

# **Exploring the Effect of Data Mining Techniques on Business Intelligence: A Case Study of Kuwaiti Companies**

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## **Abstract:**

The purpose of this study is to explore the effect of data mining techniques on business intelligence (BI) in Kuwaiti companies. Data mining is a process of discovering hidden patterns and relationships in large datasets, and BI is a set of tools and techniques used to analyze and present data to support decision-making. The study uses a case study approach to investigate how data mining techniques can be used to enhance BI in Kuwaiti companies.

Data was collected through interviews with managers and employees of three Kuwaiti companies representing different industries. The data was analyzed using content analysis to identify themes related to the use of data mining techniques and its impact on BI.

The findings of the study indicate that data mining techniques have a positive impact on BI in Kuwaiti companies. Specifically, data mining techniques were found to help identify patterns and relationships in large datasets that were not apparent through traditional BI methods. Additionally, data mining techniques were found to help in identifying areas of improvement, forecasting future trends, and developing new products and services.

The study concludes that data mining techniques have the potential to significantly enhance BI in Kuwaiti companies, leading to more informed decision-making and increased competitiveness. Therefore, companies should consider adopting data mining techniques as a part of their BI strategy to gain a competitive advantage in the market.

## **Introduction:**

Business Intelligence (BI) is an essential tool for modern businesses to make informed decisions based on data. However, the traditional BI methods have limitations in handling large volumes of data, which limits their effectiveness. Data mining techniques, on the other hand, are effective in analyzing large datasets, uncovering hidden patterns, and providing insights to support decision-making. Therefore, this study aims to explore the impact of data mining techniques on BI in Kuwaiti companies.

## **Methodology:**

This study uses a case study approach to explore the impact of data mining techniques on BI in Kuwaiti companies. Data was collected through interviews with managers and employees of three Kuwaiti companies from different industries, including healthcare, telecommunications, and banking. The interviews were conducted using a semi-structured format, and the data collected was analyzed using content analysis.

## **Results:**

The findings of this study indicated that data mining techniques have a positive impact on BI in Kuwaiti companies. Specifically, data mining techniques were found to help identify patterns and relationships in large datasets that were not apparent through traditional BI methods. Moreover, data mining techniques helped identify areas of improvement, forecast future trends, and develop new products and services.

In the healthcare industry, data mining techniques were found to be useful in identifying patterns in patient data, such as identifying high-risk patients and predicting health outcomes. In the telecommunications industry, data mining techniques were used to identify customer needs and preferences, allowing for targeted marketing campaigns. In the banking industry, data mining techniques were used to detect fraudulent transactions and identify potential risks.

**Conclusion:**

The findings of this study indicate that data mining techniques have a positive impact on BI in Kuwaiti companies. Data mining techniques can help companies to identify patterns, relationships, and trends in large datasets, which may not be apparent through traditional BI methods. Therefore, companies should consider adopting data mining techniques as a part of their BI strategy to gain a competitive advantage in the market. Additionally, this study provides insights for future research on the use of data mining techniques in BI in Kuwaiti companies.