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Developing a Social Marketing Model to Address Climate Change in the Middle East Petroleum Business Organizations

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Abstract

In the last two centuries, the worldwide increase in production and consumption has enhanced the average lifespan and contentment of billions of people. Nevertheless, human actions are giving rise to a novel geological epoch known as the "Anthropocene," which is leading to disastrous outcomes for both mankind and the Earth. Climate change, encompassing the phenomenon of global warming, is a significant and pressing concern. The use of theories, rigorous research methodologies, and targeted exercises can effectively mitigate climate change and its associated repercussions. Extreme occurrences and public engagement in climate action necessitate social transformation. Effectively addressing the climate change challenge necessitates the implementation of marketing management strategies. Social marketing may incentivize customers to actively participate in mitigating climate change. The objective of the study is to develop a social marketing strategy model that targets the reduction of climate change impacts in petroleum firms operating in the Middle East. The study will serve as a scientific reference. An integrated approach was employed in the analysis. The qualitative aspect identified the fundamental aspects of the model, while the quantitative aspect demonstrated the model's effectiveness. The statistical software (SPSS) was employed to get the findings. The study's key discovery is the potential utilization of the social marketing model as a means to accomplish sustainable development objectives.

Keywords: Climate Change, Social Marketing, Sustainability, Environmental management system, Global Warming, Promotion, Social Responsibility

1. Introduction

The unprecedented worldwide increase in production and consumption throughout the past two centuries, perhaps attributable to remarkable advancements in science and technology, has resulted in substantial enhancements in the well-being of billions of individuals in terms of both life expectancy and life satisfaction. Nevertheless, the extent of human activity on Earth is so extensive that scientists are discussing the emergence of a new geological epoch called the "Anthropocene". It appears that human activity has already reached or is on the verge of surpassing critical thresholds, which could lead to disastrous outcomes for both humanity and other

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components of the planet (Thøgersen, 2021). The globe is already experiencing the impacts of global warming, including rising temperatures, altering rainfall patterns, shifting seasons, increased salt in coastal areas, and more frequent and intense extreme weather events (Nadiruzzaman et al., 2021). Climate change, encompassing the phenomenon of global warming, poses a persistent and significant threat to both local and global societies. Theorists, researchers, and practitioners possess the knowledge and expertise to accurately characterize, forecast, and shape our communication around climate change. Theories, research techniques, and exercises have the ability to fulfill many roles in the prevention of climate change and its repercussions (Chadwick, 2017).

With the rise of climate change, there is an increasing demand for small-scale urban interventions, such as stormwater management, to mitigate the danger of floods caused by severe events (Smith et al., 2019),technology provides innovative and novel methods to direct public attention towards climate change and presents a chance to involve the public in taking action against climate change (Kemper & Ballantine, 2019).

. The literature has very limited research on the utilization of social marketing in the context of climate change and climate policy (Aryanto et al., 2020)

Climate change is an undeniable fact that has a direct impact on the everyday lives of people worldwide, mostly owing to the increasing occurrence of abnormal weather occurrences (Nunes et al., 2020). It may be defined as "long-lasting alterations in temperature and atmospheric conditions." The changes can be attributed to natural causes, as they are a result of the sun's influence. However, starting from the 19th century, human actions have been responsible for climate change, particularly through the combustion of fossil fuels such coal, oil, and gas (Sarma & Zabaniotou, 2021). The objective of achieving the target of reducing global warming to 2° C, as outlined in the Paris Agreement, necessitates a comprehensive evaluation of societal pathways and policies. In addition, specifically, the representatives of the business sector involved in the analysis of the Paris Agreement and its applicability to determine the feasibility and possible impact on the environment (Auer et al. , 2021). Given the current global environmental situation, it is necessary to focus on the growth of high-energy modules and usage (Bhar, 2019). Climate change poses potential large and timing-uncertain risks and opportunities for companies to manage, know or control – by local and global political changes, regulation and short-term variation, and behavioral patterns. Of particular importance are the inventiveness gaps at the individual level and at the organizational level, where poor inventiveness does not attract attention. To manage these risks, it is necessary for organizations to look forward to fortifying significant financial, technology, and human capital (Abreu et al. , 2021). , several factors such as competitive pressures, influence from peers, environmentalism, law, and other legal measures have been a drive towards the non-adoption of the green market orientation by the corporations (Kaner, 2021).Social marketing refers to the utilization of commercial marketing strategies to analyze, plan, and execute programs aimed at influencing behavioral changes in a specific group of people, with the goal of enhancing personal and societal welfare (Liao, 2020). Social marketing has been employed by several enterprises, non-profit organizations, governments, and agencies to effectively communicate and impact individuals by disseminating important messages (Truong & Hall, 2017). Corporate social responsibility and social marketing are synergistic factors that have the potential to revolutionize the dynamics of energy supply and demand. It is crucial to address the issue of irresponsible energy production and consumption by enterprises and people, as it directly contributes to the deterioration of ecosystems and irreversible climate change (Smaliukiene & Monni, 2020). It is important to note that in social marketing, the primary goal is to change or maintain people’s behavior concerning the marketing issue, not their attitudes. When the goal is simply to make changes to people’s views, opinion, awareness or knowledge without changing behaviors, it is recommended not to engage in community marketing (Habib et al. , 2021). The common barriers faced in social marketing are social inertia, people’s reluctance to change, resistance to change or modification of behaviour, and the tendency to prioritize need satisfaction over and above their current standard of living (Petrescu et al. , 2021). Nevertheless, it is not easily convinced by a blatant marketing slogan which is usually aimed at giving the cognitive senses of the customer a good drill. To further strengthen call-to-action initiatives, it also requires other components that elicit the thinking process and influence the customers of SCA (Furxhiu et al. , 2020). Social marketing uses principles from marketing to change consumer behavior in a society; it is a specific way to find sustainable marketing solutions that might benefit the whole society. In addition, it is noteworthy that the use of social marketing and its concepts and principles provides ways and means for regulating environmental

challenges and addressing the issue of climate change. Some of these strategies include recycling, embracing clean energy, and changing toward sustainability (Calvo-Porral, 2019).

The adverse and irresponsible conduct of people has resulted in the proliferation of corruption in their area. Consequently, the imperative to shield the environment and its finite resources has come to be an pressing necessity, compelling governments to enact needful legislation and put in force measures to make certain a secure habitat for each present and future generations (Whitmarsh et al., 2021). Climate exchange is a urgent global subject, and countries international are making concerted and immediate efforts to address this crisis and remodel worldwide practices to maintain the planet. It is broadly acknowledged that human sports are the primary drivers of weather alternate and the following growth in temperatures (Cunningham et al., 2020). When it comes to social obligation, decision makers in expert firms should assess their effectiveness in contributing to weather change advertising and determine the way to promote the idea at the same time as avoiding terrible forms of advertising and marketing that impact weather alternate. Social marketing strategies are used to overcome this problem (Ballestar & Sainz, 2020).

The main research issue is based on climate change and unacceptable human actions, which will exacerbate the situation and possibly negatively impact current and future generations in need Human actions offer an important solution to this challenge . These include trade policies aimed at tackling the climate crisis and strategies to meet these challenges. Social marketing strategy is the most prominent strategy in this context (Domegan, 2021). Appropriate policies for social entrepreneurship in the Middle East will be developed within this framework, with the aim of changing traditional industrial enterprises in order to protect the environment and promote sustainable practices.

Research Objectives

This study aims to identify characteristics associated with climate change, and examine the contribution of marketing management in mitigating this problem This text is an introduction to social marketing and its mission of educating consumers for their worst climate change. Building a sophisticated system for social marketing to meet the challenge of climate change. Establish scientific guidelines and develop a framework for better supporting corporate organizations to address climate change impacts. Do more research on how oil companies in the Middle East are using social marketing to address climate change. This study aims to be a scientific resource for those seeking answers to the challenge of climate change. So, Main questions of this research is What is the social marketing technique employed to address climate change in the Middle East?What are the key considerations when developing a social marketing plan to address climate change in the Middle East?

2. Literature Review

2.1. Social Marketing

In the 1960s, marketing was seen as a financial activity, with commercial companies offering products and services to maximize return on investment. Researchers Philip Kotler and Gerald Zaltman proposed the concept of "social marketing" in 1971 (Honeyman, 2008), which focuses on social issues and social issues. Social marketing is a set of online services that facilitate two-way communication and content sharing, improving a company's web visibility, client connections, and word of mouth. With its increasing popularity and millions of users worldwide, social media marketing has become a popular strategy for businesses (P. Kotler & Lee, 2008). However, its rapid growth and frantic hunt for marketers have created chaos, with marketers finding new places to update themselves (P. Kotler & Andreasen, 2016). Technological advancements have driven marketing professionals and researchers to create social media platforms as a new paradigm for business and customer connection. Social marketing often targets complex, socially controversial behaviors, delivering delayed and distant benefits to audiences who are often unaware of their problems. Social marketing approaches have been adopted by various government organizations, state and local governments, and non-profit organizations (Zimmerman & Sahlin, 2010). Systems from social marketing can help guide more systematic thinking about equity-driven social and natural change, benefit arrangement, approach, and hone, and how media can be used in combination with social and natural settings to impact physical action behavior more efficiently (Anderson, 2010).

Numerous global organisations and brands have recently acknowledged the significance of social marketing and the need of meeting their social obligations to establish a favourable image for their brands. Diverse objectives and strategies for growth (Zainuddin & Gordon, 2020). There exists a significant disparity between social marketing and commercial marketing. The first approach utilises commercial marketing strategies, but with the objective of fostering communal development or spreading constructive ideals among individuals, rather than pursuing monetary profit through sales, and so on. There is a widespread misunderstanding among individuals worldwide regarding the distinction between social marketing and marketing on social media platforms like Facebook, Instagram, Twitter, and other social media channels. While some individuals may believe that the objective of social marketing is just to sell products to the public, its scope extends much beyond that. The primary purpose of social marketing is to not only modify negative social behaviour but also promote beneficial behaviour (Neill, 2000).

(Felix et al., 2017) provided a definition of social marketing as "An interdisciplinary and cross-functional concept that utilises social media, often in conjunction with other communication channels, to accomplish organizational objectives by generating value for stakeholders." According to Chen and Lin (2019), it is described as the process of evaluating the impact of community members' comprehension of activities on social media marketing, interaction, inclination, customization, and word-of-mouth. The term "Social Marketing" refers to a collection of online apps that are built on the principles and technology of Web 2.0. These applications enable users to create and share their own content. This description was provided by (Cheung et al., 2020).

Social marketing aims to shape behaviour in order to improve the community or society, whereas commercial marketing aims to influence purchase decisions for the sake of financial profit (Hunt, 2020). Social marketing emphasizes the drive to modify behaviour, and its use in social marketing may be advantageous for both the teacher and the target audience (Hastings & Saren, 2003). It serves as a connection between the social and business realms, fosters mutual comprehension, and facilitates progress (Andreasen, 2012). Nevertheless, social marketing focuses on particular individuals and seeks to achieve a degree of societal transformation that beyond any individual commitment. Successfully achieving this goal frequently necessitates tenacity, the utilisation of many marketing instruments, and the appropriate collaborators to establish enduring transformation (Hunt, 2020).

Marketing has expanded to include all forms of communication that shape human behavior across all domains of life, leading to the emergence of application marketing in diverse organizations. Social marketing is a strategic approach to promoting social change by utilizing preventative tactics to achieve moral, behavioral, and monetary gains. Social marketing may be divided into two components (Parsons & Lepkowska-White, 2018): marketing social ideas and marketing social behaviors. Social ideas marketing is the systematic organization aimed at promoting the widespread dissemination of ideas, taking into account the characteristics and preferences of the general population (Furxhiu et al., 2020). Social marketing is linked to the ethical dimension of human existence and is predominantly employed by non-profit entities. Social concept marketing encompasses the promotion of many social concerns and challenges that society tackles within its institutions (P. Kotler et al., 2017). Its objective is to familiarize the general public with these difficulties and assist them in overcoming them. The utilization of deliberate communication to disseminate novel concepts may be traced back to the 1950s when media campaigns were utilized to tackle social issues through international agencies (SHI, 2017).

Social marketing encompasses five key components: innovation, widespread distribution, understanding of social dynamics, adoption timeline, and the marketing blend (Dholakia & Dholakia, 1975). Social marketing endeavors to achieve favorable social outcomes by implementing marketing-based initiatives and strategies that influence individuals, communities, institutions, and societal systems (Biroscak et al., 2018). Social service marketing is a distinct area within social marketing where organizations promote social services without seeking immediate financial gain. Social marketers prioritize social advertising services, which are integral components of social marketing programs (Holland, 2017). Social care organizations engage in marketing efforts, whether consciously or unconsciously, and are classified into many categories. Their success hinges on their cognizance of the significance of their autonomy within the organization, lucidity of strategic goals, proficiency and

procedures employed to convey messages, and ongoing engagement with the public (P. (Northwestern U. Kotler & Armstrong, 2012). Social media marketing plays a vital role in the contemporary business landscape, facilitating unprecedented connections between organizations and customers. Social media platforms such as Facebook, Twitter, and YouTube enable the formation of social systems based on common interfaces and ideals (Leo & Zainuddin, 2017). Social media marketing aims to increase website traffic, enhance client interaction, and drive sales by utilizing social media platforms. Nevertheless, organizations must give priority to quality rather than quantity and enhance involvement to guarantee success (Liang et al., 2021).

2.2. Climate Change

The biophysical environment is essential for the development of life on Earth, thus any alterations to it are significant for scientists and the general population (Prorokova, 2018). The Earth's climate has undergone variations over time, characterized by eight cycles of ice ages and warm eras over a duration of 800,000 years (NASA, 2022). The majority of these alterations are a result of minor variations in Earth's orbit, which impact the quantity of solar radiation that our planet gets (Fleming, 2014). The operation of Earth's climate system relies on energy transfers, encompassing three primary transfers: solar energy reaching the globe, partial reflection of this energy, and energy transfers from the atmosphere to the Earth's surface and eventually into space (NASA, 2022).

During the eighteenth century, the establishment of monitoring networks allowed scientists to precisely characterize climate as a metric representing the typical meteorological conditions (Sörlin & Lane, 2018). The stability of climates was widely acknowledged, nevertheless, the primary challenge faced by climatologists was to accurately ascertain the nature of our present climate and describe it in numerical terms (Prorokova, 2018). The present warming trend is distinct as a result of human activity since the mid-1800s, and is persisting at an unprecedented rate compared to subsequent centuries (Saleem et al., 2018). Anthropogenic activities have generated greenhouse gases that have caused the atmosphere, oceans, and land to heat up, resulting in rapid and extensive alterations in the environment, oceans, polar ice caps, and ecosystems (Almiron et al., 2022). Climate change is a widely acknowledged issue, in which the release of greenhouse gases is a major factor in the process of global warming and climate change. Companies with a significant carbon footprint are compelled to develop strategies to address climate change, including establishing goals and plans to reduce greenhouse gas emissions and modifying their operations, market strategies, and overall methods to accommodate changes (Buranatrakul & Swierczek, 2018). Strategic aspects encompass enhancing operational efficiency, modifying production methods, and developing less environmentally impactful GHG emission products (Abreu et al., 2021).

Climate change is an elaborate phenomenon that started since the issuance of the Intergovernmental Panel on Climate Change's First Assessment Report in 1990 (Ariana, 2016). Currently, it is believed that the climate of the Earth is gradually altering throughout the twenty-first century due to the actions of people (Anyanwu et al. , 2015). Raphael et al. , (2016) stated that climate change brings changes to the hydrologic cycle, makes the climate warmer, and raises atmospheric CO2 levels. Due to the string of nature and causes of the problem, as well as its many corresponding consequences, it is impossible to follow one unambiguous answer, despite the literature divide an opinion on this matter (Salehi et al. , 2019). Climate change can therefore be described as a gradual process that happens over thousands of years (Jarrett & Takacs, 2020). It can also be used in a broader sense describing fluctuations in climate indicators due to shifts in energy amounts, volcanic activity and the Earth-Sun distance (Kavousi and Keppel, 2018). Moreover, climate change effects on water can therefore be in forms of hurricanes, rising ocean temperatures, sea levels, ocean acidification and tsunamis, according to(Hulme, 2017).

Fossil fuels such as coal, oil and gas are the main drivers of climate change acceleration. More than 75% of global greenhouse gas emissions come from emissions, which contribute to global warming and climate change. Factors such as population growth, economic growth, energy production and land use affect greenhouse gas emissions (Mitchell, 2017). According to the Intergovernmental Panel on Climate Change (IPCC), the major contributors to emissions are energy production, construction, and deforestation (UNFCCC, 2022).

The identity of fossil fuels added about a widespread transformation in the field of industry and a profound alteration in the route of human history. Nevertheless, the overconsumption of fossil fuels has led to disastrous

repercussions for the atmosphere, inclusive of the discharge of carbon dioxide (CO2) into the atmosphere(Pašičko et al., 2012). Power technology exerts a big have an effect on on greenhouse gas emissions, since the utilisation of fossil fuels in this system contributes to the problem. China has implemented a policy to decrease electricity depth through allocating finances closer to renewable electricity resources like wind and sun electricity. This initiative has caused a surprising $103 billion in investments in 2015 by myself (Skea et al., 2021).

The industrial revolution, which brought about significant changes in social and industrial structures, has also had a role in climate change by contributing to increasing consumption and large-scale manufacturing of manufactured products. The industrial revolution has resulted in the rejection of climate change, which in turn has led to the denial of the factual existence of climate change, the logical deductions drawn from climatic data, and the significant social, psychological, moral, and political consequences brought about by these phenomena (Jakobeit & Methmann, 2012).

The manufacturing procedures involved in extracting raw materials, such as sand, result in significant soil degradation and deforestation, causing harm to aquatic ecosystems and their surrounding environment (Nurdiana & Pandin, 2021). It is imperative to take into account the environmental accountability of extensive production and its substantial impact on climate change for future generations (Almiron et al., 2022). The future impact of climate change will be contingent upon the level of reaction exhibited by countries, resulting in varied degrees of negative consequences (Churkina et al., 2020).

Trees play an important role in maintaining the balance of gases in the air through the absorption of CO2 and the emission of oxygen; however, the highest level of this process is observed in humid tropical forests (O'Brien, 1996). Sustained deforestation which is mainly attributed to the advancing agriculture sector is expected to steadily continue throughout the present century. Scientists predict that the Amazon Basin, the largest rainforest in the world, may shrink by 50 percent by the year 2050 (Longobardi et al. , 2016). They emphasized that deforestation leads to reduced ability of natural forests to act as carbon sinks and blur the links between ecosystem and climate (Raphael et al. , 2016).
The transport sector is the largest contributor to emissions globally standing at 25% with vehicle emissions forming the core of these emissions (Ülengin et al. , 2018). Transport has turned into one of the leading sources of greenhouse gases; within EU, its energy sector is responsible for 27% of greenhouse gases in year 2017 (Güzel & Alp, 2020). On the United States, the Clean Air Act has been instrumental in cutting pollution emanating from the transport sector (Campbell et al., 2018). However, the increasing population and technological development have make the existing rules ineffective in reducing the emissions (Güzel & Alp, 2020).Food production relying on animal sources is associated with greenhouse gas emissions that contribute to climate change (Almiron et al., 2022). However, climate organisations and policies have not yet acknowledged this as a significant concern (Theurl et al., 2020). Livestock production, occupying 37% of land, is responsible for up to 15% of greenhouse gas emissions (O'Neill et al., 2020). Deforestation is a substantial worldwide problem, resulting in approximately 3 gigatons of carbon dioxide emissions annually between 2000 and 2005 (Loboguerrero et al., 2019). Livestock digestion, encompassing the physiological processes of livestock's digestive system and the breakdown of dung waste, also has a role in the release of greenhouse gases. The life cycle of the livestock industry is a major contributor to greenhouse gas emissions, which in turn has a detrimental impact on air, land, and water pollution, leading to environmental degradation. Investing in livestock results in competition for resources, depletion of natural resources, animal illnesses, and a decline in biodiversity. By 2050, the demand for dairy, meat, and oil products is projected to rise to 100%, posing challenges in maintaining a balance between protecting the environment and land and ensuring food security for humanity. Gaining insight into the changing patterns of environmental factors is essential for constructing resilient agricultural systems and attaining a stable future for food production (Rojas-Downing et al., 2017).

Current techniques in agriculture involve the use of organic fertilisers and natural manure this is due to the growing awareness of the consumer in relation to health needs and the need for healthy foods (Johansen et al. , 2013). In addition, organic fertilisers stimulate microbial particles in the soil to generate nitrous oxide (N2O) gas, a greenhouse gas (Lazcano et al. , 2021). The categories of organic fertilisers are; animal manure organic fertilisers, other organic fertilisers and green organic fertilisers. Such fertiliser includes complex organic

structures that release nitrous oxide (N2O) gases that alter hazardous greenhouse emissions (Yáñez et al., 2020). buildings contribute immensely to greenhouse gas emissions, accounting for about 40% of the greenhouse gas emissions which results from the construction of structures and the utilization of structures (Pervez et al. , 2021). The construction sector is acknowledged more broadly as one of the key categories of the gross domestic product globally (Röck et al. , 2020). In the current studies, efforts have been made to reduce the reliance on fossil fuels in all the stages of construction. However, greenhouse gas emissions have been on the rise during the construction phase, especially after the introduction of advanced technology in construction (Satola et al. , 2020). Climate change impacts quite a number of aspects of human life including high temperatures, hurricanes, drought and flooding. Climate adaptation is useful in reducing the effects of climate change because it leads to increased global heat due to increased greenhouse gas emissions, and change in ecosystems. Such effects include; nations building construction structures with low heat emissions, increasing vegetation coverage, and reforestation to mitigate these effects. However, said approaches must be adjusted to reflect the changes in climate at the local, regional, and international levels.

Heat has been shown to cause respiratory diseases, cardiovascular diseases and deaths with the most severe impacts felt by the elderly, ailments, children, physical disabilities, and the poor. Examining the case of extreme weather conditions can provide evidence of how higher temperatures may affect societies in terms of individuals, buildings, and environment (Loboguerrero et al. , 2019).

The various climate models used globally predict increased frequency and severity of storms and hurricanes with a special emphasis on the coastal areas. These storms cause large amounts of damage globally, monetary and otherwise, while also affecting people psychologically. It is suggested to adopt measures that would reduce the effects of significant cyclones and hurricanes and improve the resilience of the construction process, reinforce the metal and steel structures, and strengthen the base for the older structures (Kim et al. , 2021). This paper defines drought as a natural disaster that has major consequences for towns and their inhabitants. Forecasted works of climate change are the deterioration of droughts all across the world. Heat is a cause of Productivity reduction, it leads to low precipitation, groundwater, and water availability in a given region. Currently, researchers are focusing on modifying genes to improve crop resistance to diseases and impacts of frogs' extinction (Cook et al. , 2018). The nations across the world are trying to adopt policies and a strategic map to fight the drought, to control and track the indicators, to build the infrastructure, and to be ready for the new models of drought in the future (Karatayev, et al., 2022).

The impact of climate change carries a huge influence on the life forms to the extent that marine forms of life affects dispersal according to the temperature conditions of the seas. Through the statistics of water temperature, it is evident that marine species have been affected and their distribution has also been affected (Smale, 2020). Ice and snow in the Arctic area is considered a major hindrance to ocean warming as it is naturally Layered to reflect the sun's rays. This has led to the wrong or unsustainabile use of the biome in the existing maritime ecology and the mobilization of resources including marine fishing, which can be sustained through time (Rathore et al. , 2020). Here, the following reasons are presented: climate change is said to have contributed negatively to the conservation of biodiversity (Habibullah et al. , 2022). The phenomenon has led to the elimination of avian and mammalian species particularly in the overpopulated countries like India and china (Skogen et al. , 2018). Biodiversity is also known to have been affected by such factors or aspects as the economic activities such as international business. This has led to the disintegration of habitats besides raising incidences of diseases believed to affect humans as well as wildlife (Pires et al. , 2018). Thus, climate change has a great risk of food insecurity. It has led to a significant affected water and energy which in turn has affected the levels of food production (EL BILALI et al. , 2020). Food security is contingent upon four factors: food accessibility, possibility to get food, food intake, and the reliable and sustainable food sources (Maksudur Rahman Shameem & V.T.A. Long, 2021). Unpredictable weather shifts, rising levels of the seas, and changes in weather forecasts affect food security both in the availability of produce and in transport to markets (LUSCH et al. , 1980).

The impact of climate change has been outcome on human beings' capacity to feed the world and cause food shortages and famine in poor nations in the developing world (M. Islam & Wong, 2017). Food scarcity is another large preoccupation of the global society due to the increasing population, together with the inability of

the natural resources to regrow the consumed food or any other resource (Schnitter & Berry, 2019). Insufficient food production also leads to high food prices and therefore food shortages or starvation incidents (Awasthi et al. , 2021).
This subject affects the health of people as it increases incidences of diseases and other ailments for instance, infections obstetrics complications, chronic diseases, and basically augmented death rates due to natural disasters, famine and water and air pollutions. The World Health Organisation predicted an increase in projected casualties from climate change to about five million by the mid twenty-first century (K. L. Ebi, 2020). Collecting information on the consequences of climate change on people's health requires a large framework, which includes the described mathematical models for creating conditions for examining the forecasting (Parry et al. , 2019). Geographical location, age and other factors touch on climate change affect the differences in health rates (Banwell et al. , 2018).Countries are making efforts to implement sophisticated health systems and modernise them across all sectors (K. Ebi et al., 2018).

Poverty is a substantial concern since it impacts the lives of persons who fall below the poverty threshold (Hallegatte et al., 2018). Additionally, climate change gives birth to several emergencies and environmental catastrophes, including floods, droughts, extreme heat, and desertification (Hallegatte & Rozenberg, 2017). Climate change has resulted in significant instances of societal impoverishment, with 26 million individuals descending below the poverty threshold as a direct consequence of climate change (Marotzke et al., 2020).

3. Methodology

Climate change is one of the most pressing issues of the modern world as it affects the entire ecosystem of the planet, that is why there ought to be environmentally-friendly business practices. Oil businesses, particularly the international oil companies, are strategically significant since they explore for fossil fuels, both oil and natural gas, and transport them across the globe. This thesis focuses on studying the effectiveness of incorporating social marketing approaches to address challenges of climate change and its future implications. Its purpose is to provide a comparative perspective on managing climate change in the oil organizations in the region. In this paper we will describe the approach, where and what for it is used, and the general philosophical point of view. The thesis will also explain the tools provided for this purpose.
The study adopts a Qualitative approach technique. This method acted as practical tools in making sense of the context of the study to achieve accurate outcomes/numerical quantification.
People research still uses the qualitative method that involves the use of natural language to understand characteristics and social aspects with regard to the population under study. Information is collected through one-on-one interviews and through being in the study community. Constant Comparative Analysis comprises three distinct processes: These are open coding, axial coding, and selective coding. Open coding is employed to construct the initial typology of the primary data output, axial coding is employed to divulge the subtypes within these categories, and selective coding is employed to recognize significant facets to be addressed in the research questions (Gerring, 2017).The objective of employing the qualitative technique in this study is to identify the primary elements associated with the research topic, which will then be tested using the quantitative method. This will enable the development of a suitable design that effectively accomplishes the study's objective. The personal interview instrument was specifically used on proficient personnel at the oil sites of Middle East petroleum companies to get precise and comprehensive information regarding the components associated with the research problem. The researcher performed a total of 29 personal interviews with 22 specialists, some of whom were interviewed multiple times. The experts made their pick using the snowball approach, which is known for producing optimal outcomes. The analytic process for the interview findings followed a structured sequence, commencing with open coding, progressing to axial coding, and concluding with selective coding. To fulfil this objective, an Excel spreadsheet was created to arrange and examine the interviews.

The study used ethical issues to foster ethical conduct, safeguard the rights of participants, and bolster public trust. Prior to evaluating the study population, the researcher acquired ethical approval, considering the rigorous adherence to confidentiality standards and assuring the proper presentation of the findings. Follow the guidelines set by scientific literature, refrain from copying others' work, and minimise any risks to guarantee that the advantages are greater than the potential negative consequences. The significance of the social advantages

derived from scientific research, such as the progression of knowledge, enhancement of healthcare, and improvement of the environment, is underscored. Within a context of rivalry and competition. In order to uphold ethical standards, the researcher got the required authorizations and pledged to maintain transparency, trustworthiness, and scientific integrity.

4. Findings

The qualitative technique yields genuine and coherent outcomes to address the research challenge, by gathering precise data from individuals with expertise in the respective topic. The researcher utilised the snowball approach to gather data from knowledgeable specialists inside the study sample. A direct interview approach was employed to gather insights from 22 industry professionals working in Middle Eastern oil companies located in Saudi Arabia, Iran, Iraq, Oman, Bahrain, the United Arab Emirates, and Qatar.

4.1. Demographic Information

The demographic information for the experts was disseminated in accordance with the data presented below:

4.1.1. Distribution of Categories by Gender

The categories were divided by gender into 12 males and 7 females. This distribution shows that the number of males is the highest, accounting for 68% of the total, while females make up 32%. This percentage suggests that there are fewer racist women compared to men, possibly due to the nature of the work, which involves danger and physical exertion (Table No.1).

Table (1.) Number and Gender of the Expert Sample

Gender	Number of experts	Percentage
Male	15	68%
Female	7	32%
Total	22	100%

4.1.2. Age-based categorization distribution

The age distribution of the expert sample was computed to ascertain their age demographics, as presented in Table (2). The data demonstrates that the ages of the experts are greater than those of other employees, therefore confirming that age plays a significant role in enhancing employees' experience.

Table (2) Age Categories for Experts

Age	Number	Percentage
30-40	6	27%
41-50	8	36.4%
51-60	5	23%
60-Above	3	13.6%
Total	22	100%

4.1.3. Job Position Categorization Distribution

The selection process involved choosing specialists who held leadership roles, as these jobs provide taxpayers with extensive expertise in knowledge and decision-making. Table (3) displays the allocation of professionals based on their employment roles.

Table (3) Distribution of Experts According to Job Position

Job Position	Number	Percentage
Administrative department manager	5	22.72%
Technical department manager	7	31.82%
project manager	7	31.82%
Deputy General Manager	2	9.1%
Director general	1	4.54%
Total	22	100%

4.1.4. Classification of Categories based on Educational Achievement

Table (4) reveals that the specialists own elementary and higher degrees, which signifies their elevated level of education. This validates the competence of professionals to carry out their responsibilities based on scientific principles, as well as professionalism.

Table (4) Distribution of Experts According to Educational Level

Educational Attainment	Number	Percentage
Technical Diploma	5	22.72%
Bachelor's	12	54.54%
Master's	2	9.10%
Ph.D	3	13.64%
Total	22	100%

4.1.5. Classification of categories based on years of professional experience

Upon examining table (5), it is evident that the specialists have a substantial number of years of professional experience, ranging from a minimum of 10 years to over thirty years. The extended duration allowed for the accumulation of expertise within the group of specialists, therefore validating the correctness of the data gathered during the interviews.

Table (5) Distribution of Experts According to Years of Experience

Years of experience	Number	Percentage
10-20 Years	6	27.28 %
21-30 Years	11	50.00 %
31-Above	5	22.72 %
Total	22	100%

4.2. Interview Questions

The researcher conducted interviews with oil corporations to ascertain their perspectives on climate change, their stance on environmental sustainability, and the public's opinion on the matter. In addition, they investigated the most effective tactics utilised in social marketing, recommendations for enhancing product quality, and strategies for fostering collaboration to alleviate the impacts of climate change. Additionally, they investigated the availability of specific budget allocations for climate change initiatives within social marketing financing. They also examined the effects of sustainable social marketing on the performance of internal human resources, as well as the role of organisational management in encouraging climate change mitigation. Additionally, they examined the extent of environmental safety regulation and endorsed monitoring mechanisms. They also assessed whether the Social Marketing Department investigates climate change and the amount of knowledge of environmental safety among the intended recipients. The interview sought to offer insights on the impact of government policies, environmental sustainability, and organisational management on tackling climate change.

4.3. Interview Results

4.3.1. Open coding results

A total of 264 responses were transcribed and organised into folders, and subsequently subjected to analysis in order to extract open coding. The Excel software was utilised for coding purposes, resulting in the acquisition of (463) open codes. A total of 112 codes were disregarded owing to incorrect responses. The respondents were then categorised based on their respective departments, considering that the interview questions were tailored to each individual's area of expertise.

4.3.2. Axial coding results

Axial coding is a process in which the data collected from open coding is analysed and organised by identifying and grouping relevant categories. A total of 50 axial codes were acquired to construct the model. The axial symbols were categorised based on the axes of each step of the proposed model. Table 4.6 displays the outcomes of the open and axial coding procedure, as well as the tabulation based on the phases of the model.

4.3.3. Selective coding results

Through axial coding, selected codes were extracted, and their number (13) represented the basic dimensions of the stages of the social marketing plan.

The experts' responses were analysed and the major and secondary elements were extracted. The selected codes were then classified based on the phases of constructing the model. Through this, the full results of the analysis were obtained through the table (6), as shown below:

Table (6) Coding Extraction

Axial Coding	Selective Coding	Category
Confronting Pollution	**Government**	**Discovering**
Energy Policy		
Transparency & Accountability		
Innovation Level	**Company**	
Sustainability Policy		
Sustainability Initiatives		
Climate Impact Disparity	**Audience**	
Values and Beliefs		
literature and Arts		
Education		
Gender		
Age		
Population Diversity		
Economic Wellbeing		
saving energy consumption	**Exploitation**	**Designing**
Regular maintenance of machines and vehicles		
Optimal exploitation of resources		
Thermal insulation engineering for buildings		
Ethical marketing	**Promotion**	
Sustainable social responsibility		
Social Media Marketing		
Word-of-Mouth		
Social forums and festivals		
Renewable Energy	**Product**	
Reuse of extracted carbon in industry		
Carbon sequestration from gas		

Underground Carbon storage		
Increase Vegetation Cover		
Community Participation	**Partnership**	
Domestic Community		
International Community		
International scientific research collaboration		
Sustainable social Activities Funding	**Budgeting**	**Implementing**
Sustainability Research and Development Funding		
Sustainable Projects Funding		
Green social citizenship behaviour	**Human Resources**	
Training and qualification programs for staff		
Sustainable Human Resources Strategy		
Environment Department	**Organizing**	
Sustainable Integration		
Sustainability Policy Proceeding		
Carbon Emissions Monitoring	**Environmental impact**	**Monitoring**
Preserving Water Resources		
Reforestation		
Environmentally friendly society	**Impact on Audience**	
Sustainable culture Promotion		
The Ideal Eco-Friend		
Green Performance	**Impact on the Company**	
Continuous Improvement Policy		
Periodic Review		

By utilising the coding shown in Table (6), the process of axial coding was employed to extract relevant information. The selected code was then categorised within the specific axes that are associated with the different stages of the model. The chosen codes were precisely articulated to describe the action or formula that the model may resemble. The chosen codes were subsequently inserted into the axes for each stage of constructing the model, resulting in the production of the final shape, as seen in Figure (1).

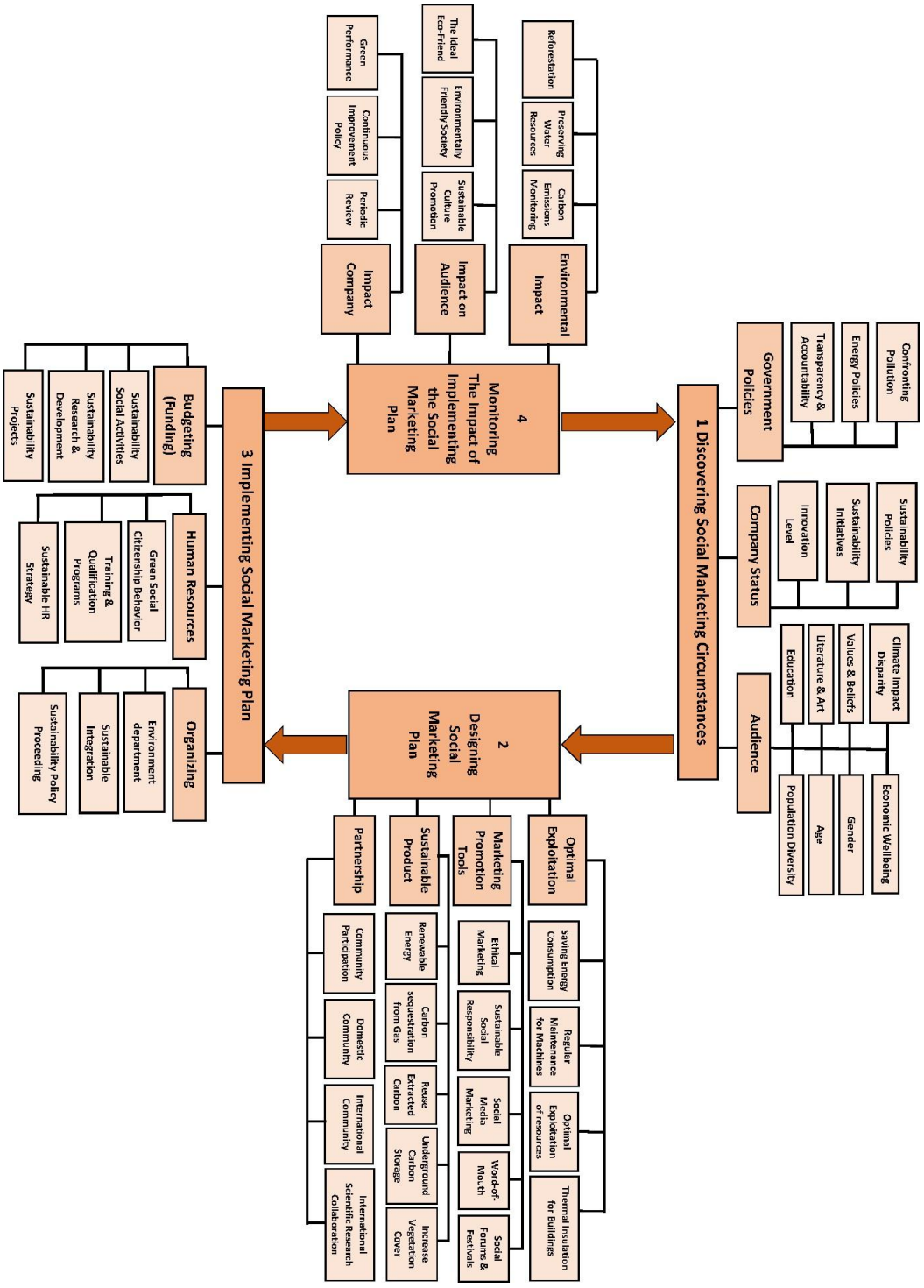

Figure (1) Social Marketing Model to address Climate Change

4. Discussion and Conclusion

The world and its environment stand a massive threat through climate change; due to this, one has to develop new ideas to address this issue. The use of social marketing strategies is vital for the protection of the environment and the discouragement of pollutions. The investigation is centered on the oil firms operating in the Middle Eastern sub-region and their strategies concerning the impacts of climate change. The techniques proposed are the environmentally friendly and sustainable behaviours for the promotion and support of social initiatives to reduce the negative influence of climate change. In particular, social marketing presents recommendations to empower various clients and stakeholders to promote preventive actions and behavioural changes for the achievement of the UN Sustainable Development Goals (SDGs). It is essential to note that the business strategy of the company is geared towards sustainability and environmentally friendly to signify the firm's commitment by guaranteeing the future generations of a sound world. Consequently, the study should help to contribute towards the improvements of the understanding of these issues and a deeper insight to the environment and the society it embraces. The purpose of the study was to develop a conceptual model of social marketing to be used by the petroleum corporations to address the effect of climate change, with emphasis on environmental context and fundamental components. Hence, understanding the topic matter and modeling to achieve the ends of sustainable development with least greenhouse emission and social responsibility was done using a mixed method.The researcher conducted interviews with experts from Missan Oil Company to gather data on social marketing activities related to environmental sustainability and climate change mitigation. The interviews were repeated multiple times to obtain the largest amount of data. The responses were then analyzed using Excel, resulting in 463 open codes. Out of these, 12 codes were eliminated due to lack of accuracy or contradicting the question's objective. The remaining codes were used to create a tabulation of the proposed social marketing plan strategy. Based on this calculation, the whole structure of the model suggested in the study was derived in accordance with its many stages, as seen below:

For corporate organizations, an in-depth analysis of internal and external conditions is essential for creating a social marketing strategy The effectiveness of the approach depends on understanding the effects of climate change on organizations and society. The selected codes governing the phenomena under study were identified through insights provided by experts.

The authorities is accomplishing a assessment of its rules on weather exchange to evaluate their effectiveness in decreasing the impact of weather change and providing clear guidelines. The social advertising plan is in accordance with those desires, with a specific emphasis on three key regions: tackling pollutants, enacting strength regulations, and guaranteeing openness and accountability. The pillars encompass the status quo of rules to govern the conduct of businesses and society, the advancement of clean electricity alternatives, and the assure of transparency in disseminating records concerning environmental guidelines and their effects.

The company's position and policy on climate change is evaluated by the company through sustainability policy, sustainability initiatives and innovation scale Pillars include the adoption of sustainable development goals, the implementation of voluntary efforts, and the assessment of the level of sustainable innovation by the company that provides a positive environmental changes have occurred.

There are many effects of climate change on the generality of the population and the environment and equally, there are numerous ways through which various demographic variables predispose different groups to different conditions. A critical understanding of how climate change affects communities can be studied through issues like climate inequity, culture, and art, standards of learning, economic development, gender relationships, age distribution, and diversification of the different population in society. Lack of correlations between risk drivers and climate impact intensity across different regions is another important aspect that should be understood in order for one to counter it effectively.

It is of paramount importance to take into account values and beliefs as they have a great contribution to an individual's identification of himself or herself and the manner in which such a person behaves, especially if the values and beliefs have resulted due to social issues or a certain encounter. Whereas literature and arts help in integration as well as self-orientation of an individual or group, education dictates one's socio-economic status and general welfare. Economic development affects many factors in a society's population levels, birth rates, migration, labour characteristics and wealth distribution.

These sociological and economic features are highly influenced by gender, whether regarding the distribution of people within certain spaces or the rates of births and decisions on where people ought to reside. The economy, healthcare, and education are all heavily influenced by age, and data analysis plays a critical role in conducting research, formulating policies, and allocating resources. Population diversity fosters the development of inclusive and fair communities by encouraging equal opportunities and resolving systematic injustices.

After doing a thorough analysis of the company's internal and external environment and considering all relevant aspects and circumstances, the next step in the model involves developing a social marketing plan aimed at reducing the impact of climate change. The feasibility of the strategy relies on establishing the fundamental parameters in a manner that aligns with the operational constraints of petroleum corporations in the Middle East area. This level comprises four dimensions, which are illustrated below:

Efficient resource management entails reducing energy usage, performing regular machinery maintenance, and maximising resource utilisation. This entails the reduction of fuel use, the decrease in electricity production, and the achievement of optimal performance. Routine maintenance also prolongs the durability of machines and safeguards against faults. Efficiently using resources, including natural resources and raw materials, maximises benefits, reduces inefficiencies, and preserves resources for future use. Thermal insulation in architectural engineering minimises the passage of heat, hence improving energy efficiency by minimising the requirements for heating and cooling. These characteristics lead to a more sustainable and efficient energy system.

The Social Marketing Department uses five main tools to promote sustainability and mitigate climate change effects. These include ethical marketing, sustainable social responsibility, social media marketing, word-of-mouth, and social forums and festivals. Ethical marketing ensures transparency and accuracy in marketing efforts, while sustainable social responsibility integrates sustainability principles into corporate social responsibility efforts. Social media marketing uses platforms like Facebook, X, and LinkedIn to interact with audiences, increase sales, and generate website traffic. Word-of-mouth is the spreading of customer opinions about a product or service. Social forums and festivals promote environmental activism and sustainable practices.

The sustainable product component of the social marketing plan aims to tackle environmental sustainability issues specific to petroleum companies, notably in the oil and gas production process. The strategy highlights the significance of renewable energy sources such as solar radiation, wind, and precipitation, along with carbon sequestration (CCS) technology, which captures and stores carbon dioxide emitted from activities like flaring. Carbon recycling encompasses the process of extracting, reusing, and converting carbon from petroleum products into other materials. Geological sequestration, commonly referred to as underground carbon storage, is the main component of CCS technology. The initiative also seeks to augment vegetation covering, with petroleum-derived fertilisers proving particularly efficacious in enhancing soil quality and promoting crop development. The objective of these solutions is to decrease emissions and advance environmental sustainability in the petroleum sector.

The social marketing strategy for corporations in the Middle East is upon tackling climate change through the formation of alliances with corporate organisations, the community, and local and international agencies. The purpose of this initiative is to facilitate the sharing of experiences and knowledge, identify solutions to issues caused by climate change, and coordinate efforts to reduce its impact. From this dimension, four aspects may be inferred: community involvement, a community-focused strategy, a global community, and international collaboration in scientific research. Community engagement enables the public to express their viewpoints on sustainability issues, while a community-centric strategy cultivates relationships with local organisations. The strategy should take into account the worldwide network and exhibit cultural sensitivity in order to effectively interact with the global community. International cooperation in medical research is essential for comprehending and tackling climate change.

The social marketing plan for addressing climate change is executed by considering the listed aspects, and its effectiveness relies on achieving the financial, organisational, and human prerequisites as described.

The execution aspect of the social marketing plan includes allocating funds and resources for marketing campaigns, commercials, initiatives, gatherings, and forums. These activities must adhere to budget allocations and can be financed by either the government or foreign organisations. The allocations may be categorised into

three primary factors: social sustainability initiatives, sustainability research and development, and sustainability projects. Social sustainability initiatives encompass efforts to increase public awareness of social concerns and effectively capture and retain attention using social media platforms. Sustainability research and development need dedicated financing to cover expenses associated with research, including laboratory costs, travel charges, publication fees in international archives, and participation in scientific conferences. Sustainability initiatives, although they may be considered less important in the company's value chain, are crucial for attaining sustainable development objectives and should be allocated money with equal importance as general projects.

To effectively address climate change in petroleum firms, it is necessary to prepare the personnel and establish a sustainable behaviour model through the adoption of a social marketing plan. This entails establishing work regulations aligned with sustainable development objectives and constructing a framework for sustainable conduct that promotes public behavioural modification and fosters awareness of sustainability. The plan is structured on three fundamental principles: environmentally conscious social behaviour, educational and skill development initiatives, and a long-term strategy for managing human resources in a sustainable manner. Green sustainable citizenship behaviour refers to individuals voluntarily engaging in actions that promote environmental safety, hence helping the firm to accomplish its sustainable development goals more quickly. Training programmes should be current and cover subjects related to environmental sustainability. The human resources department must revise its strategy to incorporate environmental sustainability, beginning with recruiting, training, performance evaluation, and the establishment of an incentive structure to promote effective execution of sustainable development objectives.

Implementing a social marketing plan to address climate change in petroleum firms requires the preparation, organisation, and structure of the plan. This involves the establishment of a dedicated department for environmental sustainability, the implementation of an organisational integration that connects environmental sustainability principles with communication systems and functional levels, and the adoption of sustainable policy perspectives across all administrative levels. The plan is composed of three main components: 1) The Environment Department, responsible for supervising activities related to environmental sustainability, 2) Sustainable Integration, which ensures that all administrative and technical activities adhere to sustainable development standards, and 3) Sustainability Policy Proceeding, which involves reviewing policies in order to achieve a strategic vision of sustainability, including aspects such as transparency, environmental safety, and adherence to government regulations and clean energy sources.The stage assesses the actual effects of the social marketing plan on petroleum firms, use three dimensions to gauge the influence on the environment, the company itself, and the general public. Results function as feedback, providing guidance to the firm in order to revise prior phases for the Middle East area.

The environmental component quantifies beneficial transformations and enhances circumstances to correspond with climate change. The monitoring axes encompass the regulation of carbon emissions, the conservation of water resources, and the restoration of forests. Carbon emissions monitoring entails the regulation of emissions from extraction and separation procedures through the use of technology such as airplanes, drones, satellites, and ground readings. Conserving water resources entails monitoring adherence to the plan, assessing both surface and groundwater supplies, and applying strategies to optimize depletion. Reforestation entails overseeing the effective execution of programmes, such as the utilisation of arid regions, reforestation of finished sites, and the use of sophisticated industrial agricultural techniques. Social marketing contributes to increasing awareness and developing effective communication channels with the Ministry of Agriculture.

The social marketing plan aimed at addressing climate change has been assessed from three different perspectives. The first dimension assesses the influence on the general public, encompassing both the company's internal community and external audience. The objective of the strategy is to foster a sustainable culture by utilising social media to advocate for environmental sustainability and ensuring the protection of the environment. The second dimension centres on the establishment of an ecologically conscious society, advocating for sustainable practices, efficient waste disposal, and the proliferation of green areas. The third component assesses the influence on persons, with a specific emphasis on establishing socially optimal environmental models and advocating for environmental preservation. An ideal eco-friendly individual is described as someone who consistently uses sustainability principles both within their house and in the external

environment, actively avoids contributing to pollution, and makes informed and conscious choices as a consumer. The strategy furthermore incorporates a social incentive framework for environmental preservation, enabling citizens to successfully spearhead environmental efforts. In general, the social marketing plan has achieved success in promoting environmental sustainability and fostering a more sustainable society.

Petroleum corporations' social marketing plan aims to tackle climate change by focusing on three key areas: green performance, a policy of ongoing improvement, and regular evaluation. Green performance is the conversion of conventional operations and functions into sustainable business systems, with a specific emphasis on adhering to environmental sustainability requirements, effectively managing waste, and maintaining high environmental quality. The continuous improvement policy encompasses the company's implementation of policies for enhancing, advancing, and managing changes, while assuring adherence to government rules, training, and research and development endeavours. Periodic review involves assessing the strengths and weaknesses of the social marketing plan, including evaluating job performance efficiency, the effectiveness of word-of-mouth marketing, the achievement of strategic goals through social marketing, and identifying climate change risks and ways to address them using traditional marketing techniques. Through the assessment of these factors, organisations may improve their social marketing tactics and make a meaningful contribution to a more sustainable future.

A model of social marketing in petroleum firms was constructed through qualitative research to address the issue of climate change. Based on the information provided in the preceding paragraphs, we can now address the research questions as follows:

- The social marketing strategy for petroleum companies operating in the Middle East involves developing marketing mix programmes that align with sustainable development goals. This strategy aims to encourage both internal and external audiences to adopt sustainable behaviours and to ensure that products and operations meet environmental sustainability standards.
- The primary objective for developing a social marketing strategy for petroleum firms operating in the Middle East to address climate change is to establish a comprehensive social marketing framework focused on attaining sustainable development objectives. This model is predicated on examining the actuality of the circumstances surrounding petroleum firms that are active in the Middle East. Subsequently, the task involves creating a social marketing strategy for addressing this problem. Next, execute the social marketing strategy, ensuring that adequate resources are allocated for its successful execution. Ultimately, assessing the effects of implementing the social marketing plan on both the internal and external environment of the company.

This study emphasised the significance of including the perspectives of all departments in relation to the hazards posed by climate change. This study investigates the role of the marketing department in petroleum companies in addressing this issue. It proposes a model that outlines a strategic plan to utilise various social marketing activities in order to achieve sustainable development goals and mitigate the impact of climate change on the environment, society, and companies. The report presents some key aspects that scholars and organisations may use to further develop this element. As demonstrated in the following example:

Utilising the research model to develop strategic plans for all departments in corporate organisations, given the significance of climate change as the most pressing concern currently.

It is important to prioritise social marketing in oil companies to oversee the implementation of sustainability principles in both internal and external activities. Social marketing serves as a fundamental tool for monitoring and raising awareness about climate change. Additionally, it helps to study the societal, public, and environmental impacts of this phenomenon.

Enhancing the involvement of scientific collaborations with worldwide corporations and institutions to facilitate the flow of knowledge and information on climate change, while emphasising the significance of social marketing in scientific communication.

Creating communication channels to facilitate collaboration with society through the administration of social marketing, with the aim of addressing the issue of climate change.

Training the personnel in customer relations management to comprehensively grasp the various facets of climate

change and effectively guide the public towards adopting behaviours that promote environmental sustainability.
Assisting the Social Marketing Department in promoting the implementation of sustainable development goals, particularly those pertaining to addressing climate change, by offering both tangible and emotional assistance.
Establishing a national initiative that involves the participation of all organisations functioning within the country. The objective is to harmonies governmental policies with corporate organisations and devise a nationwide plan to address and alleviate the impacts of climate change.
There is a requirement for the government to transition towards implementing electronic governance in order to effectively monitor the environmental performance of oil corporations operating within the country.
Governments should establish a comprehensive monitoring strategy for the entire lifespan of oil fields. They should also implement appropriate actions to decommission oil fields when production declines and when there are significant amounts of impurities and contaminants in the extracted oil.
Facilitating future study on the correlation between marketing efforts and sustainable development goals.

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