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Measuring Marketing Productivity: Current Knowledge and Future Directions

For too long, marketers have not been held accountable for showing how marketing expenditures add to shareholder value. As time has gone by, this lack of accountability has undermined marketers' credibility, threatened the standing of the marketing function within the firm, and even threatened marketing's existence as a distinct capability within the firm. This article proposes a broad framework for assessing marketing productivity, cataloging what is already known, and suggesting areas for further research. The authors conclude that it is possible to show how marketing expenditures add to shareholder value. The effective dissemination of new methods of assessing marketing productivity to the business community will be a major step toward raising marketing's vitality in the firm and, more important, toward raising the performance of the firm itself. The authors also suggest many areas in which further research is essential to making methods of evaluating marketing productivity increasingly valid, reliable, and practical.

Marketing practitioners and scholars are under increased pressure to be more accountable for and to show how marketing expenditure adds to shareholder value (Doyle 2000). The perceived lack of accountability has undermined marketing's credibility, threatened marketing's standing in the firm, and even threatened marketing's existence as a distinct capability within the firm. The Marketing Leadership Council (2001, p. 27) reports that 70% of advertising budgets are in decline, compared with 51%, 47%, and 44% for human resources, information technology, and general counsel functions: "Having exhausted cost-saving opportunities in virtually every other function," marketing is "next in the line of fire."

There are three challenges to the measurement of marketing productivity. The first challenge is relating marketing activities to long-term effects (Dekimpe and Hanssens 1995). The second challenge is the separation of individual marketing activities from other actions (Bonoma and Clark 1988). Third, the use of purely financial methods has proved inadequate for justifying marketing investments: Nonfinancial metrics are also needed (Clark 1999; Marketing Science Institute 2000). Indeed, the Institute of Management Accountants (1996) reports the increasing use of nonfinancial measures.

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This article proposes a broad framework for assessing marketing productivity, describes what is already known about marketing productivity, and suggests areas for further research. We conclude that it is possible to show how marketing expenditures are linked to shareholder value. Dissemination of the methods proposed in the past ten years to the business community will be a major step toward maintaining marketing's vitality in the firm and, more important, toward raising the performance of the firm itself.

A Framework for Marketing Productivity

What We Mean by "Marketing Productivity"

We first need to clarify the ways marketing activities build shareholder value. For example, when we talk of marketing "investment," we must identify the marketing assets in which we invest and understand how the assets contribute to profits in the short run and provide potential for growth and sustained profits in the long run. In this context, the spotlight is not on underlying products, pricing, or customer relationships (see Webster 1992) but on marketing expenditures (e.g., marketing communications, promotions, other activities) and how these expenditures influence marketplace performance. The firm should have a business model that tracks how marketing expenditures influence what customers know, believe, and feel, and ultimately how they behave. These intermediate outcomes are usually measured by nonfinancial measures such as attitudes and behavioral intentions. The central problem we address in this article is how nonfinancial measures of marketing effectiveness drive

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the financial performance measures such as sales, profits, and shareholder value in both the short and the long run.

It is important to understand that marketing actions, such as advertising, service improvements, or new product launches, can help build long-term assets (e.g., brand equity, customer equity). These assets can be leveraged to deliver short-term profitability (e.g., the advertising and promotional expenditures related to stronger brands are more productive). Thus, marketing actions both create and leverage market-based assets. It is also important to distinguish between the "effectiveness" and the "efficiency" of marketing actions. For example, price promotions can be efficient in that they deliver short-term revenues and cash flows. However, to the extent that they invite competitive actions and destroy long-term profitability and brand equity, they may not be effective. Consequently, we examine both tactical and strategic marketing actions and their implications.

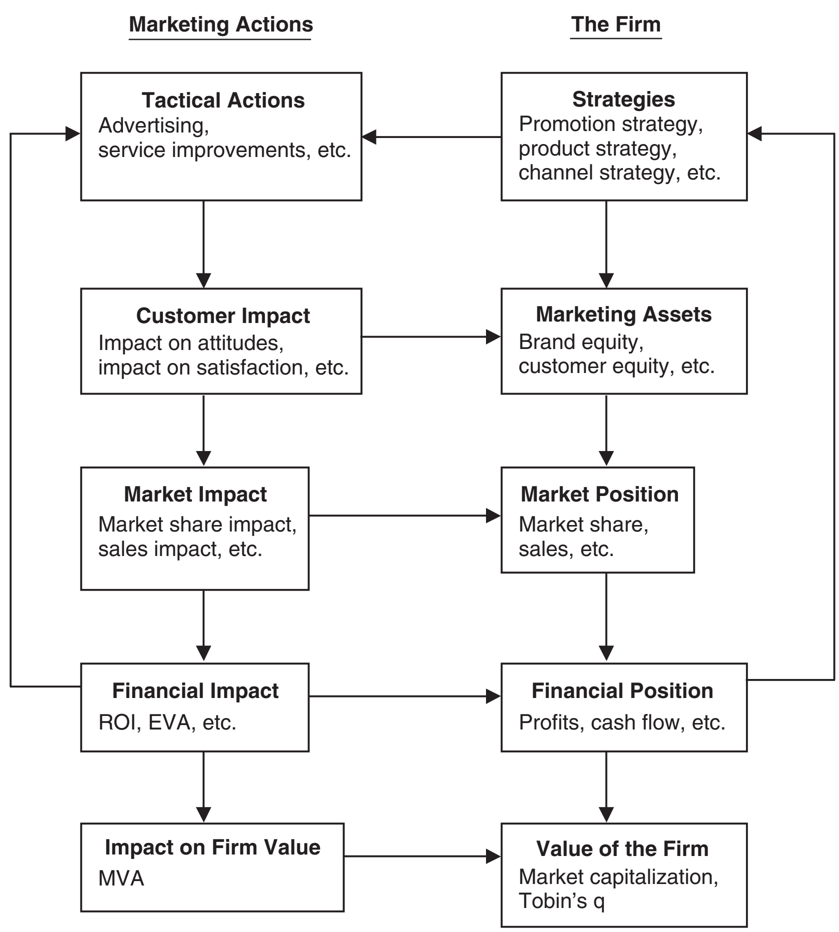
The article is organized around the chain of marketing productivity illustrated in Figure 1. We first discuss the elements of this framework: marketing strategies and tactics, their impact on customers, subsequent marketplace consequences and their financial implications, and their impact on the value of the firm. We next discuss what we already know about elements of this "marketing productivity chain" as the base for establishing what we need to know before summarizing and drawing conclusions.

The Chain of Marketing Productivity

Figure 1 illustrates a broad, conceptual framework that can be used to evaluate marketing productivity. It is a chain-of-effects model that relates the specific actions taken by the firm (marketing actions) to the overall condition and standing of the firm. We begin at the upper right-hand side of Figure 1, with the firm's strategies, which might include promotion strategy, product strategy, or any other marketing or firm strategy.

These strategies lead to tactical marketing actions taken by the firm, such as advertising campaigns, service improvement efforts, branding initiatives, loyalty programs, or other specific initiatives designed to have a marketing impact. Because we are concerned with productivity, this article reduces the full range of marketing actions to tactical actions that require marketing expenditure. The tactical actions then influence customer satisfaction, attitude toward the brand, loyalty, and other customer-centered elements. At the firm level, these customer measures can be aggregated into what we call "marketing assets," which can be mea-

FIGURE 1
The Chain of Marketing Productivity



sured by such indicators as brand quality, customer satisfaction, and customer equity.

Customer behavior influences the market, changing market share and sales. However, it may also be useful to consider the firm's market position as driven by the firm's marketing assets. At any point in time, tactical actions will have made changes in customers' mental states, but they may not yet have influenced the firm's profit and loss account. Thus, marketing assets represent a reservoir of cash flow that has accumulated from marketing activities but has not yet translated into revenue. They enable the firm to assess the financial impact of marketing (using measures that we describe subsequently). The next section describes the elements of the chain of marketing productivity in more detail.

Elements of the Chain

Strategies and tactics. Marketing strategy plays a central role in winning and retaining customers, ensuring business growth and renewal, developing sustainable competitive advantages, and driving financial performance through business processes (Srivastava, Shervani, and Fahey 1999). A significant proportion of the market value of firms today lies in intangible off-balance-sheet assets, such as brands, market networks, and intellectual property, rather than in tangible book assets (Lusch and Harvey 1994). The leveraging of intangible assets to enhance corporate performance requires managers to move beyond the traditional inputs and outputs of marketing analysis and to incorporate an understanding of the financial consequences of marketing decisions, which include their impact on cash flows.

On a more tactical level, managers implement marketing initiatives to increase short-term profitability. In most settings, this effort requires management of margins and turnover. Because better value to customers (or superior brands) can be tapped in terms of either price or volume, managers need to trade off prices (and therefore margins) against market share. Various programs can be developed to enhance and sustain profitability (e.g., loyalty programs, cross-selling, up-selling); how managers proceed is a matter of strategy. The question is, What type of expenditure has a greater influence on the value of a firm's customer base: a new campaign for advertisements or improvements in the quality of service? How do elements of a coordinated marketing strategy influence the purchase behavior of different marketing segments over time, and how does this affect the firm's revenue streams? What are the disproportionate effects of changes in the structure of pricing on customer acquisition, retention, and cross-buying? How do marketing and operations elements interact to grow or to diminish customer value?

Customer impact. To assess the impact of marketing expenditures on customers, it is important to understand the following five key dimensions (adopted from Ambler et al. 2002), which can be considered particularly important measures of the customer mind-set:

1. *Customer awareness*: the extent to and ease with which customers recall and recognize the firm, and the extent to which they can identify the products and services associated with the firm;
2. *Customer associations*: the strength, favorability, and uniqueness of perceived attributes and benefits for the firm and the brand;
3. *Customer attitudes*: the customer's overall evaluations of the firm and the brand in terms of its quality and the satisfaction it generates;
4. *Customer attachment*: how loyal the customer is toward the firm and the brand; and
5. *Customer experience*: the extent to which customers use the brand, talk to others about the brand, and seek out brand information, promotions, events, and so on.

Because the strength and length of the customer or brand relationship matters (Reinartz and Kumar 2002), the firm must consider multiple aspects of each customer's purchase behavior, not just retention probabilities. Consequently, researchers have begun to model other purchase behaviors, such as cross-selling (e.g., Kamakura, Ramaswami, and Srivastava 1991), word-of-mouth behavior (e.g., Anderson 1998), and profitable lifetime duration of customers (Reinartz and Kumar 2003). These behaviors, at the individual customer level, influence the aggregate level of the marketing assets of the firm.

Marketing assets. Marketing assets are customer-focused measures of the value of the firm (and its offerings) that may enhance the firm's long-term value. We focus on two approaches to assessing marketing assets that have received considerable attention in the marketing literature: brand equity and customer equity.

The concept of brand equity has emerged in the past 20 years as a core concept of marketing. A view of brand equity suggest that its value arises from the incremental discounted cash flow from the sale of a set of products or services, as a result of the brand being associated with those products or services (e.g., Keller 1998). For example, Interbrand estimated the value of the Home Depot brand at $84 billion in 1999 (Tybout and Carpenter 2000). Research on brand equity has sought to understand the conceptual basis for this remarkable value and its implications. The fruits of this research are changing how people think about brands and manage them. Managers have a deeper understanding of the elements of brand equity, of how brand equity affects buyer behavior, of how to measure brand equity, and of the influence of brand equity on corporate value (e.g., Aaker 1991; Keller 1998, 2002). It is also important to note that brand equity leads to strength in the distribution channel. Thus, we assume that brand equity includes channel effects.

Although brand equity takes the brand perspective, customer equity (Blattberg and Deighton 1996; Rust, Zeithaml, and Lemon 2000) takes the firm's customers' perspective. Building on previous definitions, we define customer equity as the sum of the lifetime values of all the firm's current and future customers, where the lifetime value is the discounted profit stream obtained from the customer.[1] The expansion of the service sector over time, combined with the resultant shift from transaction- to relationship-oriented marketing,

[1]It would be better to differentiate the customer asset, or customer equity, from the value of that asset. In common usage, though, the term "customer equity" can refer to both. The meaning is usually clear from the context.

has made the consideration of customer lifetime value increasingly important (Hogan, Lemon, and Rust 2002). These events legitimate customer equity (i.e., the aggregation of customer lifetime value across customers) as a key metric of the firm. Customer lifetime value and customer equity are already in widespread use as marketing asset metrics in some industries, most notably in direct marketing and financial services. Customer equity measurement and monitoring is rapidly expanding in other industries as well.

Market impact. Customer impact and the resultant improvements in marketing assets, such as brand equity, influence the firm's market share and sales, thereby influencing its competitive market position. These benefits may be viewed as arising from improvements in the intermediate measures (i.e., the marketing assets of the firm; Ambler 2000). Superior brands (or superior values provided to customers) lead to higher levels of customer satisfaction and perceived value of the firm's offering. The consequences of a superior offering are reflected in many aspects of market performance (Srivastava, Shervani, and Fahey 1998). For example, brands that are better differentiated are characterized by lower price elasticity (Boulding, Lee, and Staelin 1994), have more loyal customers, are less susceptible to competitive actions (Srivastava and Shocker 1991), can command price premiums (Farquhar 1989), can attain greater market shares (Boulding, Lee, and Staelin 1994), can develop more efficient marketing programs because they are more responsive to advertising and promotions (Smith and Park 1992), and can more quickly adopt brand extensions (Dacin and Smith 1994; Keller 1998). The consequences of customer satisfaction also include increased buyer willingness to pay a price premium, to provide referrals, and to use more of the product; lower sales and service costs; greater customer retention, loyalty, and longevity (Hogan, Lemon, and Rust 2002; Reichheld 1996; Reinartz and Kumar 2000); greater market share (Taylor 2002); and greater profitability (Venkatesan and Kumar 2004).

Financial impact. Financial benefits from a specific marketing action can be evaluated in several ways. Return on investment (ROI) is a traditional approach to evaluating return relative to the expenditure required to obtain the return. It is calculated as the discounted return (net of the discounted expenditure), expressed as a percentage of the discounted expenditure. Commonly used retrospectively to measure short-term return, ROI is controversial in the context of marketing effectiveness. Because many marketing expenditures play out over the long run, short-term ROI is often prejudicial against marketing expenditures. The correct usage of ROI measures in marketing requires an analysis of future cash flows (e.g., Larréché and Srinivasan 1981; Rust, Zahorik, and Keiningham 1995). It is also worth noting that the maximization of ROI as a management principle is not recommended (unless management's goal is efficiency rather than effectiveness), because it is inconsistent with profit maximization—a point that has long been noted in the marketing literature (e.g., Kaplan and Shocker 1971).

Other financial impact measures include the internal rate of return, which is the discount rate that would make the discounted return exactly equal to the discounted expenditure (Keynes 1936); the net present value, which is the discounted return minus the net present value of the expenditure; and the economic value-added (EVA), which is the net operating profit minus the cost of capital (Ehrbar 1998). In each case, the measures of financial impact weigh the return generated by the marketing action against the expenditure required to produce that return. The financial impact affects the financial position of the firm, as measured by profits, cash flow, and other measures of financial health.

Impact on the value of the firm. Managers of publicly traded firms aim to explain and enhance market value/capitalization or shareholder value (Srivastava, Shervani, and Fahey 1998). Linking of marketing actions through customer value to changes in market value (i.e., market value-added [MVA]) is essential to this task, but there are differences between change/flow measures and state measures. Although measures such as EVA and MVA focus on changes in financial performance, others, such as market capitalization, measure the level of performance.

In addition, we can distinguish between forward-looking and retrospective measures. Most accounting measures are retrospective in that they examine historical performance. In contrast, the market value of firms hinges largely on growth prospects and sustainability of profits (i.e., how the firm might be expected to perform in the future). This requires tracking off-balance-sheet metrics (e.g., brand or customer equity) and focusing on both current (e.g., EVA, cash flow) and expected (e.g., MVA, shareholder value) performance.

Several measures of the value of the firm rely on measures of stock market performance. For example, market capitalization is the market value of all outstanding shares of a firm, and book value is the difference between a firm's assets and liabilities, according to its balance sheet. The difference between market value and book value is explained partly by off-balance-sheet assets, such as market-based and intellectual property, and partly by an excess or lack of investor enthusiasm. The ratio of market capitalization to the book value (the market-to-book ratio) is sometimes a useful indicator of the strength of marketing assets.

Similarly, Tobin's q is the ratio of the market value of the firm to the replacement cost of its tangible assets, which include property, equipment, inventory, cash, and investments in stock and bonds (Tobin 1969). A q-value greater than 1 indicates that the firm has intangible assets. Shareholder value is another measure related to economic profit (see Rappaport 1986). Total shareholder return is the cash flow to shareholders through dividends plus the increase in the share price. A large proportion of the value of firms is based on perceived growth potential and associated risks (i.e., the value is based on *expectations* of future performance). This value may be locked up in marketing assets that can be leveraged to enhance and accelerate current cash flows, and it may enhance the sustainability (reduce the risk) of future cash flows (Srivastava, Shervani, and Fahey 1997, 1998, 1999).

Other Factors

In addition to the previously discussed factors, elements of environment and competition have frequently been shown to be important factors in marketing productivity. The firm's skill in adapting to the environment and competition can do no more than improve performance relative to what would otherwise be the case. Therefore, it is necessary to view Figure 1 within an envelope of context effects.

Environment. No firm is an island: Performance in general and marketing productivity in particular depend on the environmental and competitive context. This is especially true when economic and geopolitical turbulence create unusual amounts of uncertainty. The market orientation literature addresses the firm's willingness to pay attention to such market characteristics (Day 1994; Jaworski and Kohli 1993; Narver and Slater 1990). The firm can choose to be proactive (market driving) or reactive (market driven) (Jaworski, Kohli, and Sahay 2000).

Competition. The competitive environment has a profound influence on the nature of marketing productivity. Marketing expenditure decisions, such as those about advertising, are often made with competitors in mind. Studies on advertising spending have identified two separate effects. On the one hand, competition can drive marketing spending higher, thus producing an escalation effect (e.g., Metwally 1978). Driven by a belief that gaining market share increases profit and enhances firm value (e.g., Buzzell and Gale 1987), firms increase marketing expenditures to gain market share, even as rivals do the same. Little evidence suggests that the expenditures have the anticipated results. For example, examining the brewing industry, Montgomery and Wernerfelt (1991) show that escalating advertising spending destroys value rather than creates it. On the other hand, research has demonstrated that (even taking competitors reactions into account) high-market-share brands indeed have an incentive to outspend rivals (e.g., Carpenter et al. 1988). These findings have fueled the escalation in advertising spending. However, the greater wealth associated with the larger share has proved quite elusive.

What We Already Know

Chains of Marketing Impact

There already exist several chains of marketing impact. Many of them are practical decision models that have been built for actual implementation, typically for specific marketing decision scenarios. For example, PERCEPTOR (Urban 1975) tracks product design decisions all the way to market share. In the advertising media context, there is a history of models designed to maximize sales or profits, and they usually assume a budget constraint (e.g., Gensch 1973; Little and Lodish 1969; Rust 1986). Similarly, there are several models of the influence of sales promotion on business results (e.g., Little 1975). The business impact of advertising expenditure decisions historically has been addressed through econometric time-series models (e.g., Bass 1969; Eastlack and Rao 1986). The past ten years have witnessed the development of chain-of-effects models of service and customer satisfaction, both across firms (Fornell 1992) and within specific firms (Anderson, Fornell, and Lehmann 1994; Heskett et al. 1994; Kamakura et al. 2002; Rust, Zahorik, and Keiningham 1994, 1995).

More general chain-of-effects models, which are capable of addressing strategic trade-offs across competing marketing expenditures in general, are much rarer. The STRATPORT model (Larréché and Srinivasan 1981, 1982) is an exception: It evaluates the business impact of the allocation of resources across strategic marketing alternatives. More recently, chain-of-effects models that evaluate competing marketing actions on the basis of their influence on customer lifetime value and customer equity have been developed (Rust, Lemon, and Zeithaml 2004; Venkatesan and Kumar 2004).

Strategies and Tactics

The strategic roles of marketing include setting strategic direction for the firm and guiding investments to develop *marketing assets* that can be leveraged within *business processes* to provide sustainable competitive advantages. Although marketing investments (e.g., advertising, customer support) and resultant assets are largely intangible, their benefits to the firm are similar to those provided by more tangible resources, such as manufacturing infrastructure. Differentiated brands enable their owners to charge higher prices (Farquhar 1989) and to attain greater market shares (Boulding, Lee, and Staelin 1994). Such brands are more responsive to advertising and promotions and have lower selling costs (Keller 1998). Although the role of marketing actions and assets in influencing sales and market share is well documented and appreciated, it is often forgotten that strategic marketing investments also reduce risk. For example, research shows that advertising can lead to more differentiated, and thus more monopolistic, brands (i.e., brands are less vulnerable to competition). Similarly, investments in brand equity can reduce risks by deflecting competitive initiatives (Srivastava, Shervani, and Fahey 1997; Srivastava and Shocker 1991). Brand equity can also be tapped to reduce marketing expenditures in times of cash flow crunch, thereby reducing risks through "enhanced liquidity" (Srivastava, Shervani, and Fahey 1998).

To deploy suitable strategies and tactics, it is necessary to first try to understand the triggers of customer product purchases. A firm's customer database can be used to develop a purchase sequence model that allows for the identification of which customers will buy which products and when, so that the firm can contact customers at the most appropriate time. A comparison of this type of customer management strategy with the traditional strategy shows that benefits (i.e., profits derived from each individual customer) can be realized by managing on the basis of a 360-degree view of the customer.

The implementation of tactics requires resources. Each year, the firm allocates resources to contact its customers through various channels, including sales personnel, direct mail, telephone sales, and online. However, most of its current contact efforts are (1) targeted at the wrong customers, (2) targeted at the right customers with the wrong offer, or (3) targeted at the right customers with the right offer at the wrong time. The primary challenge is to direct resources toward the right customer, with the right offer, at the right time.

Regarding specific tactics, every firm is eager to understand the effectiveness of various "touch" points. Touch history refers to any contact that the customer has with the firm. With the advent of e-commerce, most firms use various channels. For example, Charles Schwab Corporation has many ways of touching customers. These are activity-based interactions that can be initiated by the customer or the firm (e.g., Bowman and Narayandas 2001). Touches are not normally considered in reach, frequency, and monetary value models that predict whether an individual customer is "due" (i.e., an alive and active customer of the firm) or "dead" (i.e., a customer who has ended his or her relationship with the firm) to purchase. However, contact strategy can take on greater significance in some industry-based contexts, particularly for services that are provided continuously (e.g., finance, telecommunications) and for durables, for which the typical purchase cycle of a business is long. In other words, in addition to the traditionally employed marketing-mix strategies and tactics, customer touch histories are important in the prediction of customer profitability in the future business cycles (Venkatesan and Kumar 2004).

Customer Impact

We consider two major types of customer impact: (1) impact on a customer's perceptions and attitudes and (2) impact on a customer's summary judgments. The understanding of the psychology of the brand has been deepening over time (e.g., Fournier 1998), and with that comes a clearer understanding of how managerial actions that pertain to the brand affect brand perceptions (e.g., Aaker and Keller 1990; Kamakura and Russell 1991).[2] Specific marketing actions that have been shown to affect brand perceptions include such wide-ranging corporate activities as advertising (Jedidi, Mela, and Gupta 1999) and corporate ethics (Keller 1993). Customer attitudes toward the brand may be usefully divided (from the standpoint of the marketer) into attitudes and perceptions related to value, brand, and relationship (Rust, Zeithaml, and Lemon 2000). Customer perceptions of value are complex and multifaceted (Holbrook 1994), and many theories and studies explore the mechanisms by which marketing actions affect customers' value perceptions (e.g., Bolton and Drew 1991; Dodds, Monroe, and Grewal 1991; Teas and Agarwal 2000; Zeithaml 1988). In recent years, as the business world has moved toward relationships rather than just transactions, the effect of marketing actions on the perceptions of relationship has been shown to be important. Again, a considerable body of research demonstrates the effect of marketing actions on customer attitudes in relationships (e.g., Anderson and Narus 1990; Gummeson 1999; Håkansson 1982; Kumar 1999; Reinartz and Kumar 2002).

Just as marketing actions can influence customer attitudes and perceptions, ultimately they can also affect the customer's summary appraisals, such as customer satisfaction, loyalty, preference, and purchase intention. The nature of satisfaction and loyalty and their drivers have become much better understood in the past 20 years (for an excellent review, see Oliver 1997), with customer expectations and previous experience assuming a central role. Customer preference (e.g., McAlister and Pessemier 1982) and purchase intention (e.g., Fishbein and Ajzen 1975) also have been heavily explored.

Marketing Assets

In the past 10 to 12 years, marketing scholars have greatly expanded their knowledge of these marketing assets and how they contribute to the economic health of the firm. We focus on two prominent types of marketing asset measures: brand equity and customer equity.

Brand equity. Brands have long been recognized as meaningful, powerful symbols (e.g., Levy 1959), but formal analysis began in earnest with Aaker (1991), who describes brand equity as consisting of four components: brand awareness, perceived quality, brand associations, and brand loyalty. Another widely adopted view offered by Keller (1998) describes brand equity as "the differential effect that brand knowledge has on consumer or customer response to the marketing of that brand" (Keller 2002, p. 7). In both models, a brand can be considered a memory node in a network that links the brand to a set of associations. A more powerful brand is more vivid and has a more favorable and easily recalled set of associations, which increases its overall value.

Various nonfinancial methods have been suggested for the measurement of brand equity. One group of these methods measures buyers' knowledge about brands with free-association tasks, projective techniques (e.g., Levy 1985), techniques designed to elicit the metaphorical meaning of brands (e.g., Zaltman and Higie 1995), and methods to measure the structure of associations more explicitly (e.g., Aaker 1997; Keller 1998). Conjoint analysis also provides insight into brand equity by decomposing overall value into value that arises from product attributes and value that arises from brand names (e.g., Rangaswamy, Burke, and Oliva 1993). In contrast, a second group of holistic methods, called "residual approaches," seeks to estimate the value of brand equity by deduction, that is, by estimating the effect of other factors and then attributing the residual impact to brand equity (e.g., Park and Srinivasan 1994). A third group of methods seeks to measure the value of brands by examining various measures of market performance. *Financial World* and Interbrand are two of the best-known commercial measures. In calculating brand equity, Interbrand, the first to offer such a measure, includes data on market leadership, stability, internationality, trends of the brand, support, level of protection, and characteristics of the markets in which it operates (Keller 1998).

Research on the influence of brand equity on market value has received less attention, perhaps because of the widely accepted efficient-markets hypothesis that suggests

[2]There is a long history of research that relates marketing actions to intermediate outcomes, such as customer attitudes, customer satisfaction, and customer preferences. This extensive body of research (of which we can sample only a small portion) encompasses the behavioral, quantitative, and managerial research traditions. There is an even greater body of literature that relates marketing actions to brand perceptions.

that there is little role, if any, for brand equity. An early effort to measure brand equity used the prevailing finance-based view (Simon and Sullivan 1993). Assuming that a corporation's market value is an unbiased estimate of the future cash flows, Simon and Sullivan (1993) estimate the portion of future cash flow that is attributable to a corporation's brand and derive a financial measure of brand equity. Aaker and Jacobson (1994) examine the influence of brand equity on stock returns more directly by modeling the influence of changes in brand quality perceptions and firm ROI on the market value of 34 corporations. They find that brand equity has a positive impact on stock returns, as does product quality, thus demonstrating the power of brand perceptions. In a subsequent study, Aaker and Jacobson (2001) find that change in brand attitude is positively related to change in stock return in the computer industry. In a related study that explores a wider range of industries, Barth and colleagues (1998) examine the changes in the equity of 1204 brands owned by 183 publicly traded corporations from 1992 to 1997. Their analysis shows that brand equity has a positive statistical association with market value, beyond the effect of two traditional measures: net income and book value of equity. This finding is consistent with other research that suggests that marketing expenditures produce a valuation premium greater than that implied by cash flow (Bowd and Bowd 2002; Kirschenheiter 1997; Srivastava et al. 1997).

Customer equity. Customer equity was first identified as a measure of the marketing asset by Blattberg and Deighton (1996), who define a firm's customer equity as the sum of the lifetime values of the firm's customers. Customer equity models are characterized by models of the lifetime value of individual customers. The early thinking on customer equity arose from the direct marketing paradigm, in which longitudinal data about individual customers and their reactions to marketing efforts (typically promotional mailings) were present (e.g., Blattberg, Getz, and Thomas 2001). Related work on the long-term value of customer relationships arose in the financial services arena (e.g., Storbacka 1994) and in the high-technology industry (Kumar, Venkatesan, and Reinartz 2002). Because customer equity results from customer lifetime value, methods for assessing the lifetime value of a customer became central. Again, such methods typically assumed the existence of longitudinal customer data (e.g., Dwyer 1997; Libai, Narayandas, and Humby 2002; Reinartz and Kumar 2000). This stream of work evolved from measurement of customer lifetime value to evaluation of the influence of marketing effort on customer equity (Berger et al. 2002; Hogan, Lemon, and Rust 2002), thus incorporating an assessment of marketing decisions over time. Because of the data requirements, this approach has largely been restricted to a handful of business scenarios (e.g., direct marketing, subscription sales, financial services, business-to-business) and a handful of marketing variables (e.g., direct mailings, salesperson contacts, telephone sales, price).

More recently, a different approach has emerged that expands the industries and the set of marketing actions to which customer equity may be applied (Rust, Lemon, and Zeithaml 2004; Rust, Zeithaml, and Lemon 2000). This approach combines internal company information, customer survey data, and one-step-ahead purchase information gathered either from panel data (if available) or from a survey. Analogous to "driver analysis" in customer satisfaction measurement (e.g., Johnson and Gustafsson 2000; Rust, Zahorik, and Keiningham 1994), drivers of customer equity are obtained and statistically related to purchase behavior, and inertia from purchase to purchase is incorporated (Guadagni and Little 1983).

Market Impact

Market impact models have mostly arisen in the quantitative research tradition. Such models typically have sought to relate market expenditures over time to effects on such variables as market share and sales. Many comprehensive reviews exist of market impact models (for excellent reviews, see Hanssens, Parsons, and Schultz 1990; Kumar and Pereira 1997; Lilien, Kotler, and Moorthy 1992).[3] An important lesson from these studies is that long-term impact is very different from short-term impact (e.g., Dekimpe and Hanssens 1995). For example, some marketing actions (e.g., sales promotions) take effect quickly but have little lasting influence, whereas other marketing actions (e.g., service quality improvements, advertising) accumulate their influence over time. This important distinction reinforces the importance of considering the impact on discounted profit flows over time rather than simply investigating short-term effects. Furthermore, the firm's ability to track competitive actions and to react appropriately to them moderates the effects of the environment and competition, so that firm capabilities and context effects become more important in the long run (Kumar 1994; Narver and Slater 1990).

Financial Impact

Although changing customer attitudes, perceptions, and intentions are important, and achieving improved sales and market share is essential to any marketing effort, many managers consider financial impact the most crucial measure of success for any marketing effort. Financial impact involves not only the increase in revenues but also the expenditure required to produce that increase. Marketing expenditures are considered investments, and the financial return is measured as ROI. The long-standing recognition of the importance of ROI in evaluating more general marketing expenditures (Kirpalani and Shapiro 1973) led to early methods for measuring advertising ROI (Dhalla 1976). The connection between marketing efforts and financial performance was subsequently reinforced by analysis of the PIMS company database, which indicated a positive relationship between market share and the firm's aggregate return on net assets (Buzzell and Gale 1987), though that relationship

[3]In many cases, the number of market impact studies is so large that there exist data analyses to summarize the totality of research evidence. For example, Assmus, Farley, and Lehmann (1984) provide a meta-analysis of the findings that relate advertising to sales and find that advertising has variable effectiveness. A 1995 special issue of *Marketing Science* summarizes many of the generalizations involving the relationship between marketing actions and marketing impact.

was later challenged on methodological grounds (Jacobson and Aaker 1985). Gale (1994) recanted and later proposed that market share and financial performance were both driven by product quality, though the link between perceived and actual quality is itself complex.

More recently, the "return on quality" model has provided a methodology for projecting a firm's ROI in service quality (Rust, Zahorik, and Keiningham 1994, 1995). Research has shown that there may be trade-offs between service quality improvements that increase revenue and those that reduce costs (Anderson, Fornell, and Rust 1997; Rust, Moorman, and Dickson 2002). Approaches to evaluating financial return have also begun to consider the element of financial risk (Davis 2002; Hogan et al. 2002), as is common in corporate finance.

Impact on the Value of the Firm

Analyses that link market-based assets and marketing actions to shareholder value, though rare, are beginning to emerge. The evidence is encouraging on many fronts. For example, Lane and Jacobsen (1995) show that brand extension announcements lead to abnormal returns on stocks (i.e., returns in excess of those predicted by changes in the market index), thus establishing a link between marketing activity and stock price. Kim, Mahajan, and Srivastava (1995) show a strong relationship between the net present value of cash flows attributable to growth in the number of subscribers (customer base) and stock prices in the cellular telephone industry. Likewise, Ailawadi, Borin, and Farris (1995) demonstrate the impact of marketing actions on EVA and MVA through customer value measures, and they provide a direct link between marketing strategy and changes in a firm's financial fortunes.

Srivastava and colleagues (1997) show that brand equity reduces financial risk and is related to a lower cost of capital and thus to higher market capitalization, whereas Demers and Lev (2000) show that Web site characteristics measured by Nielsen/Netratings, such as stickiness, reach, and loyalty, were correlated with share prices in both 1999 and 2000. Brand reputation (equity) has been shown to be a durable asset that can help reduce the risk of future cash flows for its owners (Deephouse 2000), and customer profitability has been linked to market capitalization for several Internet firms (Gupta, Lehmann, and Stuart 2001). These studies notwithstanding, efforts to link marketing actions to firm performance are few and far between, and more such work is needed.

Other Factors

Environment. Slater and Narver (1994) find limited support for the notion that the competitive environment moderates the market orientation–performance relationship. They argue that the benefits of market orientation are long-term, whereas contextual factors are transient. Harris (2001, p. 33) also finds little relationship between market orientation and both subjective and objective measures of performance, except that "under specific moderating environmental conditions, market orientation is associated with both measures of performance." Pelham (1999) finds that market orientation has a greater influence on small manufacturing firm performance than on industry environment and firm strategy selection, though market turbulence may be a moderating factor. Greenley (1995, p. 7) finds that "for high levels of market turbulence, market orientation is negatively associated with ROI, while for medium and low market turbulence, market orientation is positively associated with ROI." Given all these studies, market orientation remains a strong determinant of performance and, by inference, marketing productivity. However, within that, turbulence is a moderating factor. "In cases where the market is highly dynamic in nature, consistency may be more important than market responsiveness" (Harris 2001, p. 35).

Competition. As we discussed previously, investments in marketing assets, such as brand equity and customer equity, make the firm less vulnerable to competition and directly influence the firm's performance (through market share and sales). First, when the product is associated with a high-equity brand, customers evaluate a product more favorably, believe it to be of higher quality, are more likely to purchase it, and have more confidence in it (e.g., Larouche, Kim, and Zhou 1996). Second, customers are less price sensitive and more responsive to marketing communications spending for high-equity brands (e.g., Simon 1979); thus, marketing expenditures with respect to the competition are effectively leveraged. Third, brand equity can create asymmetries in competition that favor high-equity brands. For example, price cuts or increases in advertising spending draw market share disproportionately from low-equity brands (Carpenter et al. 1988), and competitive imitation by low-equity, me-too brands can increase the share of high-equity brands, such as those of pioneers (Carpenter and Nakamoto 1989). Combined, these forces create important competitive advantages that arise from marketing expenditures on brand equity.

What We Would Like to Know

In this section, we explore areas in which current research is insufficient, and we suggest fruitful areas for further progress, especially focusing on the application of marketing productivity measures in the business world.

Chains of Marketing Impact

Few methods currently exist for comprehensively modeling the chain of marketing productivity all the way from tactical actions to financial impact or firm value. Event studies exist that relate tactical actions directly to firm value, but without modeling the intervening steps (e.g., Agrawal and Kamakura 1995), a black-box approach limits insight and understanding. There are many opportunities for firm-level research. For example, how do firm strategies (e.g., promotion strategy, product strategy) influence the firm's brand equity and/or customer equity? How do the firm's market assets relate to firm value and market capitalization (e.g., Gupta, Lehmann, and Stuart 2001)? How does a firm's customer equity affect its long-term market position, financial position, and market capitalization?

A larger question is, Why does linking marketing assets to capitalization matter? A firm contemplating an acquisition would be interested in this linkage, but this article focuses on assessing marketing productivity. Thus, a more challenging issue may be reconciling the short- and long-term approaches. Short-term approaches involve the measurement of the marketing asset, whereas long-term approaches require forecasts of future cash flows. The difficulty of such a reconciliation is that future cash flows are the product both of marketing actions to date and of marketing actions to come.

Strategies and Tactics

Strategies. Several ongoing research agendas continue to be important. For example, how does the relative importance of marketing assets vary as a function of the characteristics of the firm's industry, customer markets, product or service offerings, and competitive strategy? Can these assets be leveraged to provide strategic options? How are marketing and intellectual assets interlinked with other functional resources in creating customer value and competitive advantages (e.g., through core business processes such as product innovation, supply chain management, and customer relationship management)? What is marketing's contribution in managing core business processes? For example, rather than considering marketing research an expense, can the value of market intelligence be assessed in terms of more efficient supply chain processes? Can strong competitive advantages exist in the absence of strong marketing assets? How can these advantages be leveraged to provide marketplace results that fit with company strategy (e.g., when might brand equity be leveraged to opt for a price premium, and when would a share premium be more appropriate?)?

Tactics. New technologies have opened up new channels for customer–vendor interactions (e.g., cable, Internet), which increases the need to manage integrated marketing communications. These developments have led to a critical and immediate need to identify the levels of marketing expenditures for each channel (given expected revenues from customers) that provide firms with maximum opportunities for customer acquisition, retention, and cross-selling, as well as an opportunity for disintermediation. Differences in efficiency across various channels might be captured by the sales response functions in order to identify optimal resource allocations within and across channels. Similarly, firms might rely on long-term customer profitability models to guide direct marketing initiatives. These models should enable firms to improve marketing efficiency. Research that assesses the influence of marketing and communications tactics on multiple measures of customer, market, and financial impact would also be useful.

Customer Impact

Given extensive prior research that relates traditional marketing actions to customer attitudes, preferences, and intentions, further progress in these areas is likely to be incremental rather than groundbreaking. Instead, it is important to model *which* customers are going to buy, *what* products they are most likely to buy next, and *when* they are going to buy the product of highest affinity. In other words, the most fertile area for research on customer impact pertains to how customer behavior (rather than attitudes or intentions) responds to changes in marketing actions (Kumar, Venkatesan, and Reinartz 2002). In addition, there is a need to extend such research to explore these questions for new marketing phenomena and in new environments. For example, there is much yet to be learned about how the Internet environment affects the customer. In general, increased communications and computation capabilities change the nature of the relationship between the marketer and the consumer in ways that are not yet fully understood. Similarly, the changing geopolitical environment (e.g., terrorism, sense of risk) may influence the market in unprecedented ways. In the United States, the persistence of multiple cultures in the society may also change how marketing efforts influence customer attitudes and preferences. In summary, a broader understanding of customer impact is likely to result from studying customer behavior in response to new phenomena and in new environments.

Measuring Marketing Assets

Brand equity. Existing conceptualizations of brand equity have made fundamental contributions to the understanding of brands. However, further conceptual development of key constructs, such as brand knowledge, is crucial for developing better measures of brand equity. Brand dynamics are another important, difficult issue that has received little attention (a notable exception is the work of Keller and Aaker [1993]). Specifically, brands evolve, which changes the fundamental nature of their equity. How should a brand evolve? What are the means of change? When and how should multiple brands be consolidated? These and other questions remain largely open. Most firms manage multiple brands, which raises important issues for their launching new products, seeking to grow profits, or cutting costs, and these issues have received little attention (for more commentary, see Keller 2002).

Customer equity. Bell and colleagues (2002) identify two important areas for further research in customer equity. First, there is a need to build individual-level, industrywide customer databases in industries that do not currently have them (i.e., most industries). Without such data, true longitudinal data analysis of customers' behavioral responses to marketing actions cannot be implemented. Second, there is a need to develop models of customer lifetime value that maximize, not just measure. That is, it is important to determine precisely how much money to spend on each strategic alternative. When longitudinal customer data are not available, businesses must adopt survey-based research methods. It would be useful to validate the effectiveness of such approaches longitudinally. Does customer lifetime value and customer equity, on average, turn out to be as predicted? What adjustments and refinements to the existing models are necessary?

Market Impact

Research on marketing resource allocation (e.g., Mantrala, Sinha, and Zoltners 1992) suggests that (1) marketing managers need to optimize investment-level decisions and the allocation of resources across submarkets or customer segments to maximize profitability and that (2) interaction between different marketing-mix instruments could lead to differential allocation of resources across marketing channels. As technology progresses, these challenges are magnified. For example, improved communications and computational capabilities greatly extend the marketer's ability to target individual customers. Thus, market impact models increasingly need to be based on individual customer response rather than on aggregate response, which makes them more complex and computationally intensive. Future models of marketing impact may need to employ computational methods (e.g., simulation) more and analytical methods (e.g., closed-form game theoretic equilibriums) less.

Financial Impact

The purest investigations of financial impact involve longitudinal data sources, which means that the construction of customer-level longitudinal data will be a priority, especially in areas in which such data currently do not exist. Ideally, such data sets will include not just one firm's customers, but all the customers in the industry (or a probability sample of the customers in the industry). In addition to the scientific investigation of marketing productivity (or other measures of financial return), practical productivity tools are needed that firms can use when they do not have access to customer-level, industrywide, longitudinal data. These tools need to reflect the state of current knowledge about how marketing productivity works, and their longitudinal validation is required for eventual widespread practical acceptance.

Impact on the Value of the Firm

A strong contender for assessing the value of marketing actions and assets appears to be the shareholder value framework, which includes such variables as the acceleration and enhancement of cash flows, reduction in the volatility and vulnerability of cash flows, and growth of long-term value (Srivastava, Shervani, and Fahey 1998, 1999). However, many questions remain unanswered. Is such value recognized by the stock market and reflected in market-to-book ratios and price-to-earnings multiples? Will larger customer-installed bases or better supply chains and value networks command higher price-to-earnings multiples and market-to-book ratios in mergers and acquisitions activity? Will the stock market reward firms for acquiring other firms with high levels of intangible, market-based assets?

Marketers have made considerable progress in examining the financial implications of their actions on the value of the firm. Indeed, there is the tendency to have the mind-set that customers are assets and to regard the value of the firm in terms of metrics such as (stock) price per subscriber. Strictly speaking, customers are not assets because assets must be owned by the firm. The day firms conclude that they own customers is the day they presume too much. Customer loyalty must be earned. However, it is fair to state that the customer franchise or the customer base is a marketing asset. Metrics such as customer lifetime value and price per subscriber, especially positive trends in such measures, help emphasize marketing's contribution to the firm.

Other Factors

Much work remains to understand how competition and environment influence firm value. Efforts so far have focused on modeling the influence of brand equity on buyer response to marketing spending, such as advertising, to deduce the competitive advantage associated with brand equity (e.g., Brown and Stayman 1992). Models that incorporate competitive effects would provide two types of new insights. First, they would require modeling of the influence of marketing spending on brand equity in a competitive context, which would be valuable indeed. Second, they would require more explicit representations of how brand equity influences firm performance, accounting for the influence of firm expenditures on brand equity itself. The building of such models is challenging, requiring the capture of both competitive effects and brand dynamics. Competitive models have a long tradition in marketing (e.g., Cooper and Nakanishi 1988), and important advances have been made in modeling dynamics (e.g., Dekimpe and Hanssens 1995). Consideration of both in the same framework may offer valuable new insights.

Summary and Conclusions

Billions of dollars are spent every year on marketing. As firms struggle to produce ever-higher profits in increasingly competitive environments, calls to justify their expenditures are growing. Existing financial metrics have proved inadequate, leading to the development and increasing use of nonfinancial metrics. Over the past decades, but especially in the past 15 years, considerable progress has been made in developing nonfinancial measures of marketing assets. In this article, we have attempted to bring such methods and measures together in a unified framework and to present them as part of a comprehensive view to describe marketing expenditures on sales, profit, and shareholder value.

The framework we have proposed separates marketing actions, including strategies and tactics, from the overall condition of the firm, as reflected in its assets (including brand equity, customer equity, market position, financial position, and firm value). Only two systems address the important issue of linking short- and long-term outcomes: financial and nonfinancial. The first is based on forecasting long-term outcomes and discounting cash flow (e.g., customer equity). The second represents the future in the state of the marketing asset today. Whether the marketing asset is measured financially or nonfinancially, the long-term picture is provided by the performance of this changing asset and the bottom line.

Our discussion identifies exciting new directions for research in at least seven areas: (1) strategies and tactics, (2) brand equity, (3) customer equity, (4) market impact, (5) financial impact, (6) the environment, and (7) competition. A common theme across most of the areas is a greater emphasis on aggregate-level models that link tactics to financial impact. Such models would need to be dynamic and comprehensive but have the potential to yield great insight. Another common theme is the need to account for customer heterogeneity. For example, identification of high-profit customers is a central issue to market segmentation, strategic marketing, and tactics, among other areas. Another common theme is dynamics and competition. The nature of firm performance is fundamentally affected by competition, and it fundamentally changes over time. The capture of both dimensions is essential in virtually every area of marketing productivity measurement. Much work remains.

Despite the opportunities that exist, our review suggests that there currently is a wealth of means to measure marketing productivity. Powerful methods exist to assess marketing tactics; to model the market impact of marketing expenditures; and to assess marketing assets, market position, the value of the firm, and its financial position. These methods reflect the considerable progress that has been made in the past 15 years, and they provide a foundation for exciting further work. More important, these powerful methods provide the tools necessary to affect the practice of management, to bring greater credibility to marketers, and to further advance marketing science and practice by bringing a long-sought understanding of the impact of the billions of dollars that are spent every year on marketing activities.

If there is one conceptual take-away from our review, it is that the evaluation of marketing productivity ultimately involves projecting the differences in cash flows that will occur from implementation of a marketing action. In contrast, from an accounting standpoint, decomposition of marketing productivity into changes in financial assets and marketing assets of the firm as a result of marketing actions might be considered. The devotion of more attention to these marketing assets is likely to transform the way businesses are managed.

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