

# Predicting Bank Telemarketing Success: A Multi-Country Empirical Perspective

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*Telemarketing is an integral part of persuasive technology-driven commerce tools that have progressed by virtue of advancements in the digital technology. Currently, telemarketing is adopted for modern commerce settings. The prominence of telemarketing promotion cannot be avoided as it has a positive influence on the overall economy. The current study uses various data modeling techniques to predict the achievement of telemarketing promotion. Data was collected for the study from a Portuguese retail bank from 2008 to 2013. The data consists of 21 features, associated with bank client, product and social-economic attributes that were examined. The study also uses some advanced algorithms that have not been used previously, to forecast the reaction to the telemarketing campaign. The study scrutinizes: 1) which algorithms perform better; and 2) which parameters are superior indicators of the models' performance. The findings reveal that the best Machine Learning model for the telemarketing campaign success prediction is Decision Tree with F1-score of 0.5936 and L-measure of 0.5634. Bank managers should use the Decision Tree model to gain definite insights on the behavior of prospective bank customers.*

## Introduction

Marketing mix is one of the most popular concepts to have emerged in marketing in the past six decades (Yudelson, 1999). The phrase was coined by Neil H Bordon and James Culliton in 1948. It was defined in the current context by E Jerome McCarthy in his seminal work *Basic Marketing* in 1960 (Yudelson, 1999). McCarthy defines marketing mix as “controllable variables the company puts together to satisfy” the targeted segment (Perreault and McCarthy, 2017). He reduced all the variables in the marketing mix to four dimensions, namely, product, place, promotion, and price (Perreault and McCarthy, 2017). The marketing mix is commonly known as 4Ps, and the focus of each of the 4Ps is on the customer—“C” (Perreault and McCarthy, 2017). The third P, i.e., promotion, focuses on communicating with the customer. Telemarketing has become an important part of promotion in the ever-evolving digital age (Jayabalan and Asare-Frempong, 2017).

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