

THE STUDY OF PREDICTION MODEL OF CUSTOMER DEVELOPMENT IN A TAIWANESE SPORT AND HEALTH CLUB

Chih-pin Shih, National Taiwan Normal University

Context

Accurate prediction can reduce risks, lower the cost of damage, and avoid waste of resources. So, as well as for researchers, for enterprises and managers, accurate prediction is a critical issue. As a result, establishing a systematic prediction model is a crucial task, and this study aimed to do it for sport and health clubs.

Method

The study used the concept of Artificial Neural Networks (ANN) of data mining to analyze the important characteristics of these customers, and to provide the best marketing strategies for them. According to Yeh (2002), the ANN is a computing system uses massive numbers of artificial connected neurons to simulate the ability of the biological neural network. It obtains information from the external environment or other artificial neurons, performs an extremely simple operation, and outputs its result to the external environment or other artificial neurons. Non-member customers of the Golden Health Club were selected as the subjects; there was data on 543, and after deleting inappropriate records, there were 308 for this study.

Results

These were as follows

- customers were almost exactly evenly male and female
- most were Taipei city residents (90.2%)
- about two-thirds were unmarried (64.7%)
- about one-third of them were aged between 26-30 (29.1%)
- more than half were recommended (56.2%)
- 86% had never visited the Golden Health Club before joining, and 86% were not members of another health club
- 44% of them exercised 3 days a week; about half at night, 51% coming straight from their offices because of the convenience
- virtually all were willing to continue healthy programmes
- losing weight was the main goal(30%).

The Back Propagation Network (BPN) technique in ANN implied the best correct classification rate, 98.4%. The integrated approach successfully constructed a prediction model of GHC's customer profile. Based upon Yeh (2002), BPN is the best learning model and the most universal pattern of ANN. BPN is belonging to the supervised study network so that it fits to diagnosis and prediction.

Conclusion

Through an empirical study, the results indicated that the proposed approach has good prediction accuracy. Thus, in terms of marketing and management strategies, the Club should plan its customer strategy by seeking to transfer these customers into membership

Contact: chihpin@oc.ntnu.edu.tw