Chapter 1
A Study on the Impact of Predictive Analysis on the Marketing Activities of Companies

Jeet Singh
https://orcid.org/0000-0003-1444-5134
Guru Jambeshwar University, Moradabad, India

Preeti Yadav
Amity University, India

Padam Bhushan
Chandigarh University, India

Manjit Kour
https://orcid.org/0000-0003-1043-3187
Chandigarh University, Mohali, India

Anupam Jain
https://orcid.org/0009-0003-3192-7837
Amity University, India

ABSTRACT

Predictive analytics is used by companies, especially in manufacturing, credit facilities, and underwriting, marketing, fraud detection, supply chain, human resources, etc. Nowadays, marketing managers use predictive analysis to find out the future trends, especially in the buying behaviour of customers. The process of predictive analysis involves in guessing the move of the customer, whether the customer will

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buy the product or not, and how they will engage in a particular channel. The present study is based on secondary data, highlighting the way the companies use predictive analysis. The study concludes with the fact that predictive analysis converts information into knowledge. The paper concludes that predictive analysis in marketing leads to lead generation. The analysis identifies potential leads, creation of personalized campaigns, reducing waste, product offerings, increasing efficiency, and determining marketing channels.

INTRODUCTION

Predictive analysis is a part of advanced analytics that forecasts future trends. Various companies use this analysis to make decisions by identifying trends, events, and behaviours. The predictive analysis uses various techniques, to name a few are machine learning, statistical algorithms, along historical data. Based on the above, we can present a few key elements of predictive analysis, such as:

- *Machine Learning*: Here, neural networks, decision tree analysis, support vector machines, and other algorithms are used for predictive analysis. These all help in managing large and complex data.
- *Statistical Algorithms*: Various statistical tools and techniques, such as time series analysis, regression analysis, are used to identify the relationships between variables and find out the future trends.
- *Historical Data*: To find out the trends and patterns, past data is essential. There are various sources from which we can collect the historical data, for example, social media, consumer behaviour, sensor outputs, etc.
- *Predictive Models*: A model is framed, tested and validated on the data, which is obviously historical data. Once finalised, the model is used for forecasting future trends.

Predictive analysis is applied in various sectors such as Business, healthcare, finance, retail, and manufacturing etc. Marketing is essential for every kind of business; therefore, marketing managers use predictive analysis to find out the future trends, especially in the buying behaviour of customers. Previously, simple methods of statistics were used, but now with the advent of artificial intelligence, predictive analysis uses machine learning and complex algorithms in predicting the future. The process of predictive analysis involves in guessing the move of the customer, whether the customer will buy the product or not, and how they will engage in a particular channel. Marketing is greatly impacted by predictive analysis by using historical and current data to forecast the behaviour of the customers and the upcoming trends of