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**DATA WAREHOUSING AND DATA MINING**

**REAL ESTATE PRICE PREDICTION**

**REPORT - 1**

By

Arooba Siddiqi               321618

Emaan Bashir          296190

Rimsha Mirza 285718

Faraz Shah 303087

**INTRODUCTION**

Real estate is a significant sector in any country and plays a crucial role in the economy. It includes the construction, development, and sale of residential, commercial, and industrial properties. Real estate is a significant contributor to the economy of Pakistan, with the housing sector alone accounting for around 5% of the country's GDP. The demand for real estate in Pakistan has been increasing in recent years, driven by factors such as population growth, urbanization, and economic development. There are several factors that can impact the price of real estate in Pakistan, including economic conditions, population growth, and government policies. For example, during times of economic stability and growth, there is generally more demand for housing and commercial properties, which can drive up prices. On the other hand, during times of economic downturn, there may be less demand for real estate, leading to lower prices. One key factor that can impact real estate prices in Pakistan is the availability of financing. The government has implemented various policies and programs to encourage home ownership, such as low-interest mortgage rates and subsidies for first-time home buyers. These initiatives can help to increase demand for housing and drive-up prices. This report aims to present an analysis of the current state of real estate price prediction in Pakistan, highlighting the motivations and gap analysis of current solutions.

**MOTIVATION:**

Pakistan is a developing country with a rapidly growing population and urbanization. The demand for real estate is increasing, and the prices are rising. However, the prices are not always stable, and there can be fluctuations due to various factors. The buyers, sellers, and investors face challenges in predicting the prices of real estate properties. There are several motivations for developing a reliable method of real estate price prediction in Pakistan. Firstly, accurate price prediction can help buyers and sellers make informed decisions about the value of their properties. This can lead to more efficient and fair transactions, as buyers will be able to make informed offers and sellers will be able to set realistic prices. Secondly, accurate price prediction can help to reduce the risk of financial losses for both buyers and sellers. If prices are overvalued, buyers may end up paying more than the property is worth, while sellers may receive less than the true value of their property if prices are undervalued. Thirdly, accurate price prediction can help to promote stability and transparency in the real estate market, as buyers and sellers will have a clear understanding of the value of their properties. By providing accurate and timely price predictions, stakeholders will be able to make more informed decisions and contribute to the overall development of the real estate sector in the country.

**GAP ANALYSIS:**

In terms of gap analysis, there are several key challenges that need to be addressed in order to effectively predict real estate prices in Pakistan:

1. **Data Unavailability**:

One of the main challenges in real estate price prediction is access to reliable and comprehensive data. This includes data on factors such as property prices, location, size, and other characteristics.

1. **Lack of accurate data:**

One of the main challenges in predicting real estate prices in Pakistan is the lack of accurate and up-to-date data. Many of the available datasets are outdated or incomplete, making it difficult to accurately predict prices.

1. **Inefficient market analysis tools:**

Another gap is the lack of effective market analysis tools to help real estate professionals accurately predict prices. These tools are often limited in their ability to analyze complex market factors, such as economic conditions, local demand, and supply.

1. **Limited access to expert knowledge**:

Many real estate professionals in Pakistan do not have access to expert knowledge and resources to help them accurately predict prices. This lack of access can lead to poor price predictions, which can result in losses for both buyers and sellers.

1. **Limited use of technology:**

The real estate market in Pakistan has been slow to adopt new technologies, such as artificial intelligence and machine learning, which could help improve price prediction accuracy. This lack of adoption has hindered the ability of real estate professionals to accurately predict prices.

1. **Cultural and social factors:**

Cultural and social factors, such as societal expectations and preferences, can also impact real estate prices in Pakistan. These factors are often difficult to predict, making it challenging for real estate professionals to accurately forecast prices

**PROJECT SOLUTION:**

To address the gap in the availability of reliable price predictions in the real estate sector of Pakistan, we propose to develop a machine learning model that can predict the prices of properties based on various factors. The model will be trained on a large dataset of real estate transactions in Pakistan and will consider factors such as location, type of property and size of the property. The model will be tested and validated to ensure its accuracy and reliability.

Our project aims to provide a reliable and transparent solution for real estate price prediction in Pakistan, which will benefit a range of stakeholders including buyers, sellers, and investors.

**CONCLUSION:**

In conclusion, the real estate sector in Pakistan is growing and there is a need for accurate and timely price predictions to make informed decisions. The proposed machine learning model can provide reliable and accurate price predictions based on various factors and fill the gap in the availability of such predictions.