Measuring customer value and market dynamics for new products of a firm: an analytical construct for gaining competitive advantage

Medindo o valor para o consumidor e as dinâmicas de mercado para novos produtos: uma construção analítica para ganhar competitividade

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Abstract

The role of customer value has been largely recognized over time by the firms as an instrument towards stimulating market share and profit optimization. The customer values for a new product of firm in competitive markets are shaped more by habits, reinforcement effects, and situational influences than strongly-held attitudes. A strong and sustainable customer value associated with a new product launched by a firm may also lead to build the customer loyalty in the long run. An analysis of the new product-market structuring based on customer value may be developed well within the microeconomic framework of a firm The measure of customer value as the efficiency of new product may be viewed from the customer' s perspective towards a ratio of outputs (e.g., perceived use value, resale value, reliability, safety, comfort) that customers obtain from a product relative to inputs (price, running costs) that customers have to deliver in exchange. However, the aggregate returns on the customer value towards the new product from the

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> perspective of a firm may be observed manifesting in enhancing the market share, market coverage and augmenting profit in a given market.

INTRODUCTION

There has not been many contributions emerged in the past addressing the measurement of the customer value as an intangible asset of the firms, though substantial literature is available discussing the customer relations and loyalty building perspectives. This paper attempts to critically examine the available literature on the subject, discuss a model that provides a framework for analyzing the variables associated with customer value and to identify potential research areas. A basic premise of the paper is that the focus should be on maximizing total customer value and customer satisfaction which are inter-dependent in the decision making process towards buying new products. The framework of the construct is on a proposed model which integrates alI aspects so as to maximize the potential of the organization and alI its subsystems to create and sustain satisfied customers. The discussion in the paper on the customer value gaps in the process of marketing new products explores the possible situations that may lead to lower the customer value.

The customer value concept is utilized to assess product performance and to determine the competitive structure of the new products. The analytical approach to the new product-market structuring based on customer value may be fitted well within the microeconomic framework. The measure of customer value as the product efficiency may be viewed from the customer’s perspective towards a ratio of outputs (e.g., perceived use value, resale value, reliability, safety, comfort) that customers obtain from a product relative to inputs (price, running costs) that customers have to deliver in exchange. The efficiency value derived can be understood as the return on the customer’s investment. Products offering a maximum customer value relative to all other alternatives in the market are characterized as efficient. Different efficient products may create value in different ways using different strategies (output-input combinations). Each efficient product can be viewed as a benchmark for a distinct sub-market. Jointly, these products form the efficient frontier, which serves as a reference function for the inefficient products (BAUER *et.al,* 2004). Thus, customer value of new products is defined as a relative conept. Market partitioning is achieved endogenously by clustering products in one segment that are benchmarked by the same efficient peer(s). This ensures that only products with a similar output-input structure are partitioned into the same sub-market. As a result, a sub-market consists of highly substitutable products. The individual values of the customer may be estimated as base values and changes in such values are affected by the corresponding measures of the specific value drivers. The base value ties to the most important of all complements that may be determined as customers' need. Estimating value drivers for a new product can be tricky because there is no direct historical data. However, we can assume that the impact from changes in price or availability of complements will be similar to what other markets have experienced.

In recognizing the need to contribute research in the area of customer value measurement and the concept of customer satisfaction leading towards creating the customer value, the study aims at developing a methodological construct to measure the customer value for new products introduced by a firm. The paper attempts to critically examine the available literature on the subjcet, discuss a model that provides a framework for analyzing the variables associated with customer value and to identify potential research areas. A basic premise of the paper is that the focus should be on maximizing total customer value and customer satisfaction which are inter-dependent in the decision making process towards buying new products. This paper, being a part of emerging literature on customer value management, extends the existing knowledge of the relationship between launch of new products in the market and creating customer value by introducing the framework of a mathematical model. The framework of the construct is based on a proposed model which integrates ali aspects so as to maximize the potential of the organization and all its subsystems to create and sustain satisfied customers. The approach begins with a conecptualization phase in which the conecpt of customer satisfaction is explored. Attributes are then classified into services and this is then extended to integrate the internal customer into a total service model; applying gap-analysis to this model. Enterprise satisfaction provides the basis for extending the total service model; positioning is applied to the customer satisfaction strategy; and operationalizing of this strategy is proposed through an implementation model.

REVIEW OF LITERATURE

It has been observed that there is increasing number of customer goods and services offered in recent years suggest that product-line extensions have become a favored 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. The academics, consultants and business people 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-Ievel data for the yogurt category developed an econometric model derived from a game-theoretic perspective explicitly considers fIrms' use of product-line length as a competitive tool (Dragnska and Jain, 2005). On the demand side, the study analytically establishes 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-Ievel discrete-choice model. The study reveals that the supply side is characterized by price and line length competition between oligopolistic firms.

Another study explores qualitatively the understanding of the importance of intangibles as performance drivers in reference to Swedish organizations using a combination of evolutionary theory, knowledge-based theory and organizational learning. The study reveals that the customer values are created towards the new products through individual perceptions, and organizational and relational competence (Johanson *et.al.,* 2001). The 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 the growing competitive markets the large and reputed fIrms are developing strategies to move into the provision of innovative combinations of products and services as 'high-value integrated solutions' tailored to each customer's needs 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 arder to augment the customer value towards the 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 centered on 'systems integration' using infernal or externa I sources of product designing, supply and customer focused promotion (Davies,2004). Besides the organizational perspectives of enhancing the customer value, the functional variables like pricing play a significant role in developing the customer perceptions towards the new products.

A study examines 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. The study argues 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 (Ingenbleek *et al,* 2003). 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 & Rachev, 1999; Pedersen, 2000). Also there have been some models that are developed and calibrated addressing specific issues such as model for household assets demand (Perraudin & Sorensen, 2000). The key marketing variables such as price, brand name, and product attributes affect customers' judgment processes and derive inference on its quality dimensions leading to customer satisfaction. The experimental study conducted indicates that customers use price and brand name differently to judge the quality dimensions and measure the degree of satisfaction (Brucks *el.at*, 2000). 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 the 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 the competitive market place. These expectations are empirically tested on pricing decisions with respect to the introduction of new industrial capital goods.

The studies that advocate the models of building customer value through traditional relationship marketing discuss the long term value concepts to loyal customers. Most importantly, these are expected to raise their spending and association with the products and services of the company with increasing levels of satisfactions that attribute to values of customers (REICHHELD and SASSER, 1990). In the most optimistic settings, such value creation is observed to generate new customers for new products in view ofthe customer relationship and value management strategies of the firm (GANESH, *et al.,* 2000) In the high customer value framework, the firm ensures diminished costs to serve (KNOX, 1998) and exhibits reduced customer price sensitivities. A database-driven approach, customer tenure in 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 marketing with a customer value orientation thrives on the concept that raises the length of the customer-company relationship which contributes in 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).

The analysis of the perceived values of customers towards new products is a complex issue. Despite considerable research in the field of 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 a 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 discusses the two alternative models yielding empirically tested results in a cross-sectional survey with purchasing managers in Germany. The first model suggests.a direct impact of perceived value on the 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 (EGGERT and ULAGA, 2002).

Improving customer value through faster response times for new products is a significant way to gain 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. A study 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 (OAKLEY, 1996). 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 forecast and the risk-adjusted value parameters. However, virtually no scholarly attention has been devoted to the question if any of these components of the shareholder value could be determined in a more market oriented way using individual customer lifetime values (RAJAGOPAL, 2005). The value of a customer may be defined in reference to a firm as the expected performance measures are based on key assumptions concerning retention rate and profit margin and the customer value also tracks 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).

FRAMEWORK FOR ANALYSIS

A retail chain is modeled as a dummy contral center (CC) that helps in evolving strategies, marketing designs and building corporate image. The CC is an integrated part of the corporate headquarters that is instrumental in making most of the business decisions. Let us assume that there are L networks and Dm spatially spread markets $\Delta_j \subseteq \{1, 2, \ldots, D_m\}$ *d*enotes the set of markets served by chains j and $\phi_h \subseteq \{1, 2, \ldots, L\}$ 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, $Z^{j,h}(t) \equiv (Z_1^{j,h}(t), \ldots, Z_N^{j,h}(t)) \in \{1, \ldots, R\}^N$ whereis $Z_K^{j,h}(t)$ the practice for the kth 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 $\{1, 2, \ldots, R\}^{N|\Delta|}$

MEASURING LHE CUSTOMER VALUE

The customer values for goods and services are largely associated with the 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) discussed that the value of product and service are not always the same and are subject to value life cycle that governs the 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 botli are exogenous variables. If every customer receives higher perceived values for each of his buying , the value added product q e” Q , where’ ‘q’ refers to the change in the quality brought by innovation or upgraded technology. The customer may refrain from buying the products if q d” Q, that does not influence his buying decisions. However, a strong referral ‘R’ may lead to influence the customer values, with an advantage factor â that may be explained by price or quality factor. In view oft he above discussion it may be assumed that customer preferences have high variability that grows the value factors in retail buyers’ decisions:

$$E\left[\sum_{t=1}^{N} \beta^{t} mu(C_{t}, \hat{Z}) + \beta^{N+1} Q_{t}(V_{N+1})\right] \qquad (i)$$

Where Ct represents consumption, $\hat{Z}$is is a vector of customer attributes *(viz.* preferentialvariables), Qt is the value perceived by the customer and Vn+1 denotes the value perceived by the customer. The customer may maximize bis value Qt in a given time and also enhances bis values for future buying if the influence of referrals is not negative $V_{N+1} \geq 0$

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

$$V' = K_{5,} K_{m}, K_{d}, K_{c}\left[\prod \{V(x,t,q,p)\}\right] \qquad (ii)$$

In the above equation *V'* is a specific customer value driver, *K* are constants for supplies(s),margins (m), distribution (d), and cost to customers (c); *x* is volume, *t is* time, *q* is quality and *p* denotes price. The total utility for the conventional products goes up due to economy of scale as the quality is also increased simultaneously $(\delta_v/\delta_x>0)$ The customer value is enhanced by offering larger volume of product at a competitive price in a given time $(\delta_v/\delta_p>0)$ and . $(\delta_v/\delta_t>0)$ The conventional products create lower values to the customers $(\delta_v/\delta_x<0)$ while the innovative products irrespective of price advantages, enhance the customer value. $(\delta_v/\delta_x<0)$ The value addition in the conventional products provides lesser enhancement in customer satisfaction as compared to the innovative products. Such transition in the customer value, due to shift in the technology may be expressed as:

$$V'_{hj}=a\left[\sum \frac{T_p}{(1+V_p)^{(1+j+i)}}\right]+b(X_j) \qquad \text{(iii)}$$

In this equation V'hj represents enhancements in customer value over the transition from conventional to inntovative products, *a* and *b* are constants, Tp denotes high-tech and high-value products, Vp 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 the high-tech andhigh-value products the customers and companies may also find scope of enhancing values with appropriate promotional strategies. The customer values often get enhanced by offering better buying opportunities that retlect on short -and long- term gains. Let us assume that the competitive advantage in existing products over time is Gx that offers Jth leveI of satisfaction through various sales promotion approac,hes adopted by the company. Such market situation may be explained as:

$$G_x=\left[r_1m_1;r_2m_2;r_3m_3;\ldots;r_jm_j\right] \qquad \textit{(iv)}$$

Where rj denotes the jth leveI of satisfaction (j = 1,2,3,.. ..,n) and mj is the number of customers attracted towards buying the product. Given the scope of retail networks, a feasible value structure for customers may be reflected in repeat buying behavior *(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:

$$\sum_{j=1}^{n} r_j m_j = \hat{R} \qquad \text{(v)}$$

MARKET COVERAGE AND CUSTOMER VALUE ENHANCEMENT

Most of the new products in the fast moving customer goods (FMCG) category, like processed food products, cosmetics, etc face competition in the market and the firms penetrate into the oligopolistic market conditions. Under such market conditions the customer value is also driven by the satisfaction that is offered by the substitutes. Often, the firms face competition within their product line due to implementation of product overlap strategy, which generates contlicting customer values. When a firm introduces a high value product derived out of the research and development efforts, it prescribes the use value for it, however the perceived use value for the product may not match with the prescribed use value tagged to the product by the firm. Such uncertainty may cause low performance of product in terms of buying preferences.

A firm may introduce the new product with the high investment $M_t^{(i_1+i_2+i_3+\dots+i_n)j}$ in terms of product attributes (i1), distribution (i2), promotion (i3) and other related factors (. ..in) related with gaining competitive advantage in a given time (t) in the jth market. Let us assume that s is the estimated market coverage for the new product, the customer value *(Vnp)* may be initially positive and high, resulting into deeper market penetration (with s increasing): This may be described as:

$$M_t^{(i_1+i_2+i_3+\dots+i_n)j} = \frac{\delta_s}{\delta_t} = k \qquad \text{(vi)}$$

However, $V_{np} \leq \frac{\delta_v}{\delta_t}$ may become negative following product competition within the product line due to the product overlap strategy of the firm. In the above equation, volume of buying is represented by *Ov* in a given time *t*. To augment the customer value and enhance market coverage for the new products in the potential markets the firm may optimize the product line $\{s\}_{pt}^{j,h}$ by pruning the slow moving products in the jth chain in h market in order to reposition them in new market. The opportunity cost in moving the slow performance products may be derived by inputting the values of V′ from equation (ii) as:

$$\{s\}_{pt}^{j,h} = \left[\frac{\delta v}{\delta t}\right]^{j,h} + \prod \{V'(x,t,q,p)\} \quad (vii)$$

Hence to enhance the market coverage for the new product with enhancing the customer value for the new product ofthe firm, the strategy may be described as:

$$s = \int \left[k + \{s\}_{pt}^{j,h}\right] \delta t + \beta^t R \quad (viii)$$

Where in s is the market coverage of the new product, *k* is the investment on market functions derived in a given time [equation (vi)] and R is the referral factor influencing the customer values with an advantage factor coefficient β in time *t*. The products constituting the optimal product line of the firm in a given time is represented by P_1 in the above equation. The firm may measure the customer value shocks accordingly and shield the uncertainties occurring to the estimated market coverage due to declining customer values for the new products. As is common the new products are susceptible to such value shocks in view of the companies' own product line strategy.

SPEED OF MARKET PENETRATION AND CUSTOMER VALUE

It is also possible for a firm to penetrate in the market faster and outperform the close competing products that exist, if the exfactory market dynamics is comparatively faster. We may determine such dynamics as escape velocity for the new products, which manifests in increasing customer value, market coverage, just-in-time supply management, augmenting product performance through in-store and point of-sales demonstrations. It is observed that faster the market penetration of new products, higher is the opportunity of market coverage over the competing product in a given time and territory. Let us assume that the new product attractiveness is F_x and initial product market investment is, $M_t^{(i_1+i_2+i_3+\dots+i_n)j}$ perceived customer value of the new product is V_{np} and competitive advantage driver for the customer is C_{ai} at a given time.

$$F_x = \sum_t^{jn} \left[M_t^{(i_1+i_2+\dots+i_n)j} \right] (V_{np})(C_{ai}) \qquad (ix)$$

Hence

$$F_x = M_t^{i_n j} \frac{\delta v'}{\delta t} = M_t^{i_n j} \frac{\delta b'}{\delta s} \frac{\delta s}{\delta t} = M_t^{i_n j} \frac{\delta v}{\delta s} (V_{np})(C_{ai})$$

Where in denotes the initial investment made by the firm for introducing *t* the new products, *V′* represents the volume of penetration of new product in a given market in time *t* with estimated market coverage "s". In the equation *b′* expresses the volume of repeat buying during the period, the new product has been penetrated in the market by the firm. The total quality for new products goes up due to economy of scale as the quality is also increased simultaneously$(\delta_v/\delta_s>0)$ and$(\delta_{b'}/\delta_s>0)$. In reference to the new products *x*, the competitive products create lower values to the customers $(\delta_v/\delta_x<0)$ while the innovative products irrespective of price advantages, enhance the customer value $(\delta_v/\delta_x<0)$.

The value addition in the competitive products provides lesser enhancement in customer satisfaction as compared to the innovative products if the new products have faster penetration, re-buying attributes and market coverage.

Therefore $$\int s\delta s = \int V_{np} + C_{ai} \qquad (x)$$

The prospect theory laid by Tversky and Khanman (1981) proposes that the intensity of gains plays strategic role in value enhancement as $G_{xt}=g_{pt}(\delta_x/\delta_p)$. In this situation *t* represents the period wherein the promotional strategies were implemented to enhance the customer values in reference to product specific gains (g_{pt}). However, in order to measure relationship/variability between the repeat buying behavior and customer value, it would be appropriate to determine the cumulative decision weights *(w)* and substituting it in the equation (i), (iv) and (v), that may reveal as:

$$G_{xt}=w\sum_{k=1}^{n}\left[g_{pt}(r_j m_j)+\beta^{n+1}Q_{N+1}(V_{n+1})\right] \qquad \text{(xi)}$$

The customer value however may be the driver function of gains on buying decision on new products and the influencing variables such as perceived use value and referrals.

AGGREGATE RETURNS OU CUSTOMER VALUE

Measuring the overall value acquired by the customer for the new products over time, in competitive products market is a complex issue. However, the customer value may be measured in phases of the new products movement in the given market at the given time. It is necessary to define the product attractiveness stage in the market for new product overtime in reference to volume of buying and market coverage $(\delta v'/\delta s)$, which determines the stages of product attractiveness ($X_o, X^I, X^2, \ldots \ldots X^{n-I}, X_n$) as exhibited in figure 1.

Let us assume that ($X_o, X_I, X_2, \ldots \ldots X_{n-I}, X_n$) represents customer value at different stages of product attractiveness, increasing with reference to the derived advantage from the competing product in a given market at a given time (t). In the process of enhancing the customer value for the new products a firm may use intensive customer value for new products, a firm may use intensive customer relationship management (CRM) strategies simultaneously to the competitive sales and marketing strategies. The integrate impact of CRM, sales and marketing strategies at different stages of product attractiveness would contribute to the customer value. Such an aggregated customer value represented by R_n is exhibited in figure 1 can be measured by a firm. Hence the R_n can be calculated with the following operation:

$$A(R_n)=f(x_0)\Delta x+f(x_1)\Delta x+f(x_2)\Delta x+\ldots+f(x_{n-1})\Delta x \quad \text{(xii)}$$

Further simplifying this equation, we get,

$$A(R)=A(R_n)_{\lim n\to\infty}+\sum_{km}^{jm}\left[(\Delta v'+\Delta b')(\Delta s)\right]^{t} \quad \text{(xiii)}$$

In the above equation A(R) represents the aggregate returns on the customer value derived at various stages of product attractiveness and quantitative changes in the volume of goods positioned by the frrm, repeat buying, and market coverage in terms of changes in the market shares of the firms. However, a firm may need to compute the trend of customer value for all the products in its product tine, and measure the variability in the customer values perceived for its new products. The customer value trend for a given product line *(p,)* may be derived through the following equation substituting the equations (xiii) and (ix).

$$V_{p_i}^{t_0-\infty}=\sum_{km}^{jm}\left[A(R+F_x)\right]\frac{\delta s}{\delta t} \quad \text{(xiv)}$$

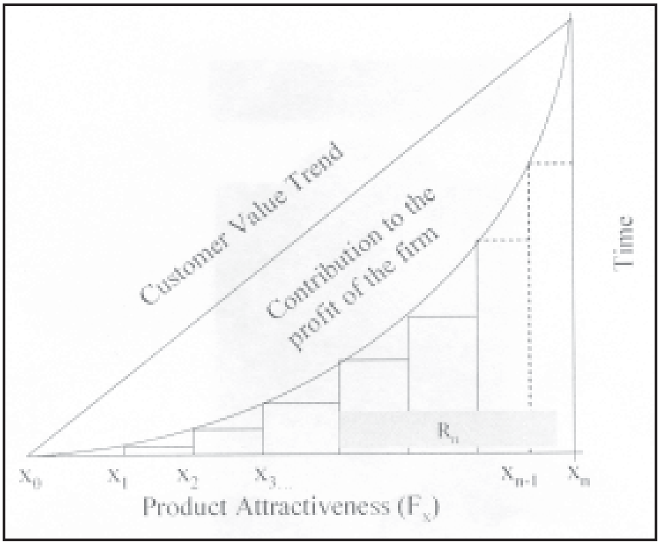
Customer Value Trend
Contribution to the profit of the firm
Time
R_n
X_0
X_1
X_2
X_3...
X_{n-1}
X_n
Product Attractiveness (F_x)

Figure 1 – Product Attractiveness and Customer Value Functions

In the above equation the customers' value spread across the time frame $V^{(t_0-\infty)}$ which represents the value spread from the time of introduction of the new product (t_0) till the project period (t^{00}). It ma:y be possible that the new product of a firm may acquire a higher market share but relative performance in reference to the products within the given product line may be comparatively lower. Under such conditions the profit contributed by the new product of the firm may be described as

$$Y_t = f\left[F_x, v', b'\right]\frac{\delta s}{\delta t} \qquad \text{(xv)}$$

Wherein yt represents the profit contribution by the new product in time t.

The model explains that the value based customer portfolios would enhance the customer value as the product efficiency viewed from the customer's perspective, i.e., as a ratio of outputs *(e.g.* resale value, reliability, safety, comfort) that the customers obtain from a product relative to inputs (price, running costs) that the customers have to deliver in exchange. The derived efficiency value can be understood as the return on the customer's investment. Products offering a maximum customer value relative to all other alternatives in the market are characterized as efficient. Market partitioning is achieved endogenously by clustering products in one segment that are benchmarked by the same efficient peer(s). This ensures that only the products with a similar output-input structure are partitioned into the same sub-market. As a result, a sub-market consists of highly substitutable products. The 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 significantly, there emerges the development of switching attitude among the customers. If the organizational values are low, the supplier relationship may be risk averse due to weak dissemination of values from organization to the suppliers.

MEASURING CUSTOMER VALUE GAPS

Customer lifetime value (CLV) is a key-metric within customer relationship management. Although, a large number of marketing scientists and practitioners argue in favor of this metric, there are only a few studies that consider the predictive modeling of CLV. In this study, we focus on the prediction of CLV in customer goods manufacturing and marketing firms. In these industries, customer behavior 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, that lowers the returns on the aggregate customer value. This is an important variable, which need to be carefulIy 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).

The new school of business thoughts and contemporary researchers have emphasized that, towards 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 respcet 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 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 limited 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 behavioral parameters (KENNY and MARSHALL, 2000). The lack of evidence of absolute convergece leads to the lowering of perceived use value of the new products and further results into the lowering the 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 is need to take the 'product' as the unit of measurement of customer value. The customer value gap (CVG) model has been exhibited in Figure 2.

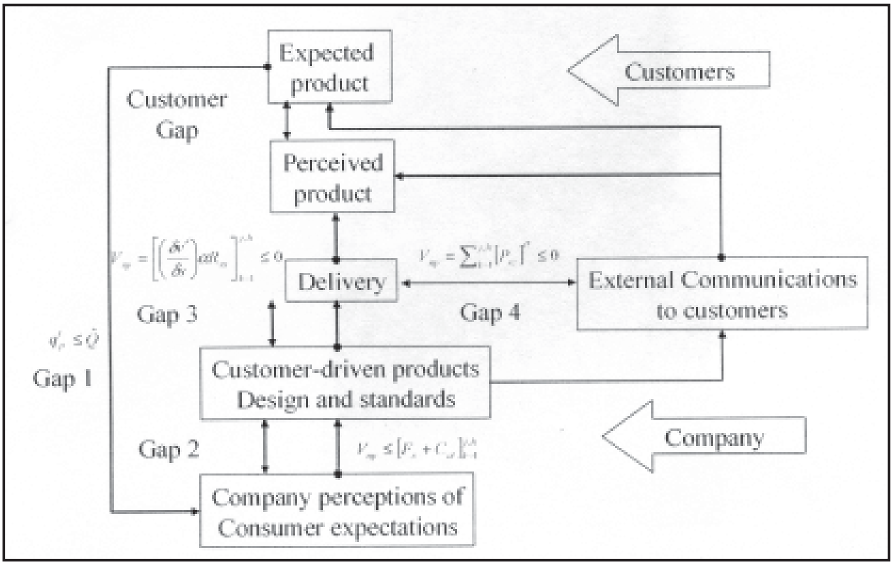
Expected product
Customers
Customer Gap
Perceived product
Delivery
External Communications to customers
Gap 3
Gap 4
Gap 1
Customer-driven products Design and standards
Company
Gap 2
Company perceptions of Consumer expectations

Figure 2 – Customer Value Gaps Model

The 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 significantly, there emerges the development of switching attitude among the customers. If the organizational values are low, the supplier relationship may be risk averse due to weak dissemination of values from organization to the suppliers. The CVG-I as exhibited in the Figure 2 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)* for the new product in each buying with increasing product attractiveness, the firm may be able to enhance its market share of the new product over time and territory. On the contrary the customer value may deteriorate and fali if $q'_{jt} \leq \dot{Q}$, where $\dot{Q}$ *refers* to the value estimated for the product by the firm. Such gap may emerge due to inadequate market research, lack of focus on the product quality, poor communications within the firm, lack of appropriate market segmentation and weak customer relationship management. The customer value may also be negative or low if the attributes are not built into the new product to maximize the customer value as per the estimation of the firm. The attributes lead to the satisfaction to the customers and is reflected through the product attr'activeness (F_x). This is explained as CVG-2 as $V_{np} \leq \left[F_x + C_{at} \right]_{k=1}^{j,k}$ wherein V_{np} represents the customer value for the new products, F^x is product attractiveness and *Cat* 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 setting the quality control goals by the firm.

The customer value gap for the new products is also generated due to lack of proper product delivery at the retail stores or outlets where customer has an easy access to the product as exhibited in CVG-3. In delivering the product (ρ) 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 the customers in the retail outlets *(Rsx)* through which the new products are sold, largely affects the customer preferences and the values. The customer value may enhance if there is a positive relationship of all these factors. However, it may have a negative or low impact if

$$V_{np}=\left[\left(\frac{\delta v'}{\delta}\right)\alpha R_{sx}\right]_{k=1}^{j,h}\leq 0 \qquad \text{(xvi)}$$

Where, α is a constant used for measuring the customer services provided by the retails stores. The external communications such as advertisements, referrals and word of mouth play 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 strong self reference criterion among the customers and help in enhancing the returns on the aggregate customer value. On the contrary the CVG-4 may be describes as

$$V_{np}=\left[\beta_0+\beta_1(P_{sw})\mu_t+\beta_3(P_{sa})\mu_t+e_t\right]_{k=1}^{j,h} \qquad \text{(xvii)}$$

Wherein, β 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 Et has been used as the random errar and μ denotes the mean time of obtaining the perceptional scores on new product communication. Upon simplifying, this equation may be represented as:

$$V_{np}=\sum_{k=1}^{j,h}\left[P_{sc}\right]^{\sigma}\leq 0 \qquad \text{(xviii)}$$

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 ftrm-supplier-customer triadic relationship. The value concept in the above relationship .governs the customer portfolio decision in terms of 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 efflciency between the organization and supplier while the switching attitude may influence the 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 thereof. The customer value concept is utilized to assess product performance and eventually to determine the competitive market structure and the product-market boundaries.

APPLICATION 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 the customer value. An augmented and sustainable customer value builds the loyalty towards the product and brand. Systematically explored concepts in the field of customer value and market driven approach towards new products would be beneficial for a company to derive long term profit optimization strategy over the períod. 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 as what is 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 the product of the firm. It is necessary for the 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 the customer value by proposing ways to measure the different variable 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 the customer value for the 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 profitably support a substantially larger number of marketing segments. The discussion in the paper on the customer value gaps in the process of marketing new products explores the possible situations that may lead to lower 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 the customer values and optimize the profit of the firm.

CONCLUSION

The customer value in terms of satisfaction is one of the indicators for building profit oriented strategies in a firm. The customer value concepts may be applied by the firms to evaluate the product performance in the given market and determine the approach for competitive advantage. In order to gain the returns on the aggregate customer value, firms need to methodically estimate the profitability associated there of in terms of product attractiveness, volume of buying and market share thereof. The ultimate goal of the firms may be to generate continual revenue streams by maintaining the customer value. There appears to be a need for exploring the gaps that may occur in the marketing process that lowers the customer satisfaction and aggregate customer value. The existing theoretical and methodological issues are reviewed in this study and a new framework has been proposed for future research in measuring the customer value in specific reference to the new products as launching innovative and high technology products is a continuous process for the firms in the present competitive markets. The framework for measuring the customer values discussed in this paper provides analytical dimensions for establishing the long run customer relationship by the firm and to optimize its profit levels.

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