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**CASE STUDY ON HOW TO ENSURE SUSTAINABILITY IN
CONSTRUCTION SITES USING PROJECT MANAGEMENT IN
KINGDOM OF SAUDI ARABIA**

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CHAPTER 1

INTRODUCTION

1.1.Overview

Climate change is the main topic in tremendous meetings and environmental conferences around the world such as united nations – UNEP, environment ministers in the Islamic world, Saudi Environmental Society – SENS, etc. which discusses how to implement new methodology to overtake the effects of the 21st century life style implies on the environment.

Construction industry have a direct impact on the environment where it contributes in the emissions of green gas, generate waste material, consumption of raw material and to overcome the negative impact of the industry researchers, governments, and Engineers are working together to find innovative solutions.

In the kingdom of Saudi Arabia and toward accomplishing the kingdom's 2030 vision, one of its main focuses are to maintain sustainability through waste recycle, solar power etc. according to the environmental protection in the kingdom of Saudi Arabia.

In this study there are three key words will be focused on sustainability, project management, and construction industry where in chapter 2 these words will be discussed in the literature review to understand the correlation between them and to mitigate a way to maintain it in the industry. The search engine used to find articles cited in chapter 2 mainly Google Scholar, Research Gate, Science Direct, etc. to get the most recent articles.

Chapter 3 will be the methodology, and this chapter the chosen technique will be discussed in order to maintain the answers of the research objectives and questions.

Chapter 4 through chapter 6 it will include discussion and results, recommendation and limitation, and conclusion sequentially.

At the end references used and appendixes will be listed.

1.2.Problem Statement

industry significantly impact the environment, economy and people both in good and in a bad; construction industry contributes to half of the economic income in Saudi Arabia but also it affects the environment dramatically.

The aim of this research is to find a way to mitigate the disadvantages through the implantation of sustainability and project management principles that is used in the market.

1.3.Research importance

Finding away to ensure implementation of sustainable project management in construction industry in the kingdom of Saudi Arabia.

1.4.Research Objectives

The objectives of this research are:

1. Ensuring the use sustainability construction industry through project management in KSA
2. The implementation sustainability impact project management in KSA
3. The criteria of project manager include sustainability in the project.

1.5.Research Questions

By the end of this research the answers of the following questions will be gathered:

1. How to ensure using sustainability construction industry through project management in KSA?
2. How does implementing sustainability impact project management in KSA?
3. How can project manager include sustainability in the project?

CHAPTER2

LITRETURE REVIEW

2.1.Introduction:

On way to generate new values in the modern era is through projects which creates assets that then can derive benefits to people and economics; where half of all the assets created come from construction industry.(Graham M. Winch, 2010) in KSA about 5.5% of the national income generated through construction industry in 2023.(DATA SAUDI, 2024); on the other hand, one important factor is missing environment where construction industry causes air pollution, landfill wastes, climate change, carbon emission, waste generations.(Alwan et al., 2017; Tabassum Ira, 2021)

To over come the disadvantages of these industries an updated idea saw light that focuses on environment, economics and social referred to in term of three dimensions/pillars which known as sustainability concept.(Kuhlman & Farrington, 2010; Moshood et al., 2024)

The impact of environmental crises can be managed with full responsibility of the whole society individuals and organizations.(Scopelliti et al., 2018). To maintain the aspects of sustainability and to ensure it effective implementation during the project life cycle project management have to be addressed.

2.2.Sustainability definition:

According to United Nation Brundtland Commission. 1987, Sustainability is the ability to fulfilling the needs of present generation without compromising the future generations to meet their needs. On the other hand, in modern definitions sustainability became more elaborative and mostly introduced as three pilers which are environmental, economic and social.(Silvius & Schipper, 2014)

2.3.Sustainability dimensions

There is more than one dimension to be considered when talking about sustainability includes values dimension, time dimension, geographical dimension, risk reduction dimensions etc.(Silvius & Schipper, 2014)

2.4.Sustainable development

Sustainability development show the evaluation of society from responsible economic perspective in compliance with environmental and natural process.(Glavič & Lukman, 2007)

2.5.Sustainable construction

2.6. Sustainability and project management

2.6.1. Sustainability in Saudi Arabia

To address the challenges, sustainability has been integrated as a core pillar of vision 2030. The shift in perspective has paved the way for the adoption of green building practices, energy efficient technologies, and the use of sustainable materials. (Saudi construction consulting, 2024).

2.7.Project management process

2.8.Project manager sustain sustainable project management

2.9.Construction project management

2.10. Management procedure

2.11. Construction project management life cycle

2.12. Supply chain management and sustainability

2.13. Project schedule and sequence

2.14. Sustainable project management definition

Chapter 3

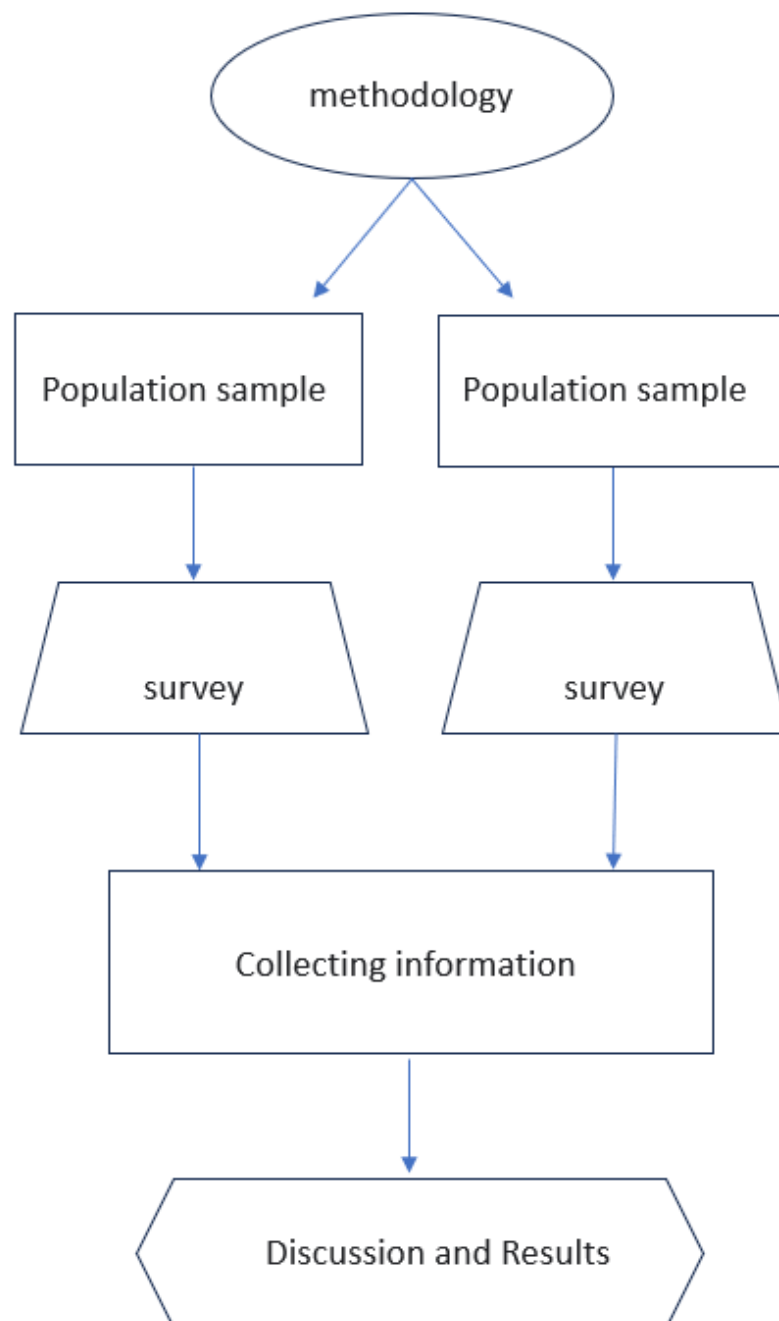
METHODOLOGY

3.1.Introduction:

The methodology of the research will depend mostly on a survey that will be carried out to the selected population of 50 personnel in construction industry in Saudi Arabia the sample will include site engineers, project managers, projects mangers, CEOs. And we will discuss the result in chapter 4 and compared to the literature review for maintaining better outcomes.

The criteria that will be implemented will be further discussed later.

3.2.Flow chart



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