

Midocean University

College of Management

Project Management Specialization



**The impact of applying sustainability practices on the
success of environmental projects: a field study in
renewable energy projects in Riyadh**

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Introduction:

Sustainability practices are playing a growing role in shaping the future of societies and economies around the world, reflecting the commitment of individuals and organizations to conserve natural resources and reduce adverse environmental impacts. At its core, sustainability is based on the principle of meeting the needs of the present without compromising the ability of future generations to meet their needs, a concept that requires a profound change in production and consumption patterns, as well as in environmental, economic and social policies. These practices include a wide range of activities aimed at reducing carbon emissions, managing natural resources wisely, promoting energy efficiency, supporting a circular economy, and adopting responsible behaviors by individuals and communities. (Al-Mutairi, 2021)

Sustainability practices start at simple levels such as reducing the use of single-use plastics, recycling, and rationalizing water and energy consumption, but extend to broader policies implemented by governments and institutions. For example, the transition to renewable energy – such as solar and wind – requires strategic investments aimed at reducing dependence on fossil fuels, thereby reducing the carbon footprint. Sustainable urban planning is also an effective tool to reduce congestion and pollution, by designing smart cities that encourage the use of environmentally friendly transportation. Providing green spaces that contribute to the ecological balance and improve the quality of life. (Al-Hawamleh, 2024)

In the economic context, sustainability practices force a rethinking of supply chains and production systems, so that companies rely on recycled materials, reduce waste, and rely on transparency in their environmental and social reporting. Sustainable investments – which take into account environmental, social and governance (ESG) standards – are also increasingly being the focus of interest

from investors seeking balanced financial returns with a positive impact on the environment and society. This, in turn, puts increasing pressure on companies to adopt a more approach. Responsibility and sustainability in its daily business. (Abu Huwaidi, 2020)

From the social side, sustainability practices are linked to environmental justice and equal distribution of resources. Sustainability is not just about the environment, but also empowering communities, providing decent jobs, and supporting education, health and gender equality. Here, it is important to involve all segments of society in sustainability efforts, whether through environmental education, or through voluntary and community initiatives, to ensure a real shift towards a sustainable lifestyle that reflects the shared values of justice, responsibility and solidarity. (Al-Mutairi, 2021)

Environmental projects are one of the main pillars of achieving sustainable development, as they represent a practical and concrete response to the growing environmental challenges facing the world, such as climate change, natural resource degradation, biodiversity loss, and air, water and soil pollution. The importance of these projects comes from their ability to combine scientific knowledge, modern technologies, and societal efforts in order to improve the environment and protect it from degradation, thus contributing to enhancing the quality of life for both present and future generations. Environmental projects are not just about reforming It also seeks to prevent and build new models of development that are efficient, responsible and respectful of environmental balances. (Al-Hawamleh, 2024)

Environmental projects cover multiple areas, such as reforestation, waste treatment, cleaning water bodies, restoring damaged ecosystems, switching to clean energy sources, and developing organic agriculture. These projects are implemented at varying levels, from small-scale community initiatives to ambitious national plans adopted by Governments or international organizations. Every environmental project has interrelated environmental, social and economic dimensions, with objectives not only protecting nature, but also improving livelihoods, creating jobs, spreading environmental awareness

among the population, and promoting a sense of collective responsibility towards land and resources. (Abu Huwaidi, 2020)

One of the most prominent features of successful environmental projects is that they are based on community participation, sustainable planning, and reliance on scientific solutions and modern technologies. For example, many environmental projects leverage technology to monitor air and water quality, identify sources of pollution, and predict environmental disasters, contributing to effective and rapid decision-making. Environmental research also guides these projects towards best practices, based on reliable evidence and field experience, which enhances their ability to continue and achieve a positive long-term impact.

The application of sustainability practices is one of the essential factors that directly contribute to the success and continuity of environmental projects, as these practices not only reduce the environmental impact of projects, but also enhance their efficiency, increase their economic and social returns, and expand their positive impact on communities and the environment alike. When environmental projects are built on sustainability principles, they are managed in a way that balances human needs with the conservation of natural resources, ensuring that these projects are able to achieve their goals without depleting or damaging the environment in the long term. (Al-Mutairi, 2021)

One of the most prominent positive effects of applying sustainability practices to environmental projects is their ability to improve the efficiency of the use of resources, whether hydro, energy, or raw materials. These practices encourage waste reduction, recycling and reuse, which reduces operational expenses and enhances the effectiveness of the project in achieving its environmental objectives at a lower cost. For example, in waste management projects, the application of the circular economy principle contributes to the transformation of waste into reusable resources, reducing dependence on landfills, prolonging the life cycle of materials, and relieving pressure on the natural environment. The adoption

of environmentally friendly technologies in the implementation of projects contributes to reducing harmful emissions and achieving a sustainable positive environmental impact. (Abu Huwaidi, 2020)

The application of sustainability practices also enhances the acceptance of the project in the local community, by taking into account social dimensions and including communities in the planning and implementation stages. Environmental projects that take into account the needs of local people and provide them with economic opportunities, such as employment, training or improving living conditions, often receive broad public support, reducing the likelihood of conflict or project resistance, and increasing the likelihood of its continuation and success. The sustainability of an environmental project is measured not only by its environmental impact, but also by its ability to create strong bonds. With the community and promoting social responsibility. (Al-Hawamleh, 2024)

Based on this, the problem of the study is to analyze the impact of the application of sustainability practices in their combined dimensions (environmental dimension - economic dimension - social dimension) on the success of environmental projects: a field study in renewable energy projects in Riyadh.

Importance of the study:

The importance of this study depends on its theoretical and practical contributions to the following:

Theoretical significance:

- ✓ This study contributes to enriching the scientific literature in the field of environmental project management, by addressing the relationship between the application of sustainability practices and the success of

these projects at various stages, especially in complex natural environments or suffering from increasing environmental pressures.

- ✓ The study provides a contemporary theoretical framework that links the components of sustainability practices (such as resource efficiency, emission reduction, renewable energy technologies, and community engagement) with indicators of success of environmental projects such as achieving a positive environmental impact, controlling costs, raising the quality of implementation, and reducing deviations in timelines.
- ✓ The study fills an existing knowledge gap in environmental and management research, especially in the Arab context, as many studies have not addressed the integrated relationship between sustainability practices and performance effectiveness in environmental project management, whether technically or organizationally.
- ✓ Contribute to the development of quantitative and qualitative tools to assess the level of integration of sustainability practices into the environmental project management system, and to analyze the impact of this integration on improving operational efficiency and the quality of expected environmental and social outcomes.

Applied importance:

- ✓ This study provides an important reference for decision-makers in government and private institutions working in the environmental field, by providing reliable indicators on the impact of applying sustainability practices on project performance, which contributes to the formulation of policies and operational practices that are more compatible with the requirements of sustainability and sustainable development.
- ✓ Supports improving the quality of environmental project management on the ground by providing recommendations based on scientific findings that contribute to more integrated planning, reduce environmental and

economic risks, and achieve greater efficiency in the use of available resources throughout the project life cycle.

- ✓ It highlights the importance of training and qualifying administrative and technical cadres working in environmental projects, by highlighting the impact of sustainability practices such as waste management, clean energy, and natural resource governance on the success of the project and the achievement of its environmental and social goals.
- ✓ The study highlights opportunities to achieve tangible financial and environmental savings by reducing waste, improving material and energy efficiency, and increasing the life span of rehabilitated environmental infrastructure or systems, which enhances project sustainability, contributes to improving resource investment in the long term, and increases the ability of organizations to implement successful environmental projects with tangible impact.

Objectives of the study:

The study aims to find out the impact of the application of sustainability practices in their combined dimensions represented in (environmental dimension - economic dimension - social dimension) on the success of environmental projects: a field study in renewable energy projects in Riyadh, and a set of sub-objectives branched from it:

- ✓ Identify the level of the environmental dimension on the success of environmental projects by applying to renewable energy projects in Riyadh.

- ✓ Identify the level of the economic dimension on the success of environmental projects by applying to renewable energy projects in Riyadh.
- ✓ Identify the level of the social dimension on the success of environmental projects by applying to renewable energy projects in Riyadh.

Study Questions

The first main question: What is the impact of the application of sustainability practices with their combined dimensions represented in (the environmental dimension – the economic dimension – the social dimension) on the success of environmental projects: a field study in renewable energy projects in Riyadh, and several sub-questions branch out of it as follows:

- To what extent does the environmental dimension contribute to the success of environmental projects by applying to renewable energy projects in Riyadh?
- What is the impact of the economic dimension on the success of environmental projects by applying to renewable energy projects in Riyadh?
- How does the social dimension affect the success of environmental projects by applying renewable energy projects in Riyadh?

Study assignments:

To achieve the objectives of the study and answer its questions, the researcher can rely on the theoretical framework related to the study, and based on the results of previous studies, the following hypotheses have been formulated:

The first main hypothesis : There is no statistically significant impact of the application of sustainability practices in their combined dimensions represented in (environmental dimension - economic dimension - social dimension) on the success of environmental projects: a field study in renewable energy projects in Riyadh.

From this hypothesis emerge the following three sub-hypotheses:

- There is no statistically significant impact of the application of the environmental dimension on the success of environmental projects by applying to renewable energy projects in Riyadh.
- There is no statistically significant impact of the application of the economic dimension on the success of environmental projects by applying to renewable energy projects in Riyadh.
- There is no statistically significant impact of the application of the social dimension on the success of environmental projects by applying to renewable energy projects in Riyadh.

Study Form:

Independent variable: sustainability practices with their combined dimensions represented in (environmental dimension – economic dimension – social dimension).

Dependent variable: the success of environmental projects.

Dependent variable

**Success of
environmental projects**

Independent variable

Sustainability Practices

- Environmental dimension
- Economic dimension
- Social Dimension

Previous studies:

Studies on sustainability practices

A study (Al-Mutairi, 2021), entitled The Impact of Internal Control on Disclosure of Sustainability Practices in Kuwaiti Joint Stock Industrial Companies: The Intermediary Role of Enterprise Resource Planning Systems

The study aimed to reveal the impact of internal control in its dimensions (internal control objectives, internal control system procedures, characteristics of the internal control system, legislation related to internal control) in disclosing sustainability practices, and to study the role of resource planning systems as an intermediate variable. The study population included (62) Kuwaiti shareholding industrial companies, where the researcher distributed the questionnaires randomly to the internal auditors working in those companies, and the number of questionnaires distributed reached (345) questionnaires, and the number of recovered and valid for statistical analysis reached (310) times the study sample. To prove or deny the hypotheses of the study, the descriptive and analytical approach method was used to describe the variables related to internal control and disclosure of sustainability practices and corporate resource planning systems, and regression analysis was used to

analyze and measure the impact and the relationship between internal control variables as independent variables and disclosure of sustainability practices as a dependent variable and company resource planning systems as an intermediate variable. The study reached several results, the most important of which are that the areas of internal control, which included legislation related to internal control, internal control procedures, characteristics of the internal control system and the objectives of internal control, were combined with an average degree of evaluation by the internal auditors working in Kuwaiti shareholding industrial companies, and that the company's resource planning systems and disclosure of sustainability practices were to a medium degree, and there was an impact of internal control in its combined dimensions in the disclosure of sustainability practices in Kuwaiti shareholding industrial companies. There was also an impact of the internal control dimensions on the company's resource planning systems, and the impact of the ERP system on the disclosure of sustainability practices in Kuwaiti shareholding industrial companies, and the ERP systems improved the impact of the internal control dimensions in the disclosure of sustainability practices. The study recommended that those concerned with internal control ensure the proper implementation of internal control procedures and work to update them, and encourage industrial companies to participate in sustainability projects and

initiatives through incentives that can be provided by the state and thus the possibility of increasing the disclosure of sustainability practices, and urged Kuwaiti legislators to develop legislation related to internal control and the need to oblige it due to its importance and impact on the disclosure of sustainability practices.

A study (Abu Huwaidi, 2020), entitled The Impact of Audit Committee Characteristics on the Level of Disclosure of Sustainability Practices in Jordanian Commercial Banks

This study aimed to clarify the impact of the characteristics of the audit committee on the level of disclosure of sustainability practices in Jordanian commercial banks for the period 2014–2018, where the study used the descriptive analytical method, and the study sample consisted of 13 Jordanian banks listed on the Amman Stock Exchange. The researcher used the independence of the audit committee, the size of the audit committee, the experience of the members of the audit committee, and the number of meetings of the audit committee as independent variables, and each of: the elements of sustainability (environmental, social, and economic) as a dependent variable, and the results of the multiple regression analysis showed a positive relationship with statistical significance for the independence of the

audit committee, the size of the audit committee, the experience of the members of the audit committee, and the number of meetings of the audit committee at the level of disclosure of sustainability practices, and the study was based on a number of recommendations, the most important of which were: The ASE should prepare a special index to classify listed companies according to the field of transparency and adequate disclosure of sustainability activities in separate reports from financial reports

Al-Haroub, 2020 study, entitled “Sustainability Practices in Construction Project Management in the West Bank / Palestine”

,Energy consumption is one of the most important challenges facing Jordan due to the scarcity of domestic resources and the high demand for energy Energy consumption in the city of Amman has increased in recent years. The household sector accounts for 21.5% of total energy consumption and the residential sector accounts for 45.5%, which is the largest share. Although some studies have looked at energy saving in the residential sector, few have put forward the idea of high-rise green buildings. Therefore, this research addresses Reaching an environmental design in the Jordanian residential sector by evaluating a project with environmental building specifications and standards in Jordan. Energy performance and annual cost will be calculated

by the Energy Plus program. The method to be used is the method of description and analysis. This research will help to identify modern design methods that in turn will contribute to the implementation of projects of an environmental nature. Several alternatives have been proposed to reduce energy consumption in this project such as the use of heat insulation with high efficiency, shading of the façade by means of horizontal sun breakers and the installation of solar panels. The result showed that the total energy consumption in the case study is 19291.89 GJ, while the total energy consumption improved was 17620.58 GJ, which reduced energy consumption by 1671.31 GJ, and with the installation of solar panels, the total annual energy consumption decreased to 14679.90, reducing the total energy bill by 27.15%.

Study Al-Kubaisi, 2022), entitled Developing a Green Rating System for Existing Buildings in Jordan: Green Building Assessment Tool for Jordanian Context

Sustainable Development (SD) aims to meet the needs of current generations without affecting the ability of future generations to meet their own needs. Since the past decades, several initiatives have been established to encourage the construction sector to support the sustainable development agenda. This study

aims to investigate practices that affect the sustainable management of construction projects (CPM) in the West Bank. Data collected using a mixed methodology Quantitative data were collected through 73 questionnaires, and qualitative data was collected through 11 semi-structured interviews with experts from the field of construction project management in the West Bank. The data was analyzed using the PLS methodology.

The results of the data analysis revealed 24 of the most important sustainable practices that are always implemented by engineers at each stage of construction projects in the West Bank, which are classified as follows: One sustainable practice classified under the start-up phase, eight sustainable practices under the design phase Seven sustainable practices under the tender phase, and eight sustainable practices in the implementation phase The most common practice that is considered during the construction project initiation phase in the West Bank is Include diverse representatives from project team functions (85.6%), and the most common practices taken during the design phase are: using standard dimensions in design specifications (90.6%), and adhering to legal requirements (90.3).

At the bidding stage, the most common practices are prevention of bribery and corruption (94.7%), transparent procurement procedures (94.7%) and contract

documents and comprehensive specifications (92.2). Finally, the most sustainable practices adopted during the implementation phase are: compliance with the required specifications and quality level (89), and insurance for the construction site, workforce and equipment (89). The Path coefficient test showed Sustainable practices in the start-up phase had the greatest positive impact on the performance of Sustainable Management of Construction Projects (SCPMP), where they were. $\beta = 0.308$.

The study also showed that the main obstacle to the implementation of sustainable management of construction projects in Palestine is the lack of interest of stakeholders in sustainability issues (87.8%), so it recommended ,raising awareness of sustainability in the Palestinian construction sector especially at the level of decision-makers. This is also the first study that draws a roadmap for institutions operating in the construction sector in the West Bank by providing a framework for the implementation of sustainable .management of construction projects in Palestine

Study (Al-Hazaimeh, 2023), entitled The Mediating Role Effect of Organizational Culture on the Relationship between Environmental Sustainability and Strategic Management Accounting Practices in the Jordanian Industrial Sector

This research focuses on studying the impact of the mediating role of organizational culture on the relationship between environmental sustainability and strategic management accounting practices in the Jordanian industrial sector.

To achieve the objectives of the study, the quantitative method was used in the study by distributing (256) questionnaires to the Jordanian industrial sector, and the number of questionnaires analyzed in the study was determined (180), moreover, the questionnaires were distributed to the following positions (financial manager, chief accountant, accountant, production manager, operations manager). Data analyzed using 26 Smart PLS and Spss software)

The study found several results, most notably: there is a statistically significant relationship between SMAPS and organizational culture in the Jordanian industrial sector, there is a statistically significant relationship between organizational culture and environmental sustainability in the Jordanian industrial sector, and there is no statistically significant relationship between SMAPS and environmental sustainability in the Jordanian industrial sector. Finally, there is an important mediating role for organizational culture in the relationship between environmental sustainability and SMAPS in the Jordanian industrial sector.

In light of these results, the study recommends the management of Jordanian industrial companies the need to increase attention to the application of modern SMAPS because they provide more accurate and relevant information for decision-making, unlike traditional practices, and the researcher recommends studying this study using mixed, method because he expects the results to be much better Keywords Environmental sustainability Strategic management accounting practices, organizational culture Jordanian industrial cutting, emergency theory.

Studies on the success of environmental projects

دراسة Al-Hawamleh, 2024))، بعنوان **The Environmental Regulations Impact on the Economic Performance of Energy Sector Projects in Jordan**

Libya's construction industry is a key driver of the country's economic ,development, but it faces significant challenges due to political instability economic volatility, project management practices, and insufficient costs This article explores the current state of construction project management and cost management in Libya, using case studies of high-profile projects to highlight key issues and inefficiencies. The findings suggest that poor risk management, lack of skilled labor, and inconsistent government policies contribute to frequent delays and cost overruns. Emphasizes The article on

the need to adopt internationally recognized project management frameworks) such as Project Management Knowledge Suite(PMBOK), Building) Information Modeling(BIM), .and Lean Building to improve project outcomes In addition, cost optimization strategies are discussed, such as earned value) management(EVM) and value engineering. The article also emphasizes the importance of government involvement in shaping the regulatory environment and promoting foreign investment as well as the need for capacity building programs to develop a skilled workforce Future research directions include exploring the adoption of advanced technologies, the relationship between political stability and project performance, and the socio–economic impacts of .construction projects on local communities

Abu Yahya’s study, 2021, entitled Total Quality and Risk Management in Construction Projects in Jordan.

This study delves into the complex relationship between ecosystems and economic performance in Jordan's energy sector through a systematic descriptive analytical approach, examining the direct impacts of ecosystems on key economic metrics, including profitability, upfront costs, operational costs, effectiveness, efficiency and competitiveness of energy projects in Jordan. The data was thoroughly collected through detailed questionnaires

submitted to senior management staff of major Jordanian energy companies, with subsequent statistical analysis using SPSS program.

The findings highlighted the pivotal role of ecosystems in shaping economic performance of energy projects.

Despite the upfront costs associated with compliance, these regulations drive operational efficiencies and promote long-term sustainability, ultimately enhancing the overall economic performance of the sector. The study also explores the delicate balance between environmental stewardship and meeting energy requirements, providing valuable insights to improve economic outcomes while adhering to environmental standards in Jordan's energy sector.

This research adds significant value to policy discussions by proposing amendments to the regulatory framework to support sustainable economic growth in the energy sector. It emphasizes the importance of innovative compliance strategies to mitigate costs and enhance the competitiveness of energy enterprises in global and regional markets. In conclusion, the thesis provides a comprehensive framework for understanding the economic impacts of Jordan's ecosystems, and provides actionable recommendations for

policymakers, industry stakeholders, and academic researchers to enhance .the sustainable energy landscape

Al-Harbi (2024) study, entitled The Impact of Strategic Project Management on the Success of Construction Projects in the Contracting Sector in Riyadh

This study aimed to determine the impact of strategic management on the performance of construction projects in Riyadh. The impact was examined across dimensions including environmental analysis, strategy formulation, strategy implementation, strategy evaluation, measurement against project efficiency, innovation adoption and sustainability. The research used a descriptive and analytical approach, with a review of relevant Arab and foreign references to lay the theoretical foundations. In addition, a field study was conducted by distributing questionnaires to construction project managers in Riyadh, Saudi Arabia. A total of 394 individuals participated in the study using the simple random sample method of data collection. The research yielded several key findings indicating a high level of success in construction projects, with a strong positive correlation between Saudi Arabia's strategic management. It was found that strategic project management explains 78.9% of changes in projects and project success in the Kingdom to project success,

with a 1% increase in strategic project management associated with a 0.391% increase in the success of professional projects. However, the main hypothesis of the study turned out to be incorrect. Based on the results, recommendations were made, including the adoption of project management methods that integrate strategic aspects and encourage companies to implement continuous improvement of strategic project management practices to enhance long-term competitiveness.

Research Gap:

A review of the previous literature shows that the topic of sustainability has received increased attention in a number of studies that have addressed multiple aspects related to its applications and impacts in different institutional contexts. Some of these studies focused on the disclosure of sustainability practices, as in the case of Al-Mutairi's study (2021), which examined the impact of internal control in its various dimensions on the disclosure of sustainability practices in joint stock industrial companies in Kuwait, with a focus on the mediating role of enterprise resource planning systems. Abu Huwaidi's study (2020) also examined the impact of audit committee characteristics on the level of disclosure of sustainability practices in Jordanian commercial banks, based on multiple criteria including independence, expertise, committee size and number of meetings. The results in both studies showed a statistically significant relationship between the elements of corporate governance and the level of disclosure of sustainability practices, reflecting a growing awareness of the importance of embedding the principles

of transparency and accountability in the framework of corporate environmental policies.

Despite the important theoretical and practical contributions these studies make, most of them focus on analyzing the level of disclosure or the relationship of sustainability to some institutional practices, without studying in depth the direct impact of the application of sustainability practices on the success of environmental projects in terms of actual performance and results achieved. In addition, most of these studies focus on specific sectors such as industry, banking and accounting, and did not adequately address sectors of an explicit environmental nature, such as the renewable energy sector, which is one of the most prominent strategic areas related to the sustainable development agenda, especially in countries that have adopted ambitious policies in this field, such as Saudi Arabia.

In addition, studies that dealt with projects in the construction or energy sector, such as Al-Harbi (2024), which examined the impact of strategic management on the success of construction projects, or Abu Yahya (2021), which examined the relationship between total quality and risk management in construction projects, were limited to the administrative or economic aspects of projects without providing an analytical model that systematically links sustainability practices to indicators of environmental, economic and social success of the project. A number of these The studies were conducted in geographical contexts such as Jordan, Palestine and Kuwait, while the Saudi environment, despite its dynamism in the field of sustainable transformation, still lacks in-depth field studies that focus on the success of environmental projects in light of the applied sustainability practices.

From this standpoint, the current study seeks to address this research gap through an applied field study entitled "The Impact of Applying Sustainability Practices on the Success of Environmental Projects: A Field Study in Renewable Energy Projects in Riyadh". The study is based on an analytical framework that links sustainability practices – such as resource management, clean energy technologies, waste reduction, and social impact enhancement – with environmental project success indicators such as achieving environmental goals, adhering to timelines and budgets, and achieving economic and social feasibility. Thus, the study gains its importance from the fact that it presents a contemporary applied model within a local Saudi environment, and covers an existing gap in the literature in terms of the direct link between sustainability and the results of environmental projects, which enhances the scientific and applied value of research in light of the Kingdom's Vision 2030 and its environmental and development transformations.

Theoretical premises of the study:

The current study builds on a set of theoretical underpinnings that form the conceptual and methodological basis for understanding the relationship between the application of sustainability practices and the success of environmental projects, particularly in the renewable energy sector. Sustainability in its comprehensive sense is a vital framework in which the environmental, economic and social dimensions intersect, as it is concerned with achieving development without compromising the rights of future generations to resources. This concept has become central to development policies and plans in many countries, especially in light of the global challenges related to climate change, pressure on natural resources, and the need for

more efficient and equitable production models. In this context, renewable energy projects are one of the most prominent manifestations of the application of sustainability principles, as they represent an effective alternative to reducing dependence on traditional energy sources, reducing carbon emissions and enhancing environmental efficiency in the long term.

The study is also based on modern theories in project management, which assert that success is not only measured by achieving the technical and financial goals of the project, but also requires taking into account environmental and social dimensions. Contemporary literature suggests that integrating sustainability practices into various phases of a project – from planning, through implementation, to evaluation – reflects positively on overall performance, through improved resource utilization, reduced risk, and increased compliance with regulatory and international standards. According to this perception, the success of an environmental project is linked to the extent to which its management is able to adopt sustainability practices as an integral part of the operational system, rather than as a cosmetic or secondary element.

The study draws its framework from the perspective of strategic project management, which is concerned with integrating environmental issues into the heart of administrative and technical decisions. It is assumed that organizations and projects that adopt a strategic approach to implementing sustainability practices are better able to adapt to external challenges and better prepared to achieve balanced and sustainable results. This premise is based on the basic premise that effective environmental performance enhances the competitive advantage of the enterprise, reduces long-term

operating costs, and improves the corporate image, thereby increasing the chances of success and continuity.

In addition, the study relies on the principles of stakeholder theory, which asserts that the success of a project is not achieved in isolation from the social and organizational environment surrounding it. In essence, sustainability practices include taking into account the interests of all parties affected by the project, including the local community, regulators, employees, and the environment itself. From this standpoint, the degree of commitment to sustainability practices is a crucial indicator of the comprehensiveness of the project, and its ability to interact positively with its external and internal environment, which is what Sustainably supports its chances of success.

Fourth: The relationship between sustainability practices on the success of environmental projects

Previous studies indicate that there is a close and direct relationship between the application of sustainability practices and the success of environmental projects, as a group of research has shown that the integration of sustainability principles into the operational and administrative processes of projects effectively contributes to achieving positive results at the environmental and administrative levels. Al-Harbi's (2024) study showed that strategic management that adopts sustainability concepts positively affects the performance of construction projects, as increasing the effectiveness of planning, implementation and achieving the overall objectives of the project is associated with the level of Integration between sustainable management practices and different project phases.

Al-Hazaimeh (2023) also supported this proposition by highlighting the mediating role of organizational culture in strengthening the relationship

between environmental sustainability and strategic management accounting practices, demonstrating that sustainability does not only affect the environmental aspect, but extends to affect the management structure and decision-making within organizations. This extension is evidence that the success of environmental projects depends to a large extent on the extent to which sustainability practices are integrated with the internal culture of the organization and senior management.

On the other hand, the study of Al-Haroub (2020) showed that the implementation of sustainability practices in the management of construction projects in the West Bank – such as sustainable building techniques, adherence to legal standards, and the application of transparent practices in bidding and implementation – led to improved environmental and administrative performance of projects, noting that sustainable practices applied in the early stages of the project have a significant impact on ensuring its long-term success.

Abu Yahya's (2021) study examined the relationship between total quality and risk management in construction projects, implicitly emphasizing that the integration of sustainability principles contributes to reducing risks and improving project efficiency, which is one of the main indicators of success in environmental projects. The results of this study are consistent with the findings of Al-Hawamleh (2024) in the context of energy projects in Jordan, where compliance with environmental regulations, despite its initial cost, leads to higher operational efficiency and enhances the sustainability of the economic performance of the project.

While some studies, such as Al-Mutairi (2021), have focused on the disclosure of sustainability practices in industrial contexts, they have indirectly indicated

that an effective regulatory environment and integrated planning systems contribute to enhancing institutional sustainability, which in turn is a prerequisite for the success of any environmental project. Abu Huwaidi's study (2020) also stressed the importance of corporate governance in raising the level of transparency associated with sustainability practices, which in turn is reflected in the reputation of the project and its organizational stability, and is one of the modern measures of success in environmental projects.

Based on these intersectional findings, it can be concluded that sustainability practices are not just ethical or environmental trends, but rather strategic tools that increase the chances of success of environmental projects by reducing costs, improving efficiency, enhancing adherence to environmental standards, and achieving societal acceptance. Studies also confirm that environmental success is not achieved in isolation from administrative and organizational systems, but rather requires an effective integration between sustainability as a comprehensive management approach and all components of the project, which enhances the effectiveness of results and expands the positive impact of environmental projects.

Methodology and Research Methods:

The descriptive approach and the analytical approach were followed as an appropriate method of description, which corresponds to the theoretical chapters, either in the applied analytical chapter and the deductive method in order to analyze and evaluate the data obtained in the questionnaire of the institution under study as appropriate for determining the facts and

understanding the components of the subject, while subjecting it to careful study and analysis of its dimensions, which we will address in the applied chapter in the case study.

The choice of the appropriate approach to the nature of the research depends on the nature of the problem and the goal of its study, and in order to take note of the various aspects of the study, the descriptive analytical approach will be relied on, the descriptive method is suitable for the description that matches the theoretical chapters, but in the applied analytical chapter and the deductive approach in order to analyze and evaluate the data obtained in the questionnaire under study, as this approach contributes to answering research questions through data collection and then analysis and discussion. This approach is used in most previous studies.

Sources of data collection

- **Secondary sources:** These include data and information in books and references, theses, working papers, journals, periodicals, scientific conferences and workshops, in addition to published and unpublished reports that dealt with the topic in various relevant institutions.

- **Primary sources:** The study relied on the questionnaire as the main tool in collecting data from its sources, which was specially designed for this purpose on Google Forms and sending its link to the research community.

Study Tools:

The research tool is defined as "the means by which the data collection process is carried out in order to answer his questions, and researchers will rely in collecting data on the questionnaire, which is defined as "a specific form of paragraphs and questions aimed at collecting data from research individuals"

It consisted of two main sections:

- **The first section:** It is the part related to the demographic variables of the members of the study sample, represented by: gender, age, educational qualification, and job level.
- **Section II: The** second section included paragraphs and dimensions that measure the variables of the independent and dependent study.

Statistical methods used

The following statistical methods were used to achieve the objectives of the study:

- Cronbach alpha coefficient to measure the stability of the study tool and Pearson's correlation coefficient to measure the validity of the study tool and the relationship between variables
- Frequencies, percentages, arithmetic mean and standard deviation related to the study variables and to all responses to the questionnaire paragraphs.
- Simple linear regression coefficient to measure the effect of each dimension of the independent variable on the dependent variable

Study Tool

The questionnaire in the current study is designed to suit the variables of the research by reviewing previous studies related to the subject of the study.

The questionnaire consists of two main sections:

The first section: deals with the demographic variables of the study sample of employees in the Saudi Ministry of Health, and includes job title, age, educational level, and number of years of experience.

The second section: contains the paragraphs that measure the independent and dependent variables in the study.

First: The Independent Variable – Sustainability Practices, measured through 15 paragraphs divided into three main dimensions:

1. Environmental dimension
2. Economic dimension
3. Social Dimension

Second: The dependent variable – the success of construction projects, measured through (10) distributed paragraphs.

Limitations of the study:

- **Objective limits:** The study is limited to sustainability practices with their combined dimensions (environmental dimension – economic dimension – social dimension).
- **Spatial boundaries:** The study is conducted on renewable energy projects in Riyadh.
- **Time limits:** The study was prepared in 2025.
- **Human limits:** The human limits of this study are limited to workers in renewable energy projects in Riyadh.

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