

**A PREDICTIVE ANALYSIS ON BRAIN DRAIN AMONG
QUALIFIED ACCOUNTANTS IN SRI LANKA: A STUDY
BASED ON THE PROFESSIONAL MEMBERS OF THE
INSTITUTE OF CHARTERED ACCOUNTANTS OF SRI
LANKA**

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Abstract

Predictive analytics with the use of machine learning is currently being used in a vast range of domains and has been in existence for a considerable amount of time. The advancements in technology have only aided the rapid growth and expansion of the application of machine learning to solve real world problems.

Machine learning models have been widely used amongst predicting customer churning in various sectors such as in the telecommunication industry, banking etc. However, the use of predictive analytics has not been common in terms of predicting the level of brain drain in a particular country. The most commonly done study under this topic had been to identify factors that affect brain drain and the studies have not further proceeded.

Due to the economic crisis that Sri Lanka has been facing since the start of the Covid-19 pandemic, one of the main issues in the country was brain drain and at the time of this research, there were no known studies done on building a predictive model based on machine learning theories to allow stakeholders to identify how the situation in terms of brain drain could be.

Moreover, despite there being much research done on the factors affecting brain drain among healthcare workers or engineers, professional accountants have not been popular.

Hence, this research was initiated in order to identify what factors have impacted brain drain in developing countries and how those factors behave in the Sri Lankan context when studied against professional accountants while having the main objective of the study as to build a predictive model based on several machine learning algorithms and to put forward an optimum model which could be used by various stakeholders henceforth. At the end of this research, the algorithm CAT Boost (categorical boost) has seen to have performed overall the best while having certain tradeoffs as well, however.

The main data source for this research was a tailor-made questionnaire which was distributed electronically, and 198 responses were collected from professional accountants who are members

of the Institute of Chartered Accountants of Sri Lanka, and this study will be classified as qualitative research.