

應用尖點劇變模型分析轉移成本與服務品質 對線上購物店配取貨點選擇行為之影響

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摘要

隨著網際網路應用的普及，電子商店已成為一個新興的重要零售通路。有別於國外電子商務的物流機制著重在宅配的發展，台灣由於便利商店高度聚集的特性，並藉由多次配送及高度資訊化的優勢而發展出以便利商店為基礎之「線上購物、超商取貨」物流模式，並快速成為台灣電子商務中最令人矚目的物流暨金流運作方式。就物流行銷的角度而言，若能進一步瞭解消費者店配取貨點選擇行為將有助於發展恰當的行銷活動來擴增其市場佔有率。

本文首先以線性結構方程模型來分析影響取貨點選擇行為的主要因素及其相互間之因果關係。透過線上問卷調查的方式，本文收集 9278 份有網路購物超商取貨經驗的有效樣本，研究結果顯示轉移成本與服務品質為影響消費者店配選擇行為的主要因素。

其次，本文以轉移成本與服務品質為控制變數建構描述消費者店配選擇行為忠誠度之尖點劇變模型，並進行尖點劇變模型的參數校估。研究結果顯示，轉移成本在模型中扮演分裂因子的角色，當轉移成本高時，選擇行為會有不連續變化的現象。「再購時需重新經由電子地圖選擇店鋪」以及「電子地圖的相對服務品質」分別是影響分裂因子以及正則因子的主要因素。

最後，本文進行程式開發來探討選擇行為所隱藏的非線性行為，並藉由本研究開發的軟體探討轉移成本與服務品質在劇變模型中所扮演的角色。研究結果發現，本研究所收集的資料具有雙重性、遲滯性以及突變性等劇變模型的特徵。而實證的結果則顯示「紅利積點」、「快速結帳」等行銷策略將會有效影響消費的選擇行為，並進一步改變消費的忠誠度。

本研究藉由劇變模型的應用對於選擇行為的非線性現象有進一步的瞭解，我們建議後續的研究者可以嘗試使用劇變理論來分析所要探討的非線性系統，特別是那些有關不連續變化等傳統分析工具所較無法有效解釋的現象。

關鍵詞：轉移成本、店配物流、選擇行為、尖點劇變模型、GEMCAT、結構方程模型

Effects of Service Quality and Switching Cost on Choice Behavior of Pick-up Point for Online Shopping Through Cusp Catastrophe Model

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ABSTRACT

Convenience stores in Taiwan have made remarkable successes with retail delivery services by integrating E-commerce and logistics systems to form a new retail delivery model: "On-line shopping with pick-ups at convenience stores." Although choice behavior has been discussed in marketing, few studies describe the non-linear characteristic of choice behavior.

The main purpose of this study is to explore what kind of factors can influence the pick-up point choice behavior by using a catastrophe model. Firstly, the latent variables and manifest variables are defined in the Structural Equation Model (SEM). To explore the customers' choice behavior of pick-up point, data were collected from 9278 respondents through on-line questionnaire and developed SEM to know relationship among loyalty, service quality and switching cost. The results indicate that the switching cost and service quality are the two major factors which can capture the choice behavior.

Secondly, the catastrophe model was used to analyze the linkages between customer satisfaction and switching cost on pick-up point service loyalty. The results indicated that the switching cost plays the splitting factor in the catastrophe model, and a high switching cost makes the discontinuous choice behavior. In the cusp catastrophe mode, "Reselection electronic map" is the main index of the splitting factor. Nevertheless, "The quality of relative service concerning the electronic map" is the main index of the normal factor.

Finally, the catastrophe characteristic of the choice behavior has been discussed and used by cusp catastrophe model that is based on the empirical data, and explained how the switching cost and service quality affect the choice behavior.

The outcome has shown that these characteristics include bimodality, hysteresis, and catastrophe are present in the research data. When increasing the value of the retail delivery services through some marketing strategies, such as premium programs, quick orderings, and some useful hints on the WebPages, the loyalty relationship between customer and convenient stores will be enhanced.

It has been expected that a catastrophe approach to discontinuous behavior has made clearly abundant implications. Based on the findings of loyalty in the application of cusp catastrophe theory, the cusp catastrophe model is an appropriate model to know the process of loyalty. It suggests that other researchers could consider the cusp catastrophe theory and other nonlinear techniques, especially for standard approaches not adequately to capture the underlying dynamic.

Keywords: Switching Cost, Retailing Delivery, Choice Behavior, Cusp Catastrophe Model, GEMCAT, SEM

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