



DIVVYING UP THE MARKETING PIE

Modeling can help optimize marketing mix resource allocation to maximize customer equity.

| **SYNOPSIS** | Financial institutions have traditionally based their marketing budgets on a percentage of last year's revenues or budget, which often results in suboptimal results and wasteful spending. Better results can be achieved by using econometric and optimization modeling to determine an optimal marketing budget that allocates spending across appropriate media to increase customer equity and shareholder value. One bank found that a 10% increase in direct mail spending would yield a 7% gain in customer equity through better customer retention.

BY DOMINIQUE M. HANSENS AND BARBARA LEWIS

How should marketing dollars be allocated? The question is one that financial services and other industries have been wrestling with for more than 100 years. Many organizations in 2005 find themselves in the same situation as Sir William Hesketh Lever, the soap-maker and eventual founder of Unilever, who in the late 1800s commented: "Half the money I spend on advertising is wasted, and the trouble is I don't know which half."

Traditionally, marketing budgets are based on a percentage of last year's revenues or budget. Such budgets are easy to create, but this is an approach that falls short. It fails, for example, to address how much should be invested in customer acquisition or retention, which customer segments and products should be targeted, and even the type of marketing media to be used. Because it does not challenge marketing investments to be productive, it

can lead to suboptimal results and wasteful spending.

To enhance marketing productivity, many financial services organizations are turning to econometric analysis and optimization modeling. The former examines the relationships over time between marketing mix variables that are controlled and performance measures, such as sale or market share, that represent the outcomes of marketing plans.

Optimization modeling is the ideal allocation of resources to maximize objectives. The bank that tracks its marketing spend across media and customer acquisition/retention can gauge the effectiveness of its spending and determine an optimal amount of money to be allocated to various marketing activities. The key is to find the point where the expense of marketing in a channel creates the highest customer value.

For example, one bank found that increasing marketing dollars spent on

direct mail by 10% increased "customer equity" by 7%, or \$5.3 million. This was accomplished by extending the average customer lifetime — customers who stay longer with the bank can yield more long-term value even if the annual contribution they generate is unchanged.

CUSTOMER LIFETIME VALUE

Underlying the marketing productivity boost is the concept of "customer lifetime value," which is the net present value of a customer's current and future contributions to profit. The sum of all customers' lifetime values is customer equity. There are four sources of customer equity:

- The attraction of new customers, which are a source of revenue growth;
- Improvements in the retention of customers, whether by improving the rate or retaining customers longer;

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- The cross-selling of current customers to other business lines;
- The up-selling of current customers to a higher profit product or service within a business line.

Long used in the catalog industry, customer lifetime value is becoming increasingly prevalent in the financial services industry as executives recognize that marketing success is not just the number of customers but the value of those customers over the course of their “lifetime” with the bank. Savvy management aims to

increase customer equity as a means of enhancing the long-term value of the financial institution.

Marketing instruments have a differential impact on the four components of customer equity. These impacts are classified into three areas:

- Marketing communications, whether broad such as national TV, or very focused such as direct marketing;
- Other controllable factors, including branches per capita or service employees per branch;

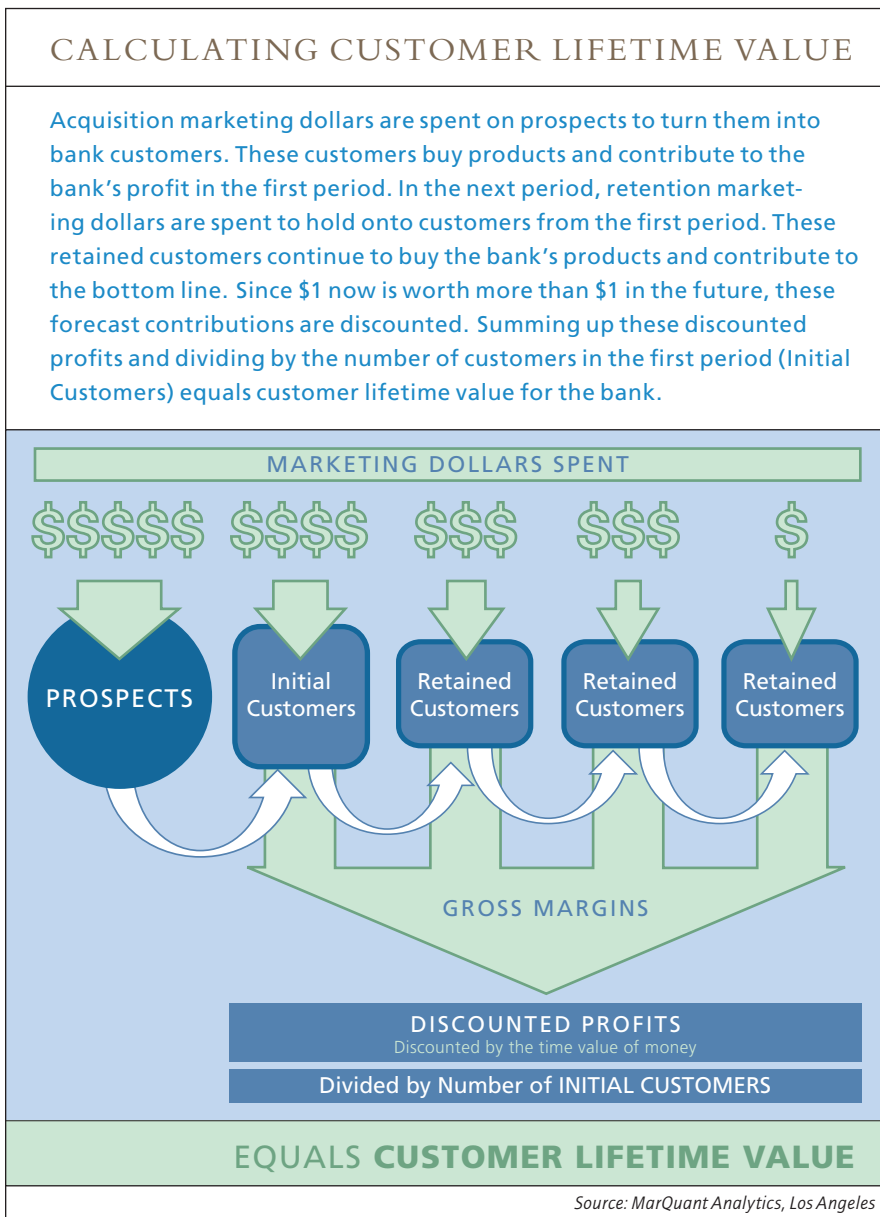
- External economic factors such as the consumer price index, stock market index and housing starts, for example.

Econometric methods, which are used to develop market response models, indicate how marketing media such as TV, radio, print ads, direct mail, etc. impact the various performance metrics, specifically acquisition rate, retention rate and revenues. For example, if television advertising doubled, there would be a simultaneous impact on several metrics in the short run — the effects of which can be simulated. The long-term implications of these short-term movements indicate how sound the strategy is in the long run.

Development of these models requires a bank’s IT department to gather prescribed data that econometricians or statisticians can use to create the response models. The response models are the basis of optimization or simulation software developed for use by the bank’s marketing department.

How “should” marketing dollars be allocated? An optimization routine can find the “best” combination of media expenses to give the institution the highest customer equity value. By taking the major elements of the marketing mix and performing a customer equity optimization, the optimal allocation can be calculated, both for the short- and long-run in concert with the bank’s strategic goals. A plan to build market share will favor a different marketing mix compared to an objective of maximizing individual customer worth.

Short-term goals may focus on media that increase acquisition, but these new clients may stay only a few months, decreasing long-term metrics such as customer equity. Most likely, the optimizations and refocused marketing spend will have a beneficial effect on short- and long-term objectives.



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The critical question for customer equity maximization value is: how does the short-term revenue from new customers translate into long-term revenue? For financial institutions, the answer depends on two important metrics: the customer retention rate, which is never 100%, and therefore gradually decreases the size of the existing customer base, and the discount factor, which ranges from around 6% to 12% annually. The retention value of the institution's customers diminishes over time as the effects of attrition and discount factors are compounded.

ESTIMATING CUSTOMER EQUITY

Financial institutions are in the relationship business and thus have comprehensive customer data that can be used to optimize marketing mix resource allocation to maximize customer equity. This data includes the marketing spending by channel, new and lost customers, revenues segmented by products/services, by branches, designated marketing areas, and customer segments gathered on a weekly basis.

Econometric modeling uses changes in marketing activities such as direct mail, TV, Web activities, etc., so that the effects of those specific spending changes on acquisition, retention and revenues can be statistically isolated. The revenue from acquisition and retention in the long term creates both top-line performance (revenue) and bottom-line performance (customer equity).

Banks can estimate customer equity for 10 or more years out. After 10 years there is severe discounting of the cash flows. A \$100.00 cash flow at the 11th year is worth only \$28.75 in today's value. The patterns of acquiring and losing customers and generating revenues, along with the gross margins on the various financial products, yield both the short-term and the long-term estimated contri-

butions to profits. Then, by properly discounting these gross profits back to the present, the institution can get an estimate of customer equity. Naturally, these are estimates or projections that are subject to revision as, for example, economic and competi-

ing returns to scale. For example, the higher the lift in response at the current level of spending, the more marketing investment is justified, and vice versa.

The shape of the entire market response curve is generated using the

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tive conditions change. Even so, the projections are strategically useful as they provide a trajectory of future business performance based on current and projected marketing investments that management can evaluate and improve upon.

For the optimization, the economic factors are typically held at their most recent levels, though it is possible to test the effects of different scenarios such as a gradual improvement in the economic environment.

The first step is to consider marketing spending at its current level and allocation, and to derive the implications of this policy for customer-equity development. The second step is to compare this trajectory with the marketing investment strategy that is suggested by the optimization. The optimization will indicate that the financial institution should allocate its resources in proportion to their effectiveness. As a result of allocating scarce marketing dollars more productively, the financial institution should enjoy an increase in customer equity.

Recommendations may increase spending for certain marketing activities and cut others. For example, cable TV spending may increase at the expense of print advertising or vice versa. These changes reflect different positions on the market response curve, which is subject to diminish-

techniques of econometrics, and results in estimates of response elasticities for each marketing medium. For example, a print advertising elasticity of 0.2 implies that, for every 10% increase of print spending, revenue increases by 2%.

In cases where the recommended spending for a specific marketing activity is far outside the current spending range, it is prudent to engage in a marketing experiment to verify that the response level is in line with that anticipated by the optimization model. For example, a bank uses e-mail as a direct marketing channel. The analysis indicates gross under-spending in this channel and recommends a 500% increase. Since a 500% increase has not been previously tested, this would constitute a risk. So, a 100% increase is implemented and simulated through the model.

After the completion of the marketing period, actual results are compared with the predicted results. Assuming the actual results are close to the predicted, the model is recalibrated, appending the last period's data. The institution now has more confidence in the models' recommendation for e-mail spending.

OPTIMIZING BUDGET ALLOCATIONS

As a result of the econometric and optimization modeling, banks can see how different customer segments and

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product categories will generate revenues and gross margins. This is a very useful tool strategically, because the financial institution can analyze the consequences of top-line growth verses bottom-line growth. For example, the bank may find that, by spending more aggressively, it can expand its customer base with customers whose acquisition costs are nearly the same as their marginal revenue. In that case, there will be top-line growth, but not necessarily customer equity growth.

A realistic market response model obeys the laws of diminishing returns to scale. If a financial institution's direct mail is currently yielding a 3% response rate and if the direct mail budget is doubled, the institution should expect a lower response rate on the additional budget allocation. These results will, of course, vary with the quality of execution within each medium, which relies upon the creative component in

marketing communications.

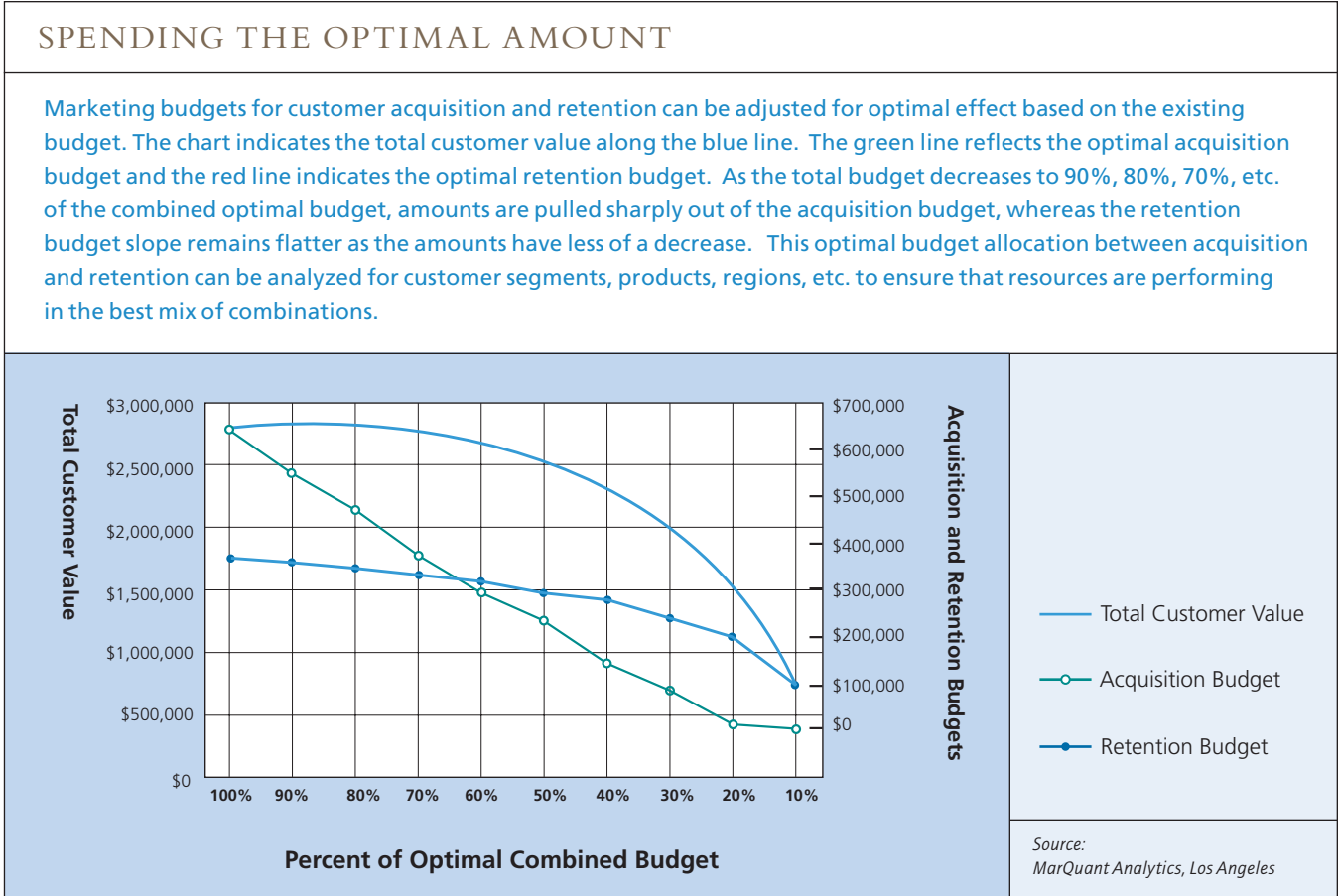
Such qualitative changes may be accounted for in an econometric model. However, the best way to assess that is by running simple marketing experiments rather than sophisticated econometrics. Insofar as a financial institution is more successful in increasing lift due to higher execution quality, it follows that the institution should spend more on that medium. The optimization generally assumes that the quality of the financial institution's marketing execution remains the same, and thus its marketing spending is subject to the laws of diminishing returns. Different scenarios can be used to test the sensitivity of customer equity to changes in the quality of marketing execution.

If a financial institution reallocates its marketing spending based on insights from an optimization exercise, the impact will be beneficial for both short-term and long-term profit-

ability. Pursuing a strategy of top-line growth — expanding total customers and total revenues — can be consistent with customer equity maximization, although not always. The result depends on the customer equity drivers and especially the drivers of customer retention.

No longer should executives be in a quandary about marketing budgets. The use of econometric and optimization modeling can guide financial institutions to determine their optimal marketing budget and then optimally allocate that budget for heightened customer equity and shareholder value.

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