Chapter 29
Predicting Shoppers' Continuous Buying Intention Using Mobile Apps

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ABSTRACT

The rapid penetration of smartphones and consumers' increased usage/dependence on mobile applications (apps) has ushered favorable opportunities for retailers as well as shoppers. The traditional brick-and-mortar as well as online retailers must attract shoppers to use mobile shopping apps. For this, it is pertinent for retailers to predict users' continuous intention to buy through apps. To address this question, the present study has applied four prominent binary classifiers - logit regression, linear discriminant analysis, artificial neutral network and decision tree analysis to develop predictive models. Findings of the study shall help the marketers in accurately forecasting shoppers' buying behaviour. Various indices have been used to check the predictive accuracy of four techniques. The outcome of the study shows that the models developed using decision tree analysis and artificial neutral network provide better results in predicting consumers' continuous intention to buy through app. Based on the findings, the paper has also provided implications for the retailers.

1. INTRODUCTION

Of late, mobile applications have become a preferred choice for many consumers in various domains like entertainment, food ordering and delivery, banking, home service, etc. Shoppers' experience through mobile apps is highly different from that through the mobile phone's browser (Natarajan et al., 2017). Providing a personalized user-friendly environment for mobile commerce (Tarasewich, 2003), mobile apps involve many activities, which are not present in mobile browsing through web pages. These include researching products, comparing features, reading reviews, tracking order, getting rewards and loyalty points, retrieving saved coupons, etc. (Natarajan, et al., 2017).

When users download mobile applications in their mobile device, they invite the retailers for communication. Once the application is downloaded, retailers can interact with consumers by sending new product launch offers, promotion offers, reminders based on previously searched products and many other marketing efforts for influencing the attitude of users (Natarajan, et al., 2017). The app providers focus on increasing sales and profits by providing shoppers with more buying opportunities by means of advertising new products and retaining existing customers (Kim et al., 2017). For all this, it becomes pertinent for retailers to comprehend consumers' attitudinal and behavioral intentions. Existing studies on mobile commerce have observed that the intention to buy a product depends on perceived usefulness, perceived ease of use and perceived enjoyment (Agrebi and Jallais, 2015; Chong, 2013; Faqih and Jaradat, 2015; Wang et al., 2015).

Retailers attempt to forecast their sales by predicting shoppers' future intentions to buy, which is based on their previous buying behaviour. However, in case of e-commerce (or m-commerce), it is extremely difficult to predict sales because of its growth pattern, which is non-linear; unpredictable penetration of smartphones; and shoppers' unplanned purchasing behaviour. Nevertheless, in order to survive the competition, online retailers and mobile app providers must predict shoppers' continuous intention to buy.

Extant literature on online shopping is available in the context of websites (Childers et al., 2001, Holzwart et al., 2006; Hong et al., 2014; Hsu et al., 2006; Park and Kim, 2003), shopping through mobile browser (Agrebi and Jallais, 2015; Chong, 2013; Faqih and Jaradat, 2015; Wang et al., 2015). However, very few studies have been carried out in the context of shopping through mobile apps (Kim et al., 2017; Natarajan, et al., 2017). These two quantitative studies have measured the possession and intention to use and purchase using mobile apps. The qualitative study by Fuentes and Svingsted (2017) has determined recent practices adopted by shoppers owing to the introduction of mobile applications. However, existing studies have not examined shoppers' post adoption behaviour, more specifically their continuous intention to use the mobile apps for shopping.

To fill this research gap, the present paper is an attempt to use four binary classifiers - logistic regression, linear discriminant analysis, artificial neural network and decision tree analysis, for predicting shoppers' continuous intention to buy through mobile apps. This study endeavors to develop predictive models based on prominent antecedents influencing consumers' continuous intention to buy using mobile apps. Eight antecedents - performance expectancy, effort expectancy, price and discount, layout, atmosphere, user experience, user satisfaction and 'pay-more-get-more' promotion, have been considered as independent variables, while continuous intention to buy using mobile app is the dependent variable. Thereafter, the study compared the predictive ability (effectiveness) of these techniques in identifying the true positive cases using indices like accuracy, precision, likelihood ratios, diagnostic odds ratio and Younden's index.

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