

# Measuring Customer Value Gaps: An Empirical Study in the Mexican Retail Market

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## ABSTRACT

*The role of customer value has been recognized by firms over time as an instrument that can stimulate market share and profit optimization. Customer values for a new product of firms in competitive markets are shaped more by habits, reinforcement effects and situational influences than strongly-held attitudes. A basic premise of the paper is that the focus should be on maximizing total customer value and customer satisfaction, factors which are inter-dependent in the decision making process towards buying new products. The framework of analysis is a proposed model which integrates all aspects so as to maximize the potential of the organization and all its subsystems to create and sustain satisfied customers. The discussion in the paper focuses on customer value gaps in the process of marketing new products and explores the possible situations that may lead to lower customer value. The model discussed in the study has been subject to empirical testing through analysis of data collected from 369 respondents to a study conducted in 11 retail auto (or self-) service stores located in Mexico City.*

## 1. INTRODUCTION

CUSTOMER VALUE is an intangible factor which has significant role influencing buying decisions. Customer value includes broadly psychometric variables like brand name, loyalty, satisfaction and referral opinions. Customer lifetime value is built over time by business firms and which also contributes to the individual perceptions of customers, augmenting their value. The new school of business thought and contemporary researchers have emphasized that, in seeking to maximize the lifetime value of customers, a firm must manage customer relationships for the long term. Disagreeing with this notion, Villanueva *et al* (2004) demonstrate that firms' profits in com-

petitive environments are maximized when managers focus on the short term with respect to their customers.

Intuitively, while a long term focus yields more loyal customers, it sharpens short term competition to gain and keep customers to such an extent that overall firm profits are lower than when managers focus on the short term. Further, a short term focus continues to deliver higher profits even when customer loyalty yields a higher share-of-wallet or reduced costs of service from the perspective of the firm. Such revenue enhancement or cost reduction effects lead to even more intense competition to gain and keep customers in the short term. The findings of the study suggest that the competitive implications of a switch to a long term customer focus must be carefully examined before such a switch is advocated or implemented. Paradoxically, customer lifetime value may be maximized when managers focus on the short term.

There have been few studies that have discussed the impact of convergence of product services offered by a firm to the new products towards generating customer value over time. However, some of the studies find no evidence of absolute convergence, while a few find evidence of conditional convergence, i.e. convergence having controlled for differences in technological and behavioural parameters (Kenny and Marshall, 2000). The lack of evidence of absolute convergence leads to the lowering of perceived use value of the new products and further results into the lowering of returns on the aggregate customer value in terms of repeat buying ( $b$ ) and market coverage ( $s$ ) for a firm in a given time. However, most of the convergence studies are aimed at proving or disproving the neoclassical growth model and hence there remains a need to take the 'product' as the unit of measurement of customer value.

## 2. REVIEW OF LITERATURE

The relevant literature on the subject is categorically reviewed in the following sections, which include discussions on customer loyalty and value based concepts, the role of organizational learning on customer values, customer lifetime value and augmentation of customer values in self-service retail networks. The conceptual studies focus on the theoretical models of customer values measurement while the empirical studies offer managerial implications.

### *Customer loyalty and value concepts*

It has been observed that there is an increasing number of customer goods and services offered in recent years, suggesting that product-line extensions have become a favoured strategy of product managers. A larger assortment, it is often argued, keeps customers loyal and allows firms to charge higher prices. There also exists a disagreement about the extent to which a longer product line translates into higher profits, keeping the customer value higher. Academics, consultants and business people have speculated that marketing in the new century would be very different from the time when much of the

pioneering work on customer loyalty was undertaken (Churchill 1942; Brown 1953; Cunningham 1956, 1961; Tucker 1964; Frank 1967). Yet there exists the scope for improving the applied concepts, as there have been many changes over conventional ideologies. A study using market-level data for the yogurt market (Draganska and Jain, 2005) develops an econometric model derived from a game-theoretic perspective and considers explicitly firms' use of product-line length as a competitive tool. On the demand side, the study establishes analytically the link between customer choice and the length of the product line and includes a measure of line length in the utility function to investigate customer preference for variety, using a brand-level discrete-choice model. The study reveals that the supply side is characterized by price and line length competition between oligopolistic firms.

The success of new product pricing practices and the conditions upon which success is contingent discussing three different pricing practices that refer to the use of information on customer value, competition, and costs respectively has been examined in Ingebleek *et al* (2003). These authors argue that the success of these practices is contingent on relative product advantage and competitive intensity. The study reveals that there are no general 'best' or 'bad' practices, but that a contingency approach is appropriate. Value and pricing models have been developed for many different products, services and assets. Some of them are extensions and refinements of convention models value driven pricing theories (Gamrowski and Rachev, 1999; Pedersen, 2000). There have also been models developed and calibrated to address specific issues such as household assets demand (Perraudin and Sorensen, 2000). Key marketing variables such as price, brand name and product attributes affect customers' judgment processes and offer inferences on quality dimensions that lead to customer satisfaction. The experimental study conducted by Brucks *et al* (2000) indicates that customers use price and brand name differently to judge the quality dimensions and measure the degree of satisfaction.

The value of corporate brand endorsement across different products and product lines, and at lower levels of the brand hierarchy, also needs to be assessed as a customer value driver. Use of corporate brand endorsement either as a name identifier or logo identifies the product with a company and provides reassurance for the customer (Rajagopal and Sanchez, 2004). A perspective from resource-advantage theory (Hunt and Morgan, 1995) is used to formulate expectations on the degree to which the use of information on customer value, competition and costs contribute to the success of a price decision. It is argued that the success of these practices is contingent on the relative customer value the firm has created and the degree to which this position of relative value is sustainable in a competitive market place. These expectations are tested empirically on pricing decisions with respect to the introduction of new industrial capital goods.

The studies that advocate models building customer value through traditional relationship marketing discuss long term value concepts to loyal cus-

tomers. Most importantly, these customers are expected to raise their spending and association with the products and services of the company, with increasing levels of satisfaction that create value to customers (Reichheld and Sasser, 1990). In the most optimistic settings, such value creation is observed to generate new customers for new products in view of the customer relationship and value management strategies of the firm (Ganesh, *et al*, 2000) In a high customer value framework, a firm ensures diminished costs to serve (Knox, 1998) and exhibits reduced customer price sensitivities. Using a database-driven approach, customer tenure with reference to the length of a customer's relationship and values retention with a company, has often been used to approximate the loyalty construct (Ganesh *et al*, 2000; Reinartz and Kumar, 2000; 2002). Hence the relationship of marketing with a customer-value orientation thrives on the concept that raises the length of the customer-company relationship contributing to optimizing the profit for the firm (Reichheld and Sasser, 1990). However, the contributions of long-life customers were generally declining and, in a non-contractual setting, short-life but high-revenue customers accounted for a sizeable amount of profits (Reinartz and Kumar, 2000).

#### *Organizational influences on customer values*

Johanson *et al* (2001) explore qualitatively the understanding of the importance of intangibles as performance drivers, with reference to Swedish organizations, using a combination of evolutionary theory, knowledge-based theory and organizational learning. The study reveals that customer values are created towards new products through individual perceptions and organizational and relational competence. Firms need to ascertain a continuous organizational learning process with respect to the value creation chain and measure performance of the new products introduced in the market. In growing competitive markets, the large and reputed firms develop strategies to move into the provision of innovative combinations of products and services as 'high-value integrated solutions' tailored to each customer's needs, rather than simply 'moving downstream' into services. Such firms are developing innovative combinations of service capabilities such as operations, business consultancy and finance required to provide complete solutions to each customer's needs in order to augment the customer value towards innovative or new products. It has been argued that the provision of integrated solutions is attracting firms traditionally based in manufacturing and services to occupy a new base in the value stream, cantered on 'systems integration' using internal or external sources of product designing, supply and customer focused promotion (Davies, 2004). Besides the organizational perspectives of enhancing the customer value, functional variables like pricing play a significant role in developing customer perceptions towards new products.

The analysis of the perceived values of customers towards new products is a complex issue. Despite considerable research in the field measuring

customer values in the recent past, it is still not clear how value interacts with marketing-related constructs. However, there exists the need for evolving comprehensive application models determining the interrelationship between customer satisfaction and customer value, which may help in reducing the ambiguities surrounding both concepts. One of the studies in this regard (Eggert and Ulaga, 2002), discusses two alternative models yielding empirically tested results in a cross-sectional survey of purchasing managers in Germany. The first model suggests a direct impact of perceived value on purchasing managers' intentions. In the second model, perceived value is mediated by satisfaction. This research suggests that value and satisfaction can be conceptualized and measured as two distinct, yet complementary constructs.

Improving customer value through faster response times for new products is a significant way to gain a competitive advantage. In the globalization process, many approaches to new product development emerge, which exhibit an internal focus and view the new product development process as terminating with product launch. However, it is process output that really counts, such as customer availability. Oakley (1996) proposes that with shortening product life cycles, it should pay to get the product into the market as quickly as possible and indicates that these markets should be defined on an international basis. The results of the study reveals that greater new product commercial success is significantly associated with a more ambitious and speedier launch into overseas markets, as the process of innovation is only complete when potential customers on a world scale are introduced effectively to the new product.

The retail sales performance and the customer value approach are conceptually and methodically analogous. Both concepts calculate the value of a particular decision unit by analytical attributes, forecasting risk-adjusted value parameters. However, virtually no scholarly attention has been devoted to the question of whether any of these components of shareholder value could be determined in a more market oriented way using individual customer lifetime values (Rajagopal, 2005). The value of a customer to a firm may be defined in terms of expected performance measures, based on key assumptions concerning retention rate and profit margin. Customer value also tracks the market value of these firms over time. The value of all customers is determined by the acquisition rate and cost of acquiring new customers (Gupta, Lehmann and Stuart, 2003).

#### *Customer lifetime value*

Customer lifetime value (CLV) is a key-metric within customer relationship management. Although a large number of marketing scientists and practitioners argue in favour of this metric, there are only a few studies that consider the predictive use of CLV. Customer lifetime value also represents the net present value of profits coming from the individual customer, which creates a flow of transactions over time. Firms look at their investments in terms

of cost per sale, rate of customer retention and conversion of prospects. CLV is then used as a convenient yardstick of performance. The concept of the lifetime value of a customer is well established in the theory and practice of database marketing. The lifetime value of a customer, defined to be the expected present value of net cash flows from the firm's relationship with the customer over his or her lifetime, is often used as an upper limit on spending to acquire the customer (Pfeifer, 1999). Many firms agree that their efforts should be focused on growing the lifetime value of their customers. However, few have come to terms with the implications of that idea for their marketing management, with the focus on decision making and accountability of customer values (Rust *et al*, 2004). Customers' lifetime value is constituted by three components — customers' value over time, the length of customers' association and the services offered to customers. Satisfaction is a customer's perception of the value received in a transaction or relationship and it helps in making re-patronage decisions on the basis of predictions concerning the value of a future product. It may thus be stated that the customer value paradigm is contemporary, which includes many elements of the customer satisfaction paradigm and which is being more widely adopted and deployed by firms (Hallowell, 1996; Gale, 1997).

Some studies focus on the prediction of CLV in customer goods manufacturing and marketing firms. In these industries, customer behaviour is rather complex, because customers can purchase more than one service, and these purchases are often not independent from each other (Donkers *et al*, 2003). However, it has been observed that low perceived use value; comparative advantages over physical attributes and economic gains of the product make significant impact on determining the customer value for the relatively new products. The customer value gap may be defined as the negative driver, which lowers the returns on the aggregate customer value. This is an important variable, which need to be carefully examined by a firm and measure its impact on the profitability of the firm in reference to spatial (coverage of the market) and temporal (over time) market dimension (*e.g.* Marjolein and Verspagen, 1999).

In view of maximizing the lifetime value of customers, a firm must manage customer relationships for the long term. In a disagreement to this notion a study demonstrates that firm profits in competitive environments are maximized when managers focus on the short term with respect to their customers (Villanueva *et al*, 2004). Intuitively, while a long term focus yields more loyal customers, it sharpens short term competition to gain and keep customers to such an extent that overall firm profits are lower than when managers focus on the short term. Further, a short term focus continues to deliver higher profits even when customer loyalty yields a higher share-of-wallet or reduced costs of service from the perspective of the firm. Such revenue enhancement or cost reduction effects lead to even more intense competition to gain and keep customers in the short term. The findings of the study suggest that the competi-

tive implications of a switch to a long term customer focus must be carefully examined before such a switch is advocated or implemented. Paradoxically, customer lifetime value may be maximized when managers focus on the short term.

#### *Retail networks and customer value*

Retail self-service stores, which largely operate in chains, are based on the rationale of touch, feel and pick which provides consumers with a wide range of options to make buying decisions. In-stores promotions and do it yourself (DIY) opportunities constitute the major motivation for buyers and also support them in their decision making process. Motivational forces are commonly accepted to have a key influencing role in the explanation of shopping behaviour. Personal shopping motives, values and perceived shopping alternatives are often considered independent inputs into a choice model: we argue that shopping motives influence the perception of retail store attributes as well as the attitude towards retail stores (Morschett *et al*, 2005). In retail self-service stores where consumer exercises in-store brand options, both service and merchandise quality exert a significant influence on store performance, measured by sales growth and customer growth, and their impact is mediated by customer satisfaction. The liberal environment of the self-service stores for merchandise decisions, service quality and learning about competitive brands are the major attributes of retail self-service stores (Babakus *et al*, 2004). Retail self-service stores offer an environment with three distinct dimensions of emotions: pleasantness, arousal and dominance. Their broad marketing-mix also helps variety-seeking customers and few retail self-service stores specialize in certain product categories, such as *The Home Depot*, which specializes in retailing building construction, interior decoration and gardening equipment. *The Home Depot* is a US retail self-service chain store operating in North American and Latin American countries. Retail self-service stores also operate on both a market size effect and a price cutting effect (Konishi, 1999). As retail self-service stores display a wide range of multi-brand products, consumers have higher a chance of finding preferred products (a market size effect). Furthermore, concentration of stores leads to fiercer price competition (a price cutting effect).

### 3. THEORETICAL MOTIVATION

Many studies reviewed in the paper discuss issues related to customer values with reference to key marketing variables such as price, brand loyalty, retail networks, organizational influences and product attributes, which affect customers' judgment processes and allow for inferences on quality dimensions that create customer satisfaction. However, accuracy in measuring customer values seems to be a difficult proposition, being an intangible factor in the process of buying decision, unless the gaps in customer values are properly identified. In recognizing this need to contribute research in the area of meas-

uring the gaps in customer value, a methodological construct to measure the customer value for new products introduced by a firm, developed in previous papers (Rajagopal, 2005; 2006) has been tested through empirical investigation. The framework of the construct is based on a model which integrates all aspects so as to maximize the potential of the organization and all its subsystems to create and sustain satisfied customers (Rajagopal and Sanchez, 2005).

Let us assume that there are  $L$  networks of retail chain stores and  $D_m$  spatially spread markets.  $\Delta_j \subseteq \{1, 2, \dots, D_m\}$  denotes the set of markets served by chains  $j$  and  $\phi_h \subseteq \{1, 2, \dots, L\}$  denotes the set of chains serving markets  $h$ , the operations of chain in  $j$ th store in market  $h$  in period  $t$  are fully described by an  $N$ -dimensional vector,  $Z^{j,h}(t) \equiv (Z_1^{j,h}(t), \dots, Z_N^{j,h}(t)) \in \{1, \dots, R\}^N$ , where  $Z_K^{j,h}(t)$  is the practice for the  $k$ th dimensions of the store operations. There are then  $R$  feasible practices for each dimension. The store operations of chain  $j$  is represented by an element of  $\{1, 2, \dots, R\}^{N|\Delta_j|}$ .

### Measuring customer value

Customer values for goods and services are largely associated with retail stores' brands and customer services offered therein. The beginning of customer preferences is the basic discrete time that helps the customers in making a buying decision and maximizing the value of product. Ofek Elie (2002) argues that the value of product and service are not always the same and are subject to a value life cycle that governs customer preferences in the long-run. If customers prefer the product and service for  $N$  periods with  $Q$  as value perceived by the customer, the value may be determined as  $Q > N$ , where  $Q$  and  $N$  both are exogenous variables. If every customer receives higher perceived values for each purchase, the value added product  $q = Q$ , where 'q' refers to the change in the quality brought by innovation or up-graded technology. The customer may refrain from buying the products if  $q = Q$ . However, a strong referral 'R' may lead to influence customer values, with an advantage factor  $\beta$  that may be explained by price or quality factors. In view of the above discussion it may be assumed that customer preferences have a high variability that increases the value factors in retail buyers' decisions:

$$D_{bn} = \sum_{t=1}^N \beta^t \mu(C_t, \hat{Z}) + \beta^{N+1} Q_t \quad (1)$$

Where,  $D_{bn}$  is expressed as initial buying decision of the customers,  $C_t$  represents consumption,  $\hat{Z}$  is a vector of customer attributes (viz. preferential variables) and  $Q_t$  is the value perceived by the customer.

Customer value is a dynamic attribute that plays a key role in buying and is an intangible factor to be considered in all marketing and selling functions. The value equation for customer satisfaction may be expressed as a function of all value drivers, wherein each driver contains the parameters that directly or indirectly offer competitive advantages to the customers and enhance the customer value.



$$V' = K_s, K_m, K_d, K_c \left[ \prod \{V(x, t, q, p)\} \right] \quad (2)$$

In the equation above  $V'$  is a specific customer value driver,  $K$  are constants for supplies ( $K_s$ ), margins ( $K_m$ ), distribution ( $K_d$ ), and cost to customers ( $K_c$ );  $x$  is volume,  $t$  is time,  $q$  is quality and  $p$  denotes price. The perceived customer value ( $V$ ) is a function of price ( $p$ ) and non-price factors including quality ( $q$ ) and volume ( $x$ ) in a given time  $t$ . Hence  $\Pi$  has been used as a multiplication operator in the above equation. The quality of the product and volume are closely associated with the customer values. The total utility for conventional products goes up through economies of scale, as the quality is also increased simultaneously ( $\partial_v/\partial_x > 0$ ). The  $\partial$  customer value is enhanced by offering a larger volume of product at a competitive price in a given time ( $\partial_v/\partial_p > 0$ ) and ( $\partial_v/\partial_t > 0$ ). Conventional products create lower values to the customers ( $\partial_v/\partial_x < 0$ ) while innovative products, irrespective of price advantages, enhance customer value ( $\partial_v/\partial_x > 0$ ). The value addition in the conventional products provides less enhancement of customer satisfaction as compared to innovative products. Such transition in customer value, due to shifts in technology, may be expressed as:

$$V'_{hj} = a \left[ \sum \frac{T_p}{(1+V_p)^{(1+j+t)}} \right] + b(X_j) \quad (3)$$

In this equation  $V'_{hj}$  represents enhancements in customer value over the transition from conventional to innovative products,  $a$  and  $b$  are constants,  $T_p$  denotes high-tech and high-value products,  $V_p$  represents value of product performance that leads to enhance the customer value, the volume is denoted by  $X$  and  $j$  is the period during which customer value is measured.

Besides high-tech and high-value products, customers and companies may also find scope for enhancing values with appropriate promotional strategies. Customer values often get enhanced by offering better buying opportunities that reflect short- and long- term gains. Let us assume that the competitive advantage in existing products over time is  $Gx$  that offers  $j$ th level of satisfaction through various sales promotion approaches adopted by the company. Such a market situation may be explained as:

$$G_x = [r_1 m_1; r_2 m_2; r_3 m_3; \dots; r_j m_j] \quad (4)$$

Where  $r_j$  denotes the  $j$ th level of satisfaction ( $j = 1, 2, 3 \dots n$ ) and  $m_j$  is the number of customers attracted towards buying the product. It may be stated that the competitive advantage for existing products of a firm over time is determined by the level of satisfaction derived by the customers and number of customers favouring the buying decisions for the products in a given market. The parameters of customer satisfaction may include product innovativeness, perceived use value, sales promotion, influence of referrals, price and non-price factors. The competitive advantage of a firm is also measurable from the per-

spective of product attractiveness to generate new customers. Given the scope of retail networks, a feasible value structure for customers may be reflected in repeat buying behaviour ( $\hat{R}$ ) that explains the relationship of the customer value with the product and associated marketing strategies. The impact of such customer value attributes in a given situation may be described as:

$$\sum_{j=1}^n r_j m_j = \hat{R} \quad (5)$$

The repeat buying behaviour of customers is largely determined by the values acquired on the product. The attributes, awareness, trial, availability and repeat (AATAR) factors influence customers towards making re-buying decisions with reference to the marketing strategies of the firm. The decision of customers on repeat buying is also affected by the level of satisfaction derived from the products and number of customers attracted towards buying the same product, as a behavioural determinant.

Customer values are reflected in their competitive gains, perceived use values, volume of buying and level of quintessence with the customer relationship management services of the organization. If these variables do not measure highly, there emerges the development of a switching attitude among the customers. If organizational values are low, the supplier relationship may be risk averse due to weak dissemination of values from an organization to the suppliers. CVG-1, as shown in Figure 1, may exist for the new products due to the negative difference between the customer value for the product assessed by the firm and the perceived value acquired by the customers upon its buying. If the customer receives the higher degree of perceived value ( $q_p^t$ ) for the new product in each purchase with increasing product attractiveness, the firm may be able to enhance its market share of the new product over time and territory. On the other hand the customer value may deteriorate and fall if  $q_p^t \leq \hat{Q}$ , where  $\hat{Q}$  refers to the value estimated for the product by the firm. Such a gap may emerge due to inadequate market research, lack of focus on product quality, poor communications within the firm, lack of appropriate market segmentation and weak customer relationship management. Customer value may also be negative or low if the attributes are not built into the new product to maximize customer value as per the estimation of the firm. The attributes lead to the satisfaction to the customers and is reflected through the product attractiveness ( $F_x$ ). This is explained as CVG-2 as  $V_{np} \leq [F_x + C_{at}]_{k=1}^h$  wherein  $V_{np}$  represents the customer value for the new products,  $F_x$  is product attractiveness and  $C_{at}$  is competitive advantage for buying the new product in a given time. There are many factors that contribute to the CVG-2 situation such as unsystematic, vague and undefined product designs, lack of customer product defined standards and poor setting of the quality control goals by the firm.

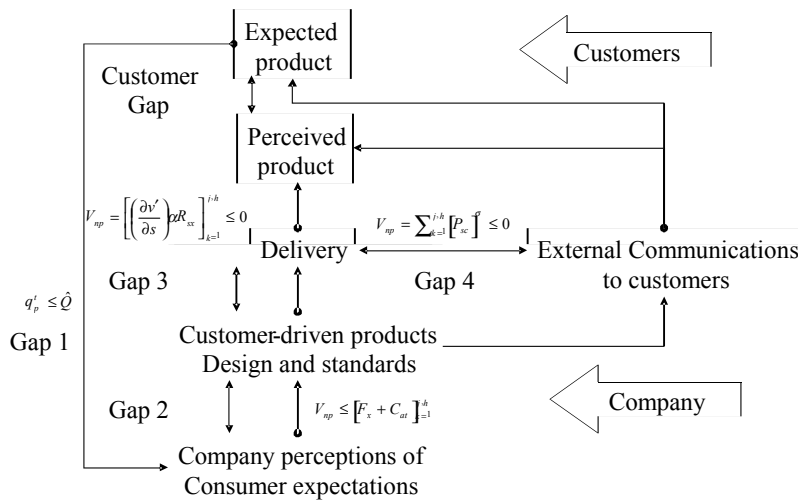
The customer value gap for new products is also generated by a lack of proper product delivery at the retail stores or outlets where customer has easy

access to the product, as exhibited in CVG-3. In delivering the product ( $p$ ) to the customers the major considerations that a firm should make is towards the volume of product to be penetrated ( $v'$ ) in a given time in the predetermined market coverage ( $s$ ). The just-in-time product management and services offered to customers in retail outlets ( $R_{sx}$ ) through which the new products are sold, largely affects customer preferences and values. Customer value may be enhanced if there is a positive relationship of all these factors. However, it may have a negative or low impact if

$$V_{np} = \left[ \left( \frac{\partial v'}{\partial s} \right) \alpha R_{sx} \right]_{k=1}^{j,h} \leq 0 \tag{6}$$

wherein  $\alpha$  is a constant used for measuring the customer services provided by the retail stores.

**Figure 1: Customer Value Gaps Model**



External communications such as advertisements, referrals and word of mouth play a significant role in building the customer value at the point of purchase. If the communication spread for the new products, in terms of the above discussed variables, is positive its integrated impact would develop a strong self reference criterion among customers and help enhance the returns on aggregate customer value. On the contrary the CVG-4 may be described as

$$V_{np} = \left[ \beta_0 + \beta_1 (P_{sw}) \mu_t + \beta_2 (P_{sr}) \mu_t + \beta_3 (P_{sa}) \mu_t + \varepsilon_t \right]_{k=1}^{j,h} \tag{7}$$

wherein,  $\beta$  is the constant used for the score of word-of-mouth ( $P_{sw}$ ), opinion score of referrals ( $P_{sr}$ ) and perceptions derived through the commercials on the product inserted in the media ( $P_{sa}$ ). In the equation  $\varepsilon_t$  has been used as the

random error and  $\bar{t}$  denotes the mean time of obtaining the perception scores on new product communication. Upon simplifying, this equation may be represented as:

$$V_{np} = \sum_{k=1}^{j,h} [P_{sc}]^{\sigma} \leq 0 \quad (8)$$

In the above equation ( $P_{sc}$ ) denotes the integrated effect on perceptions derived by the customers on new products. If this value goes negative across the markets in a given time it will pull down the customer value, lowering the volume of buying and shrinking market coverage estimates of the firm.

This framework analyzes optimal portfolio choice and consumption with values management in the firm-supplier-customer triadic relationship. The value concept in the above relationship governs the customer portfolio decision in terms of the formulation of recursive utility over time. It shows that the optimal portfolio demand for products under competition varies strongly with the values associated with the brand, industry attractiveness, knowledge management and ethical issues of the organization. The extent of business values determines the relative risk aversion in terms of functional and logistical efficiency between the organization and supplier, while the switching attitude may influence customers if the organizational values are not strong and sustainable in the given competitive environment. The model assumes that a high functional value integrated with the triadic entities would raise the market power of organization, sustain decisions of customer portfolios and develop long-run relationships. The customer value concept is utilized to assess product performance and eventually to determine the competitive market structure and the product-market boundaries.

#### 4. STUDY DESIGN

##### *Sampling*

In order to measure customer value gaps through the model discussed in the paper a preliminary investigation has been conducted in 11 retail self-service stores in Mexico City. Data were collected on 64 variables closely related to influencing customer values. These variables include various perspectives of customer satisfaction and corporate strategies applied in positioning the new products for gaining optimal market share and aggregate returns on consumptions. The information pertaining to the broad frame of 64 variables were subjected to decision filters at various levels of customers' decision making process and major variables were chosen for data analysis as shown in Table 1. Data have been collected from 400 respondents who were involved in shopping at the chosen retail self-service stores in Mexico City, using a semi-structured questionnaire. The data of 31 respondents were omitted from the data analysis due to paucity of information. The respondents were involved in buying the new products introduced in food and beverages, apparel, cosmetics, toys and household electronics. In all, the data of 369 observations were analyzed in the study.

Variables of the study and data analysis

Data have been inputted to the structural equations of the model discussed in the paper. The analysis of the empirical data is exhibited in the following tables, wherein  $\hat{\beta}$  represents the coefficient of relative satisfaction of the customers,  $\partial$  denotes the variability between the corporate values and perceived values of customers associated with the product,  $\gamma_0$  represents the initial satisfaction delivered by the product in terms of economic variables and  $\gamma_1$  shows customer satisfaction derived through relational factors. The results of the analysis on the above variables refer to the short term customer values associated with the new products introduced in the retail market by firms for competitive gains. The relational and economic variables selected for the study are illustrated in Table 1. The descriptive statistics of the data sets for the variable segments used in the analysis of the study is exhibited in Table 1(A).

**Table 1: Variables chosen for the study**

Economic variables			Relational variables		
Product based	Application oriented	Comparative	Technology related	Retailer based	Brand based
<i>EVS1</i>	<i>EVS2</i>	<i>EVS3</i>	<i>RVS1</i>	<i>RVS2</i>	<i>RVS3</i>
Appearance	User friendly	Value for money	Innovative	Display	Reputation
Sensory	Multi-user	Price sensitivity	Customization	PoS support	New brand
Durability	Single use	Buying cost	Compatibility	Availability	Extensions
Resale	Multiple use	Services cost	Serviceability	Delivery	Loyal
Services		Guarantee	Up-gradable	Responsiveness	Social status
Need		Cross promotion	Value based	Prospecting	Strong referral
		Value additions		Closing sales	
		Competitiveness		Negotiation	

**Notes:** *EVS* - Economic Variable Segment      *RVS* - Relational Variable Segment

**Table 1(A): Descriptive statistics for the selected variable segments for the study**

Variable Segment	<i>EVS1</i>	<i>EVS2</i>	<i>EVS3</i>	<i>RVS1</i>	<i>RVS2</i>	<i>RVS3</i>
Sample size	369	368	369	369	368	369
Mean	6.720	4.288	5.761	4.503	6.065	6.154
Standard deviation	1.030	0.735	0.810	0.879	1.226	1.341
Standard error	0.054	0.038	0.042	0.046	0.064	0.070
Skewness	-0.906	-1.085	-1.050	-0.610	-0.463	0.139
Sample variance	1.061	0.540	0.656	0.773	1.504	1.799

### Framework of hypotheses

The hypotheses for the study have been largely framed around the analytical framework of the gaps model. Customer values are governed by the perception of economic and relational variables conceived by buyers about the products. The organizational values and customer relationship approaches of the company also influence customers to acquire higher values. Hence, it has been hypothesized that:

*H1: A higher perceived value acquired by the customers, over the values assessed by the company improves the performance of new products in the market.*

Equations (1) and (3), which describe the impact of customer preference on measuring customer value factors and role of technology in shifting the customer values respectively, support the above hypothesis and have been used as the basis of analysis to test the hypothesis.

*H2: Customer value is augmented if the gap between desired product attributes perceived by the customers and the product offered remains marginal.*

Equations (2), (4) and (5) describe the value drivers associated with determining customer values, delivering competitive advantages over time and the impact of customer value attributes in a given situation on the repeat buying behaviour of customers. These equations have been taken as the basis for deriving the analysis of the relevant variable to justify the hypothesis H2.

The design standards and attributes of the new products offered build product attractiveness and customer driven products help in achieving a higher level of satisfaction. The companies may involve the customers in the product design process and incorporate their preferences in order to optimize the application of derived customer values. So, the hypothesis may be framed as:

*H3: Customer value may rise with a higher degree of customer involvement in the product design process and increase the product's attractiveness in its retail.*

The factors of customer involvement in the product design process and product attractiveness have been envisaged in equations (4) and (6) in terms of promotions and services associated with the new products. These equations, on the one hand, support the hypothesis H3 conceptually and, on the other, help in deriving the framework for analysis.

*H4: Customer value is enhanced if the gap between the product communication of the company and acquired perceptions on the product generated with reference to the same, is marginal.*

Equations (7) and (8) describe the role of communication variables in developing customer value towards new products introduced in the retail market. These variables include word-of-mouth, referrals, commercials in the media and perceptions of customers on these communication variables. Equations (7) and (8) have been used to analyse the impact of communication variables on building the customer values for new products in the Mexican retail market in order to test hypothesis H4.

Product and brand loyalty is built through an augmented and sustainable customer value. A company may optimize profit over the period through systematically-explored concepts in the field of customer value.

5. RESULTS AND DISCUSSION

Perceived customer value, with reference to product attractiveness  $F_x$ , is estimated as discussed in the paper with reference to the gaps model, using all observations. The result is shown in Table 2, including standard errors.

**Table 2: Structural estimation results**

<i>Parameters</i>	<i>Robust Weighting</i>	<i>Optimal Weighting</i>
	0.95982	0.95693
SE $\hat{\beta}$	0.0179	0.0154
$\hat{\partial}$	4.188	4.507
p	0.5146	1.3.966
$\gamma_0$	0.0015	5.6131
$\gamma_1$	0.0710	0.0613
Chi-square	166.06	177.11
	$n = 369$	

In Table 2, the first column shows the results when the initial robust weighting matrix is employed and the second column presents the results from the optimal weighting matrix. The standard error (SE) has been estimated with the adjusting parameters  $C_{at}, q'_p$  and  $\hat{Q}$ , as discussed. The results show that SE typically increases once the adjusted and calibrated parameters  $\gamma_0$  and  $\gamma_1$  have accounted for measuring the gap between the expectations of the company and customer perceptions, with reference to given product and market conditions (CVG-1).

It is observed above that initial consumption of a new product introduced in the market remains high. However, long term customer value is influenced by both price and non-factors associated with the product. The performance of the company in retailing management of the product, in terms of just-in-time supplies, display, point of sales approaches and customer services, also help to build customer values for the product in a given market. Table 3 shows the gap between the offering strategies of the new product in terms of

product design and standards and customer expectations on economic and relational variables (CVG-2).

**Table 3: Customer value estimations: product design, standards and customer satisfaction**

Variable Segments	Value Estimation Parameters for New Products	$\hat{\beta}$	$\partial$	$p$	$\gamma_0$	$\gamma_1$	$\chi^2$
<i>Economic variables</i>	Satisfaction over price	0.962	3.94	0.283*	0.072	0.209	53.60
	Satisfaction over design	0.949	5.30	0.869	0.059	0.162	59.12
	Satisfaction on application	0.962	4.15	0.382*	0.356	0.047	84.22
	Satisfaction over non-price factors	0.930	7.48	0.694	0.721	0.055	87.26
<i>Relational variables</i>	Volume of supply	0.946	5.71	1.672**	0.036	0.321	64.02
	Retailer coverage	0.953	4.96	1.059**	0.210	0.369	52.86
	Just-in-time management	0.963	4.98	1.213**	0.166	0.046	66.81

$p$  values: \*1 and \*\* 5 percent level.  $n=369$

It may be observed that the difference among the  $\hat{\beta}$ , constant of relative satisfaction for various customer and company related variables, is marginal. The  $p$ -values are also significant for most of the critical variables. This may indicate that the perceived values acquired by the customers and corporate values associated with product offerings match closely. The relational variables stand close to the economic variables, which enhances the aggregate customer value for the product offered. Hence, it may be stated that the results of the study establish hypotheses H1 and H2.

Product positioning strategies and product delivery approaches also determine customer values during the initial period of product offering. In this process, value gaps may be created among customers in a given market due to a lack of coordination among these marketing functions. Table 4 shows the measures of relative customer satisfaction with reference to product positioning strategies and retailing management.

It may be observed from the  $\hat{\beta}$  values that the appropriate product positioning strategies associated with the effective retailing management marginalize the perception differences of the customers on new products offered in the market. The level of satisfaction derived through the virtual stores and personal selling is largely the same for the respondents of the study though parameters  $\gamma_0$  and  $\gamma_1$ , accounting for measuring the gap between the product positioning and retailing strategies of the company presented in the Table 3, show wider variations. The results presented in Table 4 reveal that strategic product positioning and effective retailing reduce the gap on customer perceptions and help augment the long-run values. Hence, hypothesis H3 is established.



**Table 4: Customer value estimations: product positioning and retailing**

<i>Strategy</i>	Value Estimation Parameters for New Products	$\hat{\beta}$	$\partial$	$p$	$\gamma_0$	$\gamma_1$	$\chi^2$
<i>Product Positioning</i>	By design	0.821	0.197	0.268*	0.075	0.291	53.61
	By attributes	0.869	0.194	0.291*	2.142	0.055	64.81
	By application	0.824	0.126	0.166**	2.162	0.310	69.60
	By Services	0.921	0.134	0.147**	0.921	0.046	74.81
<i>Retailing Management</i>	By retail stores	0.626	0.146	0.211**	0.321	0.218	76.22
	By virtual shops	0.511	0.147	0.239*	0.419	0.079	54.62
	By personal selling	0.536	0.216	0.242*	0.211	0.098	58.20

$p$  values: \*1 and \*\* 5 percent level.  $n=369$

One of the prominent features to emerge during the study is that customer perception is governed largely by marketing communications. Word-of-mouth, referrals and commercials issued by the firm drive the decision factors of customers towards new products. It may be observed from Table 5 that there exists a close association among the factors of communication and perceived values of the customers.

**Table 5: Customer perceptions on the new products as an impact of the structured and non-structured communications**

<i>Effect measurement</i>	Value Estimation Parameters for New Products	$\hat{\beta}$	$\partial$	$p$	$\gamma_0$	$\gamma_1$	$\chi^2$
<i>Communication variables</i>	Word of mouth ( $P_{su}$ )	0.936	0.183	0.241**	0.055	0.291	54.72
	Referrals ( $P_{sr}$ )	0.947	0.142	0.216*	0.036	0.281	59.22
	Commercials ( $P_{sc}$ )	0.941	0.132	0.148*	0.048	0.266	61.31
<i>Organizational dimensions</i>	Integrated effects ( $P_{sc}$ )	0.921	0.136	0.192**	0.039	0.312	64.21
	Product attractiveness ( $F_i$ )	0.943	0.139	0.198**	0.046	0.311	62.81

$p$  values: \*1 and \*\* 5 percent level.  $n=369$

The data analysis presented in Table 5 reveals that there is a close association among the variables of communication, organizational dimensions and the perceived values of customers towards new products. The results show that the variability factor  $\partial$  is marginal for the selected variables and the  $\hat{\beta}$  values are close to each variable, with significant  $p$  values. There remains a minimum

gap among these variables, which leads to increase in the customer values. The results shown in Table 5 thus establish hypothesis H4.

The study reveals that customer value is embedded in the functional variables of new product development and positioning in a given market. Individual consumption behaviour is largely value driven. The model discussed in this paper has been tested and the fit of customer values estimated by adjusting the tangible and intangible variables. This model may also be useful in determining the customer portfolio, choice matrix to determine the consumer behaviour, retailer management strategies for optimizing customer values, aggregate returns and discrete customer values.

## 6. FUTURE PROSPECTS IN MANAGEMENT

One of the challenges for the marketing manager of a firm is to incorporate the preferences of the customer into the design of new products and services in order to maximize customer value. An augmented and sustainable customer value builds loyalty towards the product and the brand. Systematically-explored concepts in the field of customer value and the market driven approach towards new products would be beneficial for a company to derive a long term profit optimization strategy. Hence, a comprehensive framework for estimating both the value of a customer and profit optimization need to be developed. On a tactical level, managers need to consider the optimum spread of customers on a matrix of product attractiveness and market coverage. This needs careful attention and the application of managerial judgment and experience to measure the value driven performance of a firm's product. It is necessary for managers to understand that customer value is context-dependent and there exists a whole value network to measure, not just a value chain. This value network will contain important entities far beyond the ones commonly taken into consideration in financial projections and business analyses.

The model discussed in this paper provides a holistic view of customer value by proposing ways to measure the different variables associated with it, viz. product attractiveness, market coverage, communication and point-of-purchase services offered to the customers. The analysis of these variables would help the managers develop appropriate strategies to enhance customer value for new products and optimize the profit of the firm. Managers of a firm may consider the measurement of customer value with the advent of one-to-one marketing media, *e.g.* targeted direct mail or internet marketing; the opportunities to develop customer relationship management campaigns are enhanced in such a way that it is now both organizationally and economically feasible to support a substantially larger number of marketing segments in a profitable manner. The discussion in the paper on customer value gaps, in the process of marketing new products, explores possible situations that may lead to reducing the customer value. An appropriate preventive strategy may be developed by the managers upon measuring the extent of such gaps to protect the deterioration in customer values and optimize the profit of the firm.

## 7. CONCLUSION

Customer value, in terms of satisfaction, is one of the indicators important for building profit oriented strategies in a firm. Customer value concepts may be applied by firms to evaluate the product performance in the given market and determine the approach for short run competitive advantage. In order to gain the returns in the long run on aggregate customer value, firms may need to estimate methodically the profitability associated therewith, in terms of product attractiveness, volume of buying and market share, while introducing new products in a competitive market environment. The existing theoretical and methodological issues are reviewed in this study and a new framework has been proposed for future research, measuring customer value with specific reference to new products, since launching innovative and high technology products is a continuous process for firms in competitive markets. The framework for measuring customer values discussed in this paper provides analytical dimensions for establishing customer relationships by the firm and to optimize its profit levels by gaining the competitive advantage in the short run.

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## ENDNOTE

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