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Marketing When Customer Equity Matters

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If you're a marketer, some of your hardest decisions relate to the "marketing mix," or how you should allocate resources across all the possible ways of reaching and serving potential and existing customers. Should you spend more on new-product marketing and less on brand building? More on customer service improvements and less on sales promotion? Or should all of the above be pared down to fund more interactive-media investment? Intuitively, you know that there's some optimal combination that would deliver the most impact. The elusiveness of that formula might be a huge frustration to you. If so, you're probably not alone. The senior leadership of your organization is frustrated, too.

Top management's demand for greater accountability for marketing expenditures seems to grow with every passing year, and it's no wonder. Research shows that most new-product launches fail and that, thanks mainly to the overuse of promotional discounts, many consumer brands are losing their luster. An analysis of hundreds of marketing experiments led by Leonard M. Lodish of Wharton indicates that increased advertising spending lifts revenue for only 33% of established products and 55% of new products. Given that, on average, advertising spending alone consumes about 3% of corporate revenue, the profit impact of ineffective marketing is clear.

Marketing accountability is difficult to achieve because the cause-and-effect relationships between marketing and business performance usually are fuzzy at best. There has, however, been much progress in recent years in at least some sectors. Makers of consumer packaged goods, like Procter & Gamble, Kraft Foods, and Coca-Cola, have been particularly successful in developing objective, data-based methods of evaluating effectiveness. Thanks to the abundance of their data—and the fact that near-term revenue and profit are sufficient barometers of performance in their business—they have been able to create analytical models to trace the sales impact of their marketing actions and to allocate resources toward the ones that work best. Meanwhile, some other companies, which do not have ready access to large historic databases, have staged experiments (typically pitting test markets against control markets) to gauge the impact of individual marketing campaigns. In this way, a brand manager for a breakfast cereal can now learn whether a coupon in a newspaper circular lifts sales more than, say, a talking advertisement in a supermarket aisle. A direct marketer might learn that busy suburban parents are twice as likely to respond to a campaign as urban hipsters are.

Tactical insights at this level are what many companies want. Note, however, that the ultimate performance measure in both cases is *unit sales* or *revenue*, and the lessons learned improve profits in the near term. For businesses that depend on building long-lasting, profitable relationships with customers, the existing models still fall short.

Wachovia is just such a company. Like other financial institutions—and for that matter, most service businesses and B2B companies—it needs to set its sights on increasing *customer equity*. The term is a technical one; it refers to a concept developed over the past decade by thought leaders in academia and industry. By definition, customer equity is the present value of the anticipated lifetime revenue the company's customers will generate, minus their acquisition and retention costs. If a company embraces increasing customer equity as its performance goal, it's acknowledging that a marketing tactic that boosts sales in the short term can have a negative effect on customer lifetime value. When forced to choose between one goal and the other, it favors the latter.

Wachovia therefore faced a problem. Its marketers wanted to assess and improve the effectiveness of its marketing mix, but unfortunately no marketing-mix models had yet been developed to link allocation decisions to customer equity goals.

In this article we'll describe the tool that had to be created for Wachovia. We'll take readers through the process as it unfolded, from the initial challenge issued by senior management and the painstaking work to build the marketing database, through the testing of the model and ongoing use of it to evaluate returns on marketing investments. Companies that believe in the importance of customer equity but haven't been able to apply it in their daily decision making will recognize the practical value of this innovation. Wachovia's work shows that it is possible to make fact-based decisions on marketing spending that have benefits that are farther-reaching than immediate sales. But it takes good data, sound models, and a certain amount of organizational courage.

The Challenge

Wachovia, like many of today's largest financial institutions, has grown mainly through mergers and acquisitions. With 122,000 employees, it is the fourth-largest bank-holding company in the United States based on assets ($782.9 billion) and the third-largest U.S. full-service brokerage firm based on client assets. During one very significant merger, the 2001 merger of First Union and Wachovia, management decided to invest substantially in building the brand of the newly combined entity. It was to go by the name Wachovia, even though Wachovia had been a fairly small regional bank, known only in five southeastern states, while First Union had been a national and, in many ways, international player. By embarking on a major brand-building initiative, management hoped to prevent the attrition and the dip in customer satisfaction scores that commonly follow when companies integrate their systems and processes.

The proposal for the initiative called for a large increase in advertising spending, which chairman and CEO Ken Thompson approved. With that approval, however, he wanted a new level of discipline in marketing-expense management. Specifically, he wanted the company to be able to answer three questions: What is the relative return on each major component of Wachovia's retail-marketing spending? What is the overall return on retail-marketing spending? And is there a prospective "mix" of retail-marketing spending that would have a higher return than the current mix?

They were daunting questions, and it immediately became clear that a systematic, data-based approach would be essential to answering them—and to steering future marketing-resource allocations. Also obvious was that the nature of the return being sought would have to be carefully defined.

Dominique M. Hanssens (dominique.hanssens@anderson.ucla.edu) is the Bud Knapp Professor of Marketing at the UCLA Anderson School of Management and a partner with MarketShare Partners in Los Angeles. **Daniel Thorpe** (daniel.thorpe@wachovia.com) is a senior vice president and the director of statistics and modeling for Wachovia in Charlotte, North Carolina. **Carl Finkbeiner** (carl.finkbeiner@tns-global.com) is the executive vice president of innovation at TNS in Philadelphia.

Unfortunately, it could not be so simple as top-line revenue or quarterly earnings. While those are vital metrics of business performance, they're affected only indirectly by marketing strategy at Wachovia, whereas hosts of outside factors that the company's marketers cannot control (for example, the state of the economy, population trends, and competitors' moves) can have greater influence on them.

Delving into Customer Equity

What was the right performance measure to use? Given that the new focus was on brand building (which is a long-term objective and hard to measure) and that Wachovia already had a well-established focus on customer satisfaction, management determined that it would be possible and desirable to maximize the economic value the company got from its customers over their lifetimes. As a practical matter, that overall customer equity goal can be broken down into three major and measurable components: customer acquisition, customer retention, and cross- or up-selling to existing customers. Acquiring more customers through effective advertising or public relations increases customer equity, but so does keeping customers in the fold with an expanded branch network or capturing greater share of wallet through additional product offerings. Answering CEO Thompson's challenge would be a matter of tracking expenditures on the three components, measuring their impact in each of those areas—and then summing those calculations into a total measure of return.

What Goes into the Model?

Elements That Affect Customer Equity

Directly controlled by marketing

- Media advertising
- Internet advertising
- Direct mail—prospects and customers
- Sales employees per branch
- Branches per capita
- Rate ratios
- Sponsorships

Indirectly controlled by marketing

- News coverage
- Customer satisfaction
- Brand equity

External

- Leading economic indicators
- Seasonality
- Identified shocks

Building a Model That Captured Reality

The first step to creating a tool that could guide investments going forward was to build a model that accurately reflected what had happened in the past. That required a team of people from two separate divisions of Wachovia—Corporate Marketing, and Customer Insight and Analytics—working closely with Wachovia's financial group. The team was further expanded to include expertise from a leading market research firm, TNS, and from UCLA's Anderson School of Management.

Gathering data and creating the models. The team's work began in earnest with the design and development of a comprehensive historical marketing database. That effort required substantial cross-functional collaboration. For example, the company's advertising agency provided the historical spending allocations across media, while Wachovia's branch network identified changes in the number and location of branches as well as service personnel within branches, and Wachovia's Service Excellence group provided customer satisfaction readings.

The database was set up to track changes in customer equity at the household level. In retail banking, family members often choose their products together. Hence, what was called a customer in the marketing database was actually a household; all bank accounts belonging to a household were grouped together in its estimates. The key output of the marketing database became a weekly report for each Designated Market Area (DMA)—Nielsen's term for a locale served by primarily the same TV and radio stations. The reports were designed to show movements in the three components—acquisition of new customers, retention or loss of existing customers, and revenue growth for existing customers. For the purpose of analysis, customers were also grouped into affluence segments, so the company could see how the impact of marketing tactics differed across segments.

The creation of the marketing database involved challenges on many levels. Indeed, it was the hardest task the team faced. Initially, only two years of data could be recovered, assembled from 11 data sources. These data, originally covering varying time periods and geographies, had to be aggregated or disaggregated into weekly measures at the DMA level. Several variables affecting customer equity were highly collinear, meaning that movements in one variable were almost perfectly mirrored by movements in another. That made it difficult to disentangle their individual effects on business performance. Getting the actual advertising spending data took up to six months, and various anomalies had to be accounted for, such as the occurrence of hurricanes and changes in accounting practices. Through clustering and variable-reduction methods, the team refined the final database into the categories of variables shown in the box "What Goes into the Model?"

Estimating the marketing impact. With the data on marketing activities and customer equity outcomes in hand, the quest began to discover just how the former increased the latter. The team built models that estimated the incremental impact that each marketing variable—ad spending, news coverage, and so on—had on customer acquisition, customer attrition, and revenue, and its follow-on effect on the customer base and profits. (See the exhibit "The Logic Behind the Equations.")

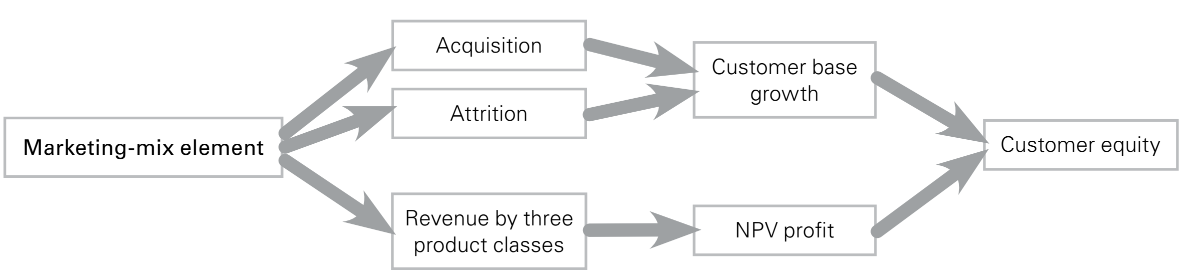
Many equations had to be developed to take into account changes in acquisition, retention, and revenue across different customer segments and for each classification of product—deposits, credit, and investments. This allowed decision makers to get a detailed picture of each element's impact. That impact was often asymmetrical; for example, advertising might have a stronger impact on acquisition than on retention, while customer service might show the reverse pattern. Only by measuring the effects on each component of customer equity and then combining them was Wachovia able to derive the total, long-run effects of its marketing-mix decisions.

Once all these models were rolled up, the bank had a solid understanding of total customer equity and the relative strength of each of its components. Wachovia also had the ability to gain insights about marketing impact on a more granular level, by focusing on individual activities, products, geographies, or customer segments.

There are many advantages to having such a comprehensive market-response model. One is that Wachovia executives have gained an appreciation of the impact of economic swings and other factors outside managers' control relative to the impact of marketing investments. That important shared insight prevents false conclusions from being drawn from performance experience. For example, 2006 was a good customer-acquisitions year for Wachovia, despite conservative marketing spending. That observation alone might have led management to resist greater investment. But the customer equity models revealed that a significant part of the bank's growth in that year had been the windfall of a growing economy—and that the marketing investments that had been made had been quite

The Logic Behind the Equations

Wachovia's model connects marketing investment decisions to a customer equity goal.



effective. It became clear that Wachovia could have experienced even more growth had it spent more aggressively.

Using the Models to Guide Decisions

Managers at Wachovia were satisfied that the market-response models, based on historical data, accurately depicted what had happened in the past. But did they have the power to predict effects under different conditions? To find out if the impact estimates were truly a reliable basis for making future allocation decisions, Wachovia conducted a live experiment. Focusing on four Florida DMAs, the company halted spending in two media (traditional channels that were identified as overinvested in) for a period of time and monitored the subsequent movements in customer acquisition, retention, and cross-selling. Each test market's results were compared with those of a closely similar DMA that, as a control, continued to receive baseline funding for those media.

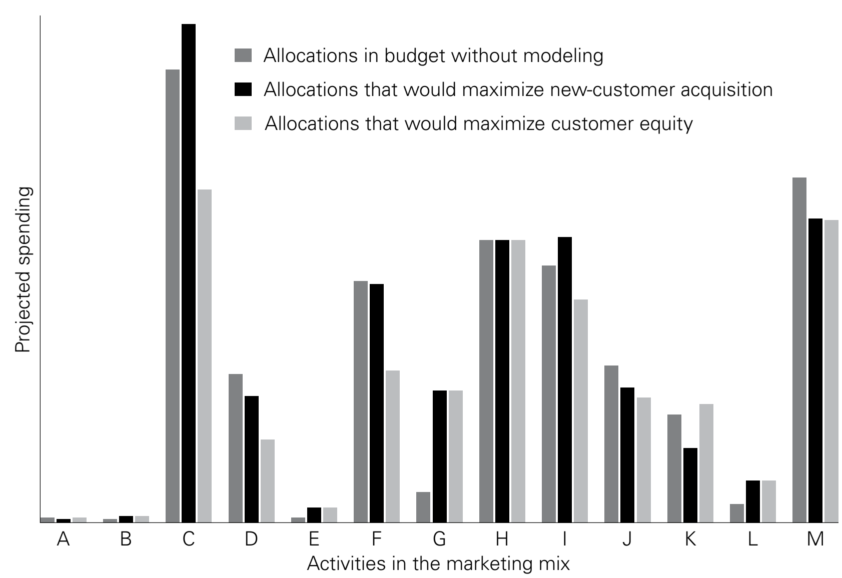
The analysis of the results gave Wachovia high confidence in its approach. It confirmed the predictions made by the market-response models. Now came the opportunity to apply the models to develop decision-support tools that could help answer the marketing-mix questions Wachovia managers faced. For example, what would be the ideal media-advertising and direct mail allocations by DMA, given certain constraints (like a fixed total budget, no more than 20% variation at the regional level, and the condition that total new-customer acquisitions would not decrease)?

A question like this involves complex mathematics, given that each component of customer equity both contributes unevenly to overall equity (for example, a 1% increase in customer retention typically has a financial impact that's far different from that of a 1% increase in acquisition) and responds differently to changes in investments. To find the answer, the model must calculate the impact of thousands of different combinations of marketing allocations that vary by media, market, and segment, subject to dozens of constraints on marketing budgets and outcomes. A decision-support tool must make use of robust model-fitting techniques and dynamic optimization methods in order to meet that challenge. As there were no off-the-shelf programs to solve such massive problems, Wachovia and TNS partnered with SAS for software support and MarQuant Analytics for mathematical optimization expertise.

Once extensive equations had been run, the outcomes projected, and customer equity

Different Goals Lead to Different Allocations

Wachovia's model showed that a marketing mix designed to maximize new customer acquisitions in the short term would differ significantly from a mix designed to maximize customer equity.



estimates compiled, Wachovia had answers—and often, the rationale for a marketing mix that was quite different from the one it had used in the past. The exhibit "Different Goals Lead to Different Allocations," reflecting actual Wachovia data, illustrates this well. In it, a current marketing budget is reallocated across different types of marketing activities in service of two different goals. The bars labeled "allocations that would maximize new-customer acquisition" meet the goal of optimizing new-household acquisitions given a fixed budget. The bars labeled "allocations that would maximize customer equity" meet a long-term profitability goal. Note the differences in the allocations. Clearly, if the company's goal is to maximize customer equity, the acquisition-geared allocations would be suboptimal.

It's important to note that the evidence revealed by a model, especially one built from observational data, is not infallible. Wachovia is careful to use its marketing-mix models to augment other inputs into decision making. That said, the customer equity model has been very useful in flagging areas of concern. For example, it indicated that Wachovia was overspending in many traditional channels and underspending in emerging ones. The model also raised important questions. For instance, given the larger-than-anticipated impact of corporate communications, should Wachovia invest more in external news media outreach and public relations? Questions also arose about the impact of specific sponsorships and events, which were difficult to measure because by their nature they involve expense outlays that are continuous and unvarying. In each case, specific projects and analyses were launched to examine the issues in more detail.

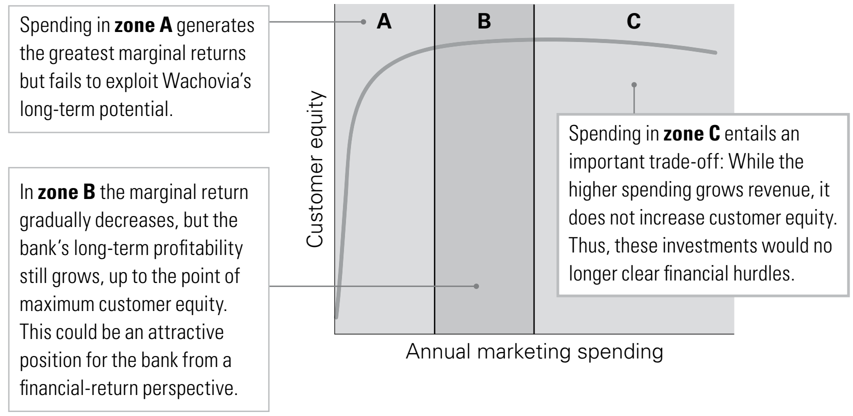
At a much higher level, the approach is shedding new light on the question of the overall budget's size. Most marketing executives are aware of the law of diminishing returns, by which higher spending yields progressively lower impact. The implication of the law is that there is an optimal zone of spending. Marketers also understand that the best spending level depends on the quality of the allocations: Companies will reach the point of diminishing returns sooner if they haven't settled on the right marketing mix. Now that Wachovia has gained the ability to determine its highest-impact allocation, it can evaluate whether its total marketing budget should rise or fall. (See the exhibit "How Much Should We Spend on Marketing?")

A Cultural Change

The project to create the analytical architecture described in this article was completed

How Much Should We Spend on Marketing?

Once Wachovia had determined its optimal marketing mix, the company examined the customer equity implications of different levels of spending. As is often the case with economies of marketing, Wachovia saw a strong ramp-up in the customer equity curve at the beginning, which tapered off once the budget reached a certain size.



in 2006, but in a very real sense, the work is never done. Wachovia continues to update its market-response models and customer equity estimations as new data become available and new regional markets are penetrated. More fundamentally, using the models and making decisions based in part on their input have become part of the daily work of Wachovia managers. Demand for this type of modeling is increasing: Different Wachovia product lines and business units have requested extensions of the customer equity model to better chart their future growth. Other companies have started to explore customer equity models, too.

It is fair to say that bringing this data-and-modeling discipline to Wachovia's marketing practices has begun to foster a cultural change in the organization. This has reinforced broad discussions among executives that Wachovia should:

• *Focus on customers, but in a way that is profitable in the long term.* In other words, the costs of this focus shouldn't exceed customers' lifetime value. These costs vary widely among different types of households and markets and should be understood by major segment.

• *Adopt a broad perspective on marketing, well beyond the typical domain of media spending.* A market-response model allows for impact measurement that brings together different parts of the organization—for example, customer service, branch networks, and advertising.

• *Invest in retaining customers.* The higher the retention rate is, the higher customers' long-term value to the firm. Consequently, better retention justifies higher spending on new-customer acquisition, and there need not be any zero-sum competition between budget dollars for acquisition versus retention.

• *Develop benchmarks for marketing impact, and spend only on effective channels.* The point is to treat marketing truly like an investment that will earn returns, not like an expense. It's critical to be aware of changing market conditions—for example, shifts in the evolving media environment—and make timely adjustments in spending.

• *Isolate marketing's impact from that of other performance factors.* When performance is up or down relative to expectations, managers should know the degree to which this is due to marketing versus external conditions. That knowledge places the appropriate level of accountability on marketing decision makers, so their performance is better connected to skill than to luck.

• *Develop and compare reasonable alternative allocations for the next planning year.* Being able to estimate the likely impact of allocation decisions before the fact is an enormous advantage during planning. Marketers can then make choices that meet strategic objectives regarding acquisition, retention, and profitability.

While many marketers at Wachovia were already well versed in the tenets of relationship marketing, these principles are over time becoming instinctive. Having this kind of cultural foundation makes the organization work more effectively on many levels. At the same time, the use of the customer equity model has created new organizational demands on the company. Delays in collecting the necessary data, as well as three-to-six-month lags in updating information on the components of customer equity, must be eliminated. Eventually, Wachovia's customer equity models may become usable in real time, just like many of the tools used by leading consumer packaged-goods companies.

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Marketing at Wachovia has come a long way in a short time. As recently as the year 2000, marketing expenditures had been treated as costs, not investments, and were spread across four revenue-generating lines of business. Given that decentralization, there

The Bigger Picture: What Modeling Teaches Us About Marketing

Now that Wachovia knows how its prospects and customers respond to changes in its marketing mix, the company can allocate its resources for maximum long-term impact—and within short-term constraints. For management, the insights generated by market-response modeling have driven home important lessons:

- Not all advertising media are created equal, and there is an optimal combination of media in the overall communications budget.
- Customer behavior varies across regions. In particular, customer responses in newly acquired markets are different from those in established markets.
- Customer relationships are the source of value and should be the focus of valuation measures. Short-term marketing-productivity metrics such as "cost per 1,000 acquisitions" lead to marketing-budget decisions that fail to capitalize on the long-run assets being created.
- Interactive media are important but do not displace traditional media. There is an optimal mixture of the two kinds of media.

was no consistent management approach. Some groups, for example, broke down their budgets to the level of having direct mail and sponsorships as separate line items, while other groups rolled up all marketing-related expenses into a single "advertising" line. As a result, the company did not have a measurable and transparent way to understand what it was spending or a way to hold itself accountable for returns on those investments. Indeed, it lacked even the common vocabulary to have meaningful conversations about marketing and its impact.

Today, executives at Wachovia have the comprehensive view, the data, and the models to make fact-based managerial decisions that will benefit the long-term health of the company. The marketing group could not have made this journey alone, however; it depended on the mutual commitment of the finance and analytics groups and their willingness to undergo simultaneous journeys of their own. As finance creates new levels of financial literacy across the management ranks of the company, and analytics develops the expertise, processes, and science to support better decision making, new applications of analytics-informed decision making continue to arise in the company.

The allocation of marketing resources is just one example of a problem that has existed forever in management and been left to judgment. In strategic areas like this, top managers depend on models to translate performance goals into strategic objectives and further into tactical moves. But for the most part, such models have been built on intuitive logic—a reasonable set of beliefs that *a* leads to *b*, and *c* leads to *d*. Projects like the one described here show that the link between a strategic objective (like customer equity) and a tactical move (like a direct mail offer) does not have to be merely logical. It can be quantified.

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