

Midocean University

College of Management

Department of Project Management



**The Impact of Economic Factors on The Implementation of Sustainable Residential Buildings in
Riyadh**

Prepared by:

- Abdulmohsen Khamis (222000817)
- Ziyad Said Alzahrani (222000568)
- Alaa Abdulhalim Alashi (222001136)

Supervised by:

Dr. Alfaisal

Year:2023

Introduction:

Within the dynamic realm of urban growth, the pressing need to establish sustainable living conditions has emerged as a primary focus for cities across the globe. Riyadh, the dynamic capital city of Saudi Arabia, finds itself at the forefront of this paradigm shift, as it confronts the complex task of reconciling economic expansion with the imperative of environmental preservation. The building sector, which plays a significant role in the ongoing urban development, is currently facing a critical juncture when economic considerations converge with the urgent demand for sustainable methodologies. This study investigates the core of this intersection, with the objective of elucidating the complex correlation between economic variables and the adoption of sustainable residential constructions in Riyadh.

Riyadh, being a vibrant metropolitan center, is confronted with a growing need for residential accommodations due to the increase in population and influx of people from rural areas to the city. Simultaneously, the urban area is confronted with the pressing imperative to reduce its ecological impact and address the consequences of climate change. Sustainable residential constructions, which exhibit attributes such as energy efficiency, utilization of eco-friendly materials, and diminished carbon emissions, present itself as a feasible resolution to this double predicament. Nevertheless, the successful execution of these structures relies on a multitude of economic variables, including aspects such as expenses associated with construction, the level of demand in the market, policies set by the government, and the attitudes of potential investors.

This study undertakes a thorough investigation of the economic factors that drive the acceptance and implementation of sustainable residential constructions in Riyadh. This study seeks to elucidate the problems and opportunities encountered by stakeholders in the building sector through an analysis of the complex interrelationship between economic variables and sustainable construction methods. A comprehensive comprehension of the impact of economic considerations on decision-making processes is of utmost importance for politicians, developers, investors, and environmental campaigners alike.

Research Problem:

The present study aims to examine the primary challenges encountered in the sustainable building industry in Riyadh, with a particular emphasis on the influence of market demand on the implementation of environmentally conscious techniques. The analysis considers housing

pricing and customer preferences, investigating the impact of economic factors, such as income levels and affordability, on consumer investment decisions and developers' decision-making processes. It specifically focuses on the financial difficulties associated with these elements. Moreover, the study investigates the impact of economic factors on the level of public awareness, educational campaigns, and the propensity of architects to advocate for sustainable housing. The study seeks to provide valuable insights into the sustainable construction environment of Riyadh by examining these key elements.

The Importance of the Study:

The study seeks to elucidate the relationship between economic considerations and the decision-making processes of different stakeholders, with a specific focus on their impact on the adoption of sustainable residential structures in Riyadh. The aforementioned aims aim to provide a comprehensive understanding of the economic factors that influence market demand, consumer decision-making, developer investments, and public perceptions within the realm of sustainable construction methods.

The research results will make a valuable contribution to the scholarly discussion and perhaps provide valuable perspectives for politicians, developers, investors, and environmental advocates who are dedicated to fostering a more sustainable urban future in Riyadh.

Research Objectives :

The principal aim of this study is to examine the intricate correlation between economic factors and the implementation of sustainable construction methods in the city of Riyadh. The primary objective of this study is to specifically target and achieve the following goals:

- 1- This study aims to analyze the correlation between the market demand for residential buildings and the implementation of sustainable construction practices.
- 2- Evaluate the impact of economic variables, including income levels and affordability, on the propensity of consumers to engage in investments pertaining to sustainable residential properties.
- 3- Examine the influence of economic factors on the decision-making procedures of developers engaged in sustainable residential initiatives.

4- This study aims to examine the impact of economic factors on the level of public awareness and perceptions of sustainable residential buildings. The analysis will span various dimensions, including education, marketing techniques, and social influence.

5- Examine the degree to which economic factors impact the inclination of real estate developers and architects to invest in endeavors that seek to enhance public knowledge regarding the economic advantages linked to sustainable residential developments.

Questions:

The research will address the following questions:

- To what extent does the market demand for residential buildings in Riyadh influence the adoption of sustainable construction practices, taking into account economic considerations such as housing pricing and customer preferences?
- To what extent do economic variables, such as income levels and affordability, influence the inclination of consumers to make investments in sustainable residential properties in Riyadh?
- To what extent do economic issues, including the availability of finance and the cost of capital, impact the investment choices made by developers involved in sustainable residential projects in Riyadh?
- To what extent do economic variables impact the level of public awareness and perception about sustainable residential buildings in Riyadh? This inquiry encompasses various aspects, including education, marketing strategies, and social influence.
- To what extent do economic variables influence the propensity of real estate developers and architects to invest in initiatives aimed at promoting public knowledge of the economic advantages associated with sustainable residential developments in Riyadh?

Literature Review:

In the recent years the sustainability becomes widespread and has started to get a great consideration in research for our region which richening the literature review and gives us a better understanding of this critical issue to tackle it effectively and coming out with the right recommendations required to filling the gap in achieving a sustainable residential building. One of these researches is "Challenges facing sustainable housing in Saudi Arabia: A current study showing the level of public awareness" by Susilawati, Connie & Al Surf, Mohammed (2011),

which was emphasizing that the awareness and conviction in addition to return to the ancient architecture practices are the main factors to achieve the sustainability in housing projects with admitting that financial factor could not be ignored but with no much details of explaining the level and range of that affect and this what we are trying to do achieve herein.

In the other hand Esam Haidar & Mohammad Alghamdi in there “Towards Affordable and Sustainable Housing” research see that Adopting an institutional framework as transitional phase in the housing development starting from regulator and the governmental entities as housing ministry passing through consulting firms and real estate's developers and ended with end-users, is the way to get out of this dilemma though the cost impact of these legislations didn't link directly to the housing affordability, it is pretty clear.

Also, Hanan Taleb in there “Towards Sustainable Residential Buildings in the Kingdom of Saudi Arabia” research, Farajallah Alrasheda and Muhammad Asifa in there “Saudi Building Industry's Views on Sustainability in Buildings” research, like many others seeing that energy & water consumption are the key factors in this problem even though these factors enhance buildings' sustainability but still we don't see interest toward the concept within the publics hence this what we're trying to link by examining the financial significance and its consequence on the public willingness.

Methodology:

This study utilizes quantitative methodology to examine the influence of economic factors on the implementation of sustainable residential buildings in Riyadh. The principal approach employed for data collecting is the utilization of a meticulously designed questionnaire, which adheres to a standardized format. This questionnaire is thereafter disseminated to a representative sample of 150 esteemed professionals specializing in the domain of sustainable construction, specifically within the geographical confines of Riyadh. The questionnaire has been specifically crafted to gather valuable data into the intricate correlation between economic considerations and the adoption of sustainable practices. The survey instrument incorporates various essential subjects, such as market demand dynamics, consumer behavior,

financial concerns, public awareness, and the strategic perspectives of real estate developers and architects .

The process of selecting specialists is predicated upon their extensive experience and expertise in the field of sustainable construction, ensuring that their comments are characterized by nuanced and well-informed opinions. The data that has been gathered will be subjected to statistical analysis methods in order to identify patterns, correlations, and trends. This will facilitate a thorough comprehension of the manner in which economic considerations impact decision-making processes within the realm of sustainable residential constructions in Riyadh.

Study Tools:

A survey instrument will be developed with the purpose of collecting quantitative data from a sample of 150 professionals specializing in the domain of sustainable construction within the city of Riyadh. The survey will encompass many areas that will examine market demand dynamics, consumer behavior, financial concerns, public awareness, and the strategic perspectives of real estate developers and architects. To assist fast data analysis, the study will utilize closed-ended questions that incorporate Likert scales and multiple-choice options.

Study Limitation:

This study aims to examine the influence of economic factors on the implementation of sustainable residential buildings in Riyadh. However, it is important to recognize that there are certain inherent limitations in this research .

The potential limitations of the study's findings may arise from the narrow scope of the research, which primarily concentrates on the city of Riyadh, hence potentially limiting the generalizability of the results due to the city's distinct socio-economic and cultural attributes. The utilization of a questionnaire as the sole method for data collection involves possible biases, as the responses obtained are susceptible to the interpretation and perception of the participants. Furthermore, the cross-sectional design of the study may provide limitations in capturing the dynamic and evolving nature of economic factors that impact sustainable construction practices over time. In addition, it is important to consider that the level of expertise among the chosen sample of 150 experts may vary, which could potentially affect the overall comprehensiveness of the insights obtained .

Finally, it should be noted that although the research mostly examines economic aspects, there is a lack of comprehensive investigation into other contextual elements that may influence the adoption of sustainability practices, such as cultural influences or regional legislation. It is crucial to acknowledge these constraints in order to develop a comprehensive understanding of the study's results and to provide direction for future investigations in this dynamic area of study.

Initial references list:

- Towards Affordable and Sustainable Housing: A Proposal to Adapt the Institutional Framework in the Transitional Phase in Adapt the Institutional Framework in the Transitional Phase in Kingdom of Saudi Arabia - Esam Abdulwahab Haidar Arch King Saud University, ehaidar@ksu.edu.sa - Mohammad Alghamdi King Saud University, Riyadh, malissan@ksu.edu.sa - Ali Salem Bahammam Prof King Saud University, bahammam@KSU.EDU.SA - 8-26-2021)
- Towards Sustainable Residential Buildings in the Kingdom of Saudi Arabia, Hanan M. Taleb, Ph.D. Researcher, University of Sheffield, UK
- Saudi Building Industry's Views on Sustainability in Buildings, Questionnaire Survey Farajallah Alrasheda and Muhammad Asifa, School of Engineering and Built Environment, Glasgow Caledonian University UK, Department of Architectural Engineering, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia