Original Paper

Sustainability Development Goals: overcoming barriers and catalysing innovation for a sustainable future

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Received: 26 July 2023 | **Accepted:** 26 October 2023 | **Published:** 16 November 2023

Keywords: SDGs; barriers; innovations; UAE; sustainable future; 2030 agenda; Abu Dhabi.

Abstract. *The Sustainable Development Goals (SDGs) provide a universal framework for addressing the world's most pressing economic, social, and environmental challenges. Achieving the SDGs will require overcoming significant barriers and catalyzing innovation across various sectors, from energy and transportation to agriculture and healthcare. This paper reviews*

the literature on the barriers to achieving the SDGs and the potential for innovation to overcome these obstacles. The analysis suggests that achieving the SDGs will require a coordinated effort across government, civil society, and the private sector. While innovation is critical to achieving the SDGs, it must be accompanied by policies that promote sustainability and social equity. The paper concludes with a call to action for policymakers, business leaders, and civil society to work together to overcome the barriers to achieving the SDGs and create a more sustainable and equitable world. In the United Arab Emirates (UAE) and the larger Gulf Coast Countries (GCC) region, responsible market solutions are supported by an academic theory examined in this article. According to the analysis in this article, sustainability theory implementation is crucial for future market development in contemporary marketplaces. The research project contributes to the body of knowledge about organizational and corporate obstacles associated with operating a socially and environmentally responsible firm, as well as issues associated with applying environmental, social, and economic elements of sustainable business practices. The first stage of the study's scope was restricted to data analysis that clarified the model's concept as defined in the research. The model will be used and evaluated in collaboration with the research participants' organizations to demonstrate its validity.

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1. Introduction

The United Nations Sustainable Development Goals (SDGs) represent a universal call-to-action to end poverty, protect the planet, and ensure that everyone enjoys peace and prosperity (Mori Junior et al., 2019). The SDGs are a set of 17 goals and 169 targets adopted by world leaders in 2015 as part of the 2030 Agenda for Sustainable Development. The SDGs address many issues, from ending poverty and hunger to promoting gender equality, reducing inequality, and combating climate change.

Achieving the SDGs is a complex and multifaceted task that requires overcoming significant barriers and catalyzing innovation across various sectors (Cordova & Celone, 2019). This paper reviews the literature on the barriers to achieving the SDGs and the potential for innovation to overcome these obstacles. The analysis

suggests that achieving the SDGs will require a coordinated effort across government, civil society, and the private sector (Muñoz-La Rivera et al., 2020).

Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all are crucial to creating a more just, prosperous, and sustainable future for all. Education is a basic human right and a key driver of sustainable development. By providing education to all, we can break the cycle of poverty, reduce inequality, and create a more diverse and inclusive society. Education empowers individuals to make informed choices, enhances their skills and knowledge, and helps them contribute to developing their communities and society. Furthermore, promoting lifelong learning opportunities ensures that people can continue to learn and adapt to the rapidly changing world, which is essential for personal and professional growth. By investing in education and promoting lifelong learning opportunities, we can build a better future for ourselves and future generations. Ensuring that everyone has access to high-quality education and opportunities for lifelong learning. Millions of kids are still not in school despite significant advancements in enrollment, particularly in areas where educational systems find it difficult to keep up with population growth. Even when more kids are enrolled, many do not learn the fundamentals. Inadequate school facilities and a shortage of qualified teachers are barriers to providing high-quality education. Intensified initiatives, especially in sub-Saharan Africa and Southern Asia, directed at vulnerable populations, including people with disabilities, native people, refugees, and the rural poor, are necessary to achieve this goal.

In the specific context of Dubai, ensuring inclusive and equitable quality education and fostering lifelong learning opportunities are imperative for a just, prosperous, and sustainable future. Education serves as a fundamental human right and a pivotal driver of sustainable development. Universal access to education can break the cycle of poverty, reduce disparities, and cultivate a more diverse and inclusive society. Education empowers individuals, augments their skills and knowledge, and encourages active participation in community and societal development. The promotion of lifelong learning guarantees that people can continuously adapt to our rapidly changing world, a prerequisite for personal and professional growth. Addressing barriers to education, especially among vulnerable populations, such as individuals with disabilities, indigenous communities, refugees, and the rural poor, is paramount to realizing this goal. From an academic standpoint, studying 'sustainable development' in the 'UAE' offers a unique opportunity (Al Sarrah et al., 2021). The UAE "is focused on establishing its presence as a global sustainability leader," claims KPMG Lower

Gulf Limited (Seretny et al., 2019). Despite this goal, the UAE still has a long way to go regarding sustainability metrics. The nation scored 77 on the 2018 Environmental Performance Index (EPI) based on 24 performance indicators, including ecosystem health (Wolf et al., 2022). As a result, there are favorable economic crises in UAE, including leadership that promotes sustainable growth and a sizable market for 'sustainable' solutions (Zarim et al., 2017). The leadership of the UAE places a strong emphasis on the value of sustainability in national development. Since 2012, there has been a "Green Economy for Sustainable Development" initiative. Government policy emphasizes 'sustainability' is key to the national 'economy's success and offers the framework for UAE's economy to compete globally, as shown in Figure 1 in which the Green Economy is predicated on the six pillars.

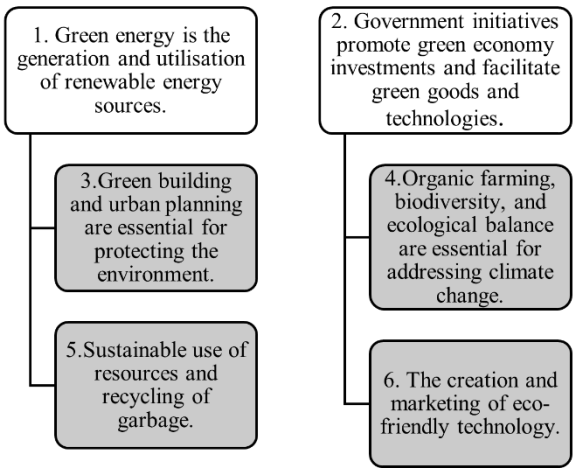

Figure 1. The six pillars of green economy

The peculiar circumstances in the UAE prompted several questions. As researchers, we questioned how much government goals influenced the growth of businesses that promote sustainable development in the private sector (Al Sarrah et al., 2021). Businesses in the UAE are aware of the UAE's sustainable development goals but cannot compare legal frameworks. Small and medium-sized businesses are unaware of sustainable development, and psychological obstacles prevent the application of sustainable solutions. Traditional marketing

strategies cannot effectively encourage the adoption of sustainable market solutions, and sustainable firms still face obstacles in a supportive environment (Small & Mazrooei, 2016).

During the project's initial phase, unstructured interviews with business representatives were done during Abu Dhabi Sustainability Week to learn more about their perspectives on ethical business, the legal system, and how to support a change in clients' and managers' mindsets. Additionally, it was clear from interactions with businesses that a change in marketing practices was urgently needed. Interview respondents also mentioned aspects of the corporate environment that are important for adopting ethical goods and services. They emphasized the significance of elements intrinsic to their companies and external to the environment, integrating them into the UAE's sustainable development market realities. The topics that participants brought up in their interviews are what we focus on in the following literature study.

Business models should be re-examined to address economic, social and environmental factors. Rodriguez (Rodriguez et al., 2020) argue that current commercial practices do not account for the Earth's role as primary shareholder and point of origin, leading to the development of management theory and practice. This presumption is pervasive in current management theory. Sustainable business is essential for advancement, allowing businesses to innovate and flourish, increasing their benefits to society (Szczepańska-Woszczyna & Kurowska-Pysz, 2016), (Gazzola & Colombo, 2014). Enterprises must create value that combines the advancement of society and the economy (Azeem & Mataruna, 2019; Milla & Mataruna-Dos-Santos, 2019). Management must comprehend and use new tactics to provide this value (Goehrig, 2008). People should act morally and responsibly, regardless of the outcome (Mataruna-Dos-Santos et al., 2019). On the other hand, the development of a company's sustainable business depends heavily on its employees. To ensure the success of the company's environmental and pro-social initiatives, managers must tell their staff about all of these initiatives (Szczepańska-Woszczyna & Kurowska-Pysz, 2016). Enforcing relevant knowledge and appropriate behaviors is significantly impacted by the integration of the corporate level with the lower level. The goal of managers is to foster an environment that will support the organization's sustained growth.

Modern business management activities heavily involve marketing. Marketing actively participates in the development of the economy. The rapid changes are happening in the world. The standard marketing strategy is no longer sufficient to address all developments in the modern market, and traditional marketing is

also receiving more and more criticism (Seretny et al., 2019). Marketing is criticized for its widespread overconsumption and detrimental effects on society, such as cultural contamination, false desires, consumerism, and societal health disorders. This suggests discipline of marketing requirements to review its conceptual prototype (Wind, 2009).

Researchers have studied and theorized about corporations' responsible activities for over three decades. The stages of sustainable marketing are summarized in Figure 2, along with the authors who have significantly contributed to the literature.

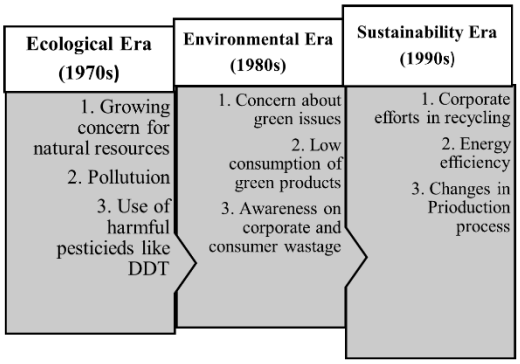

Figure 2. The stages of sustainable marketing

Branding is an important way to communicate environmental activities to customers, as customers are more likely to trust and believe in brands that communicate their objectives through proper platforms. Young consumer demographics like the millennial generation and Generation Z are concerned about purchasing sustainable goods and services, with 66% of customers spending more on a consequence coming from a 'sustainable' trademark. Recognizing consumers' interest in sustainable brands is essential when creating an entire marketing communication plan (GRI, 2015).

Several barriers impede progress toward achieving the SDGs. Many countries lack the financial resources to invest in the infrastructure, technologies, and

services needed to achieve the SDGs. This is particularly true for the least developed countries, where poverty and underdevelopment are most severe (Arcuri & Giolli, 2022). Many countries lack the technological capabilities to implement sustainable solutions, particularly in areas such as energy, agriculture, and healthcare. This limits their ability to adopt new technologies and processes to help achieve the SDGs (Williams & Murphy, 2023). Many countries lack the institutional capacity to implement policies and programs to help achieve the SDGs. This includes weak governance structures, inadequate legal frameworks, and limited regulatory capacity (Rosati & Faria, 2019). Limited public awareness: Many people lack awareness of the SDGs and their importance. This limits public support for policies and programs that can help to achieve the SDGs (Odoom et al., 2023). Inadequate international cooperation: The achievement of the SDGs requires international cooperation and coordination. However, many countries are unwilling to cooperate on climate change, trade, and migration (Moomen et al., 2019).

Innovation is critical to overcoming the barriers to achieving the SDGs. Several types of innovation can help to achieve the SDGs, including technological, social, and institutional innovation (Mulà et al., 2017). Technological innovation involves the development of new technologies and processes that can help to achieve the SDGs. For example, renewable energy technologies such as solar and wind power can help to reduce greenhouse gas emissions and combat climate change. Similarly, new agricultural technologies can help to increase food production while reducing the environmental impact of farming (Manzini & Meroni, 2014).

Social innovation involves the development of new models and approaches to social and economic development that can help to achieve the SDGs. For example, microfinance programs can help to promote financial inclusion and reduce poverty (Manzini & Meroni, 2014). Similarly, social entrepreneurship can help to promote economic growth while addressing social and environmental challenges. Researchers and business professionals addressing the challenges opposed by 'sustainable businesses' have not agreed on the root causes or best fixes. Given the complicated issues, such a development should not be unexpected. Although the exact list of reasons posing challenges to sustainable business is still up for debate, experts classify the challenges as inward or outward to the organization. Additionally, they typically divide the variables into 'economic', 'marketing', 'socio-psychological', 'legal', and 'environmental' categories (Ramani et al., 2017). Academics and businesspeople support three main tactics as solutions: sustainable marketing, sustainable business models, and

sustainable attitudes (Mulà et al., 2017). longer be able to support the levels of living that modern societies require (Seretny & Seretny, 2012). Sustainable development, typically described as providing a good value of life for both present and future origination, is a key remedy. Every year, more governments, international organizations, and non-governmental organizations (NGOs) support sustainable development. Organizations that prioritize sustainability face challenges when trying to offer sustainable solutions (Hoyos & Angel-Urdinola, 2019). This essay examines the difficulties faced by businesses in the United Arab Emirates (UAE) that provide sustainable solutions. Contrary to many other jurisdictions, the UAE government is a staunch supporter of 'sustainable development' and has included ideas about strategic plans (Abdo & Paris, 2017). UAE should theoretically be an advantageous location for sustainable firms. Nevertheless, there are difficulties faced by businesses in the UAE that provide sustainable solutions. After conducting informal interviews with managers from more than 60 companies in the UAE, we hypothesized about the main issues facing sustainable businesses and compared our findings to survey data (Al Sarrah et al., 2021).

Businesses that provide sustainable solutions typically operate in highly complex legal situations. Every corporation, like every other business, is subject to its own set of local, regional, and federal laws and regulations. The business must abide by local, regional, and national laws of the foreign jurisdiction when entering a foreign market (Palepu et al., 2020). The legal landscape for businesses providing sustainable solutions may contain hundreds of conventions, multilateral treaties, state declarations, international organization decisions, plans of action, and codes of conduct. The implementation of international treaty regimes and determining the legal impact of such instruments on national laws and customs provide specific difficulties (Tanzi & Arcari, 2021). While the legal definition of sustainable development is unchanging, standards associated with the idea must be ever-evolving since they are inextricably linked to advancements in social, environmental, and scientific knowledge.

As a result, what constitutes sustainable development will necessarily evolve over time. The concept's pliability has drawn a great deal of criticism. Some critics have asserted that the idea lacks substance or cannot be classified legally. Whatever the case, sustainability is emphasized in UAE government policies, which also adopt the UN's concept of sustainability. The UAE Vision 2021 is the most significant of the additional sustainable objectives launched by the UAE's Green Economy program, which was previously highlighted (Islam, 2021). The UN Global Sustainable Development Goals are reflected in a series of long-term

indicators included in the Vision. UAE National Agenda 2021 demonstrates the nation's dedication to sustainable development by establishing the following objectives:

A cohesive society with identity preservation, a safe public, a just judiciary, a competitive knowledge economy powered by innovation, a top-notch educational system, top-notch healthcare, and a sustainable environment and infrastructure are all desirable. The objectives of National Agenda 2021 are to promote sustainable development, protect the environment, and strike the ideal balance between social and economic advancement.

Additionally, there are governmental changes at the level of each individual emirate, such as the Dubai Expo 2020, the Abu Dhabi Economic Vision 2030, the Dubai Plan 2021, the Dubai Integrated Energy Strategy 2030, the Dubai 10X Goals, the Dubai Green Building Regulations, the Estidama building rating systems, the Environment Protection and Development Authority (Ras Al Khaimah) Strategic Plan, and the Sharjah Environment and Protected Areas Authority Strategy.

This research examines the difficulties, barriers, and innovations that businesses in the United Arab Emirates (UAE) that provide sustainable solutions must overcome. The UAE government firmly supports sustainable development and incorporates the idea into its strategic efforts, in stark contrast to many other jurisdictions. The UAE should, in theory, be a favourable environment for sustainable enterprises. However, businesses in the UAE that provide sustainable solutions face difficulties. After conducting informal interviews with managers from more than 68 organizations in the UAE, we hypothesized about the main issues and innovations encountered by sustainable businesses. We then compared our findings to the findings of the survey.

2. Research methodology

In order to comprehend the perceived obstacles that ethical businesses (organizations offering 'sustainable solutions') confront in the UAE market, an explorative research design has been used. The research sample was created through connections with businesses that took part in the "Sustainability Week" event held in Abu Dhabi, United Arab Emirates, in March 2023. The 2023 Abu Dhabi Sustainability Week (ADSW) is an international forum for addressing the complex issues preventing the mainstream adoption of sustainable development. Participants came from various businesses, including waste management,

suggestions for clean energy, clean water, ecological farming, and sustainable building.

Analysis and research findings in this research article are meant to highlight the complexity of the problems that must be solved to implement sustainable market solutions in the Middle East, focusing on the business climate in the United Arab Emirates. Businesses involved in 'Sustainability' Week 2023 in Abu Dhabi helped conduct the current study.

The theoretical framework elucidates the diverse elements that underlie the constructs influencing the success of enterprises engaged in the implementation of responsible solutions. This framework primarily centers on internal factors related to business operations that shed light on the performance of responsible businesses in the UAE market. These internal factors encompass corporate governance, marketing strategies, and economic considerations. Additionally, there are external factors that account for the broader business environment, encompassing legal frameworks, psychological aspects, geographical and natural conditions, as well as social dynamics. The study delved into how these factors collectively impact the sustainability levels of businesses engaged in the implementation of responsible solutions within the UAE market. The degree of "sustainability" of businesses using ethical solutions in the UAE market and the perceived effects of these components were presented in framework shown in Figure 3.

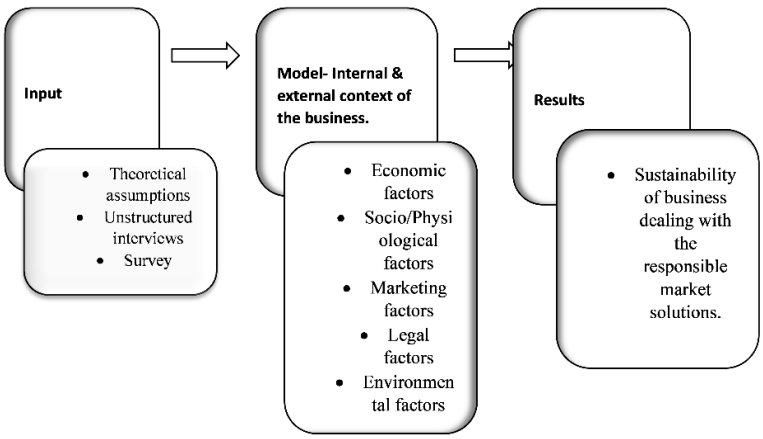

Figure 3. Theoretical Research Framework

The research has only addressed the issue of the difficulties businesses in the UAE encounter while implementing ethical markets and business practices. To achieve the study's goals, the following hypotheses were developed as shown in Table 1:

S. No.	***Hypotheses***
H1:	*Businesses attempting to participate in the sustainable market sector see the UAE's legal climate as favorable.*
H2:	*Businesses view economic, sociocultural, and environmental aspects as being extremely important to the long-term sustainability of the UAE market.*
H3:	*In the UAE, psychological obstacles prevent the adoption of sustainable solutions.*
H4:	*The UAE cannot adopt effective, sustainable solutions because of the typical marketing strategy.*

Table 1. Hypotheses of the research

To gather information, a mixed-method approach was carried out. In the first method open ended interviews were conducted with Abu Dhabi's "Sustainability Week" participants for qualitative research. The second method closed-ended survey questionnaire for quantitative research were undertaken to collect data, which could be used to generate marketing strategic solutions for achieving sustainability objectives for companies that deal in sustainable goods and services.

The qualitative insights from unstructured interviews offer depth and context, while the quantitative data from the survey provide statistical rigor and generalizability. Together, they create a holistic and comprehensive understanding of the challenges and opportunities faced by ethical businesses in the UAE market, bridging the gap between qualitative richness and quantitative rigor in research. In the first stage, unstructured interviews were carried out in the initial phase with 68 different organizations. Participants shared their eco-inventions, clean production ideas, and innovations focused on sustainability, including ecological and social factors in their final goods, manufacturing procedures, and organizational structures. Unstructured interviews describe the circumstances and context to put the interviewee at ease by fostering a comfortable environment (Qu & Dumay, 2011). Unstructured interviews allow

the respondent to open up and speak in their own way by enabling the interviewer and respondent to converse using open-ended questions. Unstructured or discovery interviews are flexible and do not need a preset list of questions (Fontana & Frey, 2005). Because of the method's ability to give the interviewer a more comprehensive picture of the situation, they are utilized to produce qualitative data and have greater validity. Unstructured interviewing has many drawbacks. The period is a constraint compared to organized interviews, doing the interview and analyzing the data can take a lot of time. Unstructured interviews were a good choice for this study because they were a crucial first step in creating the real survey.

The study's second stage involved analyzing and presenting 39 companies' responses. Open-ended questions were asked to elicit qualitative information about the market. Section 1 collected demographic data, and Section 2 collected participants' perception of the UAE and their home country markets. The 68 businesses that expressed interest in participating in the study received the research tool. 39 businesses completed the online survey. The Google forms' obligatory fields were used to address the issue of missing data by making it impossible for responders to submit a response with any blank fields. The data was removed from five responses that were not engaged. The study's 37 instances formed part of the final data set. The sample size poses a serious constraint. A larger sample size could lead to outcomes that are more broadly applicable.

Direct unstructured interviews were done as part of the research's initial phase. Businesses in Sustainable Week bemoaned the lack of market readiness for sustainable strategies, preventing their use of sustainable resources from having an impact. We learned about the impact of expatriates on the country throughout the conversation because so many of the representatives of the sustainable week were foreigners. Due to the greater proportion of foreigners living in the UAE, foreigners heavily represent decision-making management and consumers. This directly impacts any new trend's deployment and success. UAE is a centre for international trade. Research is needed to determine how much response policymakers and business owners will give to new trends that threaten their existing establishment. Policymakers and business owners are well equipped with financial and energy resources, with strong backing from the government in the business processes. New trends may be affordable and can be implemented for cost reduction.

Most of 'Dubai's' lowest to mid-level employees are foreign nationals. As a result, recruiting personnel with unique or current skill sets is a difficult and drawn-out process that frequently involves advertising, traveling, and selecting qualified

applicants prepared to immigrate abroad. Status symbols are important for consumers to consider when choosing and utilizing products. The UAE recorded 16 million visitors in 'Dubai' and 2 million in 'Abu Dhabi in 2022, demonstrating how difficult it is to implement new trends that are not tourist friendly. The population of the UAE is 10 million, and status symbols are reflected in business. The tourism sector contributes significantly to the economy, and the region has a larger tendency towards culture and tradition. Either business owners or policy leaders are from the UAE or are partners in the firm. The region has an open business climate and is tolerant of technological advancements, but it may be resistant to new trends that could negatively impact culture and tradition. Respondents often compare their country's market situation to the UAE's whereby enterprise officials are unaware of and do not acknowledge the commitment to SDGs.

Business leaders spoke about legal and business conditions, while marketing and its influence on sustainable solutions were the main topics. The researchers' ability to generate a list of topics from unstructured interviews was the basis for the questionnaire used in the second phase.

The following section provides demographic information about the 37 survey respondents. Frequency analysis, and correlation analysis were used to create graphs and calculations for the data analysis. Most businesses in this survey have offices in the United Arab Emirates, with a little over 13% having locations inside and outside the UAE. This shows that businesses that deal in sustainable goods and services value having a consistent physical appearance in the neighborhood markets to provide sustainable solutions. Additionally, businesses implementing cutting-edge sustainable solutions find office space in the UAE market appealing.

The most important details in this text are that businesses with headquarters in the United Arab Emirates run their business out of the UAE branch office and that local businesses find it easier to operate in the market than foreign businesses. This shows that locally owned businesses seriously threaten any foreign companies operating in the United Arab Emirates. The study included German, South Korean, Italian, South African, and Angolan companies from abroad. Most businesses only dealt with their brands, with 30% selling their brands and 24% selling and distributing goods made by other businesses. More information is needed to understand these companies' distributors or retailers' functions fully.

Our analysis shows roughly 11% of newly founded enterprises (Figure 4). Additionally, 11% of the businesses have between one and three years of

experience selling these products. About 19% of businesses have been around for more than three years. The Expo 2024 mega-event may increase the number of newly founded businesses. Foreign businesses are being welcomed into the UAE by the government. 60% of businesses have an average amount of experience of five years or more. The existence of enterprises operating for five years or more suggests that Middle Eastern consumers are becoming more aware of sustainable products, creating a potential market that has drawn investors to this industry. This outcome also suggests that people know that UAE government initiatives support the use of ecologically, socially, and economically sustainable products and services.

The size of the companies cannot be categorized in a clear-cut manner. According to the criteria of the number of employees, 32% of the organizations had more than 500 employees, placing them in the category of big-size corporations. 68% of the remaining businesses are SMEs. Accordingly, it can be assumed that these SMEs contribute to sustainable development, consistent with the research findings. According to the authors of the study, small and medium-sized businesses have become increasingly recognized as major contributors to sustainable development over the past ten years, and this has started to create knowledge on the specifics of "sustainability-oriented innovations" in these businesses. Our study found that sustainable innovation practices comprise product and service offerings, processes, and organizational practices. Additionally, the offered solutions were more focused on eco-innovations than solutions that addressed the triple bottom line of sustainability. This suggests that a similar pattern may exist in this area, as shown in figure 4.

3. Results

Our analysis presents data concerning the extent of concurrence or disparity among participants' viewpoints on a range of internal and external factors relevant to the provision of sustainable products or services. Each respondent was asked to select from five options: Strongly disagree, Disagree, Neutral, Agree, or Strongly Agree. These statements gauge the participants' perspectives on six distinct factors: legal, economic, social, psychological, marketing, as well as geographical and environmental considerations.

Businesses face challenges in the current economic climate, leading to a demand for sustainable products. They also thought the current economic downturn was a chance to enter the market, as it would raise potential rewards. Additionally,

favorable import tariff rates motivated them to profit from the UAE market. The respondents expressed optimism and hope for the future of sustainable goods.

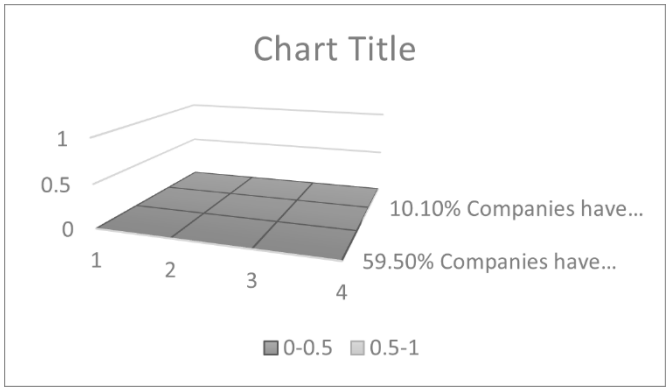

Figure 4. Distribution of experience in dealing with the sustainable solution.

The current business climate has improved with time, supporting the development of sustainable product solutions. New laws and regulations can be passed to encourage the use of sustainable products in the area. Additionally, market information accessibility, consumer awareness campaigns, and the promotion of sustainable business practices are important.

3.1 Thematic analysis

1. Primary obstacles to achieving sustainable development objectives

From the first response, it emerges that:
"Global cooperation and political will are crucial for sustainable development, but often prioritize immediate economic gains over long-term sustainability, hindering effective action to address climate change, resource depletion, and poverty".

From the second response it emerges that:
"Climate change and environmental degradation pose significant challenges, including extreme weather events, biodiversity loss, and resource scarcity. Addressing these requires global action, policy changes, and societal changes to reduce greenhouse gas emissions and protect ecosystems".

2. Innovative methodologies or technologies that can overcome challenges and accelerate sustainability advancements.

From the first response, it emerges that:
"One concrete instance is the development of advanced solar panel technologies, such as perovskite solar cells, which have the potential to greatly increase the efficiency and affordability of solar power generation, thus reducing dependence on fossil fuels and mitigating climate change".

From the second response, it emerges that:
"Precision agriculture, utilizing IoT sensors and data analytics, optimizes resource use in farming, enhancing crop yields and minimizing environmental impact through reduced water and chemical usage".

3. The significance of public awareness and education in promoting sustainable development

From the first response, it emerges that:
"Public awareness and education are crucial for promoting sustainable development, as they encourage individuals to understand, advocate for, and support sustainable practices, leading to responsible consumption and participation in environmental and social initiatives".

From the second response, it emerges that:
"Public awareness and education are crucial for sustainable development, promoting responsibility and informed choices, leading to more support for policies and initiatives focusing on environmental and social sustainability".

4. Advantages of aligning operations with sustainability goals

From the first response, it emerges that:
"To align operations with sustainability goals, firms should integrate sustainability into supply chain practices, use resource-efficient technologies, and invest in renewable energy. This promotes circular economy, reduces environmental impact, and enhances brand reputation".

From the second response, it emerges that:
"Firms should align their operations with sustainability objectives by setting clear goals, fostering employee engagement, focusing on sustainable packaging, conducting regular audits, and collaborating with stakeholders. These strategies contribute to regulatory compliance, consumer loyalty, and long-term resilience".

5. Enhancing visibility and impact of neglected sustainability regions

From the first response, it emerges that:

"Underrepresented areas in sustainability initiatives, such as technology and conservation, can significantly improve conservation efforts. Integrating indigenous knowledge and practices is also crucial for cultural preservation. Increased research funding, collaboration with indigenous communities, and awareness campaigns are essential".

From the second response, it emerges that:
"Sustainable urban planning and sustainable fashion and textiles are underrepresented areas in sustainability initiatives. Implementing eco-friendly design, efficient public transportation, and green infrastructure can mitigate environmental degradation and improve quality of life. Increased awareness through educational campaigns and stakeholder involvement can further enhance these areas".

3.2 Quantitative analysis

1. Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-3 years	5	13.9	13.9	13.9
	4-5 years	8	22.2	22.2	36.1
	5-7 years	20	55.6	55.6	91.7
	Other	3	8.3	8.3	100.0
	Total	36	100.0	100.0	

Table 2. Distribution of respondents by experience level. The table 2 shows that 13.9% of respondents have 1-3 years of experience, 22.2% have 4-5 years, 55.6% have 5-7 years, and 8.3% are in the 'Other' category. The cumulative percent is 91.7% with 7 or fewer years of experience, while 8.3% is in the 'Other' category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Large Corporation	11	30.6	30.6	30.6
	SME	25	69.4	69.4	100.0
	Total	36	100.0	100.0	

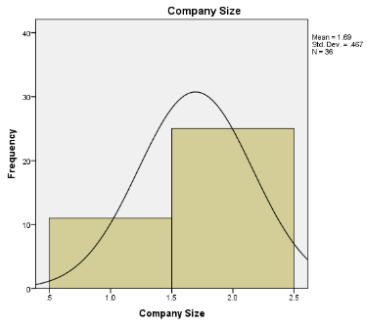

Table 3. Distribution of companies by size. The table 3 shows that 30.6% of companies are large corporations, while 69.4% are Small and Medium-sized Enterprises (SMEs). The cumulative percent indicates that all surveyed companies fall into these two categories, with no other categories included in the data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	12	33.3	33.3	33.3
	Agree	13	36.1	36.1	69.4
	Neutral	5	13.9	13.9	83.3
	Disagree	6	16.7	16.7	100.0
	Total	36	100.0	100.0	

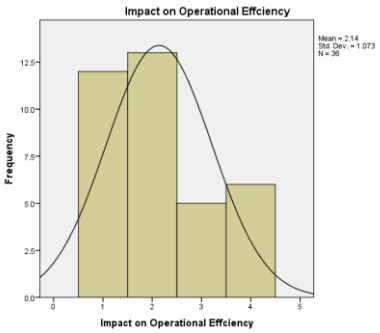

Table 4. Perceptions of impact on operational efficiency. The table 4 shows respondents' perceptions of the impact on operational efficiency, with 33.3% strongly agreeing and 36.1% disagreeing. 13.9% remain neutral, 13.9% lack strong opinion, and 16.7% disagree. The cumulative percent represents all respondents' views within the four categories.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	5	13.9	13.9	13.9
	Neutral	2	5.6	5.6	19.4
	Disagree	18	50.0	50.0	69.4
	Strongly Disagree	11	30.6	30.6	100.0
	Total	36	100.0	100.0	

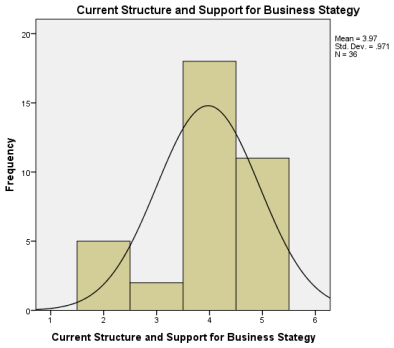

Table 5. Perceptions of current structure and support for business strategy. The table 5 shows respondents' perceptions of the current structure and support for business strategy. 13.9% agree, while 5.6% remain neutral. 50.0% disagree with the effectiveness, and 30.6% strongly disagree. The cumulative percent indicates all responses fall within the provided categories, leaving no unaccounted data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	13.9	13.9	13.9
	Agree	9	25.0	25.0	38.9
	Neutral	20	55.6	55.6	94.4
	Disagree	2	5.6	5.6	100.0
	Total	36	100.0	100.0	

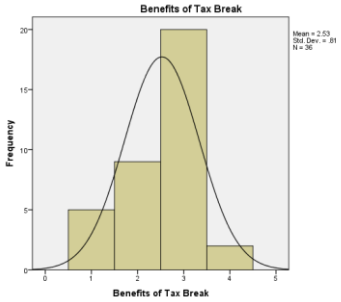

Table 6. Perceptions of current structure and support for business Strategy. The table shows 6 respondents' views on the benefits of a tax break, with 13.9% strongly agreeing and 25.0% agreeing. The majority, 55.6%, remain neutral, and only 5.6% disagree. The cumulative percent indicates all responses fall within the provided categories, leaving no unaccounted data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	13.9	13.9	13.9
	Agree	9	25.0	25.0	38.9
	Neutral	20	55.6	55.6	94.4
	Disagree	2	5.6	5.6	100.0
	Total	36	100.0	100.0	

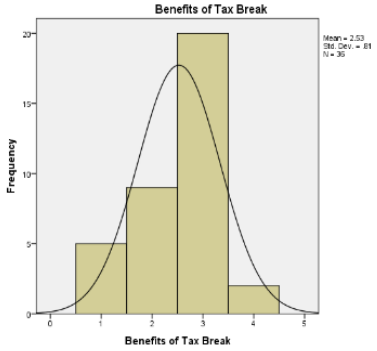

Table 7. Perceptions of benefits of tax break. The table 7 shows respondents' views on the benefits of a tax break, with 13.9% strongly agreeing and 25.0% agreeing. The majority, 55.6%, remain neutral, and only 5.6% disagree. The cumulative percent indicates all responses fall within the provided categories, leaving no unaccounted data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	7	19.4	19.4	19.4
	Agree	20	55.6	55.6	75.0
	Neutral	7	19.4	19.4	94.4
	Disagree	2	5.6	5.6	100.0
	Total	36	100.0	100.0	

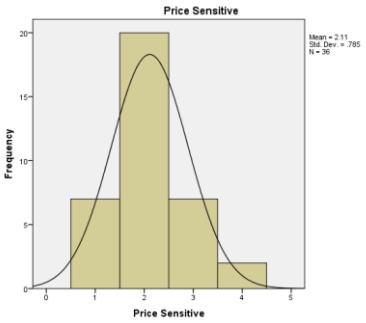

Table 8. Perceptions of price sensitivity. The table 8 shows that 19.4% strongly agree with being price sensitive, while 55.6% agree, 19.4% remain neutral, and 5.6% disagree. The cumulative percent indicates all responses fall within the provided categories, with no unaccounted data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	12	33.3	33.3	33.3
	Agree	16	44.4	44.4	77.8
	Neutral	8	22.2	22.2	100.0
	Total	36	100.0	100.0	

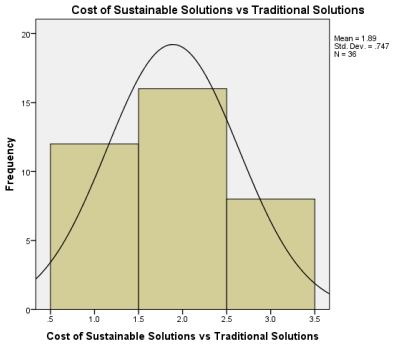

Table 9. Perceptions of the cost of sustainable solutions vs traditional solutions. The table 9 shows respondents' views on cost comparison between sustainable and traditional solutions. 33.3% strongly agree, 44.4% agree, and 22.2% remain neutral. All responses fall within the provided categories, leaving no unaccounted data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	13.9	13.9	13.9
	Agree	19	52.8	52.8	66.7
	Neutral	8	22.2	22.2	88.9
	Disagree	4	11.1	11.1	100.0
	Total	36	100.0	100.0	

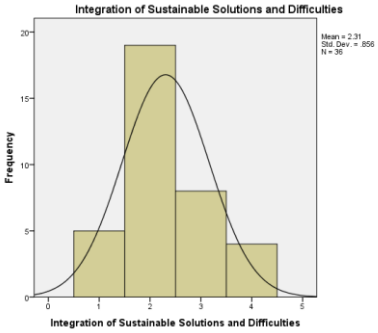

Table 10. Perceptions of integration of sustainable solutions and difficulties. The table 10 shows respondents' views on the integration of sustainable solutions, with 13.9% strongly agreeing and 52.8% agreeing. 22.2% remain neutral, while 11.1% disagree. The cumulative percent indicates all responses fall within the provided categories, leaving no unaccounted data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	7	19.4	19.4	19.4
	Agree	2	5.6	5.6	25.0
	Neutral	6	16.7	16.7	41.7
	Disagree	8	22.2	22.2	63.9
	Strongly Disagree	13	36.1	36.1	100.0
	Total	36	100.0	100.0	

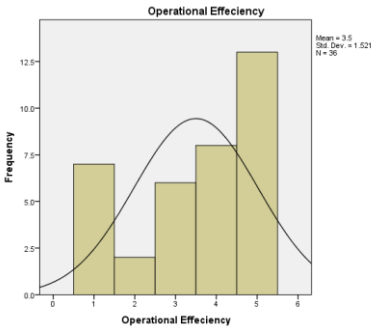

Table 11. Perceptions of operational efficiency. The table 11 shows that 19.4% of respondents strongly agree that operational efficiency is achieved, while only 5.6% agree. 16.7% remain neutral, 22.2% disagree, and 36.1% strongly disagree. All responses fall within the provided categories, leaving no unaccounted data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	8	22.2	22.2	22.2
	Agree	17	47.2	47.2	69.4
	Neutral	7	19.4	19.4	88.9
	Disagree	4	11.1	11.1	100.0
	Total	36	100.0	100.0	

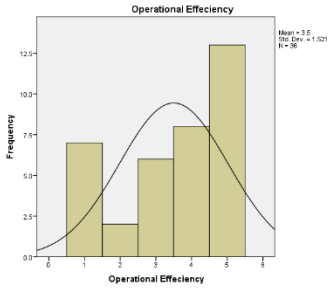

Table 12. Perceptions of foreigners and local market ratio. The table 12 shows that 22.2% of respondents strongly agree on the significant presence of foreigners in the local market, while 47.2% agree. 19.4% remain neutral, while 11.1% disagree. The cumulative percent indicates that all responses fall within the provided categories, leaving no unaccounted data.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	2	5.6	5.6	5.6
	Agree	6	16.7	16.7	22.2
	Disagree	18	50.0	50.0	72.2
	Strongly Disagree	10	27.8	27.8	100.0
	Total	36	100.0	100.0	

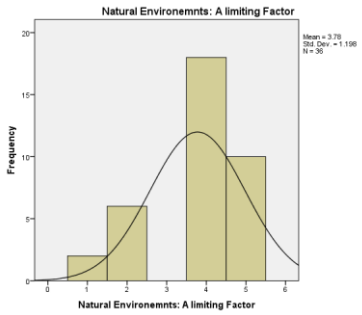

Table 13. Perceptions of natural environments as a limiting factor. The table 13 shows respondents' views on whether natural environments are limiting factors. 5.6% strongly agree, 16.7% agree, while 50.0% disagree and 27.8% strongly disagree. All responses fall within the provided categories, leaving no unaccounted data.

2) Correlation Analysis

Correlations									
		A	B	C	D	E	F	G	H
A	Pearson Corr.	1	.692**	-.059	.149	.176	-.064	.060	-.112
	Sig. (2-tailed)		.000	.734	.386	.304	.710	.727	.515
B	Pearson Corr.	.692**	1	-.147	.258	.304	-.111	.010	-.194
	Sig. (2-tailed)	.000		.392	.129	.071	.519	.952	.257
C	Pearson Corr.	-.059	-.147	1	.481**	-.664**	.728**	.832**	.738**
	Sig. (2-tailed)	.734	.392		.003	.000	.000	.000	.000
	N	36	36	36	36	36	36	36	36
D	Pearson Corr.	.149	.258	.481**	1	-.313	.527**	.512**	.418*
	Sig. (2-tailed)	.386	.129	.003		.063	.001	.001	.011
E	Pearson Corr.	.176	.304	-.664**	-.313	1	-.413*	-.875**	-.688**
	Sig. (2-tailed)	.304	.071	.000	.063		.012	.000	.000
F	Pearson Corr.	-.064	-.111	.728**	.527**	-.413*	1	.576**	.369*
	Sig. (2-tailed)	.710	.519	.000	.001	.012		.000	.027
G	Pearson Corr.	.060	.010	.832**	.512**	-.875**	.576**	1	.733**
	Sig. (2-tailed)	.727	.952	.000	.001	.000	.000		.000
H	Pearson Corr.	-.112	-.194	.738**	.418*	-.688**	.369*	.733**	1
	Sig. (2-tailed)	.515	.257	.000	.011	.000	.027	.000	
	N	36	36	36	36	36	36	36	36

Table 14. Correlations between various factors in the context of sustainability in the business industry. The table 14 displays the relationships between sustainability variables in the business sector. It is evident that "Operational Efficiency" and "Judging Level of Sustainability" have a substantial positive association, as does "Judging Level of Sustainability" and "Spreading the Word." On the other hand, a few variables exhibit negative correlations, which shed light on how sustainability and corporate operations interact. A = Office location; B = Complex rules and regulations for business entering sustainable products industry; C = Impact on operational efficiency; D = Operational efficiency; E = Judging level of efficiency; F = Price sensitivity; G = Spreading the word; H = Collaborating with regulatory agencies.

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

		A	B	C	D	E	F	G	H	I	J	K	L
A	Pearson Corr.	1	.055	.399*	.235	-.297	.073	.329*	.420*	-.321	-.005	.152	.061
	Sig. (2-tailed)		.748	.016	.168	.079	.673	.050	.011	.056	.978	.378	.725
	N	36	36	36	36	36	36	36	36	36	36	36	36
B	Pearson Corr.	.055	1	-.127	-.062	.346*	.704**	.006	.011	-.153	.688**	.242	.114
	Sig. (2-tailed)	.748		.461	.719	.039	.000	.971	.951	.373	.000	.155	.509
	N	36	36	36	36	36	36	36	36	36	36	36	36
C	Pearson Corr.	.399*	-.127	1	.848**	-.522**	.085	.715**	.786**	-.595**	.112	.494**	.527**
	Sig. (2-tailed)	.016	.461		.000	.001	.621	.000	.000	.000	.516	.002	.001
	N	36	36	36	36	36	36	36	36	36	36	36	36
D	Pearson Corr.	.235	-.062	.848**	1	-.441**	.095	.749**	.814**	-.542**	.167	.460**	.526**
	Sig. (2-tailed)	.168	.719	.000		.007	.580	.000	.000	.001	.329	.005	.001
	N	36	36	36	36	36	36	36	36	36	36	36	36
E	Pearson Corr.	-.297	.346*	-.522**	-.441**	1	.290	-.218	-.239	.124	.216	.024	-.136
	Sig. (2-tailed)	.079	.039	.001	.007		.087	.201	.160	.470	.205	.887	.428
	N	36	36	36	36	36	36	36	36	36	36	36	36
F	Pearson Corr.	.073	.704**	.085	.095	.290	1	.338*	.280	-.494**	.964**	.582**	.464**
	Sig. (2-tailed)	.673	.000	.621	.580	.087		.044	.098	.002	.000	.000	.004
	N	36	36	36	36	36	36	36	36	36	36	36	36
G	Pearson Corr.	.329*	.006	.715**	.749**	-.218	.338*	1	.902**	-.789**	.260	.760**	.738**
	Sig. (2-tailed)	.050	.971	.000	.000	.201	.044		.000	.000	.125	.000	.000
	N	36	36	36	36	36	36	36	36	36	36	36	36
H	Pearson Corr.	.420*	.011	.786**	.814**	-.239	.280	.902**	1	-.740**	.199	.672**	.635**
	Sig. (2-tailed)	.011	.951	.000	.000	.160	.098	.000		.000	.246	.000	.000
	N	36	36	36	36	36	36	36	36	36	36	36	36
I	Pearson Corr.	-.321	-.153	-.595**	-.542**	.124	-.494**	-.789**	-.740**	1	-.407*	-.927**	-.922**
	Sig. (2-tailed)	.056	.373	.000	.001	.470	.002	.000	.000		.014	.000	.000
	N	36	36	36	36	36	36	36	36	36	36	36	36
J	Pearson Corr.	-.005	.688**	.112	.167	.216	.964**	.260	.199	-.407*	1	.492**	.415*
	Sig. (2-tailed)	.978	.000	.516	.329	.205	.000	.125	.246	.014		.002	.012
	N	36	36	36	36	36	36	36	36	36	36	36	36
K	Pearson Corr.	.152	.242	.494**	.460**	.024	.582**	.760**	.672**	-.927**	.492**	1	.939**
	Sig. (2-tailed)	.378	.155	.002	.005	.887	.000	.000	.000	.000	.002		.000
	N	36	36	36	36	36	36	36	36	36	36	36	36
L	Pearson Corr.	.061	.114	.527**	.526**	-.136	.464**	.738**	.635**	-.922**	.415*	.939**	1
	Sig. (2-tailed)	.725	.509	.001	.001	.428	.004	.000	.000	.000	.012	.000	
	N	36	36	36	36	36	36	36	36	36	36	36	36

Table 15. Correlations between various factors related to sustainability and business operations. The table 15 shows correlations between sustainability and business operations, with strong correlations between factors like marketing efforts, high electricity prices, foreigners and local market ratio, and sustainable solutions integration. Negative correlations exist for natural environments and national awareness campaigns. These findings provide insights into sustainability and business strategies. A Experience; B Current structure and support for business; C Hindrance for marketing efforts; D High electricity prices; E Benefits of tax break; F Traditional perspective about sustainability; G Foreigners and local market ration; H Integration of sustainable solutions and difficulties; I Natural environments: a limiting factor; J Need for national awareness campaigns; K Certain marketing symbols; L Cost of sustainable vs traditional solutions.

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

4. Discussion

Our first hypothesis (H1) posited that businesses venturing into the 'sustainable market' sector would perceive the legal climate in the UAE as favorable. Surprisingly, our findings contradicted this hypothesis. Participants in our study expressed the belief that other jurisdictions offered a more conducive legal environment than the UAE for sustainable business endeavors. Despite the UAE government's emphasis on sustainability in national development, as evidenced by the adoption of legal guidelines at both federal and emirate levels, businesses offering sustainable solutions perceived existing legal restrictions as substantial impediments. This suggests a misalignment between the government's sustainability objectives and the regulatory framework in place. Further research is needed to pinpoint the specific legal challenges faced by businesses across different industries. A potential avenue for resolution lies in educational marketing communication, which could bridge the gap between business and government stakeholders. Collaborative efforts between businesses and government administrative departments, possibly through 'Chambers of Commerce and Industry,' may help create a more favorable legal environment for sustainable businesses.

Our second hypothesis (H2) posited that businesses regard economic, sociocultural, and environmental aspects as pivotal for the long-term sustainability of the UAE market. Our findings provided partial support for this hypothesis. While economic factors were identified as hindrances to the development of sustainable alternatives, sociocultural considerations, local and regional culture, and the demographic structure emerged as influential factors shaping the market for sustainable solutions. This underscores the significance of societal issues in influencing the sale of sustainable goods and services within the UAE market.

Our third hypothesis (H3) suggested that psychological barriers impede the adoption of sustainable solutions in the UAE. Our study confirmed the presence of psychological obstacles, inhibiting the UAE's ability to promote sustainable goods. These obstacles stem from consumption behaviors among the affluent class, which tends to utilize more resources and favor products aligned with the status quo. This phenomenon is driven by a psychological aversion to long-term thinking and the prevalence of non-sustainable resources in the market. Our fourth hypothesis (H4) proposed that the UAE faces challenges in adopting effective sustainable solutions due to its conventional marketing strategy. Our findings validated this hypothesis, indicating that traditional marketing practices

indeed hinder the adoption of sustainable solutions. The success of a company in this context is closely linked to the level of awareness about sustainability among its clientele and the broader business community. However, our study also revealed that implementing innovative marketing strategies, such as Sustainable Marketing, can yield positive outcomes for many companies. This implies that both market stakeholders and businesses need to shift their perspectives when implementing new marketing strategies in the sustainable sector to navigate these challenges effectively.

Our findings suggest that an efficient marketing plan is essential for addressing the root causes for the success of companies that deal in 'sustainable solutions. A revision of the legal framework is also recommended. Environmental psychologists debate what factors are most crucial to creating a responsible and sustainable society. It is important to note that people will not experience a sense of urgency unless they can connect it to their quality of life. Businesses should fit their products and marketing strategies to the mindset of the public and status symbols. Products and marketing tactics must match the status symbol and the public's thinking, and sustainable solutions must be created with competitive pricing. Technology can be used to create cost-effective solutions. Collaboration between business and education is essential for adopting a sustainable attitude, creating new opportunities for influencing the future and implementing policies that will provide wealth to future generations. Our study aims to alter the psychological perspective of society toward sustainable resources and help motivate businesses to develop consumer-friendly motivating techniques to break down societal resistance to delaying action until the environment suffers irreparable harm. This involves promoting knowledge/education about governmental activities and programs and transforming the traditional marketing strategy into ethical marketing techniques by putting in place educational programs at all grade levels and in higher education.

Researchers seek to understand and address the causes of events. Sustainable marketing plays a crucial role in this process, as it has the potential to alter ingrained beliefs and behaviors that have contributed to the current sustainability problem. Future generations must be educated in sustainable marketing development to understand complex environmental, social, and economic issues. Conversations about ethical ramifications, alternate worldviews, the place of humans in ecosystems, and future visions should be included in teaching programs. A sustainability curriculum aims to create a community prepared to contribute to more sustainable opportunities. All levels of education should be included in sustainability education initiatives, from kindergarten education

through doctoral programs. Decision-makers, to be successful, must prioritize sustainability education, but due to lack of commitment at operational and educational levels. Young marketers must learn about sustainability marketing challenges in kindergarten, and education policymakers must play a major role in integrating sustainability into the curriculum. Future marketers must develop goods and services that benefit the social, cultural, and economic context while protecting the environment. Implementing a sustainable attitude requires collaboration between business and education, between individual businesses, research organizations, and academic institutions.

5. Conclusion

Projects in research and development are essential for connecting academic institutions with industry to spread and manage knowledge. Collaboration between academic institutions and businesses can inspire new ideas, boost academic research initiatives, and address commercial problems. The university-business relationship should be expanded to the "Triple Helix Model" to promote economic and social growth. Industry clusters offer the opportunity to expand R&D in intellectual property. Knowledge management, conferences and meetings, entrepreneurship centres, and personnel enhancement programs facilitate the exchange in the triple perspective between university staff and the business community. Relationships between academia and industry are important for innovation.

The research focused on sustainability, marketing, and psychology in the UAE, but its findings may not be universally applicable due to regional disparities, constraints in data collection, and lack of longitudinal dimension. The findings may not be applicable across all industries or businesses in the UAE's sustainable market. These limitations mean that future research endeavors should aim to expand our understanding by conducting more extensive and diverse surveys, employing longitudinal research designs, exploring the applicability of findings to other regions, delving deeper into the complexities of psychological factors, and investigating strategies to address identified barriers. These efforts will contribute to a more comprehensive understanding of sustainable marketing and psychology, fostering effective practices in the UAE and beyond.

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Funds

This research received no specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Competing Interests

The authors declare no conflict of interest, financial or otherwise.

Citation

Jarrah, H.Y., Nser, K., Al Majali, S.A., Abdallahi, T. (2023). Sustainability Development Goals: overcoming barriers and catalysing innovation for a sustainable future. *Visions for Sustainability*, 21, 7944, 117-147. http://dx.doi.org/10.13135/2384-8677/7944