Applying Logistic Regression Analysis: A Study of the Influential Factors on Consumers' Purchasing Decision toward Mobile Service Provider in Bangkok, Thailand

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Abstract

Logistic regression analysis is one of multivariate analysis where the outcome of dependent variable is categorical variable and the independents are quantitative variables, categorical variables, or both. The objective of this study was to propose the application of logistic regression analysis in order to identify the influential factors on consumers' purchasing decision among top three mobile service providers in Thailand: Advanced Info Service Public Co., Ltd (AIS), Total Access Communication Public Co., Ltd (DTAC), and True Corporation Public Co., Ltd (TRUE). The independent variables are the marketing mix factors: product, price, place and promotion. The results of this study indicate that influential factors that affect consumers' purchasing decision among three mobile service providers can be concluded as follows:

There are product variety, launch new promotion often, easy to ask for new SIM card, have a bill payment via mobile, and convenient location to purchase that have an effect on consumers' purchasing decision on AIS.

There are brand reputation, cost of using internet, and convenient location to purchase that have an effect on consumers' purchasing decision on DTAC.

There are quality of signal, brand reputation, easy to change promotion, variety of VAS, and can check bill's history that have an effect on consumers' purchasing decision on TRUE. Moreover, it was found that the overall percent correctly predicted with logistic regression model seem moderating good at 51.9%. While the percent correctly classified for AIS, DTAC, and TRUE are 54.7%, 43.6%, and 57.3% respectively. This indicates that logistic regression analysis can give an accurate prediction of probabilities on the dependent outcome.

Keyword: Logistic Regression Analysis, Mobile Service Provider, Categorical Dependent Variable, Consumers' Purchasing Decision

1. Introduction

Since the mid-1970s, categorical data techniques such as probit, logit, loglinear modeling and logistic regression have increasingly been used in economics, medical research, sociology, marketing and international business, but have remained underutilized in applied behavioral research. In their analysis of prominent management journals between 1982-1991, Drazin and Kazanjian (1993) found 34 articles in the Academy of Management Journal, Administrative Science Quarterly, and Strategic Management Journal that reported a contingency table in their results section. Of these 34 studies, five used descriptive statistics (percentages), 17 used descriptive statistics and chi-square tests, and only 12 studies combined descriptive statistics,