



Suggesting appropriate business opportunities using a supervised learning approach

Thiranjaya, D.D.S.

*Department of Information and Communication Technology
University of Ruhuna
ddsthiranjaya@gmail.com*

Liyanage, C.R.

*Department of Information and Communication Technology
University of Ruhuna
ravihari@ictec.ruh.ac.lk*

ABSTRACT

It is a global understanding and a duly recognized fact that businesses and entrepreneurship play a vital role in an economy of a country. When it comes to employment generation, economic growth, and social cohesion and development, the contribution of businesses and entrepreneurship is an important aspect. However, the business failure rate has been increased due to increased competition in the business sector in Sri Lanka. Therefore, the selection of an appropriate business sector will be a crucial factor for assessing their success. The selection has become difficult due to poor knowledge and decision making in the business sector. This study presents a model as a solution to the problem mentioned above, which helps to assist with business selection. This model attempts to evaluate the success probability of a particular business opportunity. Identification of essential factors have a critical impact on business success, experts in related industries have been consulted, and meanwhile, a comprehensive literature review has been conducted from previous studies. Then, the identified impact of those factors has been prioritized by assigning weight levels accordingly. After that, the identified factors were used to prepare a structured questionnaire, and this was used to collect data from business people in several sectors. A higher level of data preprocessing was conducted during the model development to make the model result more accurate and realistic. A different set of data mining algorithms were used to experiment with extracting various business patterns. Later, by comparing the results and the applicability of factors, the Gradient Boosted Tree Approach developed the final model and achieved the expected results with 84% accuracy. Finally, this model was embedded in a simulator to allow the users to feed relevant factors as the input and receive appropriate business ideas and their feasibility levels as the output. This study addresses a relatively important research area, and the given solution with identified success factors will aid future researchers.

Keywords: Business success factors, Data mining, Ideal business selection, Pattern recognition.