

## Chapter 2 Literature Review

### 2.1 Related Researches of the Consumers' Loyalty and Influence Factors

#### (1) Consumer's Loyalty

Customer loyalty is usually defined as a customer's intention or actual behavior to repeatedly purchase certain products or services. Indeed, the costs of attracting a new customer have been found to be up to six times higher than the costs of retaining old ones (Rosenberg and Czepiel, 1983). Customer loyalty, therefore, has been considered a significant asset to an enterprise. A critical issue for the continued success of a firm is its capability to retain its current customers and make them loyalty to its brands.

Early views of loyalty focused on repeat purchase behavior (Brown, 1952). Kuehn (1962) measured loyalty by the probability of product repurchase. Day (1977) suggested that a behavioral definition is insufficient because it does not distinguish between true loyalty and spurious loyalty that may result repeat purchase behavior.

To express the view that loyalty is a biased behavior purchase process that results from a psychological process. Srini, Rolph and Kishore (2002) suggested that both the attitudinal behavioral dimensions needed to be incorporated in any measurement of loyalty.

Studies have shown that most grocery shoppers have a primary store in which they make a large share of purchases (Anne *et al.*, 2003). While loyal customers' focus both on the economic aspects of the transaction and the relationship with the firm, less loyal customers focus mainly on the economic aspects. Reichheld, Markey and Hopton (2000) reveals that loyal customers have lower price elasticity than non-loyal customers, and they are willing to pay a premium to continue doing business with their preferred retailers rather than additional search costs. Some researchers (e.g., Dick and Kunal, 1994; Hagel and Arthur, 1997) indicated that loyal customers are more likely to provide positive word-of mouth. Customers' loyalty to a service provider is influenced by their overall satisfaction with the provider; most of prior researches have found qualified support for a positive satisfaction-customer retention relationship (Rust and Zahorik, 1993).

#### (2) Satisfaction and Service Quality

Customer satisfaction (or dissatisfaction) has become an important issue for marketing practitioners because of the rapid business environment. Customer loyalty

is not the same as customer satisfaction, but it measures how good customer's expectations are met by a given transaction, while customer loyalty measures how likely a customer is to repurchase and engage in partnership activities. Satisfaction is a necessary but a sufficient condition for loyalty without satisfaction.

Satisfaction and loyalty are not surrogates for each other (Bloemer and Kasper, 1995; Oliver, 1999). It is possible for customers to be loyal without being highly satisfied (e.g., when they are few other choices) and to be highly satisfied and yet not loyal (e.g., when many alternatives are available). Firms are needed to gain a better understanding of the relationship between satisfaction and loyalty in the online environment and to allocate the online marketing efforts between satisfaction initiatives and loyalty program.

Store satisfaction is defined as the customer's overall evaluation of the store experience. It is well established in the retail literature that store satisfaction leads to store loyalty. Hence, the definition of customer satisfaction had been used in the paper.

Most researchers propose (e.g., Jones and Sasser, 1995; Gianmario and Emanuela, 2002) that the relationship between satisfaction and loyalty is positive, i.e., the more satisfied customer is with a service provider the more loyal they are to the service provider. Therefore, the exact nature of the relationship between overall satisfaction and loyalty is an empirical issue.

Generally speaking, prior researches showed that service quality would influence customer satisfaction. And increasing customer satisfaction will then enhance customer loyalty. Fader and Schmittlein (1993) found a positive relationship between market share and loyalty.

Researchers find that service quality is by far the most critical determinant of merchandise quality perception. Customer loyalty, measured by intent to continue shopping, increase purchases, and recommend the store that depends on service quality (e.g., Krishnamurthi, 1991; Reichheld *et al.*, 2000).

### (3) Switching Cost

Switching cost means the cost incurred when switching, such as time, money and psychological cost (Dick *et al.*, 1994), is defined as perceived risk, insofar as there are potential losses perceived by customers when switching carriers.

The role of switching costs in consumer markets has generated considerable theoretical and practical interest. From a theoretical standpoint, switching costs

represent an important avenue for better understanding and predicting customer retention (Fornell, 1992). From a practical standpoint, managing represents a powerful tactical element in customer loyalty programs (Bendapudi and Berry, 1997). Michael, David and Sharon (2002). Michael, David and Sharon (2002) defined six dimensions of switching costs: (1) lost performance cost; (2) uncertainty cost; (3) pre-switching search and evaluation cost; (4) post-switching behavioral and cognitive cost; (5) setup cost; and (6) sunk cost.

At its broadest level, switching costs can be defined as the perceived economic and psychological costs associated with changing from one alternative to another. As such, switching costs can be thought of as barriers that hold customers in service relationships.

Further, it has been demonstrated that the switching barrier plays the role of an adjustment variable in the interrelationship between customer satisfaction and customer loyalty. Although switching costs are increasingly finding the way into models of customer loyalty, a lack of consistency and clarity exists regarding the appropriate conceptualization and measurement of this critical strategic construct.

## 2.2 Catastrophe Theory and its Applications

Catastrophe theory was developed and popularized in the early 1970's. Initially, it attracted attention very quickly in 1978; an entire issue of behavioral science was devoted to the approach. After a period of criticism, the catastrophe theory is well established and widely applied. Today the theory is very much alive. Numerous nonlinear phenomena that exhibit discontinuous jumps in behavior have been modeled by using the theory, for instance in the field of chemistry (Wales, 2001), physics (e.g., Aerts, Czachor, Gabora, Kuna, Posiewnil, Pykacz, and Syty, 2003) psychology (Stewart *et al.*, 1983; Mass, Kolstein and Pligt, 2003), and in the social sciences (e.g., Holyst Kacperski and Schweitzer, 2000; Oliva *et al.*, 1992). The models' strengths include that complex behavior can be captured by using significantly fewer nonlinear equations than the number of linear equations needed to describe the same phenomena.

Catastrophes are bifurcations between different equilibria and fixed-point attractors. It is a topological branch of mathematics developed to study and classify phenomena characterized by sudden shifts in behavior arising from small change in circumstance. The theory specifies that small changes in control parameters across critical thresholds will cause stable equilibria either to disappear, or to bifurcate into multiple equilibria, some of which are stable.

One of the first applications of catastrophe theory to economic phenomena was described by Zeeman (1970) on the unstable behavior of stock exchanges. Since that time, catastrophe theory has been applied to a number of different phenomena, such as the stability of ships at sea and their capsizing and bridge collapse. According to the literature, it has shown that catastrophe theory has been successfully applied in various fields of research, to name a few: the business cycle (Helyette, Geman and Marc, 1979); the stability of stock exchange behavior (Zeeman, 1977); and a model of bank failures (Saunders, 1980).

In the social science catastrophe models are for instance used for the description of organization structures (Guastello, 1987), Physical application (Saunders, 1980; Gilmore, 1981) and Metaphysical application (Oliva *et al*, 2001).

Oliva *et al.* (1992) indicate that the customer's response to service increments can be nonlinear, and satisfaction and dissatisfaction thresholds may occur at the same point. They use a catastrophe model to describe a service loyalty customer-response surface. Prior use of catastrophe theory in marketing has been limited. Chidley, Lewis and Walker, (1978) examined the cusp model as a market planning aid, focusing on brand loyalty and switching relative to price sensitivity, whereas Oliva, Oliver and William (1995) applied it to consumer behavior situations in the new product adoption and complaint behavior.

Oliva *et al.*, (2001) indicate that an interesting market example of this behavior is the VHS/BETA competition in VCR's. They argues that in the VCR's the VHS versus BETA format "War", the small initial advantage of a 3 versus 2.5 hour recording capability ultimately resulted in more consumers picking VHS over BETA. Since American football games run around 3 hours, only VHS allowed then to be taped in their entirety. This led to more software being available in VHS format which in turn guided new consumers to pick VHS over BETA as they came into the market.

According to the literature reviews, the development histories of the catastrophe theory (CT; see Casetti, 1997) are listed as the following:

- 1975-1982 : developing mathematics structure of CT model
- 1983-1987 : developing technique to fitting the CT model
- 1988-1998 : the development of relevant research of CT is comparatively sluggish
- 1998- present: use the computer software and statistic technique to carry on quantitative research

The main reason for the limited number of applications has been the lack of techniques to estimate these models within a multidimensional framework. Worked by Cobb (1978, 1981), Gaustello (1982) and Oliva *et al.* (1987) has helped to mitigate this problem. In the 1980's three different approaches were developed to estimate statistical catastrophe theory models.

The first important step forward was Cobb's (1978, 1981) work on statistical distributions for catastrophe models in the biosciences. Cobb developed a technique based on the method-of-moments approach and used maximum-likelihood estimation. Drawing on Cobb's analytical research, Guastello (1982, 1984) developed a statistical specification for the cusp catastrophe model.

Following the framework in Oliva *et al.* 1987, GEMCATII implements a flexible method to test catastrophe models containing multivariable while allowing for priori variable specifications. The system uses an efficient hybrid minimization algorithm combining the Downhill and Simplex, and Powell's Conjugate Gradient method.

### 2.3 Conclusion Remarks

Not every process in the world is continuous and slowly changing, especially in the field of consumer behavior. There is an increasing emphasis on customer satisfaction as a means of affecting store-choice behavior. One of the problems about the consumer behavior of loyalty is consumers' responses to service increments can be nonlinear. Behaviors usually lag behind satisfaction, and the dissatisfaction with a single transaction is unlikely to cause consumers to switch loyalties (i.e. the satisfaction and the dissatisfaction threshold may not occur at the same point.).

Earlier studies of factors affecting customer loyalty usually focus on customer satisfaction and the switching costs (e. g., Dick *et al.*, 1994; Gerrard, Lawrence and Lockshin, 1997; Lee and Cunningham, 2001. Customers experiencing a high level of satisfaction are likely to remain with their existing providers and maintain their subscription. However, according to some researches, customer satisfaction, while positively influencing customer loyalty, is not always a sufficient condition.

On the other hand, several researchers have proposed that the relationship between loyalty and satisfaction is both linear and nonlinear. Their studies also indicated that satisfaction and dissatisfaction thresholds might not occur at the same point. That is, not all consumers respond equally to increases in satisfaction (Oliva *et al.*, 1992; Vikram *et al.*, 1998; Rense *et al.*, 2000; Byrne *et al.*, 2001). Recently, catastrophe theory has become a popular method to describe the dynamic system (e.g., choice behavior; economic growth; physical phenomena).

Catastrophe theory was developed and popularized in the early 1970's and originated by the French mathematician, Rene Thom. In the 1960's, catastrophe theory is a special branch of dynamical systems theory. Initially, it attracted attention very quickly. Catastrophe means the loss of stability in a dynamic system; it studies and classifies phenomena characterized by sudden shifts in behavior arising from small changes in circumstances. By 1978, an entire issue of behavioral science was devoted to the approach. The strength of the catastrophe model can capture complex behavior by using significantly fewer nonlinear equations rather than a large number of linear equations to describe the same phenomena. Recently, catastrophe theory has become a popular method for describing dynamic systems especially in the choice behavior. Studies that apply this method indicated that the satisfaction and dissatisfaction thresholds might not occur at the same point. That is, not all customers respond equally to increases in satisfaction.

The primary propose of this study was to investigate the strategies of business in Taiwan RD service to increase customer loyalty. In this dissertation, it has defined customer's loyalty on pick up convenience stores as behavior variables. The research methods of the study have two: one is using SEM to find the two controllable variables which can be used in the cusp catastrophe model later, the other is to use cusp catastrophe model to examine the effects of the proposed strategies for the Cvs.com. Figure 2.1 shows the research framework of the thesis.

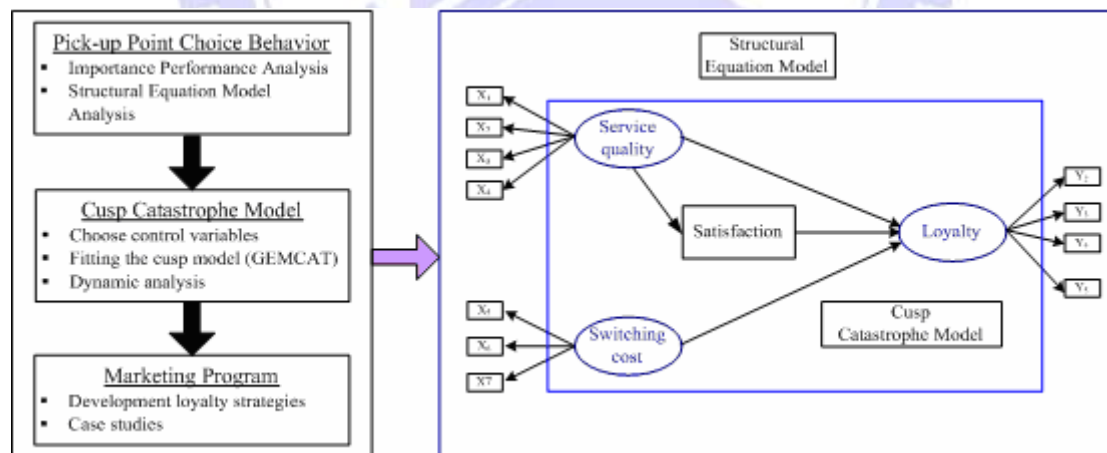


Figure 2.1 Research Framework of the Dissertation