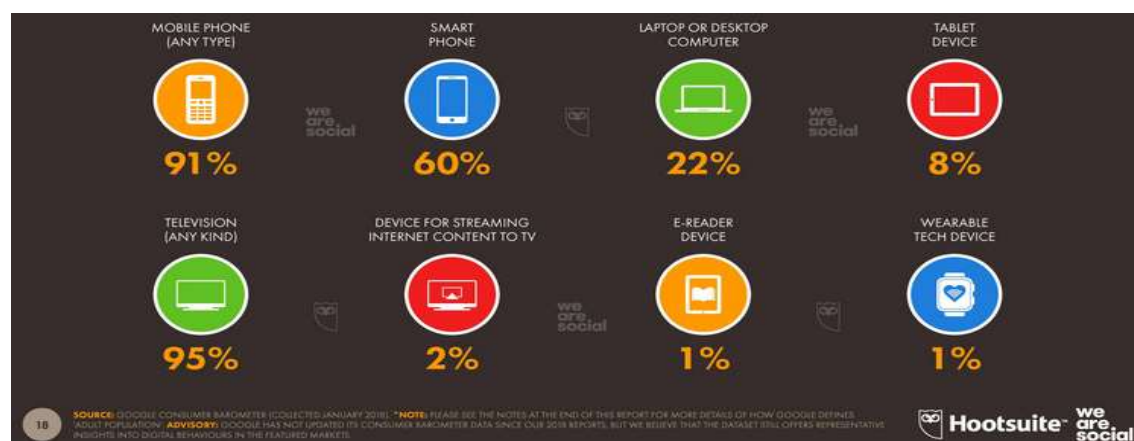


Figure 3. Internet growth (in term of device used)

What appears to be the biggest is Mobile Phone reaching 91%, laptop/PC only 22%. Many people still watch television.

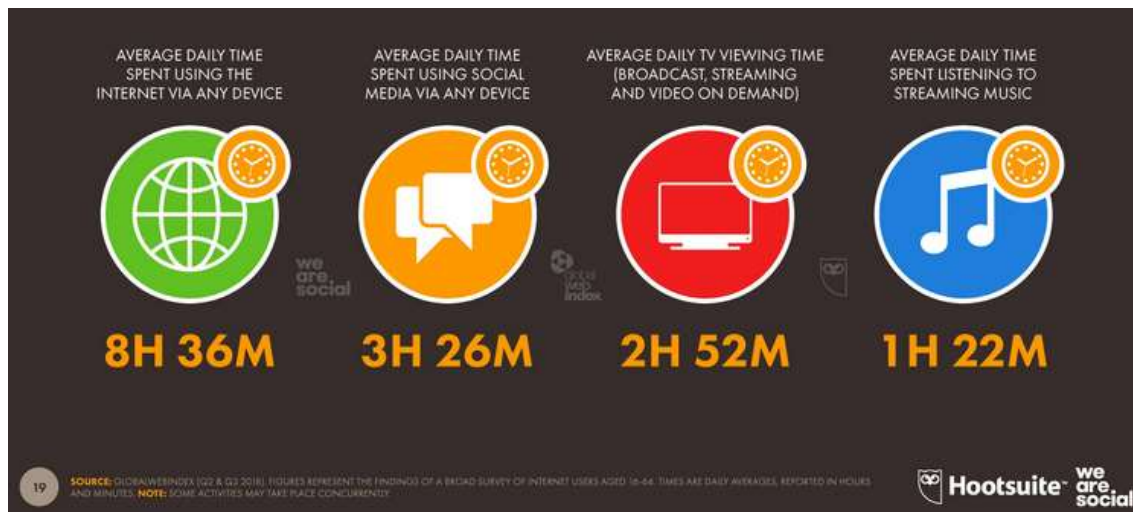


Figure 4. Internet growth (in term of hours)

The Internet reigns as the undisputed champion, with the typical individual devoting 8 hours and 36 minutes to browsing every day. Next in line is social media, which takes up a total of 3 hours and 26 minutes. As previously said, television remains a popular choice among viewers, with an average watching duration of 2 hours and 52 minutes. Recently listened to music for a duration of precisely 1 hour and 22 minutes. The progress of the digital landscape in Indonesia has great potential, particularly in terms of the number of internet users, social media users, and smartphone users. This presents business prospects and indicates the direction in which the firm is progressing. Organizations that only depend on conventional and traditional techniques will be overwhelmed by organizations that have incorporated information technology into their business operations.

Technology has made access to information easier and allowed people to communicate and interact easily. This allows businesses to reach a wider market and increase engagement with customers. Technology has created new jobs that did not exist before. Examples include jobs in information technology, application development, and cybersecurity. In addition, technology also allows people to work flexibly and remotely. This opens up opportunities for people who live in remote areas or have limited mobility. Technology has changed existing



business models. Business models that previously relied on physical stores and promotions through traditional media have now been replaced by online business models. Companies can sell their products and services directly to consumers via the internet and online platforms. This allows companies to reach a wider market at lower costs. Technology also increases efficiency in business and the economy. An example is the use of cloud computing which allows companies to store and manage data more efficiently. Big data and artificial intelligence also enable companies to make decisions based on more accurate and detailed data analysis. Technology also allows companies to automate business and production processes, thereby reducing production costs and increasing productivity.

In the increasingly developing digital era, technology has become an inseparable part of everyday life. In terms of business and economics, technology has brought about significant changes in the way companies operate and communicate with consumers. Technological developments have also opened up new business opportunities and created new jobs. In the digital era that continues to develop rapidly, technology plays an important role in economic and business transformation. New technological innovations such as artificial intelligence (Artificial Intelligence), Internet of Things (IoT), and blockchain provide many new opportunities for business and economic actors to increase efficiency, productivity, and competitiveness. In addition, technology also allows businesses and economies to better connect and interact with their customers and business partners through digital platforms. Although technology has brought many advances and new opportunities for business and the economy, this digital transformation also brings new challenges and problems that must be faced. One of the main challenges is the ability to keep up with the rapid and ever-changing technological developments. Apart from that, the use of technology also has an impact on social and environmental aspects, which business and economic actors need to pay attention to.

In this instance, the creative industry encompasses a wide range of activities and sectors. The creative industry is a sector that emerges from the utilization of personal creativity, expertise, and abilities to provide economic growth and job prospects via the cultivation and exploitation of human creativity and ingenuity. The Ministry of Trade of the Republic of Indonesia categorizes the creative industry into 14 subsectors, which encompass advertising, architecture, art and antiques market, crafts, design, clothing, video film and photography, interactive games, music, performing arts, publishing and printing, computer services and software, television and radio, and research and development. Presently, the government is giving utmost focus to the creative sector, as seen by the establishment of the Creative Economy Agency. The government perceives this industry as having the potential to enhance the





economy and competitiveness of the people, as well as foster the growth of future industries. There is an expectation that the creative sector would foster enhancements in the quality of life and promote equitable distribution of wealth.

2009 can be said to be the year of the creative industry in Indonesia because this year Presidential Instruction No. 6 of 2009 was issued which requires government institutions to make action plans to help the development of the creative industry. In the following year, through the Ministry of Trade, the book Development of the Indonesian Creative Economy 2025 was also issued. This means that the Government is paying attention to industrial potential both on a national scale and in the rural area. The development of creative industries, especially in rural areas, can be used as a means to improve community welfare and can increase regional potential which can have an impact on the social and economic realms. With the facts and data as presented above, the creative industry has an important role in the economic and social life of society. However, what must be remembered is that the existence of a large creative industry cannot be separated from the creative process which will not grow and develop if it is not supported by cultural capital, social capital and creative capital (Yasfar Amir, 2010). Ultimately, the creative industry must be directed as a process of creating added value (economic, social, cultural, environmental) based on ideas born from the creativity of human resources (creative people) and based on the use of knowledge, including cultural heritage and technology.

Media Technology

Media technology encompasses the use of technical advancements in the distribution, preservation, and creation of media material. This encompasses a wide range of digital tools, platforms, and systems that facilitate the development, dissemination, and consumption of media in the current digital-centric era. (Djamaludin, D. 2019) This article aims to elucidate the definition of media technology and provide instances of digital media. The advent of media technology has fundamentally transformed our methods of accessing, consuming, and engaging with various forms of media. The advent of digital technology has revolutionized conventional media industries, including television, cinema, publishing, and marketing services, creating both new prospects and obstacles. As technology advances, media technology has become an essential element in the media sector, providing innovative solutions to improve efficiency and better user experience.

Industrial Transformation

Industrial transformation (IX), often called Industry 4.0 or the fourth industrial





revolution, is an ongoing paradigm shift in the industrial sector that involves the integration of advanced digital technologies into various aspects of the manufacturing process. (Kurnia, A., & Salim, A. 2020) Industrial transformation combines traditional manufacturing and industrial practices with the digital world. This company uses digital technology to enable a system capable of independent monitoring and decision making, thereby encouraging a more efficient, agile and innovative industrial ecosystem (Suharman, H., & Mardikanto, T. 2021).

Local Creative Industries

The local creative industry is an economic sector that uses knowledge, skills and creativity to create goods and services that have aesthetic value and cultural uniqueness. Villages in Indonesia have great potential to develop their local creative industries, as they often have unique cultural heritage and natural resources. There are various local creative industry sectors that have the potential to be developed in villages, such as handicrafts, fashion and textiles, local culinary, arts and performances, product design, crafts, and cultural tourism.

METHOD

The qualitative method is a method that focuses on in-depth observation. Therefore, the use of qualitative methods in research can produce a more comprehensive study of a phenomenon (Sugiyono, 2017). Problem Identification: First of all, the researcher must identify the problem that the article wants to answer. Literature Study: Once the problem is identified, researchers will conduct a literature study to understand concepts and theories about the role of technology in business transformation in the digital era. Literature sources used include books, journals, articles and related official websites.

Determining Research Methods: After the literature study is carried out, the researcher will determine the research method that will be used to answer the research problem. The research method used in this article is. Case Study: In this method, researchers will take several examples of businesses that have successfully adopted technology in their business, and analyze how technology plays a role in industrial transformation. Collecting data by searching for sources and constructing them from various sources such as books, journals and existing research. The analysis method uses content analysis and descriptive analysis. Library materials obtained from various references are analyzed critically and in depth in order to support propositions and ideas.





RESULTS AND DISCUSSION

The Role of Digital Media Technology in Industrial Transformation

Various industries are experiencing the role of digital technology in the era of industrial revolution 4.0, one of which is the manufacturing industry. Over recent times, the manufacturing sector has experienced quite massive changes. Some digital transformation in the manufacturing industry, reported by Microsoft News, covering robotics technology to 3D printing. The role of this technology is truly significant in the running of the manufacturing industry. The following is some of the digitalization experienced by the manufacturing industry with technology.

1. Automation system and process control can enable companies to automate various tasks in production. In addition, automation systems also reduce dependence on human labor, and increase production efficiency. Industrial robots and automation systems replace repetitive and demanding tasks, thereby reducing errors and increasing production speed. Automation system and process control can enable companies to automate various tasks in production. In addition, automation systems also reduce dependence on human labor, and increase production efficiency. Industrial robots and automation systems replace repetitive and demanding tasks, thereby reducing errors and increasing production speed.
2. The application of the Internet of Things (IoT) allows companies to connect various devices and systems in the production process. Typically, this application uses sensors and internet connectivity, companies can monitor operational conditions in real-time, collect data from machines, equipment and other devices, and optimize production performance (Wicaksono, A. 2020). Various IoT innovations that can make logistics operational activities more efficient will continue to be needed. This cannot be separated from the challenges that the logistics sector will face, such as increasing supply chain complexity and high consumer demand. One of the roles of IoT in logistics is improving employee safety. Currently there are devices available that employees wear to monitor their physical condition and estimate risks.
3. The use of big data and analytics allows companies to process and analyze large and complex data generated by production systems. With advanced data analysis, companies can identify patterns, trends and valuable insights to optimize operations, predict market demand and conduct more accurate production planning. Additionally, companies can make more informed decisions, optimize operations, and remain competitive in a dynamic marketplace.





4. **Application of Artificial Intelligence.** It cannot be denied that the application of artificial intelligence or machine learning (AI) helps production systems make decisions based on data analysis and machine learning (Pratama, DS, & Mustafid, M. 2020). AI can be used to improve product quality, optimize production schedules, perform predictive maintenance on machines, and increase overall operational efficiency. Apart from that, AI also helps companies in their business operations.
5. Digital technology also supports better communication and collaboration between teams and departments in the production process. Digital collaboration applications and platforms enable real-time information sharing, joint problem solving, and faster, more informed decision making. By adopting digital technology, companies can increase efficiency, productivity and quality in various processes, including internal communication and collaboration between teams.
6. Digital technology also has an important role in increasing security and data protection in the production process. Cybersecurity and data protection systems ensure that sensitive information and production processes cannot be accessed by unauthorized parties, thereby protecting the integrity and confidentiality of operations. Thus, customer satisfaction can be increased easily. The transformation of the manufacturing industry through digital technology allows companies to adapt to rapid market changes and competition.

Technological Challenges in Industrial Transformation in the Digital Era

1. New Skills Needs

Technological developments force business people to continue learning and developing new skills in order to utilize technology effectively. This need for new skills can be a challenge for business people who are not familiar with technology or do not have the resources to train employees in these new skills (De Reuver, M., Bouwman, H., & Haaker, T. 2018).

2. Data Security

Technological developments have brought major changes in data collection, processing and storage. Customer and business data collected by companies is now an important asset in the digital era. However, as more data is collected, the greater the data security risks that can occur. Data security is becoming an increasingly important and complex issue in this digital era (Wahyudi, AS, & Sari, RL (2019). Companies must pay attention to data security risks and take action to protect their customer and business data. Misuse of





data can damage the company's reputation and influence customer trust.

3. Tougher Competition

Technological developments have also opened up new business opportunities, but at the same time also increased competition. Business people must be able to utilize technology well to be able to compete in this increasingly competitive market. This forces business people to continue to innovate and develop better products or services.

4. Tighter Regulations

Technological developments have also triggered stricter regulations. These regulations are usually created to regulate the use of technology and protect consumers. However, regulations that are too strict can limit innovation and business development.

5. Ethical Challenges

Technological developments also raise ethical challenges in business. For example, the use of technology to collect consumers' personal data can raise privacy and data security issues. This forces business people to consider ethics in the use of technology.

The Need to Adapt to Changes in Media Technology in Industrial Transformation

In the work world of today, you need to be able to deal with change. It's important to be able to deal with change for the following reasons: a.) Things change all the time; it's a part of life and business. Businesses that can quickly change with the times have a huge edge over their competitors. b.) More Productivity and Efficiency: Companies can be more productive and efficient if they can adapt to change (Purwanti, D. 2020). A better way for businesses to reach their goals is with the help of new technology, methods, and strategies. c.) Innovation: Getting used to change can lead to new ideas. Companies can find new ways to meet customer wants and make their goods or services more valuable by changing with the times in terms of technology and the market. d.) Competing in the Global Market: Companies can do better in the global market if they can adapt to change.

It is better for businesses to be able to respond quickly to changes in the global market. This helps them get a bigger piece of the market. Making new chances possible. Getting used to change can lead to new business chances. New business possibilities can be found in developing areas or by working with new companies. In order to adapt to change, companies must have the ability to respond quickly to change. This can include developing new skills and capabilities, developing new processes, and investing in new technology. It is important for companies to remain flexible and open to changes that occur in the business environment and markets, so that they can remain relevant and competitive in the future.





Raising the Wealth of Local Crafts: Contribution to the Development of Local Creative Industries in the Era of Media Technology

Indonesia has long been known as a country rich in local crafts with cultural diversity and natural wealth. especially the creative industry in the fashion and craft product sector, has become an integral part of Indonesia's economic growth (Wibowo, A. 2021). In 2023, data from the Ministry of Industry notes that the creative economy sector will contribute around 7.8% of the National Gross Domestic Product (GDP), proving the significant contribution of this sector to the country's economy. However, in the increasingly advanced digital era, new challenges arise. How can we continue to support and develop the local craft industry amidst these changing times? One way that is worth considering is through facilitating Micro, Small and Medium Enterprises (MSMEs) in the local Indonesian craft sector.

The facilities that accommodate these MSMEs are at Lokalasting, as a contribution that can be taken by creating an innovative platform to support Indonesian cultural preservation activities and at the same time increase income from original Indonesian craft products, especially on Java and Papua. This is in line with efforts to achieve the 8th Sustainable Development Goal (SDGs), namely 'decent work and economic growth' or 'decent work and economic growth'. Looking back at data from the Ministry of Industry in 2023, around 61.76% of industrial areas are still concentrated on the island of Java. This shows that efforts are needed to balance the portion of industrial areas between Java and outside Java. Thus, this platform, which can be accessed by namaLokalasting.id, can exist to focus on the sustainability of the local craft industry, which can help achieve this goal. In this case, market stability can be achieved by focusing on preserving and developing craft products on the islands of Papua and Java.

Concrete steps, such as training, online marketing, and the use of digital technology to expand market reach, can help advance the local craft industry. Apart from that, collaboration between the government, industry players and the community in developing innovative platforms can create an ecosystem that supports the growth of local creative industries. It can also help preserve Indonesia's cultural heritage, create decent jobs, and encourage inclusive economic growth. Integrating local crafts with the digital era is an important step in realizing sustainable economic development goals and is in line with the spirit of increasingly rapid change. Localising with its commitment to continue to support and accommodate local Indonesian handicraft MSMEs can be proof that cultural riches are increasingly developing and deserve to continue to be preserved, so that through Localising the Indonesian economy can continue to grow and provide benefits to the nation.





CONCLUSION

The previous chapter's research and discussion have led to the conclusion that technology has significantly influenced the operations of businesses. Through the reduction of costs and the reduction of time required to conduct business operations, technology has enabled the enhancement of efficiency and productivity. In addition, the utilisation of technology facilitates the development of superior products and the acceleration of innovation, thereby enhancing their competitiveness in the market. The application of technology necessitates meticulous consideration. The necessity of cyber security, the risks of economic and social inequality, and the substantial investment required must be considered. Companies must, therefore, develop and execute a technology strategy that is both sustainable and capable of swiftly adapting to the ever-evolving business environment.

Digital media, which is utilised for a variety of purposes in the current digital era, is expanding significantly. This is particularly true for digital marketing, which is employed by personal businesses and firms in the marketing process of industrial products, particularly those produced by the creative industry. Digital media is still comparatively underutilised by small-scale creative industry participants. Consequently, it is imperative to provide education on the use of digital media, which serves not only as a lifestyle tool but also as a primary support for business, particularly as an online marketing medium.

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