

Bridging Sustainability and Digital Marketing: A Comprehensive Review of Current Research

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Abstract—Sustainability has evolved from being a passing trend to becoming a fundamental priority for all participants within the business ecosystem. Digital marketing plays a vital role in advancing this agenda by supporting sustainable practices and awareness. This study investigates the emerging field of sustainable digital marketing, which has recently attracted significant interest from researchers and practitioners alike. To develop a theoretical foundation for understanding this domain, the paper conducts a comprehensive review of existing studies indexed in the Web of Science (WoS) and Scopus databases. The findings reveal that sustainable digital marketing contributes meaningfully to both social and environmental well-being while promoting overall business sustainability. This is largely driven by the increasing involvement of consumers and organizations in sustainability initiatives. The reviewed literature highlights how sustainable digital marketing is applied across different industries, the diverse technologies employed to implement it, and its influence on brand reputation as well as on fostering environmentally responsible consumer behavior.

Index Terms—Sustainability, Web of Science (WoS), digital marketing,

transformation from all stakeholders involved.

From a corporate perspective, organizations are increasingly challenged to embed sustainability into every stage of their operations—restructuring business models, implementing environmentally and socially responsible strategies, and promoting sustainable behavior among all participants in their ecosystem. Meanwhile, consumers have become more conscious and demand greater transparency regarding product origins, production conditions, and ecological impact. They increasingly rely on digital platforms to access such information. This growing digital engagement underscores the rising significance of sustainable digital marketing, which stands at the center of this study. The primary objective of this study is to examine the existing body of literature related to sustainable digital marketing. To the best of the author's knowledge, no prior research has provided a comprehensive content analysis of this subject. Consequently, this paper seeks to address this gap by conducting a detailed desk-based investigation, the findings of which are presented in the following sections.

I. INTRODUCTION

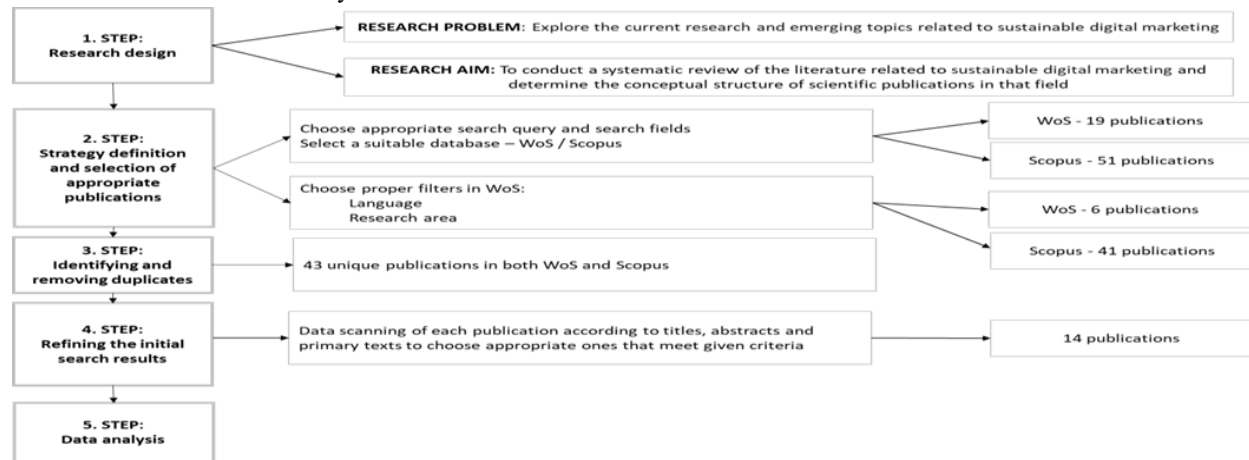
Sustainability has evolved beyond being a mere trend and has become a critical area of academic and practical inquiry. Strengthened by the impacts of the COVID-19 pandemic, the concept emphasizes meeting present needs without compromising the ability of future generations to meet theirs. As a result, sustainability calls for the integration of responsible practices into both daily life and business operations, requiring coordinated action and systemic

II. THEORETICAL BACKGROUND

Over the past several decades, digital marketing has evolved into a dynamic and continuously developing field. It encompasses strategies and campaigns implemented through digital platforms aimed at connecting with consumers in an increasingly online environment. Digital marketing utilizes a wide range of techniques and tools to build relationships with customers, enhance brand visibility, generate interest

in products and services, convert potential buyers into loyal customers, and retain them through ongoing engagement. Furthermore, these tools allow marketers to monitor and analyze consumer behavior

and preferences in real time, providing valuable insights that help businesses cultivate long-term, mutually beneficial



relationships with their audiences (Gregurec, 2023; Arantes, 2022; Saura et al., 2020). By effectively leveraging data-driven insights, organizations across sectors can better understand and satisfy customer needs while simultaneously delivering value in a sustainable manner (Low et al., 2020; Hwangbo & Kim, 2019). As a result, sustainable digital marketing emerges as a strategic approach that enables firms to achieve and maintain a competitive edge (Odoom et al., 2025).

Digital marketing also plays a vital role in bridging the gap between societal values and market behavior, particularly in the context of sustainability (Hwangbo & Kim, 2019). It emphasizes not only financial success but also corporate social responsibility and ethical engagement (Jin et al., 2024). When digital marketing practices are aligned with sustainability principles and implemented ethically, they form the foundation of what is known as sustainable digital marketing

Sustainable digital marketing refers to the application of ethical, environmentally conscious marketing practices within digital environments (Tchanturia & Dalakishvili, 2023). According to Arantes (2022), it involves using digital platforms and tools to foster meaningful relationships among stakeholders while promoting transparency, personalization, interactivity, and relevance in communications. This

approach helps brands and organizations communicate their sustainability commitments and influence individuals to adopt more responsible behaviors.

By aligning marketing efforts with broader sustainability objectives, sustainable digital marketing contributes to the creation of an ethical, sustainable business ecosystem that supports the United Nations Sustainable Development Goals (SDGs) (Odoom et al., 2025).

In essence, it involves the promotion of sustainable, ethical, and eco-friendly products and services in a personalized way that meets consumers' sustainability preferences (Hwangbo & Kim, 2019). Consequently, it generates long-term value for businesses, consumers, society, and the environment, aligning with the triple bottom line of profit, people, and planet (Odoom et al., 2025).

According to Odoom et al. (2025), effective implementation of sustainable digital marketing is guided by five key dimensions—transparency, green products, social and environmental impact, consumer education, and stakeholder engagement—which together form a multidimensional framework.

Transparency refers to open and honest communication between companies and consumers in the digital sphere. It involves clearly disclosing

information about product origins, production processes, and the people involved in their creation. Such openness strengthens consumer trust, enhances brand reputation, and serves as the cornerstone of sustainable branding (Odoom et al., 2025; Tchanturia & Dalakishvili, 2023).

Green products represent another essential component, emphasizing the integration of environmentally friendly and ethically produced goods into digital marketing initiatives. Highlighting attributes such as recyclability, reduced carbon emissions, or energy efficiency appeals to environmentally conscious consumers (Odoom et al., 2025).

Social and environmental impact focuses on how companies contribute to broader sustainability efforts, such as community development or environmental protection. By showcasing initiatives like waste reduction, renewable energy use, or partnerships with non-profit organizations, brands can strengthen their image as socially responsible entities (Odoom et al., 2025).

Consumer education involves raising awareness and providing information that empowers individuals to make responsible consumption choices. Offering educational content about sustainability not only supports informed decision-making but also enhances customer satisfaction and loyalty (Odoom et al., 2025).

Stakeholder engagement highlights the importance of collaboration among all parties involved in sustainability initiatives. Through digital platforms, organizations can showcase partnerships, shared achievements, and stakeholder contributions toward sustainable development, thereby reinforcing their commitment to ethical and collaborative business practices (Odoom et al., 2025).

In summary, sustainable digital marketing represents an integrated approach that merges digital innovation with sustainability principles to create value for businesses, consumers, and society alike. It promotes responsible consumption, strengthens brand reputation, and supports the transition toward a more sustainable global economy.

III. LITERATURE SURVEY

The main objective of this study is to perform a systematic review of existing research on sustainable digital marketing and to conduct a content analysis based on scholarly publications within this field. The review encompasses studies indexed in the Web of Science Core Collection (WoS CC) and the Scopus databases up to January 20, 2025.



Figure 2 Distribution of published papers and citations by year

To fulfill this objective, desk research was carried out using secondary data related to the term “sustainable digital marketing.” Following a four-phase research process, a total of 14 relevant papers were identified that directly address the topic. These publications span the period from 2019 to 2025. Collectively, the selected studies have received 186 citations (excluding 154 self-citations) and have an H-index of 6. The highest number of papers was published in 2023 and 2024, with four articles each year, while 2024 recorded the greatest citation activity, reaching 70 citations in total.

The analyzed literature consists of eight original research articles, four book chapters, one review article, and one editorial piece. Notably, six of these publications appeared in the journal *Sustainability*, which is consistent with the journal’s thematic focus on environmental and sustainable development topics. The earliest identified study in this domain was titled “Session-Based Recommender System for Sustainable Digital Marketing”, authored by Hwangbo H. and Kim Y. and published in 2019. This paper represents the first known scientific

contribution explicitly addressing sustainable digital marketing.

The most cited publication in the dataset is “Smart Digital Marketing Capabilities for Sustainable Property Development: A Case of Malaysia”, authored by Low S., Ullah F., Shirowzhan S., Sepasgozar S.M.E., and Lee C.L., and published in *Sustainability* in 2020. This article has been cited 80 times, making it the most influential work within the analyzed corpus.

In the set of 14 analyzed papers, only five keywords appeared more than three times: marketing, digital marketing, sustainability, sustainable development, and sustainable digital marketing. These keywords were grouped into two clusters distinguished by color: the first cluster (red) includes digital marketing, sustainable development, and sustainable digital marketing, while the second cluster (green) includes marketing and sustainability. Across all studies, the keyword marketing appeared most frequently, occurring six times, followed by the remaining four keywords, each with three occurrences.

This distribution is unsurprising, as all the identified keywords are conceptually interconnected and essential to defining and understanding the concept of sustainable digital marketing, which is the focal point of this research. Although the number of recurring keywords is relatively small, this reflects the early stage of development of the research field. It is expected that as scholarly interest grows, the range and diversity of keywords will expand accordingly

Analysis of Reviewed Literature

The reviewed studies collectively explore how sustainable marketing contributes to advancing sustainability goals. Across the analyzed works, scholars consistently present sustainable digital marketing as a comprehensive approach that integrates sustainability principles into marketing practices through digital tools and strategies. The literature emphasizes that this approach has emerged in response to the growing consumer awareness of environmental challenges and the increasing demand for eco-friendly business models in daily life.

According to Tchanturia and Dalakishvili (2023),

consumer behavior has undergone a significant transformation, as individuals now tend to favor brands that align with their ethical and environmental values. Arantes (2022) identifies several factors that influence consumers’ decision-making regarding sustainable consumption, including cognitive barriers to sustainability, aspects of self-concept (self-signaling, self-identification, social identification), social influence and norms, as well as product characteristics linked to sustainable behavior.

On the corporate side, several authors have underscored the necessity for organizations to redesign their business models by adopting sustainable materials, minimizing waste, implementing digital supply chain management systems, and offering services that align with sustainability objectives (Tchanturia & Dalakishvili, 2023; Išoraitė, 2024; Low et al., 2020). Furthermore, Odoom et al. (2025) identified five crucial components for the effective implementation of sustainable digital marketing—transparency, green products, social and environmental impact, consumer education, and stakeholder engagement—each of which enhances consumer trust, brand reputation, and loyalty.

Saura et al. (2020) emphasize that emerging technologies have given rise to new business models that integrate sustainable strategies as part of digital transformation. These models monitor how consumers behave in online environments, how they create and interact with content, and which tools they use. Technologies such as big data analytics and artificial intelligence play a significant role in understanding and predicting consumer behavior in sustainable ways (Jin et al., 2024). In addition to these technologies, Al-Romeedy (2024) explored the potential of blockchain in enhancing the transparency, traceability, and efficiency of sustainable digital marketing campaigns.

Low et al. (2020) examined the use of smart digital marketing in the real estate sector, focusing on the integration of sustainable technologies to attract and retain customers, thereby fostering both smart and sustainable business operations. The authors proposed the Smart Digital Marketing Technology Acceptance Model, which combines the Technology

Acceptance Model (TAM) with sustainable digital marketing concepts. Similarly, B. Zhang et al. (2023) combined the TAM with the Theory of Planned Behavior (TPB) to analyze the attitudes and behavioral intentions of older consumers toward mobile technologies.

Sustainable digital marketing also finds application across various industries, including tourism, where it facilitates effective communication with tourists, enhances engagement, and collects feedback to improve services. Given the sector's economic potential, sustainable digital marketing is increasingly recognized as essential for maintaining social and environmental balance (Lemy et al., 2021). In the tourism domain, Al-Romeedy (2024) emphasized the importance of using sustainable digital marketing to create memorable and responsible travel experiences while preserving cultural and natural heritage.

Moreover, sustainable digital marketing contributes to the advancement of the carbon trading market, supporting global efforts toward carbon neutrality (Y. Zhang et al., 2023). Its application is not limited to large corporations—Giakomidou and Kriemadis (2024) observed that small and medium-sized enterprises (SMEs), particularly those in logistics, can also benefit significantly from its adoption.

Across industries, recommender systems have become crucial tools in implementing sustainable digital marketing strategies. Stalidis et al. (2023) reviewed e-commerce recommender systems, stressing the need to balance accuracy, transparency, and user satisfaction. Similarly, Hwangbo and Kim (2019) analyzed both Attribute-Based Recommenders (ABRs) and Behavior-Based Recommenders (BBRs), emphasizing their relevance in the fashion industry for identifying, grouping, and engaging consumers in a sustainable manner. They proposed innovative recommendation techniques based on session data and pattern recognition to enhance sustainable marketing outcomes.

Finally, Išoraitė (2024) identified the main factors, advantages, and challenges of implementing sustainable digital marketing within supply chain management, offering practical recommendations for

managers and policymakers to facilitate broader adoption of such practices.

IV. RESEARCH IMPLICATIONS AND LIMITATIONS

The findings of this study confirm that sustainable digital marketing remains an emerging and under-researched discipline. The 14 publications analyzed (spanning 2019–2025) collectively underscore the growing relevance of sustainability and digital marketing, highlighting their convergence into a holistic framework that reflects the priorities of modern businesses and consumers. The reviewed works provide valuable insights into how sustainable digital marketing supports business resilience, consumer engagement, and environmental stewardship.

Although the studies cover diverse themes—ranging from applications in real estate, tourism, hospitality, e-commerce, and energy to the influence of AI, big data, blockchain, and neural networks—they share a common conclusion: sustainable digital marketing is no longer a trend but a necessity. To remain competitive, companies must leverage advanced technologies, adapt to shifting consumer preferences, and embed sustainability into their digital operations.

However, the study is not without limitations. The primary limitation lies in the scope of data sources, as the analysis relied exclusively on the Web of Science Core Collection and Scopus databases. While these platforms are highly reputable, they may not encompass all relevant research in this emerging area. Future studies should therefore extend their scope to include additional databases to achieve a more comprehensive understanding of the field.

Furthermore, the search query and the use of filtering parameters (e.g., language and subject area) may have restricted the inclusion of potentially relevant works. The manual data-screening process—based on the review of titles, keywords, and abstracts—could also have led to the exclusion of significant studies. Despite these constraints, the findings offer a meaningful contribution to the growing body of knowledge on sustainable digital marketing.

V. CONCLUSION

Although interest in digital marketing and sustainability continues to expand, the integration of both concepts—the holistic framework of sustainable digital marketing—remains insufficiently examined. Most existing research has focused on the separate effects of sustainability and digitalization rather than their combined impact. This gap highlights the need for further exploration of how sustainable digital marketing influences business strategy, consumer behavior, and environmental performance.

Addressing today's sustainability challenges requires collective efforts and behavioral shifts from all ecosystem participants to minimize environmental impacts. The comprehensive concept of sustainable digital marketing can play a transformative role in this process—promoting environmentally conscious behavior, fostering collaboration among stakeholders, and supporting the transition toward a more sustainable and responsible global economy. By leveraging innovation and digital tools, businesses can simultaneously enhance competitiveness and contribute to the well-being of both people and the planet.

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