



Marketing Experts' Perspectives on the Role of Digital Marketing in Enhancing Sustainability

in Saudi Arabia's Petrochemical Industry Field Study

literature Review

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Research Background:

The consumption levels of the petrochemical industry pertain to the extraction of petrol and gas, manufacturing of chemical products and raw materials, manufacturing of plastic products and rubber, nuclear fuel processing, coking, petroleum processing, and fiber production (Peng et al., 2023). Moreover, petrochemical industry is among the industries that contribute significantly to carbon emissions (Ahsan et al., 2024). Additionally, in its capacity the petrochemical business, as a conventional industrial sector, is characterized by significant energy use, elevated emissions, and reliance on resources (Cui & Wu, 2024). According to Behbahani (2024) project management firms working in the marketing sector for the oil and petrochemical industries should be aware of how digital marketing strategies can be used to restructure customer data and help with customer segmentation and targeting for relevant marketing messages via a variety of marketing channels, including Facebook, SMS, and others.

Accordingly, digital marketing is the practice of promoting any good or service online. Accordingly, digital marketing and the internet have grown to be crucial elements of business since technological adoption has become urgently necessary (Jadhav et al., 2023). Moreover, digital marketing is an unconventional form of marketing that utilizes internet-based media such as websites, search engines, emails, social media, and mobile applications for the purpose of advertising. It has become increasingly popular because of cultural, technological, and societal changes. It increases customer awareness, informs companies about consumer behavior, and accelerates buying processes, thus becoming a marketer's revolution (Bharti & Kumar, 2020).

Additionally, according to Rumangkit and Hadi (2023); Soe (2024); Kale et al. (2022); Atar et al. (2022) digital marketing encompasses several dimensions such as: (a) Search Engine

Optimization (SEO), (b) email marketing, (c) social media marketing, (d) website design, (e) affiliate marketing, and (f) influencer marketing. Consequently, it is worth noting that this form of marketing is not exclusive to the internet, digital marketing encompasses internet marketing. For instance, internet marketing includes channels that are exclusively available to people online, such as webinars, contextual advertising, and website SEO. Conversely, digital marketing includes advertising and promotion on all digital platforms that are not connected to the internet, in addition to internet marketing. To put it another way, digital marketing refers to both online and offline digital communication Oklander (2023).

In addition, compared to traditional marketing techniques, digital marketing tactics offer various benefits including (a) they can reach a larger target market, (b) they can increase sales figures, and (c) they are more efficient. Along with having excellent digital marketing abilities, they also possess an easy-to-learn style. Initially, digital-marketing strategies include push-digital marketing is a strategy that sells goods to clients in secret so they may get buy outcomes fast, and pull-digital marketing which offer an opposite notion to the push-based strategy (Agvi & Taurus, 2024).

Additionally, digital marketing has played an important role in customer buying behavior in the era of globalization. It provides customers with new information about companies, engages them in various activities, and provides explicit information on products or services. Companies use digital marketing to promote their products, allowing customers to compare time and price among suppliers. Customers can buy products online on a daily basis, forward product or service content, and get frequent price changes or promotions. Online marketing has also enabled

customers to make it easy to locate the respective physical outlets in which to buy the product or service, without customers having to go to physical outlets (Verma & Vemuri, 2022)

Furthermore, the performance of marketing, e-commerce, and digital marketing are all positively and significantly correlated. Additionally, digital marketing is positively and significantly correlated with the sustainability of businesses. For example, e-commerce and the sustainability of SMEs' businesses are positively and significantly correlated (Udayana et al., 2023). As a result, every aspect of human existence, including the economy, the environment, and social problems, are all impacted by the theme of sustainability, which is a worldwide discourse (Battour et al., 2021). In addition, Digital marketing markedly enhanced sales performance and the company's sustainability over time. Digital marketing encompasses various aspects, including SEO, social media, websites, and other online platforms (Guru & Asifulla, 2023).

According to United Nations (2024) sustainability comes to a framework that includes strategic long-term concerns across environmental, social, and economic dimensions to meet the current needs of enterprises without compromising the ability of future generations to meet their own needs.

In addition, sustainability can be assessed through various aspects or pillars. The three pillars of sustainability must be continually implemented to achieve successful sustainable development performance at both industrial and societal levels. The pillars of sustainability encompass economic, social, and environmental dimensions, commonly referred to as profit, people, and the earth. It is referred to as the Triple Bottom Line (TBL) in the corporate sector (Hashim et al., 2023).

Moreover, environmental sustainability denotes the judicious and equitable stewardship of natural resources and ecosystems to guarantee their enduring vitality and robustness while fulfilling the requirements of present and future generations. It includes initiatives to mitigate environmental deterioration, decrease resource consumption, and advocate for conservation and restoration methods. Attaining environmental sustainability is essential for addressing climate change, safeguarding biodiversity, and preserving the integrity of ecosystems and natural resources (James, 2024).

In addition, corporate practices that allow for long-term financial growth and the establishment of long-term goals in order to create a more appropriate economy are what are referred to as economic sustainability principles (Olaleye et al., 2024). Furthermore, social sustainability denotes a company's dedication to conducting business in a socially responsible fashion by prioritizing stakeholder welfare, tackling social challenges, and making a constructive impact on society. It includes measures such as fostering diversity and inclusion, aiding local communities, upholding human rights, and guaranteeing equitable work standards (Udo, 2023).

Additionally, project management firms in the oil and petrochemical industry's marketing sector must comprehend the application of digital marketing strategies to restructure customer data and facilitate the segmentation and targeting of clients for suitable marketing communications via diverse channels, including Facebook and SMS (Behbahani, 2024). Moreover, businesses have commenced the strong promotion of their products via digital marketing and advertising. This transformation is achieving substantial environmental and sustainability advantages by decreasing energy usage and carbon dioxide (CO₂) emissions (Thangam & Chavadi, 2023).

Therefore, the aim of this research is to analyze the perception of marketing professionals about the contribution of digital marketing to achieving the sustainability of the petrochemical sector in the Kingdom of Saudi Arabia (KSA). As the petrochemical industry has high energy requirements, carbon footprints, and resource dependencies, the integration of digital marketing tools can lead to improved efficiency, consumer interactions, and sustainable operations. Through techniques like data-driven marketing, social media, and search engine optimization, firms can increase consumer awareness, improve resource utilization, and promote environmentally and socially sustainable measures. The study will discuss how online marketing promotes sustainable business growth for the petrochemical sector in alignment with economic, social, and environmental sustainability parameters.

Problem Statement:

Bauer et al. (2022) state that petrochemical industry's direct greenhouse gas emissions in 2020 were 1.8 GtCO₂eq, or 4% of world GHG emissions. Another 3.8 GtCO₂eq came from indirect GHG emissions from operations in other businesses that provide inputs to the petrochemical sector. Thus, 5.6GtCO₂eq of GHG emissions, or around 10% of world emissions, are linked to the petrochemical sector. In addition, Usman (2023) indicated that the primary contributor to the rise in greenhouse gas emissions is the petrochemical and oil and gas industries. Approximately 89% of carbon dioxide emissions originate from fossil fuel utilization, particularly in electricity and heat generation, transportation, and manufacturing and consuming activities.

Furthermore, without accounting for energy consumption, Industrial Process and Product Use's (IPPU) 2020 emissions totaled 78 million tons of CO₂ equivalent (CO₂eq), with the cement sector leading the pack at 35.5%, followed by the petrochemical (32.3%) and iron and steel

(16.8%) sectors (Rahman et al., 2022). Additionally, in 2019, KSA's per capita greenhouse gas (GHG) emissions exceeded the global average by more than three times (Rahman et al., 2022).

Also, according to Alshammari (2021) almost 21% of carbon emissions worldwide are attributed to the industrial sector. Also, UNFCCC (2022) highlights that the petrochemical industry contributed 4.10% of the overall emissions, while the CO₂ emissions produced as a result of fuel combustion in KSA's petrochemical sector contributed 4.95%. The overall contribution of the petrochemical sector to the carbon dioxide emissions was thus around 9.05%. Moreover, A discernible rise was also observed in greenhouse gas emissions from the Saudi Arabian Oil Company. The surge in GHG emissions from the oil refining sector in these emerging nations was propelled by the establishment of advanced large-scale refineries and the increasing domestic demand for refined petroleum products (Ma et al., 2023).

Figure No.1 shows GHG emissions by sector in KSA, including the share of the petrochemical sector. Petrochemical production released 30.77 Mt of CO₂eq (4.10% of total emissions) and fuel combustion in the petrochemical sector released 37.15 Mt of CO₂eq (4.95%). The combined emission from these two sources totaled 67.92 Mt of CO₂eq, rendering petrochemicals a major contributor to industrial emissions. While less than electricity generation (26.72%) and road transport (22.07%), these emissions indicate the industry's requirement for greener measures and cleaner technologies to reduce the industry's effect on the environment (Al-Sinan et al., 2023).

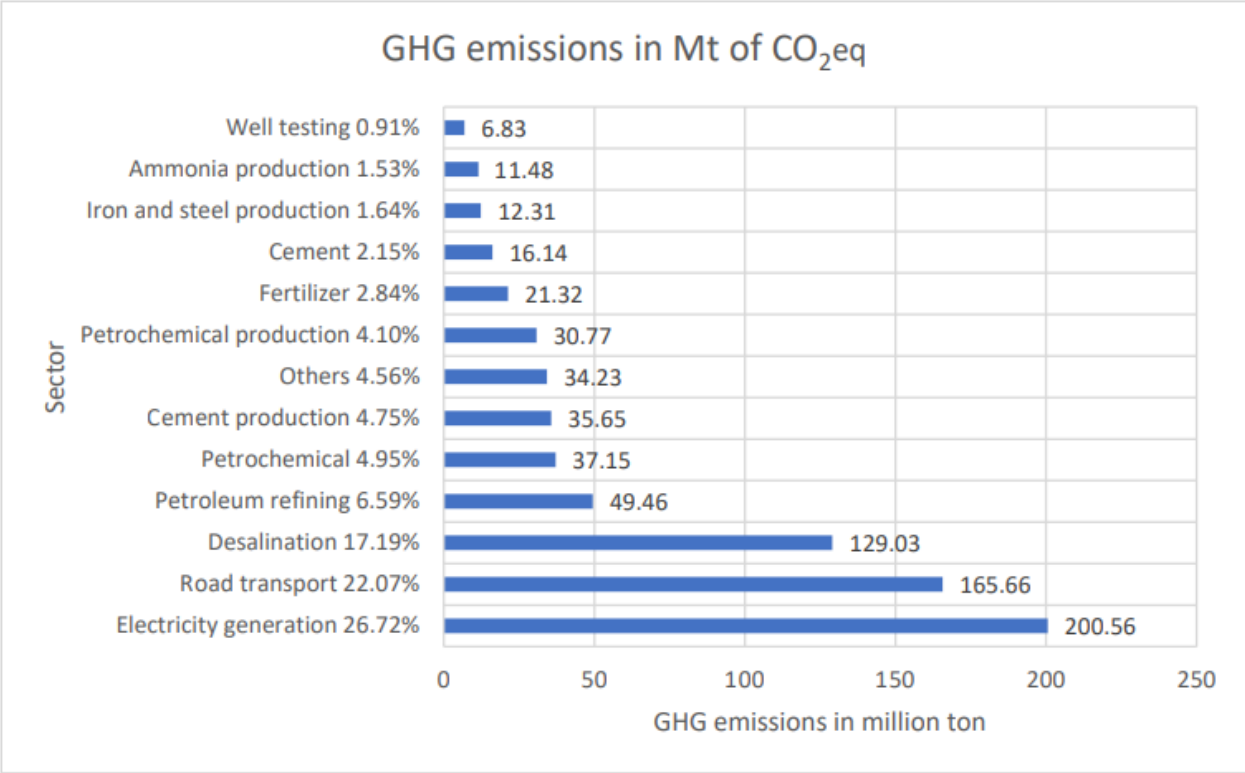


Figure No.1 shows GHG emissions in KSA, Source (Al-Sinan et al., 2023).

Therefore, in light of the substantial environmental repercussions of the petrochemical industry, there is an increasing demand for cleaner technologies and more sustainable methods. Digital marketing is essential for promoting sustainability by improving transparency, supporting eco-friendly efforts, and involving stakeholders. Nevertheless, its influence on sustainability initiatives inside KSA's petrochemical sector remains inadequately examined. This research analyzes marketing experts' perspectives on utilizing digital marketing to enhance environmental accountability and promote industry-wide sustainable change.

Research Methodology:

The research employs the use of descriptive research methodology in investigating the contribution of digital marketing to sustainability within Saudi Arabian petrochemical companies. The population will be inclusive of marketing experts will be considered the practitioners who

will be approached from across the country form the study sample from which a simple random sample will be drawn to ensure varied and representative data.

Research Questions:

This research aims to answer the main research question: What is the role of digital marketing in enhancing sustainability within petrochemical companies in Saudi Arabia?

From this main question, the study seeks to address the following sub-questions:

1. What is the impact of website design on sustainability improvements?
2. How does social media marketing contribute to sustainability improvements?
3. What role does SEO play in enhancing sustainability?
4. How does email marketing support sustainability efforts?
5. What is the impact of affiliate marketing on sustainability in petrochemical companies?

Research Aim and Objectives:

The prime objective of this study is to examine the role of digital marketing in improving sustainability within petrochemical companies in Saudi Arabia. The following sub-objectives are derived from this main objective:

1. Analyze the impact of website design on sustainability within petrochemical companies.
2. Investigate the role of social media marketing in enhancing sustainability.
3. Assess the contribution of SEO to sustainability improvements.
4. Examine the effectiveness of email marketing in supporting sustainability efforts.
5. Explore the role of affiliate marketing in fostering sustainability within the petrochemical sector.

Research Significance:

This research is important because it explores how online marketing can help achieve sustainability in KSA's petrochemical industry, an industry characterized by high environmental degradation. As global industries increasingly adopt digital practices in a bid to promote sustainability, understanding their effectiveness and usability within this industry is essential. Through marketing experts' perception, the study offers valuable perspectives on how digital resources are enabling more transparency, fueling sustainable activities, and boosting stakeholder engagement. The findings can support companies in practicing greener marketing strategies, assist policy-makers in crafting legislation to encourage digital sustainability initiatives, and contribute to overall deliberations in bridging environmental responsibility with digital innovation.

Research Structure:

Chapter I: Introduction, the chapter provides the background of the study, including the research background, problem statement, objectives, and significance. It lays the ground for the need to conduct research on the use of digital marketing to promote sustainability in the petrochemical industry in KSA. The problem statement identifies the challenge in integrating digital marketing approaches to achieve sustainability, indicating the gap in research.

Chapter II: Literature Review, this chapter reviews literature on digital marketing, sustainability practices, and their adoption in the petrochemical industry. Theoretical models, empirical studies on the effects of digital marketing on corporate sustainability, and case studies are discussed. Research gaps in the existing research are also outlined in the chapter, providing further justification for this research.

Chapter III: Methodology, Procedure, and Analysis, this chapter presents the research design, methodology, and data collection procedures. It explains the qualitative and/or quantitative methods used, for instance, expert interviews, surveys, or case studies. Data analysis methods are described, with assurances of validity and reliability in meeting the research aims.

Chapter IV: Study Findings, this chapter presents the outcomes of the study, bringing together key points from industry players and marketing professionals. Results are presented thematically, indicating how digital marketing contributes to sustainability and identifying obstacles to implementation.

Chapter V: Study Discussion, this chapter explains the findings of the study with reference to the literature review. It considers the practical applications of digital marketing for sustainability in the petrochemical sector, including its efficacy, shortcomings, and room for improvement.

Conclusion and Recommendations: This section recapitulates the primary findings of the study and makes practical recommendations for industry players, policymakers, and researchers. It offers strategies for maximizing digital marketing for improved sustainability initiatives and provides recommendations for future research directions.

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