

Modeling The Store Retailing Performance Outcome

K.B. SAJI

Abstract— In a fast changing global business scenario, the technological advancements are bringing in significant changes in traditional retailing operations. A revolution is under way at present in the store-dominated world of retailing both in developing as well as developed economies. Marketers have increasingly started realizing the fact that the purchasing power of customers, consumer preferences, latent need fulfillment, and convenient buying are the most important reasons for improving the retailing effectiveness. Of all these reasons, it is experienced to be the convenient buying that demands a unique approach in retailing. An effective retailing operation should facilitate placement of order for products and services from home, an in-home delivery in the shortest possible time, and payment flexibility. For these to happen, the retailing firms may have to seek appropriate technologies for bringing in operational efficiency in order to gain competitive advantage. This necessitates technology assimilation based on appropriateness, availability, accessibility, cost, and timeliness. Through this paper, it is attempted here to study these factors in the context of convenient buying for assessing their criticality in deciding the effectiveness of retailing operation. The paper successfully reports a predictive model developed for assessing the retailing performance outcome.

Keywords— Convenient Buying, Modeling, Retailing Effectiveness, Store Retailing

I. INTRODUCTION

RETAILING, one of the largest sectors of the global economy, is going through dramatic and exciting changes these days. Retailing is becoming a high tech business with the increased usage of electronic communications and information flow in real time environment. This has resulted in technologies that have far reaching effects in providing improved customer service (Ernst and Young, 2001). Retailers have thus become more customer-focused in providing superior service as well as a better experience to their customers. This has made the customers feel and experience the ways with which the various services are being provided.

There is increasing awareness among the customers about the various benefits that they could derive through new approaches adopted by the retail stores. They have become more demanding in availing quality service (Szymanski and Hise, 2000; Verhoef et al, 2001). Customers are always in search for more, rather than just “for shopping”. They look for

value adding benefits in the form of entertainment, thereby making some of the retail outlets a tourist spot. In order to provide such services, retailers have to continuously innovate. Innovation should lead to the retailing effectiveness.

II. RETAILING EFFECTIVENESS

In general, the retailing effectiveness looks at providing assortments, breaking bulk, holding inventory and providing services, in order to increase the value consumers receive from their products and services (Levy and Weitz, 1998). Saji (2002a), while trying to develop a branding model for e-tailing practice, defined the term ‘retailing effectiveness’ as “the degree to which a firm accomplishes the retailing objectives”. Ping (1993) has defined retailing effectiveness as the degree to which business activities add value to the products and the manner in which they are sold to customers for their personal and family use. Experience is an important factor that differentiates an effective retail outlet from the run-of-the-mill ones (Berry, 2001). Augmenting the whole shopping experience is where the key to retailing effectiveness lies (Berman and Evans, 1995). Hence, retailing effectiveness should be thought of as the extent to which a retail outlet is able to satisfy its customers.

Marketers have increasingly started realising the fact that the purchasing power of customers, consumer preferences, latent need fulfillment, and convenient buying are the most important reasons for improving the retailing effectiveness (Kreager, 2000). Of all these reasons, it is experienced to be the ‘convenient buying’ that demands a unique approach in retailing (Saji, 2002b). Elaborating on ‘convenient buying’, the term refers to the ultimate objective that the retailers should strive for; ensuring that every customer enjoys the benefits that the retailer is able to provide to the best of his/her ability with respect to the target segment. The objective here is to make all products and services available so that the customer is not found wanting at any given point. For instance, in an apparel store, in addition to signage, clear labeling and self-help kiosks, some degree of assistance is required – and even expected. A customer may be looking for different sizes, fabrics or prices and feel very confused if he/she doesn't get the information easily. In such a situation, the whole purpose of convenience is defeated. The intention of the retailer should then be to provide the customer an ideal convenient buying situation. It is in this context that the present paper has been set.

Manuscript received December 15, 2007; Revised version received May 21, 2008.

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III. THE DETERMINANTS

Retail markets are increasingly characterized by competition, market fragmentation, crowded retail environments, undifferentiated product and pricing offerings, shortened product life cycles, and more demanding and knowledgeable consumers (Wakefield and Baker, 1998; Saji, 2002b). Driven by these evolutions, retailers are finding it necessary to continually seek out products, processes, and technologies that increase store loyalty (Woodruff 1997; Reimers and Clulow, 2004). As the economic benefits of store loyalty are at the basis of explaining differences in retailing performance effectiveness, convenience buying facilitation has become the prime imperative for many retailers to achieve sustainable superior profits (Kalwani and Narayandas, 1995; Anderson et al, 1997). Such a situation necessitated technology assimilation based on appropriateness, availability, accessibility, cost, and timeliness (Saji, 2002b). Through the present research, it is attempted to study the factors in the context of convenient buying for assessing their criticality in deciding the effectiveness of a retailing operation.

The notion of *convenience buying* can be made attributed to the consumer buying process. The stages a customer goes through while purchasing a good or service (the need recognition, information search, evaluation and choice of alternatives, and post purchase evaluation) can all be made convenient so that the whole buying process can be made experiential for the customer (Levy and Weitz, 1998). Technology is probably the most dynamic change agent to this respect for the retailing industry. The computerization of the various operations in a retail store, including inventory management, billing and payments as well as database (of customers) management, widespread use of bar coding, point-of-sale terminals and Management Information Systems, has changed the very face of retailing drastically.

Apart from providing the retailers with better and timelier information about their operations, technology also does the job of preventing theft, promoting the store's goods and creating a better shopping atmosphere. These are usually done with the help of closed circuit televisions, video walls, in-store video networks, kiosks and other forms of interactive applications ranging from CD-ROMs to virtual reality to let customers select and buy products (Söderlund and Rosengren, 2007). Technology also makes the customer's life a lot easier by facilitating the use of credit cards and toll free numbers. Emerging technologies will also facilitate just-in-time management of products within the store, the trend of which is already visible in the music and greeting card industries.

Given the extent to which technology is being used, it only goes to show that the only limitations to the use of technology depend upon the chosen target market variables to be served and the ability of the management to adapt the technology onto their retailing environment. The need for technology adaptation arises here, as the customers are being increasingly informed and demand better service all the time. The requirements may be met by enhancing the convenience buying setting at the retailing firm (Saji, 2002b). In order to well assess the situation, it is necessary that the factors influencing the decision to provide convenient buying be

understood well. These factors (viz. appropriateness, availability, accessibility, cost, and timeliness) can be expected to determine the effectiveness of the retailing operation, as illustrated in Fig.1, and are of course bound by forces in the external environment.

The factor *appropriateness* refers to the convenience of the customers in terms of floor space, price, product categorisation, sales staff support, and other facilities such as safe keeping of baggage, and availability of trolleys. The factor *availability* refers to the presence of the solutions for satisfying the customer needs whenever it is required. These could either be the brands, products or any other offer that is prevalent. *Accessibility* in the convenience-buying context can be thought of as the convenience in reaching the store, the store timings, and the ease with which one could locate the products. The classic response to the question "what are the three most important things in retailing?" is "Location, Location, and Location" (Anderson, 1972). Besides being a critical factor in consumer selection of a store, location lets a retailer gain a sustainable competitive advantage over others (Ailawadi et al, 1995). The *cost* factor refers to the sum total of the cost incurred by the customer in reaching the store and the price of the product (Pauwels, 2007). The *timeliness* factor mainly focuses on the delivery time and the bill-settling time at the sales counter (Saji, 2002a).

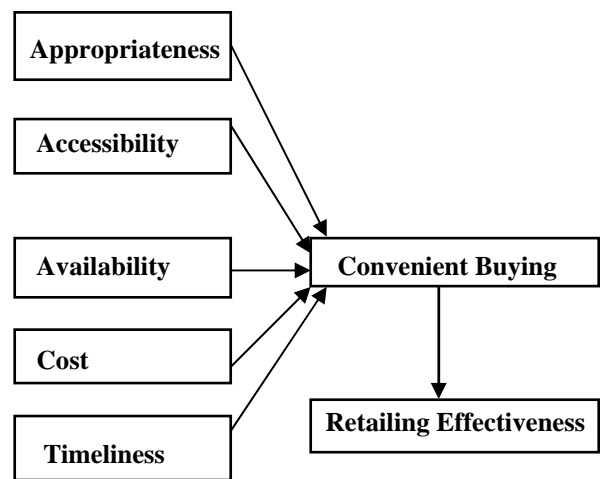


Fig.1 determinants of retailing effectiveness

IV. THE ASSESSMENT

In the present study, the retailing effectiveness has been investigated with the help of a 25-item instrument, spread across the five determinants of the retailing effectiveness. The instrument development was undertaken in a series of stages, starting with three focus groups that queried a variety of retailers about the retailing effectiveness phenomenon. The groups provided about 47 different retailing effectiveness related items that were then assessed by an expert group, which had placed the items across the five different determinant frames or the variables, viz. appropriateness, availability, accessibility, cost, and timeliness. From here, twenty-five items had been chosen that eventually got spread across the five research variables linked to retailing effectiveness.

An empirical study has then been organized to assess the retailers' perceptions concerning the effectiveness of their own retailing

operations. The study population consisted of all the corporate chain stores in India. By definition, the corporate chain stores are “two or more outlets that are commonly owned and controlled, employ central buying and merchandising, and sell similar lines of merchandise” (Kotler and Armstrong, 2006. Corporate chains appear in all types of retailing, but they are strongest in department stores, variety stores, food stores, drug stores, shoe stores, and women’s clothing stores. Through systematic sampling, 150 corporate chain stores have been selected from a list of about 1500 corporate chain stores spread across the Indian market. Survey method has been employed to collect the data. The research tool was a structured questionnaire that consisted of 25 items measured on 5-point Likert scales. Data was then collected from all the 150 corporate chain stores in the sample.

V. FINDINGS OF THE STUDY

The items used for the survey had sound psychometric properties, including high levels of reliability and validity. The reliability has been ascertained as the Cronbach’s Alpha values for all the five variables were found to be more than 0.70. In order to ascertain the validity of the items used in the survey questionnaire, the data matrix was put to exploratory factor analysis, wherein the cumulative variances explained by the factors were found to be well more than 50 per cent for all the five variables. The dataset has then been put to QUEST algorithm in order to cull out the most important variables from amongst the five that are critical to achieve the retailing effectiveness.

QUEST stands for Quick, Unbiased, and Efficient Statistical Tree version 1.8.18. QUEST is a statistical decision tree algorithm for classification and data mining originally developed by Wei-Yin Loh and Yu-Shan Shih at the University of Wisconsin (Madison, USA) and National Chung Cheng University (Taiwan). It is a vastly improved descendant of an older algorithm called FACT, and can be expected to give very accurate results (Loh and Shih, 1997; Loh and Vanichsetakul, 1988; Shih, 1999; Lim et al, 2000). QUEST uses an unbiased variable selection technique by default, imputation instead of surrogate splits to deal with missing values, and can easily handle categorical predictor variables with many categories.

The five numerical variables, which were used as input variables for classification using the ‘classification tree program’ of QUEST Version-1.8.18 (www.stat.wisc.edu) are the five variables in the present study, viz. appropriateness, availability, accessibility, cost, and timeliness. The dependent variable considered was Retailing Effectiveness. The number of cases set in the sample is 150, of which 102 were perceived as effective cases, and the remaining 48 were non-effective cases as shared by the respondent managers. The structure of the predictive model arrived at using QUEST for the retailing performance outcome is given in the form of a classification tree in Fig.2. The two possible retailing performance outcomes outlined in this figure are ‘Retailing Operation is Effective’ and ‘Retailing Operation is Not Effective’. The values indicated in the figure have originated from the 5-point Likert scale set from 1 to 5. The overall prediction accuracy was found to be 73.32 per cent, which may well be considered as ‘very good’ (Graf and Meister, 2003).

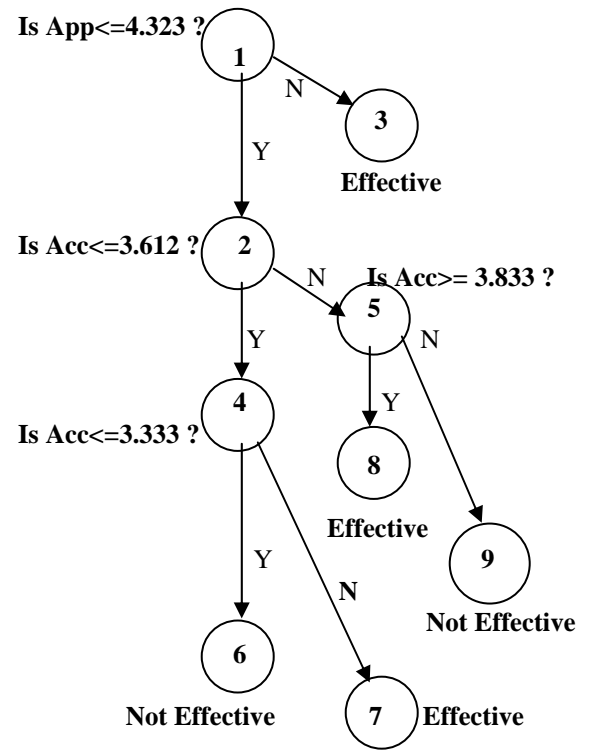


Fig.2 predictive model for store retailing performance outcome

The results of the study have clearly shown that appropriateness and accessibility (represented in Fig.2 as *App.* and *Acc.* respectively) are the two variables that are most critical in determining the effectiveness of a retailing operation in the context of convenience buying.

VI. CONCLUSION

The present study has been successful to the extent of identifying the five major determinants that positively influence the effectiveness of a store retailing operation in the convenient buying context. The study has revealed that *appropriateness* and *accessibility* are the two most critical variables that influence the convenient buying, thus contributing to the effectiveness of a store retailing operation. The study has successfully contributed a predictive model that could be used for assessing the effectiveness of a store retailing operation. Furthermore, the study has successfully demonstrated that it is essential for the organized retailers to understand the drivers of convenient buying that influence their store retailing operations.

REFERENCES

- [1] Ailawadi, K. L.; Borin, N.; and Farris, P. “Market Power and Performance: A Cross-industry Analysis of Manufacturers and Retailers”, *Journal of Retailing*, Vol.71, No.3, 1995, pp.211-248.
- [2] Anderson Jr., W.T. “Convenience Orientation and Consumption Behavior”, *Journal of Retailing*, Vol.48, No.3, 1972, pp.49-72.
- [3] Anderson, E. W.; Fornell, C.; and Rust, R. T. “Customer Satisfaction, Productivity, and Profitability: Differences Between Goods and Services”, *Marketing Science*, Vol.16, No.2, 1997, pp.129-145.
- [4] Berman, Barry; and Evans, Joel R.; *Retail Management: A Strategic Approach*, Englewood Cliffs, NJ: Prentice-Hall, 1995.

- [5] Berry, Leonard L. "The Old Pillars of New Retailing", *Harvard Business Review*, Vol.79, No.4, 2001, pp.131-137.
- [6] Ernst & Young LLP. *Global Online Retailing*, Washington, D. C.: National Retail Federation, 2001.
- [7] Graf, Hans-Christian v. Bothmer; and Meister, Christian. "Predicting critical crashes? A new restriction for the free variables", *Physica A: Statistical Mechanics and its Applications*, 2003, 320: pp.539-547.
- [8] Kotler, P.; and Armstrong, G. *Principles of Marketing*, Ninth Edition., New Delhi: Prentice-Hall of India Pvt. Ltd., 2002, p.478.
- [9] Kreager, J.T. "Prioritize Customer Satisfaction", *Chain Store Age*, Vol.76, No.6, 2000, p.92.
- [10] Levy, Michael; and Weitz, Barton A. *Retailing Management*, Third Edition, Homewood, IL: Richard D. Irwin, 1998.
- [11] Lim, T.S.; Loh, W.Y.; and Shih, Y.S. "A Comparison of Prediction Accuracy, Complexity, and Training Time of thirty-three Old and New Classification Algorithms", *Machine Learning Journal*, Vol.40, 2000, pp.203-228.
- [12] Loh, W.Y.; and Shih, Y.S. "Split Selection Methods for Classification Trees", *Statistica Sinica*, Vol.7, 1997, pp.815-840.
- [13] Loh, W.Y.; and Vanichsetakul, N. "Tree-structured Classification via Generalized Discriminant Analysis", *Journal of the American Statistical Association*, Vol.83, 1988, pp.715-728.
- [14] Kalwani, M.U.; and Narayandas, N. "Long-Term Manufacturer-Supplier Relationships: Do They Pay Off for Supplier Firms?", *Journal of Marketing*, Vol.59, 1995, pp.1-16.
- [15] Pauwels, K. "How Retailer and Competitor Decisions drive the Long-term Effectiveness of Manufacturer Promotions for Fast Moving Consumer Goods", *Journal of Retailing*, Vol.83, No.3, 2007, pp.297-308.
- [16] Ping, Robert A., Jr. "The Effects of Satisfaction and Structural Constraints on Retailer Exiting, Voice, Loyalty, Opportunism, and Neglect", *Journal of Retailing*, Vol.69, No.3, 1993, pp.320-352.
- [17] Reimers, V. and Clulow, V. "Retail Concentration: A Comparison of Spatial Convenience in Shopping strips and Shopping Centres", *Journal of Retailing & Consumer Services*, Vol.11, No.4, 2004, pp.207-221.
- [18] Saji, K.B. "A Branding Model for e-tailing Practice", *Proceedings of the Ninth International Conference of European Institute of Retailing and Services Studies (EIRASS) on 'Recent Advances In Retailing and Services Science'*, Heidelberg, Germany, 2002a.
- [19] Saji, K.B. "A Customer Satisfaction Model for e-Tailing Practice", *Proceedings of the 2002 European Applied Business Research Conference*, Rothenberg, Germany, 2002b.
- [20] Shih, Y.S. "Families of Splitting Criteria for Classification Trees", *Statistics and Computing*, Vol.9, 1999, pp.309-315.
- [21] Söderlund, M. and Rosengren, S. "Receiving Word-of-mouth from the Service Customer: An Emotion-based Effectiveness Assessment", *Journal of Retailing & Consumer Services*, Vol.14, No.2, 2007, pp.123-136.
- [22] Szymanski, D. and Hise, R. T. "e-Satisfaction: An Initial Examination", *Journal of Retailing*, Vol.76, 2000, pp.309-322.
- [23] Verhoef, P.C.; Franses, P.H.; and Hoekstra, J.C. "The impact of Satisfaction and Payment Equity on Cross-buying: A Dynamic Model for a Multi-Service Provider", *Journal of Retailing*, Vol.77, No.3, 2001, pp.359-378.
- [24] Wakefield, K.L.; and Baker, J. "Excitement at the Mall: Determinants and Effects on Shopping Response", *Journal of Retailing*, Vol.74, No.4, 1998, pp.515-539.
- [25] Woodruff, R.B. "Customer Value: The Next Source for Competitive Advantage", *Journal of the Academy of Marketing Science*, Vol.25, No.2, 1997, pp.139-153.

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