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The Association of  
Accountants and  
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in Business



# Using Customer Lifetime Value

For Acquiring, Retaining, and Winning Back Profitable Customers



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# Using Customer Lifetime Value

## For Acquiring, Retaining & Winning Back Profitable Customers

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The author thanks several financial services, pharmaceutical, grocery, high tech, telecommunication and retailer firms for agreeing to share their customer databases for this study.

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## USING CUSTOMER LIFETIME VALUE

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### ABOUT THE AUTHOR

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## ABSTRACT

In this age of increased marketing accountability, there is a persistent need to quantify the effect of several marketing actions at the individual customer level through the financial metrics that would be of interest to a Chief Financial Officer (CFO). Through this Executive Summary, we propose that measuring and maximizing Customer Lifetime Value (CLV) will help companies address this issue. When decisions are based on the CLV paradigm, companies can make consistent decisions over time, about: **(a)** which customers and prospects to acquire and retain; **(b)** which customers and prospects not to acquire and retain; and **(c)** determine the level of resources to be spent on the various micro-segments. Using the CLV framework, this Executive Summary establishes that:

- Acquiring and retaining higher CLV customers improves profitability of the firm
- Profitably loyal customers (as against just loyal) are the most valuable customers for a firm

- Contacting the right customers at the right time and encouraging them to adopt multiple channels results in higher firm profitability
- A proactive intervention strategy by identifying customers who are likely to defect and when they are likely to quit helps firms to retain profitable customers and thereby increase firm profitability
- Optimally reallocating resources from lower CLV customers to higher CLV customers ensures profitable customer management
- Predicting what the customers would buy next and when the purchase is likely to happen helps the firm in designing up-selling and cross-selling efforts and thereby improving profitability
- CLV-based marketing strategies directed toward increasing the customer equity can increase the stock price of a firm and thereby the firm's market capitalization

The proven strategies discussed here helps firms across various industries in selecting and nurturing customers based on the CLV approach and thereby increase the future profitability of the customers.





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## 1. INTRODUCTION

The true measure of any business initiative is the extent to which it creates greater value for the company. Business corporations around the world are increasingly becoming customer-centric. This has led the marketing function to assume greater responsibilities than ever before. Today, Chief Financial Officers (CFOs) and Chief Executive Officers (CEOs), in particular, are demanding greater financial responsibility from the marketing discipline by way of improved ROI for marketing activities. In other words, the sum total of all expectations of the corporate board can be captured in one question – which types of customers and future prospects to retain, grow, acquire or win-back—and which types not to? The task for the Chief Marketing Officer (CMO) here is to answer this question through the language of money. However, there are very few studies that have attempted to bridge the gap between marketing and finance/management accounting. To our knowledge, there are very few studies to date that have quantified the effect of several marketing actions at the individual customer level to the metrics that a CFO/man-

agement accountant would be interested in. We propose that Customer Lifetime Value (CLV) will help management accountants to address this question. Using CLV, we also answer the question of how much to spend on customers in the various micro-segments in order to retain, grow, acquire, and win-back the lost customers?

But why use CLV? Until now, the metrics companies have been using to manage customers did not account for their future purchase activity. As a result, companies were maximizing backward-looking metrics such as recency of purchase, frequency of purchase and monetary value of purchases (RFM), past customer value (PCV), the customers' share of wallet (SOW), among others. CLV, on the other hand, incorporates the probability of the customer being active in the future along with the expected cost to make the sale, and the expected revenue to be generated in that sale. This results in a metric that is both forward-looking and one that is most appropriate in deciding which customers/prospects to acquire, retain or win back.





## 2. CUSTOMER LIFETIME VALUE— A FORWARD LOOKING METRIC<sup>1</sup>

Customer lifetime value would provide an accurate value of future customer profitability. So what is CLV and how can we measure it? CLV can be defined as:

*“The sum of cumulated cash flows – discounted using the weighted average cost of capital (WACC) – of a customer over his or her entire lifetime with the company.”*

Although a “true” CLV measure implies measuring the customer’s value over his or her lifetime, for most applications it is three years. The reason for the time period being three years is due to three reasons —

- (a)** changes in product life cycle,
- (b)** trends in customer life cycle and,
- (c)** 80% of profit can be accounted for in three years.<sup>2</sup> The measurement of CLV is provided in Figure 1.

The CLV framework can be modeled using three main components:

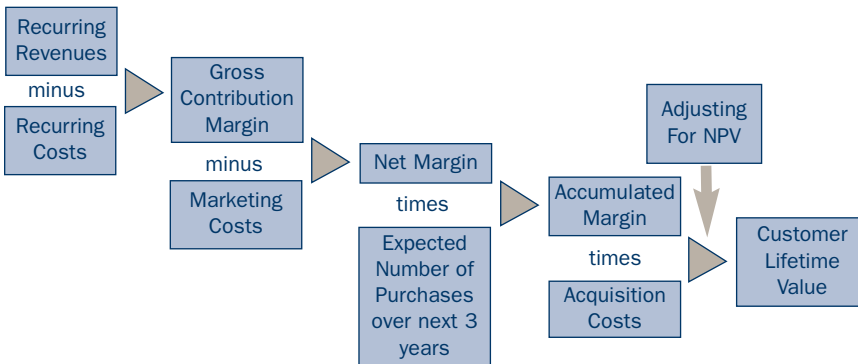
- (1)** contribution margin,
- (2)** marketing cost and
- (3)** probability of purchase in a given time period.

Each of these models will have a set of drivers/predictors. These three models will be estimated simultaneously. By applying the modeling approach, managers can estimate the CLV for each customer in the firm. The calculation of CLV for all customers helps the firms to rank order customers on the basis of their contribution to the firm’s profits. This would help the firms in developing and implementing customer-specific strategies that can maximize customer lifetime profits and lifetime duration. In other words, CLV helps the firm to treat each customer differently based on his or her contribution rather than treating all the customers same.

So is CLV really better than other loyalty metrics? To test this, in one of our studies we rank-ordered customers of a large high-tech services company from best to worst according to each metric (RFM, PCV and CLV) using the first 48 months of data.<sup>3</sup> And the total revenue, costs and profits from the top 15% of the customers were compared. For the next 24 months, it was observed that the net value generated by the customers who were selected based on the CLV score was about 45% greater than that generated through customers selected



**FIGURE 1: APPROACH TO CLV MEASUREMENT**



through other traditional metrics. This shows that using CLV to select customers is far more effective than using the traditional metrics.

Having identified CLV as the best metric to manage customers profitably, three important questions faced by corporations emerge. They are:

- i. **How do we determine which types of customers and future prospects to retain, grow, acquire or win-back?**
- ii. **How do we determine which types of customers and future prospects *not* to retain, grow, acquire or win-back?**

- iii. **How much should be spent on the various micro-segments to retain, grow, acquire, and win-back these customers?**

The following sections provide the analytical and strategic details for generating the answers to the above mentioned questions.

### **3. HOW DO WE DETERMINE WHICH TYPES OF CUSTOMERS AND FUTURE PROSPECTS TO RETAIN, GROW, ACQUIRE OR WIN-BACK?**

Using CLV, managers can introduce differentiated marketing strategies that



can maximize customer profitability. This section provides prior research work on B2B and B2C companies, and shows how differentiated marketing strategies can lead to an upward lift of CLV. The strategies discussed here are: **(a)** Whom to Acquire and Retain?, **(b)** Making Customers Profitably Loyal, **(c)** Growing Customers (by managing their life cycle), and **(d)** How to Retain customers/Prevent churn?

### 3.1. Whom to Acquire and Retain?

The old school of thought which used traditional metrics such as RFM, PCV and SOW to select customers believed that retaining more customers will increase the overall profitability of the firm. However, this is not true. The CLV metric helps retain *profitably loyal* customers as against only loyal customers, thereby increasing the overall profitability of the firm. In a recent study, we found that while one set of customers of the firm do not contribute to the overall profitability of the firm, and cost more to be retained, there is another set of customers who not only add value to firms by increasing the revenues but also by helping the firm attract other customers.<sup>4</sup> Therefore, acquiring and

retaining the right type of customers becomes an important exercise to implement a customer-centric strategy for the firm.

When companies are involved in the acquisition and retention of prospects and customers, there are three common pitfalls that they encounter. They are: **(a)** considering customer acquisition rate and customer retention rate as principal metrics of marketing performance; **(b)** focusing too much on the current cost of customer acquisition and retention and not enough on customer's long-term value; and **(c)** treating acquisition and retention as independent activities and attempting to maximize both rates.

In the first pitfall, companies often consider customer acquisition rate (the percentage of people targeted by a direct-marketing effort who actually become customers) and customer retention rate (the duration of a customer's relationship with the firm) as the principal metrics of their marketing performance. This is because, **(a)** the two metrics are easy to understand and track by the companies and **(b)** companies have had a long-standing attraction towards garnering more market share. While concentrating on these two rates may be valid



in a contractual setting such as in magazine or cable services subscription, in most cases using acquisition and retention rates as measures of overall performance may lead to problems. Many firms have already started to realize this and have taken steps to reward managers who ensure customer profitability and not the ones who only maximize metrics such as acquisition and retention rates. This leads directly to the next pitfall: focusing too much on short-term profitability.

To analyze the second pitfall, we tested the relationship between acquisition costs, retention costs, and customer profitability by tracking a cohort of customers over a three-year time period.<sup>5</sup> The cohort was split into one of the following four buckets—those customers who are easy to acquire and easy to retain; those who are hard to acquire but easy to maintain; those who are easy to acquire but hard to retain; and those who are or hard to acquire and hard to retain. Then, based on the transaction behavior of these customers, this study determined how much each of the four groups of customers contributed to the overall profitability of the cohort of customers. Figure 2 shows the results of this study.

The largest segment of customers—the “Casual Customers” (32%)—were easy to acquire and retain, but accounted for only 20% of the profits. This proves that customers who are easy to acquire and retain may not yield the most profits. The smallest segment of customers—the “Low Maintenance Customers” (15%)—generated the largest profits (40% of the total profits). The “Royal Customers”, who were difficult to acquire and retain, consisted of 28% of the total customer base, and contributed 25% to the profits. The least profitable group of customers were the “High Maintenance Customers”, who were easy to acquire but had high-retention cost associated with them. This group of customers contributed only 15% to the total profits, even though they constituted 25% of the total customer base. These trends and findings can be generalized for other firms and industries also, with variations in distribution of profits and customers. Therefore, targeting customers who are easy to acquire and easy to retain may not ensure profitable customer management. The CLV approach recommends optimizing the acquisition/retention costs simultaneously and directly linking such efforts



**FIGURE 2: ACQUIRING AND RETAINING PROFITABLE CUSTOMERS ACROSS THREE INDUSTRIES**

High Retention Cost	<b>High Maintenance Customers</b> 25% of customers 15% of profits	<b>Royal Customers</b> 28% of customers 25% of profits
Low Retention Cost	<b>Casual Customers</b> 32% of customers 20% of profits	<b>Low Maintenance Customers</b> 15% of customers 40% of profits
	Low Acquisition Cost	High Acquisition Cost

to overall profitability. This leads us to the third pitfall of balancing acquisition and retention: treating acquisition and retention as independent activities and attempting to maximize both rates.

When companies treat acquisition and retention independent of each other, it indicates that the acquisition and retention departments are not working in tandem. The lack of such interdependence between the departments would result in the acquisition department trying to acquire the most customers possible, and the retention department working on retaining all the customers acquired by the acquisition department. These two scenar-

ios may include customers who are not profitable in the long term. In other words, the acquisition department would be concentrating only on acquiring Casual and High Maintenance Customers, owing to their low acquisition cost and ignore the high profitable Royal Customers and Low-Maintenance Customers.

The key to strike a balance between acquisition and retention lies in efficient resource allocation between customer acquisition and customer retention. In business environments where decisions about allocating marketing resources increasingly occur at the individual level, it is critical for marketers to understand that customers



who are easy to acquire and retain may not be the most profitable customers. The resource allocation decision should not only be in terms of acquisition and retention but should also be on the level of choices between various communication channels. Such a balance between acquisition and retention will provide managers with a clear set of attainable, profit-linked marketing goals.

### 3.2. Making Customers Profitably Loyal

As mentioned earlier, selecting customers purely based on their loyalty is not a prudent approach. We suggest CLV as the basis for segmenting customers. So how can firms migrate from loyalty to CLV-based segmentation? The customer's CLV score and the duration of his or her relationship with the firm form the basis for this selection and segmentation. By segmenting customers into broad groups, the task of managing them becomes much easier and firms can target relevant messages to the individual groups.<sup>6</sup> This results in the efficient allocation of resources and therefore, an increase in profitability. Figure 3 illustrates the process for managing loyalty and profitability, simultaneous-

ly. From Figure 3 it becomes clear that while there may be long-standing customers who are only marginally profitable, there may be short-term customers who are highly profitable. The four quadrants of the matrix illustrate the different categories of customers and their respective profit-maximization strategies.

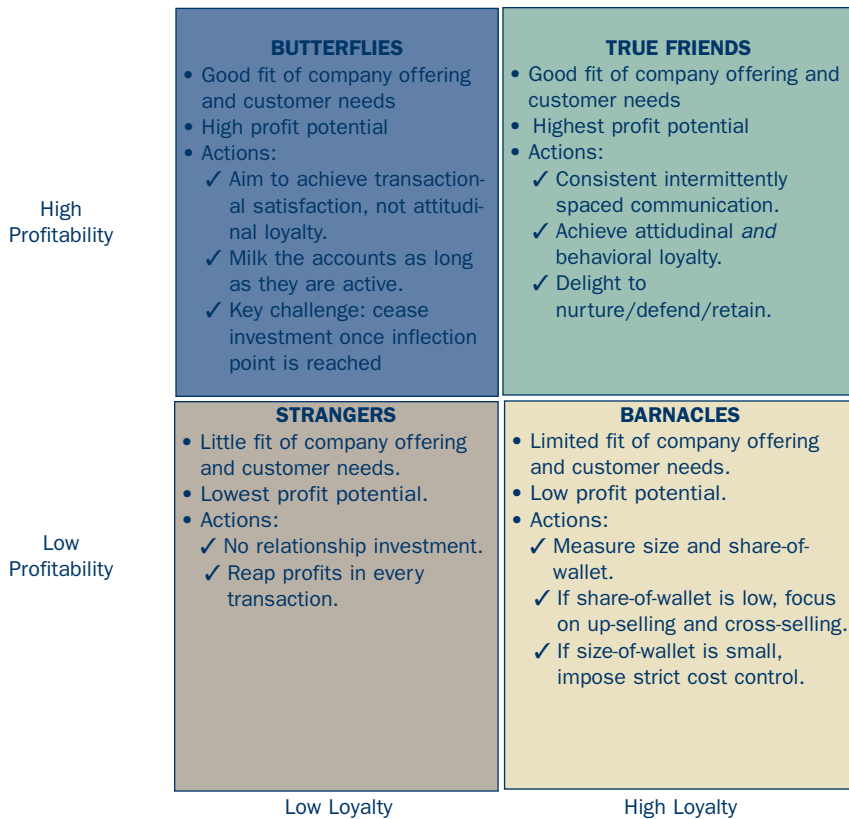
True Friends are the most valuable customers of all. They are satisfied with the existing arrangements with the company, and they are comfortable engaging with the firm's processes. They buy steadily and regularly (but not intensively) over time. They offer the highest profit potential for the firm. In managing these true friends, firms should indulge in consistent, yet intermittently spaced communication. Firms should concentrate on finding ways to bring out the True Friends' feelings of loyalty, and strive to achieve attitudinal and behavioral loyalty.

Butterflies are customers who, though staying for only a short term, offer high profits for the firm. These customers, though profitable, are transient. They enjoy finding out the best deals, and avoid building a stable relationship with any single provider. A classic mistake made in managing





FIGURE 3: MANAGING LOYALTY AND PROFITABILITY





these accounts is continuing to invest in them and, in some cases, over invest even after they stop purchasing. Hence, in order to manage this type of customers, firms should aim to maximize profits from each transaction, and not attempt to cultivate loyalty. In other words, the manager should look for ways to enjoy their profits while they can and find the right moment to cease investing in such customers.

Barnacles are those customers who, in spite of being long-term customers, offer low profitability for the firm. They do not generate satisfactory return on investments because their size and volume of transactions are too low. Like barnacles on the hull of a cargo ship, they only create additional drag. However, they can sometimes become profitable when properly managed. To manage such customers, firms should determine whether the problem is a small wallet or a small share of the wallet. If the size of wallet is small, then strict cost control measures can reduce loss to the firm. However, if the share-of-wallet is found to be low, specific up-selling and cross-selling can be done to extract profitability.

Since Barnacles do not offer high profits, marketing resources have to be diverted to Butterflies. However, not all Butterflies will become True Friends. So, how do we identify which Butterfly is likely to become a True Friend and not a Barnacle? We conducted a study that identified the various drivers that affect the customer-firm relationship. These drivers included:

**(a)** Spending level, **(b)** Level of buying across various product categories, **(c)** Degree of focused buying within a product category, **(d)** Average time between purchases, **(e)** Amount of product returns, **(f)** Loyalty membership **(g)** Frequency of marketing communication and, **(h)** Customer-initiated contacts.<sup>7</sup> Using these drivers, we can distinguish which Butterflies will become True Friends and not Barnacles. This helps companies in migrating customers from one quadrant to the other. Managers will have to be cautious in deciding which customers to invest in. In a later section in this summary, we describe in detail about the resource allocation strategy.

Strangers, as the name suggests, are the least profitable customers for the firm. They have very little fit with the products and services offered by

the company. The key strategy in managing these customers is to identify them early and refrain from making any relationship investment. These customers have no loyalty towards the firm and bring in no profits. Hence, the firm's aim should be to extract maximum profit from every transaction with these customers.

Once the customer segmentation has been done, companies must aim to build a loyalty program with an overall objective of achieving maximum profitability. In order to implement such a program, three fundamental objectives must be fulfilled. They are—**(a)** building and enhancing behavioral loyalty, **(b)** cultivating attitudinal loyalty and, **(c)** linking loyalty to profitability. When these objectives are fulfilled, it enables organizations to recognize the patronage provided by the customers, and reward them accordingly.

In one of our studies, we proposed a two-tiered reward structure that could **(a)** discriminate customers based on their purchase behavior, attitude, profile and profitability potential, without alienating the customers and **(b)** build and sustain loyalty without sacrificing customer profitability.<sup>8</sup> Tier 1 rewards represent a standard, one-

dimensional rewards strategy, where customers get rewarded instantly based on their total spending and mimics the existing loyalty programs. Tier 2 rewards, on the other hand, are forward looking. They are structured to offer additional incentives to potential profitable customers. This tier of rewards is administered by deciding on **(i)** who should be rewarded?, **(ii)** what should be the type of reward?, and **(iii)** how much should the reward be worth?

Therefore, Tier 1 and Tier 2 operating concurrently can give immense flexibility to any loyalty program. Most importantly, they can help establish attitudinal loyalty, behavioral loyalty and profitability simultaneously and give the power to marketers to proactively invest in their best customers 'today' based on their 'future' potential and not just past history of transactions. When used judiciously, such loyalty programs and rewards structures can aid managers in identifying which types of customers to acquire and retain.

---

### **3.3. Growing Customers**

In an effort to grow and serve customers, many firms are venturing into at least a few different channels. In



many cases, these channels not only offer customers a chance to make purchases via multiple channels, but they also offer customers the chance to search for product information in one or more channels and purchase in a completely different channel. This fact has been corroborated by findings from several marketing studies that more than 60% of customers not only want to use multiple channels for making purchases,<sup>9</sup> but also more than one-third of customers who regularly buy products already use at least three or more channels to make purchases.<sup>10</sup> Further, owing to integrated logistics in various industries and increased adoption of online sales, firms are making their presence felt across various channels to appeal to diverse customer segments. Since each distribution channel services a different set of customers and provides varying levels of services, this approach can lead to a reduction in the overall service cost, resulting in an increase in profitability for the firm. Therefore, it would be profitable for firms to start operating across multiple channels and thereby target the multichannel shoppers.

So who are these multichannel shoppers? How can a firm identify

them? We conducted a study to identify the drivers of multichannel shoppers using information such as: **(a)** customer characteristics, **(b)** supplier-specific characteristics and, **(c)** customer demographics. Customer characters include factors such as degree of buying across product categories, amount of product returns, frequency of web based contacts, tenure of the customer with the firm and frequency of customer purchases. In other words, higher the frequency of these factors more is the likelihood of multichannel shopping. The supplier specific factors include the number of different channels used for contact, type of contact channel and channel mix. Here again, more the degree of supplier specific factors, more is the likelihood of multi-channel shopping. The customer demographics refer to number of employees in the firm serving customers, annual sales of the firm and the industry category. The behavioral characters refer to customer-based metrics including revenues, past customer value, share-of-wallet and predicted propensity to stay in relationship.

Having identified the multichannel shoppers, it is important for firms to know if the multichannel shoppers are



**TABLE 1: COMPARISON OF CUSTOMER-BASED METRICS**

	Users in Single Channel	Users in Two Channels	Users in Three or More Channels
<b>Revenue</b>	\$4,262	\$5,736	\$16,100
<b>SOW</b>	20%	35%	60%
<b>PCV</b>	\$6,681	\$10,874	\$25,625
<b>Likelihood of staying active</b>	11%	15%	54%
<b>CLV</b>	\$7,672	\$10,325	\$28,980

(a) more likely to buy in the future, (b) likely to spend more money, and (c) more profitable than single-channel customers. To determine this, a helpful tool would be the list of customer-based metrics commonly measured by firms. These include how much a customer spends (revenue), the percentage of money a customer spends on that firm’s products versus a competitor’s products (SOW), the customer’s past profitability (PCV), the likelihood that a customer will buy in the future (likelihood of staying active), and the Customer Lifetime Value (CLV). These metrics collectively are called customer-based metrics. For a B2B firm, these metrics were

compared for customers who shopped in one, two, three, and four channels. The results of the study are listed in Table 1.

From the above table it becomes evident that as a customer shops across more channels (from one channel to four channels), that customer (a) spends more revenue with the firm, (b) spends a higher proportion on the focal firm (rather than with a competitor), (c) has a higher past profitability (which is correlated with future profitability), and (d) has a higher likelihood of buying in the future. Therefore, if a firm wants to identify candidates so as to encourage shopping in multiple channels,



that firm needs to see which customers show the right signs of being potential multichannel shoppers based on the drivers and try to leverage those drivers to encourage multichannel shopping behavior.

After knowing that multichannel shoppers tend to be more profitable than single channel shoppers, firms would want to know which channel a customer is likely to adopt next and when is the adoption likely to happen. Several behavioral and psychological aspects that determine the choice and timing of channel adoption are:

- (a) Channel-related attributes—The travel cost involved in buying a product and the nature of immediate product availability.
- (b) Purchase-related attributes—The total quantity of items a customer purchases in a single shopping trip, the number of product categories bought by a customer in a single trip, and the level of price discounts availed.
- (c) Frequency-related attributes—The customer's purchase frequency and the frequency of marketing communications.

- (d) Customer heterogeneity—These factors make the customer accept new channels and thereby shop across different channels.

These drivers help predict the adoption of channels for customers, wherein the more channels a customer adopts, the better the revenue generated by the firm from that customer is likely to be.

In our study, the model to predict the channel-adoption duration was applied to a sample of customers from this B2C retail firm consisting of single channel and two-channel shoppers.<sup>11</sup> A marketing campaign was developed to target the single-channel shoppers, encouraging them to adopt the second channel. Similarly, the two-channel shoppers were targeted to adopt the third channel. The sample size chosen for this specific implementation was 3,800, of which 1,902 customers were in the test group and the remaining in control group. The shopping behavior of the customers in the test group was monitored for a period of 12 months. It was observed that if the customers were spending on average \$400 in one channel, they were now spending about \$720 when another channel was added to their





shopping portfolio. The average marketing campaign cost, including the discount, was about \$40. The increase in revenue was about \$320. Therefore, the return on investment was about 8 times (or 800%). It is therefore clear that contacting the right customers at the right time to encourage adopting another channel results in higher profitability, and thereby helps a firm in growing customers.

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#### **3.4. How to Retain Customers/Prevent Churn?**

Retaining customers is a crucial function for any organization. Customer attrition impacts a firm in several ways. The primary impact is the loss of revenue from the customers who have defected. Secondly, attrition results in the lost opportunity for the firm to recover the acquisition cost incurred on the customer. This puts an undue burden on the firm to break even. Thirdly, the firm loses the opportunity to up-sell/cross-sell to customers who have defected, and this loss can be treated as a loss of potential revenue. Fourthly, there are some “lost” social effects such as influencing other customers on product/service adoption and a potential

negative word-of-mouth. Further, firms must also invest additional resources to replace those lost customers with new customers. This drains the firm’s resources, which are already impacted by the loss of customers, mostly to competitors.

This is what is happening at Sprint currently.<sup>12</sup> For the most recently ended quarter (June 2008), Sprint’s churn rate (around 2%) is nearly double than that of Verizon, the industry leader. At the end of the first half of 2008, Sprint had lost about 2 million subscribers both from their (less profitable) pre-paid and (more profitable) post-paid plans. Further, the average amount paid by each customer for monthly service continues to shrink, down 7% to \$56 from one year ago. This, when contrasted with the customer acquisitions of Verizon (1.3 million in first quarter of 2008) and Vodafone (1.5 million in first quarter of 2008), clearly shows the financial and managerial damage a customer churn can cause. However, Sprint has devoted resources as a part of a rebuilding effort to curb their customer churn. They have managed to contain the churn rate of their post-paid customers to just under 2% by the end second quarter of 2008,



down from 2.5% in the first quarter of 2008. This has resulted in restricting their annual churn rate to around 8%, instead of 10%.

Many firms have realized the importance of controlling the churn and have adopted or are in the process of adopting analytic tools to predict and prevent attrition. The important questions that need to be answered before developing this strategy include the following:

- How to identify the customers who are likely to defect?
- When are they likely to defect?
- Should those customers be intervened? If so, when should it be done?
- How much should we spend to avoid the attrition of a particular customer?

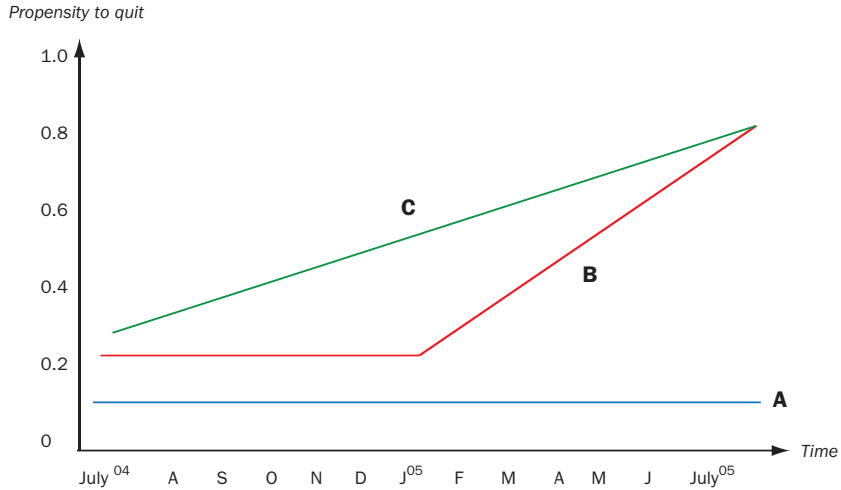
The first step in developing an intervention strategy is to identify customers who are likely to defect and their expected time of attrition. Most of the models to predict churn can answer both these questions by building a propensity to quit model. These models give us the probability of a customer quitting at a particular point in time. There are two approaches in treating customer defection: the

*lost-for-good* approach and the *always-a-share* approach.

The *lost-for-good* approach treats customer defection as permanent. This type of defection is common in subscription-based businesses. When a customer terminates a subscription or service, it is very unlikely that the customer comes back to the firm. Either the customer has gone to a competitor or stopped using that particular service. In both these cases, it is important to develop an intervention strategy that predicts the time of defection for each customer even though the scope of intervention may be limited. Even in the case of customer defection of a service, a firm can intervene by offering the service the customer wants. For instance, AOL realized that many of its customers are opting out of its dial-up services to go for broadband services. AOL's strategy was to first retain the customers who opted out of the dial-up services by offering its broadband services through partnerships it holds with BellSouth, Qwest Communications, and AT&T.<sup>13</sup> The premium packages offered by them helped them to compensate for the loss of profit margin from its dial-up services.



**FIGURE 4: PREDICTING PROPENSITY TO QUIT**



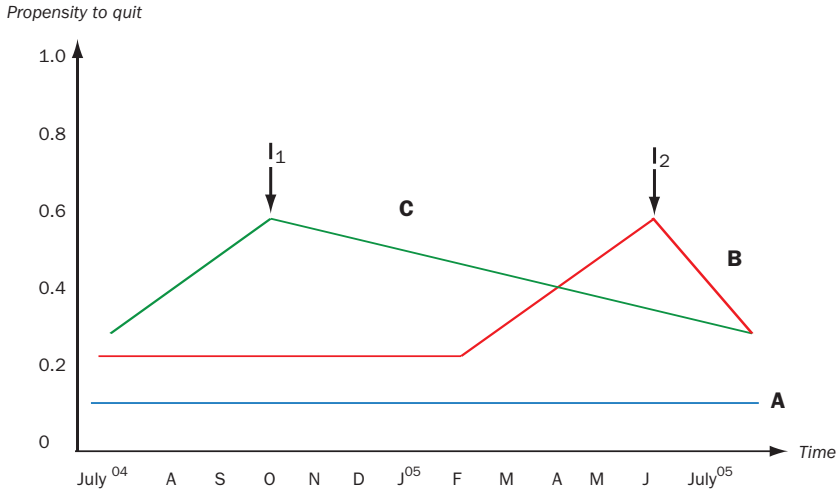
On the other hand, *always-a-share* approach considers customers' switching to competitors as transient. Consider a case where a customer switches between Apple and Dell. In such a scenario, the customer continues to transact with both Dell and Apple. Hence, neither Dell nor Apple completely loses the customer but they lose/gain a share of the customer's purchase. The customer transacts with more than one firm. However, the transaction share is split unevenly among different firms. There is no specific time of attrition in such

cases. Many consumer goods purchases fall in this category. In this approach what is modeled is not the time of defection, but customers' transition probabilities associated with each firm or brand.

The solution to the important questions listed above lies in building propensity to quit models and integrating it with the CLV based models. To decide on the intervention necessity, it is essential on the part of the managers to study the customer quitting tendencies. For instance, consider three customers—Customer A,



**FIGURE 5: PROACTIVE INTERVENTION STRATEGY**



Customer B and Customer C. Their predicted propensity to quit over time (July 2004 to July 2005) is illustrated in Figure 4.

Accordingly, Customer A does not intend to quit and is denoted by a straight line. Customer B, though does not exhibit a quitting tendency initially, shows an increase in propensity to quit from January 2005. Customer C, represented by a steep curve, shows a strong tendency to quit from early on. Clearly, this indicates that Customers B and C are likely to quit in the near

future and they are the customers to be intervened.

Once the need to intervene and the customers to be intervened have been decided, firms have to identify when the intervention has to be made. The answer to this question lies with a proactive intervention strategy. That is, the customers who show a strong tendency to quit (in this case Customers B and C) should be intervened by the firm to prevent customer attrition. Figure 5 shows the time periods in which Customers B and C should be intervened.



In Figure 5, points  $I_1$  and  $I_2$  denote the intervention points when customers B and C should be intervened and this is followed by a decrease in propensity to quit on the part of the customers. Here, Customer B is being intervened in May 2005 and Customer C in October 2004. The reason for the time lag between the customer intervention stems from their respective propensities to quit. So, while Customer C is intervened early on, Customer B can be intervened at a later stage. The decision on the channel of intervention and the type of offer through which the intervention is to be made can be decided by the companies based on individual customer characteristics. Thus, proactive intervention strategies help companies to pre-empt customer attrition and thereby increase ROI.

Other key element of intervention strategy is the amount of resources to be spent on each customer. This is directly linked to the worth of the customers or their lifetime value. Suppose the firm has an intervention strategy in which the cost of intervention is \$100 per customer. It does not make business sense to offer this promotion to a customer whose CLV is \$50. The firm should rather intervene

with an offer that costs less than \$50 to the firm. Ideally, firms should design a number of different intervention strategies with varying costs so as to cater to all customers.

This strategy to prevent attrition of customers was tested in our recent study for a telecommunications firm.<sup>14</sup> The firm first computed the propensity to quit for all its customers using 3 years of transaction and marketing communication data. Then, they created two groups of matched customer pairs who were similar in terms of their propensity to quit and the exchange characteristics such as their revenue contribution to the firm and duration. In other words, the customers in both groups had the same probability of quitting. The average revenue per customer in both groups was \$600 per year. The test group had 2,601 customers and the control group had 2,602 customers. There was no intervention for the control group and this group was used to see the impact of intervention on the test group. For all customers in the test group, however, the firm predicted propensity to quit and identified those customers who are likely to quit. Based on the CLV of each customer, the firm designed customer-specific



intervention strategies for all vulnerable customers. The total cost of intervention for the firm was \$40,000 for the test group. The intervention saved 643 customers for the firm. By multiplying the number of customers by the average revenue contribution per customer, the total revenue gain was \$385,800 for the group that was intervened. Thus, even after taking into account the cost of intervention, the firm had a net revenue gain of \$345,800 by preventing attrition and the return on investment was close to 860% (i.e., the revenue contribution was 8.6 times the investment).

Customer churn can have an adverse effect on the profitability and even the survival of the business. The key to retaining customers is to identify early on the customers who are likely to quit, and intervene to prevent attrition. While churn models helps to identify the customers who are likely to quit, the intervention strategy based on CLV helps to effectively intervene to retain valuable customers.

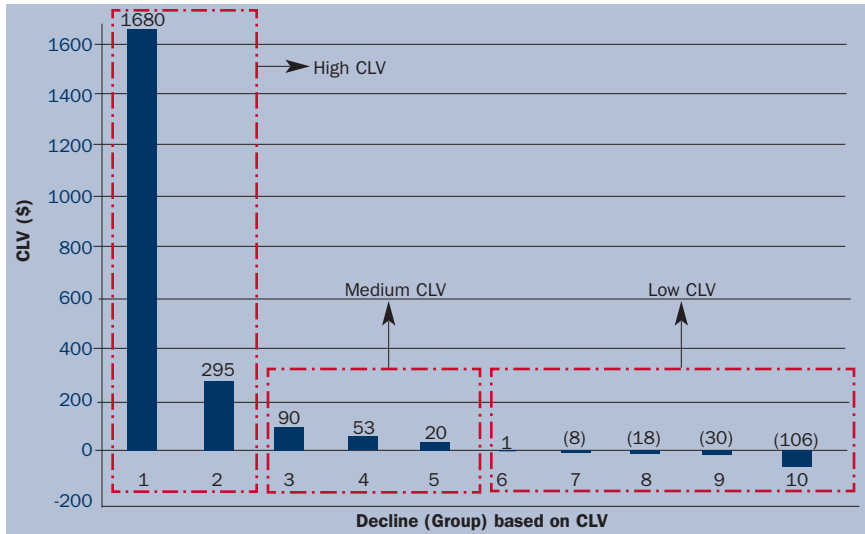
#### **4. HOW DO WE DETERMINE WHICH TYPES OF CUSTOMERS AND FUTURE PROSPECTS *NOT* TO RETAIN, GROW, ACQUIRE OR WIN-BACK?**

Every firm would offer an array of products that serves a wide variety of customers. Customers too, would have different preferences and different goals with the company. Some are long-term customers, and some transact only in the short term. Some are more profitable to the company than the others. So, how can the company measure and understand how its individual marketing actions are affecting the purchasing behavior of such a diverse group of customers? Having identified which customers to grow and retain in the previous section, it is equally critical for firms to identify those types of customers not to retain. CLV can help in answering this question. Because CLV captures their past behavior, their projected future behavior, and the marketing costs incurred to maintain them, CLV can serve as an important guide in deciding which customers to follow and how to approach those customers. It can also guide managers in understanding





**FIGURE 6: CUSTOMER SEGMENTATION BASED ON THEIR CLV SCORES**



how their actions influence customer behavior, and in analyzing the effectiveness of their marketing initiatives.

To analyze this facet of CLV, we studied a B2C retailer selling apparel, shoes and accessories, for both men and women.<sup>15</sup> A large sample of over 300,000 customers was taken from the firm's customer database for this study, their individual CLV scores were calculated, and a wide distribution of CLV scores were obtained. Based on the CLV scores, the customers were segmented into 10 deciles with the

customers in the top two deciles constituting high-CLV customers, the customers in segments 3 through 5 constituting medium-CLV customers, and the customers in the bottom five deciles constituting the low-CLV customers. Some interesting insights about customer profitability were learned from this study. It was observed that the top 20% of the customers accounted for 95% of the profits and the retailer was actually losing money with 30% of the customers. This is because several customers in



low CLV segments have negative CLV scores. Figure 6 illustrates the 10 deciles of customers.

Based on this customer segmentation, a customer profile analyses was done for the low and high CLV customers and some interesting group-level differences were observed. This analysis showed that the most profitable customers, i.e. High CLV customers, were professionally employed and married women in the 30-49 age group. They had children and a high household income. Further, they were members of the store's loyalty program, lived closer to the store, and shopped through multiple channels. Whereas, the typical low CLV customer was a low income unmarried male customer in the 24-44 age group, primarily a single channel shopper, lived farther away from the store, and did not own a home. By performing such profile analyses, firms put a face on the CLV score of a customer, and therefore effectively manage their customers.

After identifying the high- and low-CLV customers, the customers were classified into a two-by-two matrix and several segment-specific marketing strategies were recommended to the firm. Figure 7 provides the customer matrix.

It was suggested that minimal spending should be allotted to the customers with low CLV scores and high current SOW. In the case of customers with high CLV score and high current SOW, the current level of spending should be maintained. In the case of low CLV and low current SOW customers, they should be encouraged to cross-buy from different product categories and higher valued products. In the case of customers with high CLV and low current SOW, firms should take measures to simulate interest among customers by cross-selling across different product categories, and promoting higher value purchases.

The impact of cross-buying can be greatly improved if firms identify and target the right customers.<sup>16</sup> In our research involving a catalog retailing firm, the drivers of cross-buy and the impact of cross-buy on revenue and other metrics were identified. The drivers of cross-buy were identified and classified as exchange characteristics and customer characteristics. While the exchange characteristics were average time between purchases, ratio of product returns, and focused buying within a product category, the customer characteristics comprised of



**FIGURE 7: MARKETING ACTIONS TAKEN BY THE FIRM BASED ON THE CLV AND SOW**

High CLV	Maintain current level of marketing	Stimulate more interest through cross-selling and higher value products
Low CLV	Minimal marketing spend	Invest to encourage cross-buying and spending in higher valued goods
	High Current SOW	Low Current SOW

the age of the head of the household and household income. Following this, the revenue and contribution margin per order per customer of the catalog retailer and, the number of orders in a given time period increased significantly with each level of cross-buy. Therefore, understanding the relationship of these variables with cross-buy will help firms to select customers with a higher likelihood of cross-buy and retain only those customers.

This study also had important implications on product returns. If a cus-

tomers buys more than the opportunity for returning the products also increases. Therefore, should we attempt to cross-sell to those customers whose returns are higher? The results indicate that even though cross-buy increases with increase in the ratio of product returns relative to the purchase amount, beyond a certain threshold, the ratio of product returns has a negative impact on cross-buy.



In a recent study, we investigate the behavior of product returns by customers and empirically demonstrate the role product returns plays in the exchange process.<sup>17</sup> The study accomplished this by determining the exchange process factors that help explain product return behavior and the consequences of product returns on future customer and firm behavior. While product returns do cost the firm through both profits from sales and through reverse logistics, this study also empirically showed that to a threshold, increases in product return behavior increase future customer purchase behavior. When we tested this on a retailing firm, we find that the optimal percentage of product returns that maximize firm profits to be about 13%. This study provides important implications on product returns policy for the firm and recommends a clear understanding about the trade-off between customer product return behavior and firm profits.

## 5. HOW MUCH SHOULD BE SPENT ON THE VARIOUS MICRO-SEGMENTS TO RETAIN, GROW, ACQUIRE, AND WIN-BACK THESE CUSTOMERS?

Having identified the types of customers to retain and those *not* to retain, it might be useful for firms to ascertain how much should be spent on the customer segments, in order to retain them. There are two CLV-based strategies that can help the firm accomplish this. They are: **(a)** Optimal resource allocation for a given buying level, and **(b)** Up-selling and cross-selling to retained customers.

### 5.1. Optimal Resource Allocation

Most managers are faced with budgetary constraints while making decisions regarding where, how and on whom they are going to spend the marketing resources. Given these limitations, contacting all customers is logistically impossible. Therefore, managers are forced to prioritize their customers and contact only the high-priority customers with their product promotions and offers. There are several measures that are used to prioritize the customers, and managers



often fall into the trap of using misleading measures in making such decisions. Mostly, managers target customers who are easy to acquire and retain without considering how profitable these customers are. This is a seriously flawed approach since it could lead to firms using their limited marketing budget to chase unprofitable or low-profit customers while at the same time neglect and ignore high-profit customers. So how should managers spend their resources?

The answer to this question lies in evaluating customers based on their profitability and not on how easy it is to acquire and retain them. The optimal allocation strategy evaluates customers based on their future profitability and recommends appropriate marketing initiatives that need to be taken. Customers are chosen based on their CLV and future profitability. Once the decision as to who to contact has been made, the following questions arise:

- How responsive are these customers to various channels of contact (e-mail, telephone, direct mail, etc.) and what is the right mix of these channels?
- Should the firm contact the customer through e-mail, make a pro-

motional telephone call, or should a sales representative contact the customer?

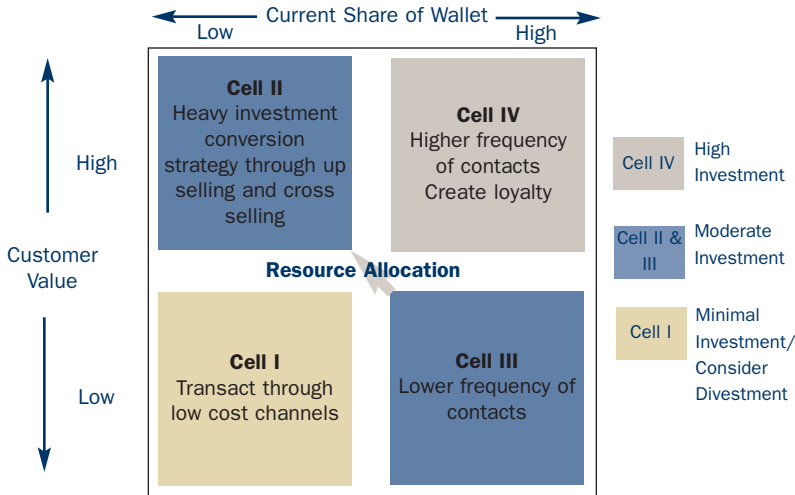
- If a mix of communication strategies is used, how does the firm extract the most out of every communication effort made by the firm? What is the sensitivity of each customer to these communication efforts?

These are some common issues faced by firms in implementing marketing initiatives. This question of how to optimally allocate the limited marketing resources and generate greatest impact or maximum “bang for the buck” depends significantly on the company’s contact strategy, and the frequency and the various modes of communication. Therefore, the following factors are considered in deciding the optimal resource allocation:

- (i) the cost involved in communicating through a particular channel
- (ii) the customer’s response when contacted through a particular channel
- (iii) the frequency of communication
- (iv) the customer contact levels across different channels



**FIGURE 8: OPTIMAL RESOURCE ALLOCATION STRATEGY**



(v) the expected profit level from each customer

A practical demonstration of how the resource allocation strategy can be practiced is provided in Figure 8. As seen from the figure, customers are segmented based on their current SOW and CLV. Since CLV includes the future spending potential of the customers, categorizing customers based on their loyalty and profitability makes it an effective resource allocation strategy. As seen in the matrix, customers in Cell I have a low SOW and a

low customer value—they are of little value to the firm and managers should refrain from investing in these customers to avoid loss. Customers in Cell II have a high customer value and low SOW. Firms should adopt a conversion strategy in this case, and should invest in upgrading and cross-selling products to these customers. Customers in Cell III have a very high SOW, but exhibit low customer value. Firms should shift resources from Cell III to Cell II with the goal of increasing the SOW of the customers in Cell II.





**TABLE 2: OPTIMAL RESOURCE ALLOCATION STRATEGY FOR A B2B FIRM FOR THEIR LOW CLV AND HIGH CURRENT SOW CUSTOMERS**

	<b>Current Strategy</b>	<b>Optimal Strategy</b>
<b>Marketing Spending (in \$)</b>	1,291	612
<b>Face to Face Contact Frequency</b>	Once every 2 months	Once every 10 months
<b>Direct Mail/ Telesales Contact Frequency</b>	8 days	8 days
<b>Profits (in \$)</b>	10,913	28,354

Customers in Cell IV have a high SOW and a high customer value. They should be the main targets for customer loyalty programs, and firms should heavily invest in these customers to maintain their loyalty and maximize the profitability.

This strategy was applied to a B2B firm, and the results demonstrate the efficiency of this strategy.<sup>18</sup> After segmenting the customers based on their SOW and CLV, detailed recommendations were made for each Cell of customers regarding the optimal level of face-to-face meetings and direct mail contacts/telesales. The results of these recommendations on each Cell

of customers were encouraging. Table 2 illustrates the results for one customer cell—Cell III (Low CLV and High Current SOW). An analysis of the other Cells yielded similar results.

As seen from Table 2, the B2B firm was overspending on the Low CLV customers. The same was observed on Cell I customers (Low CLV and Low Current SOW). This is a classic example of how firms pursue low value customers and spend their valuable marketing resources on them. Particularly, the firm was using the very expensive face-to-face channel of contact very frequently, thus increasing the marketing spending dramatically. By adopting



a CLV based approach, we suggested the firm to reduce the frequency of face-to-face contact and retain the level of direct mail/telesales contact. By reducing the spending level by half, the firm witnessed an increase in profits by more than 250% for Cell III customers.

With regards to the High CLV customers, we found that the firm was consistently under-spending (Cells II & IV). This prevented the firm from fully exploiting the profit potential from these customers. By adopting a CLV based approach, we suggested that the marketing spending on these customers be doubled by contacting them more frequently (both using face-to-face contacts and direct mail/telesales). These measures resulted in unlocking the true potential of these high value customers and resulted in a tremendous increase in profits from them. Such a reallocation of marketing resources generated 100% more revenue for the firm and 70% more profits. Therefore, by carefully monitoring the purchase frequency of customers, the inter-purchase time, and the contribution towards profits, managers can determine the frequency of marketing initiatives in order to maximize CLV.

## 5.2. Up-selling & Cross-selling to Retained Customers

While the above mentioned studies advocate cross-selling in order to profitably retain customers, would cross-selling always lead to higher profits across different customers? A recent study investigated this issue and showed that not all profitable customers necessarily buy more products and not all customers who buy more products are necessarily profitable.<sup>19</sup> Therefore, firms need to exercise caution while cross-selling to customers. Furthermore, the study concluded that cross-selling decision should be evaluated in comparison with up-selling and not selling decisions as well. The study also proposed a normative framework that can help managers make optimal selling decisions for long term profitability of their customers.

One of the major issues facing any business is to predict what their customers are going to purchase next. Consider the example of a financial services firm, which offers a list of services ranging from banking to credit card services to retirement planning and mortgages. If a customer opens a savings and checking account with the firm in the first quarter, will the firm



be able to predict what services the customer might need in the following quarters? Will the customer need a mortgage, or should the bank approach him for a credit card purchase? Or is the customer in need of a retirement plan? If the firm is able to predict this, it will be able to customize its message and offer products and services needed and increase its sales. This would aid in ascertaining how much the firm should spend on the various customer segments.

In case of a multi-product firm, it may not be easy for them to speculate what product a particular customer is going to buy next. But, from the firm's point of view, this is a very valuable piece of information because the firm can then decide the message and timing of the customized communication strategy. The answer to this lies in the development of a purchase sequence model. Our purchase sequence model<sup>20</sup> addresses the following questions:

- What is the sequence in which a customer is likely to buy multiple products or product categories?
- When is the customer expected to buy each product? and,

- What is the expected revenue from that customer?

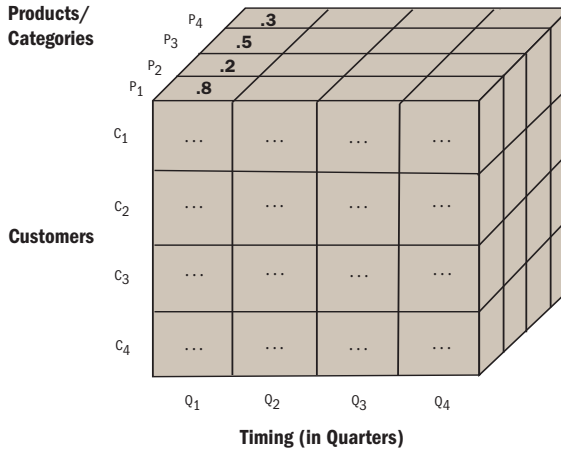
Traditionally, estimating the purchase sequence is accomplished by analyzing the past customer purchases and estimating the likelihood of future purchases. This model involves two steps:

- Estimating the probability that a customer will make a purchase at a particular time.
- Estimating the probability of a customer purchasing a particular product at the predicted purchase time.

The probability that a customer will choose to buy a particular product is assumed to be a function of various variables like demographics and past buying behavior. Managers use these variables in order of their relative importance by looking at a sample of customers. At the end of this exercise, managers get a series of probabilities that tell them which customers are most likely to buy a particular product and which products a particular customer is most likely to buy. The final probability of a customer purchasing a particular product at a predicted time is the multiplied result of



**FIGURE 9: CUSTOMER PROBABILITY CUBE**



the two probabilities—which products the individual will buy and when. Managers will get a three dimensional probability cube from these joint probabilities. Figure 9 shows how managers can use the probability cube to predict what products customers will buy and when.

The cube in Figure 9 shows a company that sells four products. The numbered cells indicate that there is a 80% chance that customer 1 will buy product 1 in the first quarter, a 20% chance that he/she will buy product 2 in the first quarter, a 50% chance that he/she will buy product 3 in the first quarter and a 30% chance that

he/she will buy product 4 in the first quarter. From the figure, it can be observed that the probabilities of purchase do not add up to 1. This is because the product categories are not mutually exclusive. This cube also allows the managers to identify which customers are most likely to buy which product(s) in quarter 1, as well as the product(s) that each customer is likely to buy in the other three quarters.

Managers can use the cube in various ways, like identifying what products each customer will buy over a period of time and when the purchase is most likely to happen. They can also identify the customers who are



most likely to buy each product and the times when the product will be in demand. This information framework would be beneficial for managers by aiding them in campaign development. So how can we generate the inputs for this framework?

There are two ways to ascertain this information. The first approach or the Traditional model assumes that what you buy (product choice) is not dependent on when you buy (purchase timing). The second approach (Our model) is based on the dependence between what you buy and when you buy. While the Traditional model lends ease to the generation of inputs, the second approach lends accuracy to the generation of inputs. With the advent of Bayesian estimation, firms can now use the second approach (the premise of our modeling approach) to produce reliable results.

The effectiveness of this new approach of accounting for the dependence of product choice and purchase timing together over the traditional method of not accounting for the dependence was tested in our study involving a B2B high-tech company.<sup>21</sup> A sample of 20,000 customers over three years was used to derive a probability cube, using this new

methodology. The results obtained were far superior to the results obtained by using the traditional method.

The results showed that accounting for product choice and purchase timing *together* (Our model) was better than accounting for product choice and purchase timing independently (Traditional model). Using our model, we further observed that of the customers predicted to buy a product 85% actually made a purchase (as compared to 55% as per the traditional model) and, of the customers predicted not to buy a product 87% did *not* make a purchase (as compared to 59% as per the traditional model). Therefore, the major flaw in the traditional model is that while it predicts the products the customers will buy with good predictive accuracy, it performs poorly in predicting the purchase timing.

In order to test our model's effect on profits and revenues, a field test was conducted. The sample of 20,000 customers was split into test and control groups. The communication strategy for the customers in the test groups was determined by the variable relationships and the probability predictions generated by the new



model. The contact strategy for the control group was decided by the company's traditional approach, which was based on information such as revenue per customer, cost of sales and communication, number of contact before a purchase, profit and ROI that was collected for a year.

When the results were compared, the new methodology improved the B2B firm's profits by an average of \$1,600 per customer, representing an increase in ROI of 160%. The improvement when computed for the sample of 20,000 customers resulted in an increase in profits to about \$32 million for the sample group alone. When this was extended to their entire customer base of 200,000, the potential profit improvement would total \$320 million. Therefore, understanding the purchase sequence using the new model not only saves valuable marketing resources from being spent on unreceptive customers, it also provides a way of helping companies to recover sales that the traditional marketing strategies may currently be losing.

The three important questions answered in the preceding sections help managers to effectively manage customer and thereby improve prof-

itability. In a recent study involving IBM, a leading multinational high technology firm, that markets hardware, software and services to B2B customers, we tested the answers to these questions.<sup>22</sup> Specifically, the study intended to find out **(a)** which customers to select for targeting?, **(b)** is there a way to determine the level of resources to be allocated to the selected customers?, and **(c)** how can the selected customers be nurtured to increase future profitability? The study describes how IBM used CLV as an indicator of customer profitability and reallocated marketing resources based on CLV. When the study was implemented for about 35,000 customers, the CLV-based approach led to reallocation of resources for about 14% of the customers as compared to the allocation rules used previously (which were based on past spending history). Further, such a resource reallocation led to an increase in revenue of about \$20 million (a ten-fold increase) without any significant changes in the level of marketing investment, thereby increasing the return on investment.

When the right customers are contacted with the right product at the right time, it results in an efficient



one-to-one marketing campaign. In such a scenario, firms can choose between personalization and customization. While in personalization the firm decides (based on past customer data) the suitable marketing mix for the customer, in customization the customers can proactively specify one or more elements in their marketing mix. A recent study raises key questions and challenges in understanding the choices made in personalization/customization by firms and customers.<sup>23</sup> Based on the guidelines provided in this study, firms should be able to design their one-to-one marketing campaigns effectively to target the right customers.

Now, if the implementation of CLV based strategies discussed in the preceding sections results in increased profits, does it create shareholder value? If so, how does it create?

## 6. LINKING CLV TO SHAREHOLDER VALUE

In an effort to address the persistent need for managers to justify marketing expenditures, we develop a framework in a recent study that identifies key metrics that firms should focus on which will enable them to

better manage the customers and continue to grow in the future. For example, in a retail setting, we classify the key metrics into customer level and store level metrics that managers can use to develop a marketing dashboard for the firm. The study further identified metrics that provided linkages to financial outcomes such as CLV and shareholder value.<sup>24</sup>

Once CLV has been used to create strategies to better manage customers, the next step is to see if CLV can link the outcome of marketing initiatives to the firm's market capitalization, as measured by the stock price of the firm. However, there has been no empirical evidence generated till now. In a recent study, we made an attempt to link CLV with shareholder value to get better strategic insights.<sup>25</sup> For measuring the shareholder value of the firm, we used the market capitalization to calculate the firm's shareholder value. This is consistent with earlier marketing studies that have employed similar measures to compute the firm's shareholder value.<sup>26, 27</sup> The framework was tested with two Fortune 1000 firms in B2B and B2C context respectively. Our findings show that **(i)** the market capitalization (MC) of a firm can be reliably predict-



ed by customer equity (CE) based framework and **(ii)** marketing strategies directed at increasing the customer equity can not only increase the stock price of the firm but also outperform market expectations. The study establishes that the MC of the firm as determined by the company's stock price is closely tied to the CE of the firm which is driven by customer specific drivers and the firm's marketing interventions.

After establishing the link between CE and MC, we applied the CE-MC relationship to calculate the corresponding change in MC. Our results indicate that a 1% increase in acquisition rate of customers could translate into a 1.4% and 1.9% increase in MC for the B2B and B2C firm, respectively. Similarly, an increase of cross-buy by one product across all retained customers could translate into a 5.3% and 7.5% increase in MC for the B2B and B2C firm. When the acquisition rate and cross-buy was increased by 1% (by one product) for the High CLV, Medium/Low CLV and Negative CLV customers, the results indicated that the lift in MC (in percentage terms) is more than three-fold when acquisition

and cross-selling efforts are targeted to only High CLV customers versus all customers of the firm.

Furthermore, the MC of the firm drops if the firm acquires the wrong customers (i.e., customers who subsequently end up with negative CLV).

Therefore, with this insight can the firm launch marketing initiatives to increase the stock price of the firm? The answer is yes. This would integrate the marketing strategies and tactics to the financial measures of the firm. By speaking in the language of money, such integration would bridge the gap between the CMO's objectives and the CFO's agenda. In other words, marketers can quantify the impact of the marketing organization towards the boardroom's primary agenda of increasing the market capitalization value of the firm.

Having identified CLV as a key metric for measuring future profitability of customers and linked it to shareholder value as a means to improve marketing accountability, how can corporations implement CLV-based strategies as a framework in their business operations?





## 7. IMPLEMENTING CLV-BASED STRATEGIES

One of the major challenges in implementing CLV lies in transforming a firm's focus from Product-Centric to Customer-Centric marketing. While the basic philosophy of the Product-Centric approach is to sell products to whoever is willing to buy, Customer-Centric approach advocates serving specific customers and thereby providing customized services to customers. The shift in focus is therefore from products to customers. For a firm to be customer-centric in its approach, interactions between firm and customer, between customers, and between firms are essential. The net aggregate of all such interactions, known as *interaction orientation*, helps firms develop organizational resources for successful management of customers.

A recent research study provides a road map for understanding and overcoming the key managerial challenges to achieving customer centricity.<sup>28</sup> The study identifies four impediments that lie in the path of becoming a customer-centric firm from a product-centric firm. They are:

- (a) Organizational culture,
- (b) Organizational structure,
- (c) Processes and
- (d) Financial metrics.

The study explains that to be successful in the transition to a customer-centric firm an organization must start with leadership commitment and be synchronized with organization realignment, systems and process support, and revised financial metrics. When these initiatives are followed up with learning and continuous improvement, it would enable firms to achieve a competitive advantage and be successful in the marketplace. In summary, CLV is here to stay and shape the future of the practice of business.

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