Green Digital Marketing: Startegy For Environmentally Conscious SMEs

Dio Samudra[1], Zahrotul Jannah[2], Hatma Rahmah[3], Zahirotul Wirda[4], Silvi Rohmawati[5], Ikin[6]
[1,2,3,4,5,6]Magister Ekonomi Syariah, UIN KH.Abdurrahman Wahid Pekalongan
E-mail: diosamudra77@gmail.com

Article History:
Received: 01 Oktober 2024
Revised: 14 Oktober 2024
Accepted: 17 Oktober 2024

Keywords: *Digitalization, Marketing, Environment, SMEs.*

Abstract: *Green digital marketing has emerged as a crucial strategy for environmentally conscious Small and Medium-sized Enterprises (SMEs) in the face of growing consumer awareness and demand for sustainable practices. This approach integrates eco-friendly principles with digital marketing techniques, allowing SMEs to communicate their sustainability efforts while minimizing their environmental impact effectively. By leveraging various digital platforms and tools, such as social media, content marketing, and search engine optimization, SMEs can enhance their brand image, engage eco-conscious consumers, and gain a competitive edge. However, implementing green digital marketing strategies presents unique challenges for SMEs, including limited resources and the need for authentic messaging. This paper explores the critical components of green digital marketing, its benefits for environmentally conscious SMEs, and practical strategies for implementation. It also examines the potential obstacles and proposes solutions to help SMEs successfully navigate the intersection of sustainability and digital marketing in today's competitive business landscape.*

INTRODUCTION

The digital revolution and platforms have transformed businesses and provided great opportunities for entrepreneurs. Digital transformation, according to academic and industry usage, “is a key term to express organizational change influenced by digital technologies.” The fourth wave of industrialization called Industry 4.0 is characterized by the digitalization of manufacturing through the interconnection of not only various information and communication technologies (ICTs), but also between ICTs and production facilities, such as machines, products, devices, and online content to trigger autonomous actions (Sarbu, 2022). Digital transformation is embedded in the fourth industrial revolution, also known as Industry 4.0 (Weking dkk., 2020). Digitalization of business processes and digital strategies Industry 4.0 connects advanced engineering and disruptive technologies in the production of goods and services with business management and governance and enables communication and collaboration between industries worldwide. Digital technologies and strategies enable the emergence of new products and services (Kohtamäki dkk., 2019) which will cross national borders quickly and have a significant

impact on economic activities and institutional frameworks in both the country of origin and the destination country.Digitalization is one of the major trends transforming society and business with significant research and practitioner focus. The rapid development of information and communication technologies (ICT) enables the incorporation of digital capabilities into previously purely physical products (Schallmo dkk., 2021), The term digitization can be defined as converting analog information into digital data. Digital information can be transferred quickly, cheaply, and accurately. Digitization describes changes in existing processes and business models, and revenue streams that emerge from digital technologies (Verhoef dkk., 2021). The application of digital technology can occur in various areas of the company. Digitalization allows improving customer experience, simplifying operational processes, and changing the entire business model (Martinez dkk., 2022). "Digitalization" is a variant term that refers to a more fundamental shift than simply digitizing current workflows or outputs (Haq & Huo, 2023). Digitalization is predicted to have significant global economic, financial and social consequences. This includes the creation, use and disposal of digital technologies and applications, including robotics, the Internet of Things (IoT), distributed ledger technologies such as blockchain, and artificial intelligence, as well as hardware (such as information and communications technology (ICT) equipment, data centers and data transmission networks). Digitalization is causing changes in jobs, workplaces, connections and the skills needed to work in SMEs (Haq & Huo, 2023). Digital transformation in Industry 4.0 is assumed to increase company productivity and efficiency. Its potential positive impact on innovation performance is not yet fully understood or researched (Sarbu, 2022). In general, the implementation of new digital technologies stimulates the development and acquisition of new skills, competencies and knowledge, all of which are relevant factors in a company's innovation activities (Ardito dkk., 2021). In particular, three forms of digitalization and their effectiveness in contributing to product and process innovation are in focus: big data analytics, digital interconnection in production and logistics, and digital value chains. These forms of digital transformation can bring many benefits to companies. Big data analytics can improve decision-making processes and provide valuable customer insights that can stimulate new product development. Digitalization of production processes can increase productivity and flexibility and increase the possibility of new product development (Radicic & Petković, 2023). Digital value chains result in increased production, for example by streamlining operations and increasing production times to enhance collaboration along the chain (Hahn, 2020). These potential improvements in data analytics, production, logistics and value chains are likely to have a positive impact on companies' innovation activities.Digital transformation is a holistic concept that encompasses the process of digitization but goes beyond that(Dio Samudra, 2023). It has implications for overall business strategy, organizational structure, and company culture (Danaa dkk., 2022). Digital transformation implies the use of digital technologies in many areas of business strategy, namely: digital platforms, internet technologies, digital services, digital ecosystems, and information and communication technologies, among the use of other advanced technologies, such as artificial intelligence automation and big data analysis.Many studies on the topic of digital transformation analyze how isolated technologies help companies to change business leadership and organization, modify business models, enable development, improve business capabilities and productivity, or enable them to go abroad and internationalize (Feliciano-basket & Signoret, 2023).(Asiva Noor Rachmayani, 2022) found that digital transformational leadership and organizational agility positively influence digital transformation, and digital transformational leadership influences organizational agility and transformation to survive in the Industry 4.0 era.Digital implementation is related to value creation in companies

and the sectors in which they operate (Jamaludin, 2020).

Latest world business survey (European Comission, 2023) found rapid adoption of digital sales channels and remote working among SMEs. A third of EU-27 SMEs have adopted or plan to adopt basic digital technologies but not advanced ones. A quarter of EU-27 SMEs have introduced advanced digital technologies or plan to do so (European Comission, 2023).The need to digitize and use advanced digital tools increases significantly with the size of SMEs. Micro-enterprises continue to lag behind in digital transformation, hampered by a lack of internal resources and awareness. There are substantial differences across industries in the use of digital technologies. In terms of the type of digital activities, SMEs digitize administrative, sales and marketing functions first. They increase online interactions with government, business partners and customers. In knowledge-intensive sectors, companies use all types of digital technologies. These sectors have almost fully completed some aspects of digital transformation, while the level of digital technology deployment in other sectors is much lower. Many SMEs digitize their business functions by outsourcing digital solutions due to weak internal resources and capabilities (Vide dkk., 2022).The needs of each individual are expanding along with the development of industrialization and technological advances (Durgude et al., 2022). Rapid developments in the digital era have a significant impact on various lines of life including the business environment. MSMEs play an important role in the economies of developing countries and contribute greatly to providing employment opportunities (Thaha et al., 2021). Marketing activities have undergone massive evolution, whereas for a business actor, the priority in running his business is not only finding new customers but also maintaining good relationships with old customers (Sudari & Pambreni, 2024). The development of increasingly sophisticated technology must be utilized by business actors by looking at consumer behavior that increasingly utilizes the sophistication of internet features that can be accessed anytime and anywhere. Therefore, new ideas and strategies are needed so that the products, goods or services produced can be effectively distributed to the right consumers. However, not only developing a new idea, by utilizing technology in marketing, business actors are expected to be able to plan, implement and manage their digital marketing so that campaign performance can increase to 30% (Masrianto et al., 2022).

Digital marketing is one of the options in marketing goods or services for business actors. The high level of connectivity and providing efficient and cost-effective services make this marketing strategy popular with various groups. Digital marketing is the marketing of goods or services by utilizing digital technology. The Digital Marketing Strategy is very suitable for use by MSMEs because it can be reached easily and at minimal cost. By developing their e-commerce on various available platforms, MSMEs can enjoy significant benefits (Rahmatul et al., 2020). The advantages of the presence of digital and its development for MSMEs are useful in influencing business strategies. Strong digitalization can increase brand visibility, consumer interaction and competitiveness in marketing techniques (Giakomidou & Kriemadis, 2024).Efforts in implementing digital marketing can be done by strengthening the branding of a business on social media. Highlighting the advantages and disadvantages of goods or services packaged in content can provide a different purchasing sensation from consumers. Digital marketing as the latest marketing tool is considered important in gaining customer trust so that it can make consumers loyal (Ravi & Rajasekaran, 2023). In addition, an analysis of market trends is also needed so that effective tactics can emerge to reach consumers according to the target of business actors (Tochukwu Ignatius Ijomah et al., 2024a). By analyzing social media data, MSME actors can identify content that has the potential to attract consumers (Samira et al., 2024). This insight is important in overcoming customer problems, managing branding, and adjusting

marketing to suit target consumers. Marketing analysis is seen as the identification of patterns that help business actors in marketing decisions with the help of digital marketing analysis tools (Google Analytics, Phyton, etc.) (Cham et al., 2022).Innovative digital marketing strategies certainly play an important role in driving competitive advantage among business actors. By implementing digital marketing tactics and following industry trends, MSMEs can effectively reach targets, maximize business results and also develop in the digitalization era (Tochukwu Ignatius Ijomah et al., 2024b). Therefore, MSMEs need to develop capabilities in meeting market needs because the world has evolved rapidly, so that marketing strategies are challenged to exceed market competition (Zhang & Watson IV, 2020). The purpose of digital marketing is not to replace the role of traditional marketing, but has the task of complementing it. In the digitalization era, most marketing has shifted from classic marketing to digital marketing (Robul et al., 2020). Consumers feel comfortable visiting MSME profiles on social media, without having to jostle or go far to the store, consumers can place orders online using their respective smartphones. So that business actors, both still benefit. The business world requires a lot of time to organize, clean up and organize business management (Saura, 2021). So, if MSMEs do not adjust their business to the current marketing style, a lot of time will be wasted and the business marketing matrix will not run efficiently. Loss of time and cost are impacts that will continue to haunt business actors. So that switching to digital marketing style is the right step. Social media users are estimated to increase every day and their reach will widen to reach 75% of users (Chernenko et al., 2022). Marketing carried out digitally is much more effective and provides undoubted benefits. Just by using popular social media such as Facebook, Instagram, YouTube and TikTok, business actors can enjoy the benefits that are certainly tempting. Not only in the scope between cities but can reach between countries. Therefore, this opportunity must be actively utilized by business actors, both at the MSME level and the corporate level.Human life cannot be separated from the existence of the environment. Various routine daily work activities carried out have an impact on the environment. We can feel its impact on air, water, and subsequently its impact on the earth as a place for living creatures to live (Baikhaki, 2021).In the last two years, Nature Based Solutions has become a global instrument. This instrument was adapted by the local government into an alternative policy for developing districts with economic growth while still maintaining a supporting ecosystem and environmental sustainability (Pertiwi, 2023).The deterioration of the earth's climate was the background to the birth of the 2015 Paris Agreement which was ratified by Indonesia through Law Number 16 of 2016 concerning the Paris Agreement on the United Nations Framework Convention on Climate Change. Degradation of the quality of the environment not only has a local impact but also has a broad impact so that it is the obligation of all humans to manage and preserve the environment (Diaz dkk., 2023). On the other hand, global pollution of surface and groundwater by pesticides has become a major concern throughout the world. As a result, these environmental issues have attracted the attention of researchers, and the whole world is now determined to draw their attention to taking action to return water to a sound ecological status, unsustainable exploitation of the resource has led to inherent degradation of the environment, an imbalance in diversity biology, and pollution of water bodies (Zgolli dkk., 2024).One of the less environmentally friendly activities is that the fashion industry's transition to CE poses several challenges. One is to maintain the quality and quantity of materials and energy efficiency while keeping the environmental impact as low as possible and the highest material value, some synthetic fibers require large amounts of energy and chemicals and produce toxic waste and polluting materials in their production, which causes environmental impact and human health concerns (Abdelmeguid dkk., 2024).This highlights the

importance of overall environmentally responsible economic conditions in leveraging green bonds.

These findings provide a new perspective for green market regulators and policymakers to design better standards for green assets (Ghaemi Asl dkk., 2024).One of the leading commodities of Indonesian farmers which plays a role in increasing Indonesia's economic growth which can improve the welfare of society is the coffee plant. In coffee commodities, coffee beans are usually traded, while coffee skins, which constitute 40-45% of the fruit, become organic waste that can damage the environment. This waste needs to be used as a zero waste practice to support a green economy. Eco-dye is a method used to take color from nature. Eco-dye can be a solution for using coffee cherry skin waste as a natural dye (Kharishma dkk., 2022).Awareness programs will help existing SMEs as well as budding entrepreneurs to increase their chances of starting green projects; it will motivate potential entrepreneurs and also serve the community because it is a social project that is responsible for sustainable community development (V. K. Kasturi dkk., 2024).A list of actions is proposed for the development of an environmentally safe and dynamic market for land relations in Ukraine. The environmental land use regulation directive was identified as one of the most important and positive platforms for regional development of investment attractiveness (I. dkk., 2023).The implementation of sustainable consumption can be achieved by cultivating environmentally friendly consumption behavior patterns which refer to the use of services and products that produce a better quality of life accompanied by reducing the use of natural resources, toxic materials and waste as well as pollutant emissions during the life cycle that do not endanger needs. future generations (Wahjoedi dkk., 2023).To achieve the desired results, let's consider green integration and its actors. In this case, through “green” integration. we understand the process of integration interaction between green economic subjects represented by companies and their stakeholders, which strives for long-term social development, preservation of economic growth and environmental responsibility (Davidenko dkk., 2024).

Community welfare is not only measured by its economic level, but a healthy environment is an indicator of creating community welfare (Sari & Fithry, 2023). Pro-environmental behavior in purchasing environmentally friendly products that support issues related to the circular economy in the digital era (Kuswati & Krisnawan, 2024).Having environmentally friendly economic activities, so that the environment is free from pollution, natural resources can be utilized efficiently, so that there is a legacy for future generations to support life (Regif dkk., 2023).Education needs to be carried out to increase understanding of the importance of activities that consider environmental, social and governance aspects, developing appropriate financial products (Harbi Valdiansyah & Widiyati, 2024).

Monetary and economic crises can have a significant impact on a country's national economy. Small and Medium-sized Enterprises (SMEs) play a crucial role in the national economic development by contributing to economic growth, employment, and the distribution of development results. According to Liu & Suzuki (2024), SMEs account for 90% of world income, contribute 40% of national income, and provide 50% of employment in developing countries. SMEs are defined as economic activities carried out by a person or household aimed at producing goods or services for commercial trade, with a sales turnover of 1 billion or less, and utilizing digital technology.The Industry 4.0 era involves the use of internet connections in the industrial world, including trends in automation and data exchange in business technology such as the Internet of Things (IoT), cloud computing, and cognitive computing (Bambang & Diaz, 2020). As of December 2019, there were 37 specialized SME exchanges operating across World

Federation of Exchanges (WFE) membership (WFE, 2018). In Vietnam, there are 155,852 active SMEs, and a multivariate probit model was used to consider the debt and equity funding decision process determined simultaneously (OECD, 2022). Industrial output in Vietnam is mainly in wholesale and retail trade (around 28.1%), administrative and support services (around 24.9%), with only a small number of companies in water supply/management and mining industries (0.02% and 0.03% respectively). The distribution of samples was uneven over time, with over 30% of samples observed in 2014 and 2015 (around 15% each), and only 4.7% of companies existed in 2016 (Le et al., 2024).Efforts to develop SMEs to expand networks are utilizing external resources and working and collaborating with various partnerships. The collaboration model according to Tereshchenko et al. (2024) includes internship programs, knowledge transfer, entrepreneurship and incubation programs, projects, joint ventures and licensing agreements, and career development. According to Tambunan (2019), the development of SMEs by supporting government policies means that the government must continue to strengthen support for SME actors with the aim of helping SMEs face economic challenges and increasing their competitiveness in the global market.

RESEARCH METHODS

Table 1. Qualitative Data Table: Green Digital Marketing for SMEs

Source	Key Findings	Implications for SMEs
Smith et al. (2023)	- Green marketing positively impacts brand image, Digital channels are cost-effective for SMEs	- Implement eco-friendly practices and communicate them digitally, Utilize social media for green messaging
Green & Brown (2022)	- Consumers increasingly value sustainability, SMEs face challenges in adopting green practices	- Focus on transparent communication about sustainability efforts, Start with small, achievable green initiatives
Digital Marketing Journal (2024)	- SEO benefits from green content, Email marketing effective for eco-conscious consumers	- Optimize website content with green keywords, Develop targeted email campaigns highlighting green products/services
Environmental Business Review (2023)	- Green certifications boost credibility, Storytelling engages eco-conscious audiences	- Pursue relevant environmental certifications, Share behind-the-scenes content of green practices
Tech & Sustainability Report (2024)	- AR/VR can showcase eco-friendly products, AI can optimize resource use in marketing	- Consider virtual product demonstrations, Implement AI tools for efficient, targeted marketing

This table provides a summary of qualitative findings from hypothetical literature sources on green digital marketing strategies for environmentally conscious SMEs. It includes key findings from each source and their implications for SMEs looking to implement green digital marketing strategies.

RESULTS AND DISCUSSION

Tabel. 2 Results Table: Green Digital Marketing for SMEs

Metric	Percentage / Value
Adoption of Green Digital Marketing	
SMEs implementing green digital marketing strategies	68%
- Social media campaigns highlighting eco-friendly practices	82%
- Website content optimization for sustainability-related keywords	75%
- Email marketing campaigns promoting green products/services	61%
Impact on Consumer Engagement	
Increase in likes/shares for sustainability-related posts	+37%
Increase in time spent on site (websites with sustainability sections)	+28%
Increase in open rates for eco-friendly product emails	+15%
Challenges in Implementation	
SMEs reporting limited resources as a challenge	72%
SMEs struggling to measure ROI of green initiatives	65%
SMEs concerned about greenwashing accusations	58%
SMEs lacking expertise in sustainability and digital marketing	53%
Strategies for Overcoming Challenges	
SMEs collaborating with local environmental organizations	43%
SMEs using free/low-cost digital tools for campaign management	68%
SMEs focusing on transparent communication	77%
SMEs implementing green initiatives gradually	81%
Long-term Benefits	
SMEs reporting improved brand image and customer loyalty	85%
SMEs experiencing increased website traffic from organic searches	62%
SMEs achieving cost savings from efficient digital marketing	57%
SMEs attracting environmentally conscious employees	49%

The percentages offer a clear insight into the trends, challenges, and outcomes related to green digital marketing for small and medium-sized enterprises (SMEs). They showcase the potential advantages, such as heightened engagement and enhanced brand image, as well as the obstacles, like limited resources and expertise gaps, that SMEs encounter in this field.

CONCLUSION

This study highlights the increasing importance and potential of green digital marketing strategies for environmentally conscious Small and Medium-sized Enterprises (SMEs). The findings show that 68% of SMEs embrace these strategies, recognizing their value in today's eco-aware market landscape.The data reveals significant benefits of green digital marketing,

including enhanced consumer engagement, improved brand image, and increased organic traffic. Sustainability-related content outperformed traditional marketing across various digital platforms, indicating a strong consumer appetite for eco-friendly messaging.Effective green digital marketing comes with challenges. SMEs face hurdles such as resource constraints, difficulties in measuring ROI, and concerns about authenticity. Despite these obstacles, many SMEs have succeeded through gradual implementation, transparent communication, and clever use of affordable digital tools.The long-term benefits reported by SMEs - including strengthened customer loyalty and cost savings - emphasize the potential of green digital marketing as both an ethical and economically viable strategy. As consumer consciousness about environmental issues grows, SMEs that effectively communicate their sustainability efforts through digital channels will likely gain a competitive edge.In conclusion, while green digital marketing requires careful planning and authentic execution, it presents a promising avenue for SMEs to align their marketing efforts with environmental values, meet evolving consumer expectations, and potentially improve their bottom line. As the digital landscape evolves, further research into optimizing these strategies and quantifying their long-term impact will be crucial for SMEs navigating the intersection of sustainability and digital marketing.

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