The Customer Value Scorecard

By Behram Hansotia

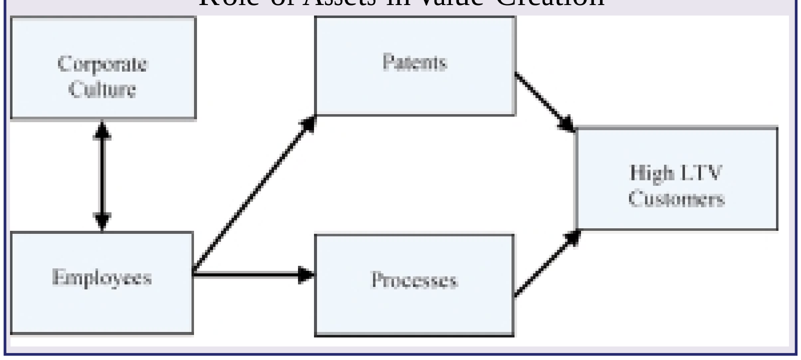
At a time when financial reporting is less than reliable, Behram Hansotia proposes that companies use a customer value scorecard to report statistics associated with customer lifetime value. These scorecards will clearly show if a company is making progress in increasing customer loyalty and share of wallet.

Assets and value creation

CEOs, academicians and the financial community are all dissatisfied with the standard financial balance sheet and how it reflects the assets of a company. Though the balance sheet may have been an adequate representation of a company's assets in an industrial environment, today's knowledge- and information-intensive company needs better representation of its assets. A company's core assets today are its:

- Culture that empowers its employees to do the right thing and provides core values for decision-making, integrity, entrepreneurship and respect for all.
- Employees who can help the company continuously innovate.
- Processes, internal and those that stretch across the company's supply chain, that create value for stakeholders and help acquire, develop and retain the right customers.
- Patents, which give the company dominance in the industry and protect it from brutal competition.
- Loyal customers who repeatedly buy a variety of products that the company offers.

Figure A
Role of Assets in Value Creation



For service businesses like consulting, these assets represent almost the entire asset base of the company. The rapid downward spiral of both Arthur Andersen LLP and Enron graphically attest to the importance of these softer assets. Yet none of these assets are reflected in companies' balance sheets and few companies report them in even a cursory fashion.

Assets are a company's core inputs to present and future value creation. In assessing a firm's financial value (market capitalization), investors intuitively struggle with these measures and attempt to impute the total value as a multiplier of a firm's book value. Companies that are estimated to score high on these soft assets typically have market capitalizations significantly higher than book value.

A company's income statement — namely free cash flow — provides a second measure that is tracked in estimating value. Financial textbooks recommend estimating a firm's value as the net present value (NPV) of its projected free cash flow. Although theoretically NPV is a sound measure, in practice it is notoriously difficult to estimate, particularly in a rapidly changing environment when viewed at the macro firm level.

An approach based on NPV that can shed significant light on the firm's value-creation capabilities is customer lifetime value (LTV) — the net present value of free cash flows attributable to a customer. The value of the firm derived from its core operations then may be calculated as the sum of LTVs of its current and future customers. The details become slightly convoluted in the treatment of fixed costs and capital expenditures. Since LTV is typically calculated using only variable costs, a firm's fixed costs need to be projected over time and its present value must be subtracted from the total current and future customers' LTVs to arrive at firm value. This atomic approach of assessing firm value by summing current and future customers' LTVs could be very useful for investors if these LTV estimates are tracked and reported over time. If the estimated LTVs are increasing over time or the distribution of LTVs is shifting towards the more valuable customers, the firm can demonstrate the creation of shareholder wealth. Figure A shows how these non-financial assets are linked to create higher firm value.

A key approach to understanding any phenomenon or behavior is to understand the variance in that behavior. For instance, if a firm's revenues increase year after year, investors first need to know whether the increase was from core operations or through other means, such as a purchase of another firm, legal settlements, asset sales, etc. Typically this information can be deciphered from financial statements, if one is willing to plough through footnotes. If the increase in revenues is from core operations, the company has achieved one or more of the following strategies:

- The firm now has significantly more new customers.
- Existing customers are buying additional new products.
- Customer retention rates have increased.
- Prices have increased.
- Customers are shopping more frequently.

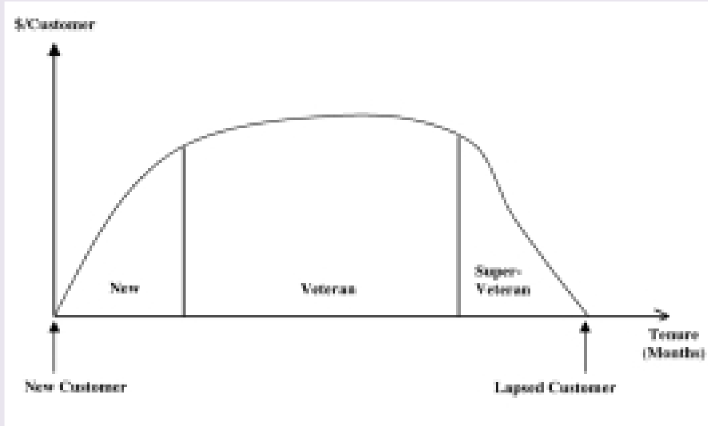
Beyond the source of the increase, it would be quite illuminating if the company could also comment on why the change occurred, what strategy it implemented to create this positive change and if the change is sustainable.

A tool that processes and interprets the behavior of the customer is the Customer Value Scorecard (CVS). InfoWorks first developed the CVS reporting system for a major corporation in 1995. The CVS shows key customer performance metrics computed over the life cycle of customers, grouped into segments and reported over time. The key customer performance metrics are all components of — or associated with — customer LTV. Thus, the metrics shed light on the customer groups whose performance is improving versus those whose performance is declining. Management can then pursue customer-focused strategies to channel resources towards important customer groups deemed to be at risk or towards those who have maximum promise. A successful company that enhances customer loyalty can attract the right type of customers that are critical to increasing its cash flow and the value of the customer franchise. Besides focusing energies on enhancing customer value, the CVS can be a powerful vehicle for disseminating critical information to the investment community, where better information on customer performance and customer dynamics can help investors make better decisions based on more complete information.

Customer Value Scorecard

In designing a CVS, companies should divide customers into three groups based on their life stage or tenure with the company: new (0-12 months), veteran (13- X months), super-veteran (X+ months). These groupings are structured in a manner consistent with LTV cash flows tracked over a customer's life cycle. With the CVS, the duration of the new customer life stage and X needs to be identified based on empirical work. For a company selling non-contractual products, X could be a threshold above which customer revenue, on average, drops off considerably. We can identify X by constructing a graph of revenues per customer, tracking customer cohorts acquired at a point in time and selecting X as the month that shows the most significant decline in revenues.

Figure B
Customer Revenue by Life Stage/Tenure



Each month, new customers enter the new customer life stage, and current groups of customers — as their tenure increases — move into the veteran, super-veteran and lapsed-customer stages. The revenue-by-tenure curve will vary by customer. Figure B shows the relationship averaged across customer cohort groups. For each stage of the customer life cycle, customer metrics related to customers' performance and long-term value need to be tracked. The objective of life stage tracking is to prioritize customer-centric efforts that will have the greatest impact on customer LTV.

New Customer Life Stage

The objectives and tasks in managing customers effectively vary by customer life stage. Objectives for new customers are to:

- Understand new customers' needs and expectations and why they chose to do business with your firm.
- Establish the company's brand and reinforce brand promises.
- Introduce the customer to all relevant products the firm has to offer.
- Estimate the potential long-term value of the customer so the firm can begin to offer the right products and make appropriate marketing investments in the succeeding customer life stages. Estimating customers' LTVs are best done at the end of the new customer life stage so all the data captured during this first stage

Figure C
Conversion Rate to 2+ Buyer Status in First Quarter of Tenure By Customer Cohort

can be used to predict the customer's future purchasing behaviors.

• Use surveys at the end of the first stage to measure how well the company delivered on its brand promise and met customers' expectations.

To track how well the firm is managing its customer interactions, the following types of key customer performance metrics should be tracked monthly/quarterly and reported for the last 13 months or five quarters, as well as the average for the last three or four years. Whether the key customer performance metrics are tracked monthly or quarterly depends on the volatility or seasonality of the business.

As an example, a CVS for a retailer is discussed below:

• Metrics that measure the acquisition rate. Where applicable, the acquisition cost of new customers, in total, by channel (store, catalog, web site) and measurable media such as direct mail, e-mail, banner ads, print ads, direct-response radio and TV, etc.

• The percent of customers who buy again. For many retailers, either the time between the first and second purchase is very long or a high percentage of new customers remain one-time buyers. Converting one-time buyers into multi-buyers continues to be a major opportunity for many retailers.

• The mean time to second purchase and the distribution of time to second purchase. The faster customers buy again, the more likely they will buy repeatedly.

• Metrics related to all orders from new customers appropriately normalize over time, since the new customer group consists of 12 monthly cohorts.

• Revenues per customer-month.

• Number of orders per customer-month.

• Profit and profit margin per customer-month and per dollar of revenue per customer-month.

The information can be displayed in both tabular and graphical form, so trends can be discerned quickly. For example, assuming a new customer life stage is 12 months, it is possible to track the percent of customers that are two-plus buyers in three months from this quarter, compared to previous quarters. Please see Figure C.

The current quarter (0) can now be compared to previous quarters as well as the same quarter last year (-4). In this instance, there has been a gradual decline in the conversion rate to two-plus buyers in the first quarter of tenure from three quarters ago. The firm may want to determine if it did anything differently in targeting prospects or new customers three quarters ago since the conversion rate hit its peak for that cohort of customers. In this example, fewer and fewer new customers are buying again in their first quarter of tenure and the company needs to understand the reasons behind that trend. Have marketing practices changed? Is it the economic climate? Or are customers delaying their second purchase? If the latter is the cause, the trend should appear in the opposite direction when the conversion rate to two-plus buyer status in the second quarter of customer tenure is tracked.

Once all the metrics have been calculated and tracked, a cohesive story must be developed to describe the "state of the union" for new customers. Other recommended activities, such as understanding the needs and expectations of new customers and obtaining feedback on company performance in the first 12 months of customers' tenure, should provide further insights into specific areas that the company should target for improvement.

Each cohort should also be assigned to a specific behavioral segment and its average LTV calculated at the end of its new customer tenure. This information is extremely valuable in designing customer development and retention programs and in allocating marketing dollars across veteran customers of different expected values to the company.

VETERAN CUSTOMER LIFE STAGE

The customer development and retention efforts occur in the veteran customer life stage in an effort to deepen the relationship and maximize the share of wallet in all categories and products.

Here, the typical financial and buying behavior metrics are tracked over customer groups by grouping customers into bands based on the LTV, estimated at the end of the new customer life stage. These LTV estimates do not have to be static and ideally should be re-estimated as customers mature each year. For example, if the veteran customer time period is five years, then for each of the next five years, new LTV estimates can be computed. Using LTV in this context, we actually mean remaining value (RV), from the current time forward. RVs are typically dependent on the tenure of the customer.

If the firm is successful in increasing the RV of customers for each tenure level, it is meeting its customer-development objectives. Figure D shows RV for customers with three years (customers acquired 36 months to 48 months ago) tenure and how their values compare to historic values.

From Figure D we can determine that the RV for customers with three years of tenure is significantly more than what was estimated in the same quarter one year ago. In the last three quarters, the firm has made steady progress in increasing these customers' remaining values. If similar results are obtained for several different tenures, this type of information would be extremely valuable to investors and should have an impact on the stock price.

If a firm is not comfortable reporting projected metrics like RV, it could report historic customer level profitability metrics such as:

- Purchase rates by division
- Order size
- Gross margin per customer per quarter
- Marketing investment per customer (for addressable media)
- Revenue and gross profits per dollar of marketing investment

These metrics can be tracked by (behavioral) customer segment and by channel so the firm can more easily identify what is and is not working. Additionally, significant change can be identified from normal variation. Quality control engineers use a similar method to monitor manufacturing processes. The CVS's main goal is to monitor the health or quality of the customer franchise and identify problem areas early that management can address.

Super-Veteran Customers

We would expect to see sales per customer reduce after the veteran customer stage. And as customers' tenures increase within this life stage, there may be a further downward shift in this metric because active customers are reducing their spending level and others have ceased buying completely.

The rate of decline will vary across customers and the nature of the business. Many retailers have aligned their brands and product offerings by key customer life stages and demographics. As customers pass through these life stages, their relationship with a company may decline. For example, teenage girls' purchase rate and amount with some retailers will taper off as these customers move into their late teens and early twenties. Typically, it is very difficult for any brand to be all things to all people. Even Wal-Mart, the world's largest retailer, has certain geographic, socio-economic and life-stage niches where it does significantly better than in other areas.

The company's key challenge, therefore, is to ensure that its communications with its super-veteran customers are relevant. A company should only direct offerings that are meaningful to the super-veterans that serve their needs. The key customer management objective is to reduce the negative trend as much as possible, but in a cost-effective fashion. Marketing should be conducted in a one-to-one relationship, if possible, and a company should try to leverage its long-term relationship with those customers. It is easy to overspend on retaining customers in their late life stage and even dilute the brand. The CVS alerts the company as to how marketing dollars spent affects customer behavior.

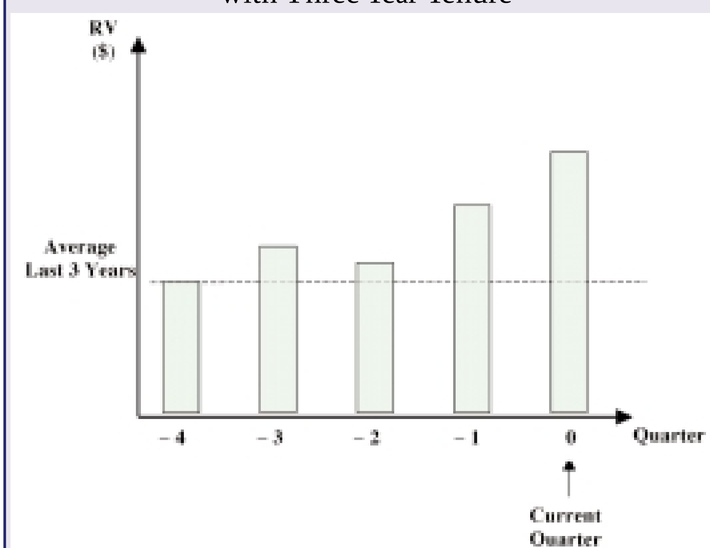
Evolution and Use of the CVS at a Major Retailer

A major retailer wanting to be more customer-focused commissioned a large-scale behavioral segmentation. This retailer has a national presence and sells both hard and soft goods as well as home improvement and insurance products. Although retail stores are its primary channel, the retailer also receives orders via telephone and its web site.

The multi-dimensional segmentation grouped customer households based on their life stage tenure, product selection, channel usage, credit behavior, frequency and size of their purchasing behavior. Each dimension was constructed from one or more core variables on the database and the final segmentation was built using latent class modeling.

Latent class modeling is a relatively new technique that has seen a lot of interest by academicians, but has been applied only recently by

Figure D
Remaining Value of Customers
with Three Year Tenure



database marketing practitioners. Essentially, the method assumes that the observations (customers) are heterogeneous and hail from a mixture of distributions. The objective then is to identify the underlying joint probability distributions or segments. The method produces a set of segment membership probabilities for each customer, in a sense creating fuzzy segments. Customers may be assigned to the segment with the largest membership probability or members of a specific segment may be identified for a marketing treatment by selecting all customers with membership probabilities above a certain cutoff level. Latent class or mixture distribution methods have been developed for all of the well-known statistical techniques that are based on a single distribution, including latent class regression, latent class conjoint analysis and latent class multidimensional scaling. (For more information on latent class modeling, please refer to Dillon and Kumar in Bagozzi (1994)).

Once the company built the segmentation, it was interested in understanding the profitability of each segment, as well as segment member transitions over time. Each segment was thus profiled using key customer performance metrics related to customer profitability: order size, order frequency, order margin, annual profitability, etc. These metrics were developed using the most recent 12 months of transactions.

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Next, the retailer turned its attention to understanding segment migration by assigning customers to segments using the most recent 12 months of data at the end of each calendar year and by noting the segment transitions. The retailer also created an inactive customer segment so customers who stopped buying in any year could be assigned to that segment. Although the majority of the inactive customers stayed inactive in subsequent years, a small percentage — mostly hard goods (consumer durables) buyers — would reactivate each year.

For each year the retailer recomputed the key customer performance metrics for each segment and documented the trends by segment and overall, as well as the annual customer transition rates.

The retailer summarized key findings and presented them at its quarterly senior management meetings. The vice president of strategic planning also used the CVS to develop and present recommendations to the executive committee for customer-focused programs. These programs were related to credit policies or customer reactivation programs or additional communications, with specific segments to encourage incremental purchases and help customers migrate to more profitable segments at higher rates. Analysts initially ran the CVS. Later, to give its managers more direct access, the retailer added a graphical user interface to the front end of the CVS. Each quarter, the company updated its calculations based on the most recent information. Managers could then run reports and graphs of the key customer performance metrics they were most interested in tracking.

The above example describes how a large retailing organization used CVS as a key tool to strategically drive customer-focused programs based on customer behaviors. The company, however, did not share this information with investors. Although companies never want to share this level of detail with the outside world, selected key customer performance metrics and their trends could go a long way towards providing guidance to investors on how well the company is managing and developing its most important assets — its customers. If more companies make high-level customer performance metrics available to investors, the trends in a company's core business will become more transparent and this may attract more investors to the financial markets.

INVESTOR RELATIONS IMPLICATIONS

In the seminal book, The Value Reporting Revolution, Moving Beyond the Earnings Game, (Eccles, Hertz, Keegan and Phillips, 2001), the authors stress that for investors to make informed decisions in valuing firms, they need much more than the typical financial metrics to properly evaluate them. Major gaps in the metrics of customer and marketing performance exist between what analysts and investors would like to see and what is reported, including:

- Customer turnover rates
- Customer acquisition costs
- Segment performance
- Market size, growth and share
- Brand equity/visibility
- Brand development cost

Not only are companies not reporting these customer metrics to the external public, but seldom are they measuring and tracking them internally. Companies therefore have little understanding of how the quality of their customer base is changing and where they need to be proactive to revise negative trends.

Investors would value CVS information as a source of information about concepts that are difficult to quantify, provided these metrics are audited and experts recognize the methodologies. Customer information can not be analyzed alone, but when supported with financial data, KCPM provides a more complete picture of the core performance of a business.

CONCLUSION

The CVS is a key diagnostic tool in managing customers. By tracking customers' performance over time and across cohorts and segments, the firm can identify customer groups that are underperforming or have markedly changed their buying patterns. Marketing processes designed to extract maximum value from the customer base can then be fine-tuned or targeted more precisely on specific opportunities to reverse negative trends. Key customer life cycle processes the firm should manage include:

- Customer acquisition
- New customer experience
- Customer development
- Customer retention
- Customer win-back

All marketing processes start with a specific audience, such as prospects, customer segments or sub groups. Companies can then leverage insights about this audience, obtained through behavioral segmentation and primary research, to design competing programs to meet the objectives of the process. Testing, modeling and development of economic decision rules next allow companies to optimally match value propositions, communications or marketing treatments to specific customer profiles.

For customer relationship management (CRM) to succeed, a company must extensively leverage its customer data to not only be relevant, but to be extremely disciplined in targeting its marketing efforts. The CVS is a key tool for identifying opportunities and risks in key customer groups.

If the company can demonstrate that it is effectively increasing customer value, it should make this information widely available to the investment community. Unfortunately, most companies are still neophytes in analyzing customer data despite spending millions of dollars assembling customer data warehouses and CRM execution software. However, these same companies have spent very little effort on diagnosing customer-related problems or designing processes that leverage the captured data through segmentation and targeting models. The analytic and technology capabilities exist, with some companies having significant success with those approaches, yet these methodologies are still not mainstream in most organizations. The information-intensive approach to managing customers will gradually spread through all organizations that routinely capture customer transactions. As with all new products and services, a diffusion process for adoption of new approaches exists (Bass, 1969; Midgley and Dowling, 1978; Peterson and Mahajan, 1978). However, most companies today are still in the "early adopters" phase (Rogers, 1983, p. 24) in leveraging customer data in building a business.

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