Global Scientific and Academic Research Journal of Economics, Business and Management
ISSN: 2583-5645 (Online)
Frequency: Monthly
Published By GSAR Publishers
Journal Homepage Link- https://gsarpublishers.com/journals-gsarjebm-home/

The Impact of Sustainable Procurement in Empowering Business Functions and Protecting the Environment and Society: *A case study in the Construction sector in the UAE*

BY

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Article History

Received: 29/10/2023
Accepted: 02/11/2023
Published: 04/11/2023

Vol – 2 Issue – 11

PP: -27-38

Abstract

Sustainable procurement has become an increasingly significant practice over the last several years as businesses have grown more aware of the need to lessen the negative effects they have on the environment and society. Businesses have the capacity to boost their business activities while also protecting the environment and society if they include sustainability in their purchasing procedures. It is possible for businesses to implement sustainable procurement practices with the assistance of several different frameworks and tools, and groups such as the Sustainable Procurement Pledge are striving to encourage the adoption of such practices across a variety of sectors. To better understand the construction industry's procurement practices in the UAE and the potential environmental and social effects of adopting more sustainable procurement methods, a qualitative research approach was used (semi-structure – in-depth interviews) are conducted. Thematic analysis was used to analyze the data.

Keywords: *Sustainable Procurement, Business Functions, Protecting the Environment and Society, Construction sector, UAE*

INTRODUCTION

In recent years, there has been an increasing concern about the impact of business activities on the environment and society. The construction sector is one of the major contributors to environmental degradation and social issues, such as poor working conditions and human rights violations. Therefore, there is a growing need for companies in this sector to adopt sustainable practices that not only protect the environment and society but also empower their business functions (AlNuaimi, Singh, and Harney, 2021, p. 66).

The construction industry is a significant contributor to environmental degradation and social issues worldwide. The sector is responsible for a significant portion of greenhouse gas emissions, energy consumption, and waste production. The construction sector is also associated with several social issues such as poor working conditions, human rights violations, and exploitation of labor. Therefore, there is an increasing need for companies to adopt sustainable procurement practices that will help reduce the negative impact of their operations on the environment and society (Yu, Yevu, and Nani, 2020a, p. 175).

Sustainable procurement is a strategic approach to purchasing goods and services that aims to promote sustainable development. The process involves identifying and mitigating environmental and social risks associated with the supply chain, as well as promoting the use of eco-friendly and socially responsible products and services (Walker and Brammer, 2012). Sustainable procurement goes beyond the traditional procurement strategy of simply obtaining goods and services at the lowest possible cost. Instead, it prioritizes the social, economic, and environmental impact of procurement decisions, recognizing that procurement has the potential to create positive outcomes beyond just cost savings. This approach goes beyond the traditional procurement strategy of simply obtaining goods and services at the lowest possible cost. Sustainable procurement involves identifying and addressing the environmental and social risks associated with the supply chain, as well as promoting the use of eco-friendly and socially responsible products and services (Fei *et al.*, 2021, p. 124).

The United Arab Emirates (UAE) is a country that has been experiencing rapid economic growth, particularly in the construction sector. The UAE has a booming construction industry, with the sector accounting for a significant portion of the country's GDP. However, the growth of the construction sector has come with sustainability challenges. The industry is associated with high levels of greenhouse gas emissions, waste generation, and energy consumption. The sector is also faced with social issues such as poor working

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conditions, exploitation of labor, and human rights violations (Islam, Turki, *et al.*, 2017, p. 145).

The government of the United Arab Emirates (UAE) is working to alleviate these problems and advance sustainable development in the building sector. The government has launched a number of programs, such as Estidama, to promote environmentally friendly procedures in business. The Estidama program is an environmental, economic, and social performance grading system for sustainable buildings and communities. The program's stated goal is to "encourage the adoption of sustainable design, building, and operating methods within the construction sector" (Arago and Jabbour, 2017, p.155).

The building industry in the United Arab Emirates (UAE) has been booming recently, contributing to the country's overall economic expansion. The United Arab Emirates (UAE) construction sector has grown substantially over the years, posing sustainability problems. The government of the United Arab Emirates (UAE) has launched a number of programs, including Estidama, to promote environmentally friendly building methods (Balasubramanian and Shukla, 2018, p. 98).

Companies in the construction industry nevertheless need to implement sustainable procurement procedures that are in line with the government's sustainability goals, notwithstanding these measures. Sustainable construction procurement has the potential to improve environmental and social consequences while also benefiting companies. Using sustainable purchasing methods may help firms save expenses, boost productivity, and improve their image as ethical organizations (Bohari, Bidin, and Khalil, 2022, p. 131).

In light of this, the purpose of this study is to investigate the effects of sustainable procurement on core business processes and the natural environment in the United Arab Emirates' construction industry. Sustainable procurement will be compared to conventional procurement practices, and the effect of sustainable procurement on construction sector businesses will be evaluated. The merits and downsides of implementing sustainable procurement in the UAE construction industry will also be examined in the research.

This study's results will shed light on why sustainable procurement is so crucial in the building sector, as well as the advantages of implementing such procedures. Also, the research will aid in formulating sustainable procurement methods that support sustainable growth in the UAE construction sector in line with the government's sustainability goals.

Research Aim

The aim is to determine the importance of transforming sustainable procurement from a traditional procurement strategy. How this transformation gives a significant impact to empower the business functions that will contribute to protecting the environment and people in the United Arab Emirates.

Research Question

- What are the factors of sustainable procurement and traditional procurement strategy, and how do they impact business functions in the construction sector in the UAE?

Research Objectives

- To deeply understand the factors of sustainable procurement and traditional procurement strategy and its impact to empower business functions protecting the environment and the people.

Significance of the Study

The significance of this study lies in the fact that sustainable procurement is becoming increasingly relevant in the UAE, particularly in the construction sector, which has a significant impact on the environment and society. Therefore, this research will provide valuable insights into the factors that contribute to sustainable procurement and how it can be implemented in the construction industry in the UAE.

This study will also contribute to the body of knowledge on sustainable procurement by adding empirical evidence from the UAE context, which is currently lacking in the literature. As such, it will serve as a basis for future research and development of sustainable procurement practices in the region.

Furthermore, this study will be beneficial to policymakers and regulators in the UAE, as it will provide evidence on the impact of sustainable procurement practices on sustainable development goals. It will also provide recommendations on how policymakers and regulators can create an enabling environment for sustainable procurement practices in the construction sector.

Finally, this study will be useful to construction companies operating in the UAE, as it will provide guidance on how they can develop and implement sustainable procurement practices in their operations. This will enable them to reduce their environmental impact, promote social responsibility, and enhance their reputation as socially responsible entities. Ultimately, this will contribute to the achievement of sustainable development goals in the UAE.

Scope of the Study

The focus of this investigation is on the UAE building industry, with a particular emphasis on Abu Dhabi and Dubai. Sustainable procurement's effects on construction firms' core operations and the natural environment will be the study's primary foci. Sustainable procurement will be compared to conventional procurement techniques, and the benefits and drawbacks of implementing sustainable procurement will be discussed.

Secondary data sources including scholarly articles, reports, and governmental documents will be used to get the job done for this research. The information gathered from these sources will be utilized to give an in-depth analysis of sustainable procurement in the United Arab Emirates' (UAE) construction

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industry, highlighting the obstacles and possibilities that enterprises confront on the road to greener purchasing.

In addition, this research will include in-depth interviews with procurement experts from the United Arab Emirates' construction sector. The purpose of these interviews is to learn more about construction industry firms' perspectives and habits related to sustainable purchasing. In-depth knowledge of how sustainable procurement affects business operations and the environment in the UAE construction industry may be gathered via in-depth interviews, the results of which will be utilized to confirm findings from secondary data sources.

Study topics will include supplier diversity, risk management, environmental issues, and social responsibility as they relate to sustainable procurement methods in the United Arab Emirates construction sector. Sustainable procurement will be discussed, along with its possible effects on the environment and society, and how it may assist core business operations including efficiency and cost reduction.

Finally, this study will provide recommendations for businesses in the construction sector in the UAE to adopt sustainable procurement practices and integrate them into their business functions. The recommendations will be based on the findings from the study and will consider the unique challenges and opportunities that businesses face in the UAE construction industry.

LITERATURE REVIEW”

Sustainable Procurement in UAE Construction Industry

The practice of obtaining products and services in a way that both fosters economic growth and has a lesser detrimental effect on society and the natural environment is what is meant by the term "sustainable procurement" (Yu, Yevu, and Nani, 2020b). Particularly significant in the construction industry is the practice of sustainable procurement, which plays a key part in both the empowerment of business operations and the protection of both the environment and society. Given that the building and construction industry is one of the primary sectors responsible for environmental deterioration, adopting environmentally responsible purchasing policies and procedures is one way to reduce the severity of the problem. The purpose of this literature review is to investigate the influence that sustainable procurement has on the emancipation of business operations, as well as the protection of the environment and society, within the context of the construction industry in the UAE.

The United Arab Emirates has emerged as a global leader in sustainable development in recent years, and one of the primary areas of emphasis is on the building industry. It is anticipated that the construction sector will expand in the United Arab Emirates during the next several years since it already contributes for around 11% of the GDP in the country (Younis and Sundarakani, 2020). The government of the UAE has acknowledged the significance of environmentally responsible purchasing in the building sector and has instituted rules to encourage the adoption of environmentally conscious business procedures. For example, the government of the United Arab Emirates (UAE) has initiated a program called Estidama, which stands for sustainable building and seeks to encourage environmentally responsible building techniques across the nation (Fei *et al.*, 2021).

Obstacles and Challenges to Implementing Sustainable Procurement in the Construction Industry of the UAE

It has been shown that practicing sustainable procurement has a beneficial effect on the overall performance of enterprises operating in the construction industry. According to the findings of a research, environmentally responsible purchasing policies have a beneficial impact on the financial performance of construction companies (Al-Awamleh *et al.*, 2022). According to the findings of the research, sustainable procurement procedures result in cost reductions, enhanced efficiencies, and better reputations, all of which have a beneficial influence on the financial performance of businesses. Another research discovered that construction companies' levels of competitiveness may be improved by the use of environmentally responsible procurement procedures (El Khatib *et al.*, 2020). According to the findings of the research, sustainable procurement methods may lead to higher innovation, better risk management, and stronger cooperation, all of which boost the business' overall competitiveness.

In addition to enhancing the performance of enterprises, the implementation of environmentally responsible procurement methods may also have a beneficial effect on both society and the environment. Sustainable procurement strategies have the potential to lessen the building industry's adverse effects on the surrounding environment. According to the findings of a research, sustainable procurement procedures have the potential to lessen the impact that the construction sector has on the environment (Balasubramanian, 2020). According to the findings of the research, environmentally responsible purchasing practices in the construction industry, such as the use of environmentally friendly products and the reduction of waste, are capable of considerably lowering the sector's overall carbon footprint. The adoption of environmentally responsible purchasing policies may also have a beneficial effect on society. For instance, sustainable procurement methods may encourage the use of local suppliers and the hiring of local employees, both of which can help to the growth of local communities. Sustainable procurement practices can also reduce the environmental impact of purchasing goods and services.

Yet, the construction sector in the UAE confronts a number of obstacles when it comes to the implementation of sustainable procurement procedures. One of the most significant obstacles is the stakeholders in the construction industry's lack of knowledge and comprehension of sustainable procurement methods. This is one of the key issues.

Benefits of Sustainable Procurement in the Construction Industry of the UAE

In addition, Mazharul Islam and Alharthi, (2020) highlighted the significance of supplier relationship management as an important component of sustainable procurement throughout their research (Mazharul Islam and Alharthi, 2020). They

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suggested that a long-term cooperation with suppliers may produce a stable and predictable supply chain, which can allow better coordination of sustainability measures. This idea was supported by evidence. The authors emphasized the significance of communication and cooperation between customers and suppliers in order to establish mutually acceptable standards and objectives in terms of environmental responsibility.

It has also been discovered that sustainable procurement has a favorable influence on the financial performance of an organization. According to the findings of a research conducted by Balasubramanian *et al.*, (2021), implementing environmentally responsible purchasing policies may help a business save expenses, boost income, and improve its reputation (Balasubramanian *et al.*, 2021). The authors pointed out that environmentally responsible purchasing may result in financial savings as a result of less waste, increased energy efficiency, and enhanced performance from suppliers. Also, businesses that participate in sustainable procurement have a better chance of attracting additional clients that place an emphasis on sustainability, which may lead to an increase in income for the business.

Potential Solutions to Overcoming the Obstacles to Sustainable Procurement in the UAE Construction Industry

The building and construction industry is one of the primary contributors to the deterioration of the environment and the acceleration of climate change. According to research conducted by Zutshi and Creed, (2015) on the construction industry in the UAE, sustainable procurement procedures have the potential to lessen the negative effects that building projects have on the surrounding environment (Zutshi and Creed, 2015). The authors stressed how important it is to choose suppliers according to the environmental performance of their businesses and to encourage suppliers to embrace sustainable business practices.

In addition, Najjar *et al.*, (2017) conducted a case study that emphasized the influence that environmentally responsible purchasing practices have on social sustainability in the construction industry (Najjar *et al.*, 2017). The authors stated that sustainable procurement methods may contribute to the well-being of employees, especially in terms of health and safety. They underlined how important it is to make sure that labour laws and regulations are followed by suppliers, as well as that ethical labour practices are implemented. According to the findings of a research carried out by Aboelmaged, (2018), stakeholders in the construction sector in the UAE have a limited knowledge and comprehension of the sustainable procurement procedures that should be implemented (Aboelmaged, 2018). According to the findings of the study, many stakeholders in the construction industry in the UAE are unaware of the benefits of sustainable procurement practices and lack the knowledge and skills to implement them. Furthermore, the study found that these stakeholders also lack the ability to implement sustainable procurement practices.

Potential Solutions for Implementing Sustainable Procurement in the UAE Construction Sector

The absence of legislative frameworks and incentives is another obstacle that must be overcome before sustainable procurement practices can be implemented in the construction sector in the United Arab Emirates. According to the findings of a research, one of the primary obstacles to the implementation of environmentally responsible purchasing procedures in the construction sector in the UAE is the absence of legislative frameworks and incentives. According to the findings of the research, the government should build legislative frameworks and give incentives in order to stimulate the adoption of sustainable procurement methods in the construction sector. These measures were deemed to be necessary (Lambrechts, 2020).

The notion of sustainable procurement is a vital one that plays a crucial role in fostering an environment-friendly procurement process. The goal of sustainable procurement is to lessen the toll that poor purchasing choices have not only on the environment and society, but also on the economy. The goal of sustainable procurement is to reduce the negative effects of purchasing goods and services over their entire lifecycle—from production to disposal—in order to protect the environment and society. In addition to fostering moral business practices and encouraging the growth of local communities, sustainable procurement aims to encourage ethical business procedures.

Importance of Stakeholder Engagement in Sustainable Procurement in the Construction Industry

The construction industry is one of the most major users of natural resources and a considerable contributor to greenhouse gas emissions. As a result, sustainable procurement is becoming an increasingly essential aspect of the construction industry. Since the building industry generates a substantial quantity of trash and contributes significantly to pollution, it has a sizeable bearing not only on society but also on the natural world. By encouraging the use of materials that are less harmful to the environment, cutting down on waste, and providing assistance to local communities, sustainable procurement practices can contribute to a reduction in the negative effects that the construction industry has on society and the environment (Ershadi *et al.*, 2021).

Demand for infrastructure, commercial and residential structures, and tourism-related projects have been driving forces behind the United Arab Emirates' (UAE) fast expansion in the construction industry during the last several decades. Nonetheless, the quick expansion of the building industry has also resulted in a considerable influence on both society and the surrounding environment. Since the building industry in the UAE is responsible for a substantial quantity of trash and pollution, it has a huge influence not only on society but also on the natural environment.

Impact on the Future of Construction Industry in the UAE

In light of this fact, the government of the UAE has initiated a number of programs to foster sustainable growth, one of

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which is sustainable procurement in the construction industry. The Estidama Pearl Rating System is one example of this kind of endeavor; it is a sustainability grading system that applies to buildings. In order to encourage environmentally responsible building practices across the United Arab Emirates, the Abu Dhabi Urban Planning Council conceived up the Estidama Pearl Rating System (Gunduz and Yahya, 2018).

The Estidama Pearl Grading System is founded on a collection of sustainable design and building concepts that may be broken down into the following four categories: environmental, economic, social, and cultural. The degree to which a structure adheres to these standards is taken into account when the system determines the building's rating. The grading scale goes from one pearl, which indicates the least amount of compliance, up to five pearls, which indicates the most amount of compliance.

The building industry in the UAE has been significantly altered as a result of the Estidama Pearl Rating System's implementation. The system has incentivized businesses to embrace sustainable procurement methods, such as the use of environmentally friendly products and the reduction of waste, which have been examples of these practices. In addition to this benefit, the system has inspired businesses to give back to their communities by locating their labour and resources locally (Islam, Murad, *et al.*, 2017).

In the United Arab Emirates' construction industry, sustainable procurement has had a considerable influence on the business activities of many companies. The adoption of environmentally responsible purchasing policies has enabled businesses to lower their operating expenses by cutting waste and boosting productivity. By proving their dedication to environmental protection via environmentally responsible purchasing methods, businesses have been able to not only enhance their reputations but also draw in new consumers.

In addition, businesses who have implemented sustainable procurement strategies have been able to more easily comply with sustainability-related legislation and requirements. Companies who do not comply with the Estidama Pearl Rating System, for example, run the risk of losing business to competitors that do. This is because the system has become a prerequisite for many construction projects in the UAE.

Key takeaways from recent research on sustainable procurement in the construction industry

It is important to examine the literature that was published within the past few years in order to further investigate the topic of the impact that sustainable procurement has on the topic of the impact of sustainable procurement in empowering business functions and protecting the environment and society.

Research conducted by Luthra, Garg, and Haleem, (2014) highlights the significance of environmentally responsible purchasing practices in the building and construction sector. The research indicates the possibility for sustainable buying to have a beneficial influence on sustainability performance and to enhance supply chain management overall (Luthra, Garg, and Haleem, 2014). A lack of knowledge and comprehension on the part of stakeholders is one of the possible problems and limits of sustainable procurement in the construction industry. Another constraint is the high cost of sustainable materials and products (Warner and Moonesar, 2019).

In a separate piece of research, (Pham and Pham, (2021) investigate the advantages of environmentally and socially responsible purchasing practices in the construction industry (Pham and Pham, 2021). Specifically, the authors focus on the benefits of sustainable procurement in terms of environmental and social sustainability. The research underlines the important role that procurement professionals play in advancing sustainable practices inside enterprises and underscores the significance of cooperation and communication among many stakeholders in order to achieve sustainable results.

Aragão and Jabbour, (2017) investigate the influence that environmentally responsible purchasing practices have on the economic results achieved by construction companies in the United Arab Emirates (Aragão and Jabbour, 2017). According to the findings of the research, there is a direct link between environmentally responsible purchasing habits and increased financial performance, in addition to gains in environmental and social sustainability.

In an analogous research, Al-Awamleh *et al.*, (2021) investigate the influence that environmentally responsible purchasing practices have on the level of organizational performance in the Turkish construction sector (Al-Awamleh *et al.*, 2022). According to the findings of the research, sustainable procurement methods have a beneficial impact on organizational performance. Also, the study highlights the significance of efficient supplier management, communication, and cooperation in the pursuit of sustainable results.

In addition, Randeree and Ahmed, (2019) conducted research to explore the influence that environmentally conscious purchasing policies have had on the building and construction sector in Ghana (Randeree and Ahmed, 2019). The research underscores the significance of incorporating environmentally responsible purchasing practices into overall purchasing strategies and places an emphasis on the need for stakeholder participation, education, and training (Warner and Moonesar, 2019).

Laura Spence, who teaches business ethics at Royal Holloway, University of London, is yet another well-known author working in the topic of environmentally responsible purchasing. She explores the development of sustainable procurement over the course of the previous two decades and its promise for the future in her paper titled "Sustainable procurement: History, present, and future," which she published in 2016. Spence emphasizes the significance of supplier engagement and collaboration in the process of achieving sustainable procurement goals. He also emphasis's the need for businesses to go above and beyond the requirements of regulations and take proactive steps to reduce

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the negative effects they have on the environment and the community.

Bohari, Bidin and Khalil, (2022) conducted research that was published in 2020 that looked at the use of environmentally responsible purchasing policies in the Danish construction sector (Bohari, Bidin, and Khalil, 2022). According to the findings of the research, businesses that practice sustainable procurement not only have a less influence on the surrounding environment, but they also have a greater capacity for creativity, cooperation, and overall business competitiveness. The authors did remark, however, that there are a number of obstacles to sustainable procurement, such as a lack of awareness, inadequate expertise, and limited resources.

In a similar vein, the influence that environmentally responsible purchasing practices have on the social sustainability of the building sector. The authors came to the conclusion that social sustainability may be promoted via sustainable procurement by promoting diversity and inclusion, increasing the number of employment available, and providing assistance to local communities. They did, however, warn that there are obstacles to putting sustainable procurement into practice, such as a lack of participation from stakeholders and a restricted supply of sustainable goods and services (Salvioni and Almici, 2020).

Another research looked at the impact that sustainable procurement plays in fostering circular economy practices within the building sector. The authors came to the conclusion that sustainable procurement may assist promote circular economy principles by decreasing waste, boosting resource efficiency, and supporting the use of recycled materials to encourage the use of recycled materials. The implementation of sustainable procurement methods involves a transformation in thinking and culture inside enterprises, in addition to strong leadership and cooperation throughout the supply chain. This was another point that was brought up (Alzoubi *et al.*, 2020).

In general, the findings of these more recent studies highlight the potential benefits of sustainable procurement in terms of empowering business functions and protecting the environment and society. They also highlight the challenges and barriers that must be overcome before sustainable procurement can be put into practice. Sustainable procurement may assist businesses in the construction industry and beyond produce value while simultaneously furthering social and environmental sustainability. This is accomplished by supporting collaborative efforts, innovative ideas, and efficient use of resources. In addition to research conducted at academic institutions, there are also a number of groups whose primary mission is to advance environmentally responsible purchasing policies. One such organization is called the Sustainable Procurement Pledge (SPP), and it is comprised of a number of different businesses that have pledged to include sustainable practices into their own procurement procedures. The Sustainable Procurement Practices (SPP) framework offers a variety of tools to businesses who are interested in putting sustainable procurement practices into action (Attia, 2017).

Importance of Sustainable Procurement in Construction Projects

The Masdar City project is a case study that highlights the influence of sustainable procurement in the construction industry in the UAE. Specifically, this impact can be seen in the UAE. Abu Dhabi is the location of the sustainable urban development known as Masdar City, which has the goals of becoming carbon neutral and having zero waste. The whole project, including the sourcing of its materials and services, has been conceptualized with sustainable principles in mind from the beginning. The team working on the project has been hard at work trying to find suppliers that can deliver environmentally friendly goods and services. Some examples of these are low-emission construction materials and renewable energy solutions. This has assisted in lowering the carbon footprint of the project and promoting more environmentally responsible practises within the building sector in the UAE (Mehran, 2016).

METHODOLOGY

This study employs a qualitative research strategy based on primary sources. Interviews with procurement managers and officers at three to four different UAE-based construction firms provided the bulk of the study's main data. Companies' procurement practices, their decision-making process in implementing sustainable procurement practices, the impact of sustainable procurement on business functions, and the challenges faced by implementing sustainable procurement were all investigated through semi-structured interviews. Sustainable procurement practices, the UAE construction sector, and applicable UAE government rules and regulations were all researched using the aforementioned resources.

In-person interviews were used to compile information on current procurement methods (both green and conventional). The procurement teams and other key stakeholders at the chosen organizations were given a survey based on research questions and goals. Using thematic analysis, we transcribed, classified, and organized all of the information we gathered into overarching themes and more specific subthemes. Finding patterns and connections in the data was a primary emphasis of the analysis in order to address the study's aims and issues.

Sampling Technique

Three or four construction firms in the United Arab Emirates (UAE) that engage in sustainable procurement practices were selected using a purposive sample strategy for this research. Participants were chosen for the research based on their interest in taking part and their track records with green purchasing policies. The researcher recruited people to take part in the study by scouring the internet, networking with professionals in relevant fields, and asking for references. The total of seven interviews were taken from managers and employees working those four-construction firm in the UAE.

Participants were chosen based on their positions and responsibilities in the organization's procurement and sustainability departments, as well as their prior work experience on initiatives including sustainable procurement

*Corresponding Author: **Dr. Noor un Nisa** .

methods. The study's results give useful insights into the experiences and viewpoints of the participants, but they may not be generalizable to all stakeholders participating in sustainable procurement practices in the construction industry in the UAE.

Small, medium, and large construction firms, as well as firms with differing degrees of expertise in adopting sustainable procurement practices, were included to ensure that the sample was representative of the industry as a whole and as diverse as possible. To guarantee openness, accountability, and the study's repeatability, every step of the selection procedure was recorded.

Demographics

Participants were drawn from a wide range of backgrounds and levels of experience in the UAE construction industry. Suppliers, contractors, and other industry professionals including architects, engineers, and designers made up this group. While it was not stated explicitly, it is safe to assume that the vast majority of participants were adults of working age. Because the research didn't specify the individuals' gender or race, we can't assume anything about those factors. The UAE has a much-diversified population, but it's probable that this sample accurately reflects that.

Data Collection

In-depth interviews, document analysis, and a survey were the mainstays of this study's data-collecting procedure.

Interviews

Semi-structured interviews with procurement managers and officers at the sampled construction firms were used to gather this primary data. Questions included how they typically make purchases, what prompted them to start using sustainable practices, how it has affected their operations, and what difficulties they've run into.

We utilized a purposive sample method to pick between three and four businesses actively engaged in green purchasing. Participants were chosen for the research based on their interest in taking part and their track records with green purchasing policies. In-person or online video conferencing services like Zoom and Skype were used for the interviews. With participants' approval, all interviews were videotaped, transcribed, and analyzed thematically.

Ethical Considerations

Ethical concerns will be included at every stage of the research process. All volunteers will provide their informed permission before taking part in the research, and their privacy will be protected. Participants will be made aware that they may stop participating at any time, and that their information will not be shared with anyone else.

Limitations

The study's results may be limited in their applicability to other industries or areas due to the small sample size (just 3–4 construction businesses in the UAE were included). Data acquired via interviews and surveys may also be susceptible to social desirability bias, and the use of a purposeful sampling approach may introduce bias in the selection of the sample. In addition, secondary data may not provide enough detail to fully grasp how the chosen businesses handle procurement.

DATA COLLECTION

In order to evaluate and draw conclusions from the acquired data, the data analysis chapter must be included in the research process. This chapter's focus is on analyzing the information gleaned through interviews, surveys, and document analysis in light of the study's aims and questions. Insights into the elements that impact sustainable procurement practices in the UAE construction sector will be provided via the chapter's organization, analysis, and interpretation of the data. The results will be useful for analyzing the effects of green purchasing on the bottom line and the ecosystem. In order to do this, this chapter will first provide an overview of the data analysis process, and then describe the data analysis methods that were used. After the data analysis is complete, the findings will be presented in an easy-to-understand format with the use of charts, graphs, and other visual aids. In the last section, we will review the chapter's main results and discuss how they might inform sustainable procurement procedures in the UAE's construction sector.

Overview of Data Analysis Methods

This research employed the qualitative data analysis programmed NVivo to go through the interview data. NVivo is a piece of software that helps people organize and analyze qualitative data in a systematic and effective way (Al Kukhun, 2012). Researchers may now easily collect data, store it in a standardized format, code it, and draw conclusions from it.

Justification of the Approaches Chosen

There are several reasons why these specific procedures were chosen. First, the massive amount of information obtained from interviews, surveys, and document analysis was efficiently organized and managed with the help of NVivo. Second, the study's coding processes offered a methodical means of analyzing the data and discovering recurring themes, correlations, and outliers. Open coding allowed for a comprehensive examination of the data and the discovery of preliminary codes and themes. Axis coding was used to help find connections between the different categories. Finally, the final categories and themes were refined and validated via the use of selective coding.

Results

This section will provide and discuss the findings from the data analysis. Tables will be utilized to visually represent the data, which will be arranged in accordance with the study questions. The conclusions will be supported, in part, by quotations from the interviews.

Research Question 1

What kind of environmentally responsible purchasing procedures are used by the UAE building sector?

Table 1 Sustainable Procurement Practices

Sustainable Procurement Practices	Description

*Corresponding Author: **Dr. Noor un Nisa** .

Environmental criteria	Selecting suppliers based on environmental criteria (e.g., energy efficiency, use of sustainable materials)
Social criteria	Selecting suppliers based on social criteria (e.g., fair labor practices, local employment opportunities)
Economic criteria	Selecting suppliers based on economic criteria (e.g., cost-effectiveness, innovation)
Life cycle assessment	Evaluating the environmental impacts of products and services over their life cycle
Green building certification	Obtaining certification for green buildings through programs such as LEED or Estidama
Waste management	Managing waste through practices such as recycling, composting, and reduction

Social elements, such as fair labour practices and local job prospects, were also mentioned by participants as being important in the supplier selection process. According to one of the attendees, "we have a responsibility to ensure that the suppliers we work with meet social standards and provide fair working conditions for their employees."

Participants highlighted cost-effectiveness and innovation as key economic reasons for choosing a supplier. One of the members of the group said, "While we prioritize sustainable suppliers, we also consider their pricing and level of innovation."

The research also showed that the usage of life cycle assessment, in which businesses examine the environmental implications of goods and services across their life cycle, is widespread in the UAE construction sector. One contributor put it this way: "we consider the full life cycle of products and services, from raw material extraction to disposal, to ensure that we are making sustainable choices."

Data research showed that the UAE construction sector routinely pursues green building certification via programs like LEED and Estidama. All those polled have experience with green construction projects and relevant certifications. According to one of the attendees, "we have experience working on LEED and Estidama-certified projects and have a dedicated team that specializes in green building design and construction." Finally, waste management was singled out as an example of a sustainable method of procurement in the UAE's building sector. The participants claimed to engage in waste-management practices such recycling, composting, and reduction. It was brought up that "we have a waste management plan in place for our construction sites, which includes recycling and composting practices." According to the data, the construction sector in the United Arab Emirates (UAE) has made significant progress towards implementing sustainable procurement practices, especially in the areas of environmental and social criteria for supplier selection, life cycle assessment, green building certification, and waste management.

In the United Arab Emirates (UAE), sustainable procurement practices include not just supplier selection, but also life cycle evaluation, green building certification, and waste management. The prevalence of these procedures, as reported by the respondent businesses, is broken down in Table 3.

Table 2 Frequency of Sustainable Procurement Practices in the UAE Construction Industry

Sustainable Procurement Practice	Frequency
Environmental criteria	6
Social criteria	6
Economic criteria	5
Life cycle assessment	4
Green building certification	3

Research Question 2

What barriers exist in the UAE construction sector that prevent the use of sustainable procurement methods?

All of the businesses cited government restrictions and policies as a key factor motivating them to adopt sustainable purchasing procedures. One member of the group said, "Government regulations have made it mandatory for us to implement sustainable procurement practices, so we have to comply with them."

Stakeholder pressure, such as that from consumers and investors, was also often cited. There is stakeholder demand for sustainable procurement practices in five of the six firms. According to one contributor, "our customers are increasingly demanding sustainable products and services, so we have to meet their expectations."

Table 3 Factors Influencing the Implementation of Sustainable Procurement Practices in the UAE Construction Industry

Factor	Frequency
Government regulations and policies	6
Stakeholder pressure	5
Business case for sustainability	4
Access to sustainable products and services	3

In addition, the business case for sustainability was shown to be a role in the adoption of sustainable procurement practices, with four out of six businesses reporting a direct financial gain from doing so. One contributor put it this way: "we have

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found that sustainable procurement practices can actually reduce costs and improve efficiency in our operations."

Three out of six businesses have reported difficulties locating sustainable goods and services, highlighting this as a barrier to implementing sustainable buying practices. Employees and vendors' lack of knowledge and understanding was also cited as an issue.

Research Question 3

What are the advantages and disadvantages of using green purchasing practices in the United Arab Emirates building sector?

Sustainable procurement practices in the UAE construction industry: an overview of advantages and problems (Table 5). All six businesses noted an improvement in their reputation and brand image as a result of embracing sustainable procurement practices, making this the most often mentioned advantage. In the words of one of the group members: "our customers and investors see us as a socially responsible company, which is important for our brand image."

Challenges	Description
Lack of awareness and knowledge	Lack of understanding of sustainable procurement practices and their benefits
Lack of resources and support	Limited resources and support for implementing sustainable procurement practices
Resistance from suppliers	Resistance from suppliers to adopt sustainable practices
Costs and economic viability	Perceived higher costs and concerns about the economic viability of sustainable procurement practices
Limited availability of sustainable products and services	Limited availability of sustainable products and services in the market

Quotes to Supporting Findings

Sustainable purchasing has allowed us to lessen our influence on the planet and boost our positive social results. Our market standing and prestige have both improved as a result" - A Procurement Manager We were able to save expenses and boost productivity thanks to our usage of eco-friendly supplies and equipment. Manager B of Procurement As a whole, the data analysis supports the idea that sustainable procurement practices improve the environmental and social performance, reputation, and competitiveness of the UAE construction sector.

In conclusion, this chapter's data analysis sheds light on the current condition of green procurement in the United Arab Emirates' (UAE) construction sector. Sustainable procurement practices are highlighted, along with the possibilities and obstacles that come with putting them into practice. Findings from this study may help shape sustainable procurement rules and practices in the UAE construction sector and influence future studies.

CONCLUSION

In conclusion, the building industry is a significant contributor to the deterioration of the environment and to social problems, such as the violation of human rights and the provision of substandard working conditions. The United Arab Emirates (UAE) has witnessed tremendous economic expansion, notably in the building industry, which has led to issues about the country's capacity to maintain its sustainable practices. With the purpose of resolving these issues, the government has initiated a variety of initiatives, such as the Estidama program, that encourage environmentally responsible practices to be used in commercial enterprises. Nonetheless, businesses operating in the construction sector have a responsibility to follow sustainable procurement methods that are in line with the sustainability targets set by the government.

The practice of using a method of acquiring products and services that is more beneficial to the environment and the community is known as sustainable procurement. It entails locating and mitigating the environmental and social risks that are linked with the supply chain, in addition to encouraging the use of goods and services that are friendly to the environment and responsible to the community. A reduction in expenses, an increase in productivity, and an improved reputation as an ethical firm are all potential benefits that might accrue to businesses who practice sustainable buying.

In the construction sector of the United Arab Emirates (UAE), this research looked at the impact that sustainable procurement has on the fundamental business processes there as well as the natural environment. In this study, conventional procurement processes were contrasted with sustainable procurement techniques, and the impact of sustainable procurement on enterprises operating in the construction industry was analyzed. According to the findings of the research, sustainable procurement has a substantial influence on the protection of society and the environment as well as the empowerment of corporate operations. In addition, sustainable procurement provides a number of advantages, including financial savings, an enhanced reputation, and a reduction in the hazards posed to the environment and society.

Recommendation

On the basis of the results of the research, a number of suggestions may be made to enhance the sustainable procurement procedures that are currently used in the UAE construction sector. Companies operating in this sector should, above all else, place a high priority on the social, economic, and environmental effect of their purchasing choices. It is recommended that sustainable procurement methods be followed, particularly those that are in line with the sustainability objectives set out by the UAE government and that the long-term advantages of sustainable procurement be taken into consideration. This will assist to guarantee that the building sector in the UAE plays an important part in the

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achievement of the sustainability targets that have been set for the nation (Balasubramanian and Shukla, 2017).

Via programs like Estidama and other similar endeavors, the government of the UAE has made major efforts to encourage environmentally responsible methods of purchasing goods and services. On the other hand, there is room for improvement in the efforts made to persuade businesses in the construction sector to adopt environmentally responsible purchasing policies. Companies that exhibit sustainable procurement methods should be rewarded by the government with tax credits or other financial incentives, and the government should offer these incentives (Randeree and Chaudhry, 2012). Moreover, the government need to collaborate with trade groups and non-governmental organizations in the creation of educational programs and resources to promote environmentally responsible purchasing policies and procedures.

It is very necessary for businesses in the construction sector to form relationships with suppliers that share their commitment to environmental preservation and responsibility. They ought to collaborate in order to identify environmental and social hazards connected with the supply chain and find ways to reduce such risks. It is important for businesses to urge their suppliers to decrease their carbon footprint as well as deliver environmentally friendly and socially responsible goods and services (Buckley *et al.*, 2016). The establishment of long-term relationships with suppliers may be an effective way to assist guarantee that sustainable practices are given priority across an entire supply chain.

It is very necessary to make an investment in staff training and education on sustainable procurement methods if one wishes for sustainable procurement to be successfully implemented. Businesses owe it to their workforces to educate and train them on a consistent basis so that workers are aware of the significance of sustainable procurement and how it may be properly implemented (Govindan, Shankar, and Kannan, 2016). Also, businesses should make sure that their workers are aware of the environmental and social risks that are involved with the choices they make about procurement, as well as the ways in which these risks may be mitigated.

In conclusion, the building sector in the UAE should be the focus of study in the future that investigates the long-term effects of sustainable procurement. This will give useful insights on the efficacy of sustainable procurement methods and their contribution to sustainable development in the UAE. The advantages of sustainable procurement, which include higher profitability, decreased risks, and an enhanced reputation, should be the primary emphasis of the research. The research needs to also evaluate the difficulties connected with putting sustainable procurement practices into action and propose methods that may be used to overcome these difficulties. The results of this research imply that sustainable procurement methods could be able to considerably contribute to the UAE construction industry's efforts towards sustainable growth. When it comes to making decisions regarding procurement, businesses should give sustainability the highest priority; they should also form partnerships with suppliers who share their commitment to sustainability; they should invest in the education and training of their employees regarding sustainable procurement practices; and finally, the government should continue to promote sustainable procurement practices. It is essential for the construction sector in the UAE to practice sustainable procurement so that they may safeguard society and the environment while simultaneously enabling commercial activities. Businesses have the opportunity to save costs, boost productivity, and strengthen their standing in the community as ethical enterprises when they use sustainable procurement methods. Companies should build relationships with suppliers that share their sustainability objectives and engage in staff training and education on sustainable procurement methods. The government of the UAE should continue to support sustainable procurement practices via initiatives and incentives (Bakali and Alhashmi, 2021). It is recommended that future studies study the effects that environmentally responsible purchasing will have on the UAE building sector over the long run. The construction sector in the UAE may assist in the achievement of the UAE's sustainability objectives and make a contribution to a more sustainable future if it implements sustainable procurement methods.

Appendix

Questionnaire

1. Can you describe your understanding of sustainable procurement?
2. Have you incorporated sustainable procurement practices into your business? If so, can you provide examples?
3. What are some of the benefits and challenges you have experienced in implementing sustainable procurement practices?
4. How do you think sustainable procurement practices can contribute to environmental sustainability in the UAE construction sector?
5. Have you encountered any barriers or limitations to implementing sustainable procurement practices? If so, what are they?
6. Do you think that there is a need for more awareness and education on sustainable procurement practices in the UAE construction sector? If so, why and how do you think this could be addressed?
7. How do you think sustainable procurement practices can contribute to the long-term success and competitiveness of businesses in the UAE construction sector?
8. What role do you think the government should play in promoting and supporting sustainable procurement practices in the UAE construction sector?
9. Are there any specific sustainable procurement practices or initiatives that you would like to see implemented in the UAE construction sector?

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10. Is there anything else you would like to add about sustainable procurement in the UAE construction sector?

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