MANAGING CUSTOMER RELATIONSHIPS

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Abstract

The customer relationship management (CRM) literature recognizes the long-run value of potential and current customers. Increased revenues, profits, and shareholder value are the result of marketing activities directed toward developing, maintaining, and enhancing successful company–customer relationships. These activities require an in-depth understanding of the underlying sources of value that the firm both derives from customers, as well as delivers to customers. We built our review from the perspective that customers are the building blocks of a firm. In order to endure long-term success, the role of marketing in a firm is to contribute to building strong market assets, including a valuable customer portfolio. CRM is an integral part of a company's strategy, and its input should be actively considered in decisions regarding the development of organizational capabilities, the management of value creation, and the allocation of resources. CRM principles provide a strategic and tactical focus for identifying and realizing sources of value for the customer and the firm and can guide five key organizational processes: making strategic choices that foster organizational learning, creating value for customers and the firm, managing sources of value, investing resources across functions, organizational units, and channels, and globally optimizing product and customer portfolios. For each organizational process, we identify some of the challenges facing marketing scientists and practitioners, and develop an extensive research agenda.

Companies are increasingly focused on managing customer relationships, the customer asset, or customer equity. Customer relationship management (CRM) explicitly recognizes the long-run value of potential and current customers, and seeks to increase revenues, profits, and shareholder value through targeted marketing activities directed toward developing, maintaining, and enhancing successful company-customer relationships (Berry, 1983, p. 25; Morgan and Hunt, 1994, p. 22; Gronroos, 1990 p. 138). These activities require an in-depth understanding of the underlying sources of value the firm both derives from customers and delivers to them.

The purpose of this chapter is to describe how companies can effectively cultivate customer relationships and develop customer portfolios that increase shareholder value in the long run. We review the extensive literature on customer relationship management, customer asset management, and customer portfolio management, and summarize key findings. The chapter has three major components. First, we define CRM, describe how marketing thinking about CRM has evolved over time, and assess whether CRM principles and systems have improved business performance (to date). Second, we examine (in detail) five organizational processes that we believe are necessary for effective CRM: making strategic choices that foster organizational learning, creating value

for customers and the firm, managing sources of value (acquisition, retention, etc.), investing resources across functions, organizational units, and channels, and globally optimizing product and customer portfolios. We describe each process, summarize key findings, identify emerging trends and issues, and predict likely future developments (both theoretical and methodological). Our concluding remarks make recommendations about areas where further research is needed.

Perspective on the Evolution of Customer Relationship Management

Current Definition of CRM

After surveying many alternative definitions of CRM, Payne and Frow (2005, p. 168) offer the following comprehensive definition, which we will use to frame the discussion in our chapter:

> CRM is a strategic approach concerned with creating improved shareholder value through the development of appropriate relationships with key customers and customer segments. CRM unites the potential of relationship marketing strategies and IT [information technology] to create profitable, long-term relationships with customers and other key stakeholders. CRM provides enhanced opportunities to use data and information to both understand customers and co-create value with them. This requires a cross-functional integration of processes, people, operations and marketing capabilities that is enabled through information, technology and applications.

Researchers have emphasized different CRM issues depending on whether they are considering a business-to-consumer or business-to-business context. However, we focus on conceptual and methodological principles that are applicable in both contexts, highlighting noteworthy exceptions.

CRM vis-à-vis the Domain of Marketing

Marketing theory has frequently provided guidance on how firms should react to opportunities, but marketing actions are also able to change the environment and create opportunities (Zeithaml and Zeithaml, 1984). Marketing—considered as a general management responsibility—plays "the crucial roles of (1) navigation through effective market sensing, (2) articulation of the new value proposition, and (3) orchestration by providing the essential glue that ensures a coherent whole" (Hunt, 2004, p. 22). CRM enhances these capabilities because it is "the outcome of the continuing evolution and integration of marketing ideas and newly available data, technologies and organizational forms" (Boulding et al., 2005).

CRM principles and systems help organizations to focus on the dual creation of value: the creation of value for shareholders (via long-term firm profitability) and the creation of value or utility for customers (Vargo and Lusch, 2004). These objectives are congruent because relationships represent market-based assets that a firm continuously invests in, in order to be viable in the marketplace. Strong relationships are associated with customer loyalty and/or switching costs, which create barriers to competition. Thus relationships provide a differential advantage by making resources directed to customers more efficient. For example, loyal customers are more responsive to marketing actions and cross-selling (Verhoef, 2003).

Marketers sometimes use the term "customer asset," but customers and assets do not have identical features. The mind-set associated with "owning" customers is dangerous because customer

relationships must be carefully managed and customer loyalty must be earned (Rust et al., 2004). However, the customer base is certainly a market-based asset that should be measured, managed, and tracked over time (Bell et al., 2002). Srivastava, Shervani, and Fahey (1998) discuss how market-based assets, such as customer or partner relationships, can increase shareholder value by accelerating and enhancing cash flows, lowering the volatility and vulnerability of cash flows, and increasing the residual value of cash flows. Their framework links customer relationship management with business performance metrics.

Origins in Relationship Marketing

The foundation for the development of CRM is generally considered to be relationship marketing, defined as marketing activities that attract, maintain, and enhance customer relationships (Berry 1983). Gronroos (1990, p.138) argues for the importance of relationships in the marketing context. He proposes a definition for marketing, namely, that marketing is "to establish, maintain and enhance relationships with consumers and other partners, so that the objectives of the parties involved are met. This is achieved by a mutual exchange and fulfillment of promises." However, although the terms "CRM" and "relationship marketing" are relatively new, the phenomenon is not (Gummesson, 1994, p. 5, 2002, p. 295). Marketers have always been preoccupied with defensive strategies aimed at increasing customer retention, thereby increasing revenues and profitability (Fornell and Wernerfelt, 1987). For example, writing in the *Harvard Business Review*, Grant and Schlesinger (1995 p. 61) argue that the gap between organization's current and full-potential profitability is enormous, and suggest that managers ask themselves: "How long on average do your customers remain with the company? [and] What if they remained customers for life?" During the same time period, a growing literature has focused on the "service profit chain" linking employee satisfaction, customer satisfaction, loyalty, and profitability (e.g., Heskett, Sasser, and Schlesinger, 1997; Reichheld, 1993; Liljander, 2000).

Emergence of Customer Equity and Early Customer Relationship Models

This perspective naturally evolved and expanded to consider the management of customer equity or the value of the customer base. Initially, researchers were primarily concerned with the allocation of resources between customer acquisition and retention (Blattberg and Deighton, 1996). Generally, the management of customer equity requires that organizations use information about customers and potential customers to segment them and treat them differently *depending on their future long-term profitability* (Blattberg, Getz, and Thomas, 2001; Peppers and Rogers, 2005; Rust, Zeithaml, and Lemon, 2000). Notably, firms must go beyond traditional market segmentation activities, such as customizing offerings (i.e., goods or services) and efficiently managing resources to achieve profitability criteria. Instead, firms must identify and acquire customers who are not only willing to accept the firm's offer or value proposition—but also provide value for the company when they do (e.g., Cao and Gruca, 2005; Ryals, 2005).

Marketers were quick to recognize that the value of the customer asset (i.e., the value a customer or potential customer provides to a company) is the sum of the discounted net contribution margins of the customer over time—that is, the revenue provided to the company less the company's cost associated with maintaining a relationship with the customer (Berger and Nasr, 1998). Early applications of CRM systems typically utilized models that predict (rather than explain) future customer behavior or profitability. For example, in an early paper, Schmittlein and Peterson (1994) use past purchase behavior—that is, data on the frequency, timing, and dollar value of past purchases—to

predict likely future purchase patterns. They were able to show that their "customer base analysis" was effective in predicting purchase patterns for different key industrial buying groups.

For about a decade, relatively narrow CRM systems coexisted, rather uneasily, with broader, strategically meaningful conceptualizations of CRM as a "strategic bridge between information technology and marketing strategies aimed at building long term relationship and profitability" (Ryals and Payne 2001, p. 3). Modelers frequently applied CLV concepts in direct marketing, database marketing, or electronic commerce contexts (Ansari and Mela, 2003; Bult and Wansbeek, 1995; Elsner, Krafft, and Huchzermeier, 2004).[1] Progress was made toward identifying which variables are the "best" predictors of customer lifetime profitability (in a given study context). For example, Reinartz and Kumar (2003) compare traditional models that consider frequency, timing, and monetary value with models that show how managerial decision variables influence the profitability of customers over time—and show that the latter are superior. Nevertheless, most applications (to date) have relied on estimates of current customer profitability, rather than future customer profitability.

Customer Relationship Management and Business Performance

Marketing Metrics

The challenges of applying CRM principles were exacerbated as managers and researchers turned their attention to "metrics" or the measurement of the impact of marketing on business performance (cf. Lehmann, 2004). Most popular measures of current CRM systems are outcome measures: number of acquired customers, "churn" as a percentage of the customer base (the inverse of the customer retention rate), the dollar value of cross-selling, the percentage increase in customer migration to higher margin products, changes in individual customer lifetime value (CLV), and so forth. Any single outcome measure provides an incomplete and (often) short-run assessment of the firm's success at creating value for both customers and shareholders (Boulding et al., 2005). Most dangerously, optimizing a small number of outcome measures may lead to core rigidities (Atuahene-Gima, 2005; Leonard-Barton, 1992) that undermine the organization's core capabilities and lead to business failure. For example, there are numerous stories of firms that have focused on customer acquisition at the expense of customer retention activities or vice versa.

One way to assess the impact of marketing on business performance is to forecast the lifetime value of individual customers under alternative scenarios, aggregating across customers, and identifying the "best" set of scenarios or set of organizational actions. This approach seems "doable" but it can be challenging to move from the calculation of individual customers' lifetime revenues to individual customers' profitability. For example, Niraj, Gupta, and Narasimhan (2001) demonstrate this method for an intermediary in a supply chain, such as a distributor, where costs are incurred at each step in the supply chain and there is heterogeneity in purchasing characteristics.

Initial Failure of CRM "Systems"

A constructive distinction is often missing in CRM frameworks. There is a difference between CRM systems—software that integrates relevant customer information (sales, marketing, etc.) with product and service information—and CRM processes, for example, the cross-functional steps required to ensure customer retention and effectiveness of marketing initiative, such as a continuing dialogue with customers across all contact points and personalized treatment (Day, 2000). In other words, CRM systems are intended to support CRM processes, which are meant to enhance the value of the customer relationship.

CRM starts from the fundamental assumption that the bounded rationality of humans charged with initiating, maintaining, and building relationships can be supported and enhanced by specific organization capabilities, namely, the intelligent utilization of databases and information technology. However, many organizations' initial experiences were disappointing, especially in the short run. The *Economist* (2003, p. 16) describes the experiences of financial services organizations and pessimistically observes that:

> The three year economic downturn has cooled even Wall Street's ardor for fancy new IT [information technology] gear. . . . The problem is that most IT projects are lengthy affairs and notoriously "back loaded." . . . Few things in technology have promised so much and delivered so little as "customer (or client) relationship management" (CRM) software. In implementing CRM, insiders reckon that four out of five such projects fail to deliver the goods.

These failures typically arose from a narrow application of CRM principles. For example, Rigby, Reichheld, and Schefter (2002) identified four situations that independently and together result in failed CRM systems: (1) implementing CRM without having in place a clear customer strategy, (2) assuming that CRM has to match organizations' current practices, and not enhance them, (3) assuming that CRM technology and not CRM strategy matters, and (4) using CRM to stalk, not to woo customers. In other words, many so-called CRM systems used technology (both hardware and software) to optimize the usage of information within functional silos, without a relational orientation, creating obstacles to organizational learning and the dual creation of value. Thus, it is not particularly surprising that they identified solutions that were suboptimal—and even unprofitable—in the long run.

More Nuanced Approaches to Evaluating CRM Systems and Technology

Research has established that CRM systems can improve intermediate measures of business performance. For example, Mithas, Krishnan, and Fornell (2005) study the effect of CRM applications on customers and find out that the use of CRM systems positively impacts customer satisfaction, both directly and through improved customer knowledge. Despite this fact—and the common belief that more and better customer knowledge can only benefit a firm and its customers—the financial return on large investments in CRM technology has been questioned. For example, as Reinartz, Krafft, and Hoyer (2004, p. 293) report, commercial studies "provide some convergent validity that approximately 70 percent of CRM projects result in either losses or no bottom line improvements." Contrary to such reports, their own empirical investigation indicates that companies that implemented CRM processes performed better not only in relationship maintenance but also in relationship initiation.

A critical issue for many organizations is that the adoption of CRM technology is fraught with implementation challenges, including information technology design, procedure, and process issues, difficulties in maintaining accurate and current information, obstacles arising from interfaces that are not user friendly, and so forth (e.g., Johnson, Sohi, and Grewal, 2004; Meuter et al., 2005; Morgan, Anderson, and Mittal, 2005; Winer, 2001). For this reason, we must distinguish between technology-driven implementation—which results in user frustration—and customer-driven implementation—which has high user involvement; the latter resulted in successful operational CRM systems. A recent study by Jayachandran and colleagues (2005) estimates an interaction effect showing that customer relationship performance for a diverse sample of businesses is enhanced

by organizational information processes when a high level of technology is used. In other words, technology use for customer relationship management—by moderating the influence of organizational information processes on customer relationship performance—performs a supportive role only. They show that effective organizational information processes (i.e., effective communication, information capture, and information integration, as well as access and use of information) enhance the effectiveness of CRM technology in achieving business success.

CRM Principles and the Role of Organizational Capabilities and Processes

After more than twenty years of research on CRM, the accumulated evidence indicates that the application of CRM principles yields positive financial outcomes. In their introduction to the *Journal of Marketing*'s special section on CRM, Boulding and colleagues (2005) argue that CRM improves business performance in a wide variety of industry settings. A striking example is described in a case study by Ryals (2005), showing that a business unit was able to achieve a 270 percent increase in business unit profits above target by implementing some straightforward CRM procedures.

Why do firms experience such widely varying degrees of success from applying CRM? The implementation of CRM systems or technology alone is doomed to fail, because the collection of the data does not imply the existence of useful information that will be disseminated and acted upon appropriately. Boulding and colleagues (2005) argue that, holding fixed the level of CRM investment, the effectiveness of CRM activities depends on (a) how CRM is integrated with the existing processes of the firm and (b) the firm's preexisting capabilities. In other words, organizations that have already developed learning capabilities and effective information processes are more likely to improve their business performance by adopting CRM systems. They are able interpret information correctly and act on it in a manner to increase value for both the customer and the firm.

In a recent *Harvard Business Review* article, Gulati and Oldroyd (2005) observe that the implementation or CRM systems must serve the purpose of getting closer to customers, and that in order to succeed the company as a whole has to engage in a learning journey—learning about the customer and about the business and how its way of doing business can be improved. If this activity is regarded as a departmental or functional responsibility, CRM efforts will fail. The authors identify four stages in the evolution of a successful CRM implementation: communal coordination (gathering information); serial coordination (gaining insight from customers' past behavior); symbiotic coordination (learning to predict future customer behavior) and integral coordination (real time response to customer needs). This evolutionary and transformational process takes time, resources, and patience, but the implementation of each of the stages should provide visible end results. Harrah's started this process under Gary Loveman's leadership in 1998 and, after a constant evolution that took more than seven years and involved all employee levels, it enjoyed impressive growth compared to competitors. Furthermore, the deep understanding of the customer provided new levers for future growth (Gulati and Oldroyd, 2005; Gupta and Lehmann, 2005).

In summary, marketing science and practice has moved away from simplistic evaluations of investments in CRM technology or systems to consider the role of firms' preexisting capabilities and organizational processes. For this reason, the remainder of this article frames our discussion of what we know about CRM in terms of five interrelated organizational processes: making strategic choices that foster organizational learning, creating value for customers and the firm, managing sources of value (acquisition, retention, etc.), investing resources across functions, organizational units, and channels, and globally optimizing product and customer portfolios. We discuss how each

Figure 1.1 **Customer Relationship Management Processes**
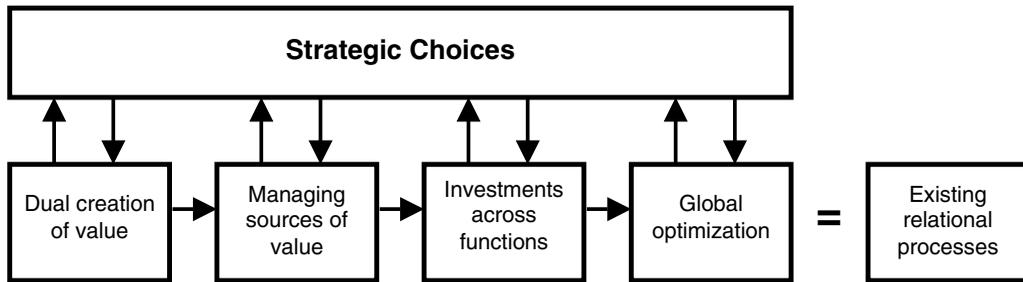
Table 1.1

Processes

Strategic choices	• Organizational information processes • Organizational learning
Dual creation of value	• Creating value for customers • Valuing customers
Customer portfolio management	• Acquisition • Retention • Increased margins from relationship expansion activities (e.g., product usage, cross-selling) • Divestment
Allocation of resources across functions, channels, and organizational units	• Employee selection and training • Service quality • Customer management effort • Managing customer contacts • Customer equity models
Global optimization models	• Segmentation • Matching product portfolio and customer portfolio • Risk/return management

process influences the effectiveness of CRM, and describe its challenges. The processes and their relationships are depicted in Figure 1.1; subtopics are listed in Table 1.1. We begin by describing research regarding how organizations' strategic choices influence the effectiveness of CRM in enhancing business performance, which provides a conceptual rationale for our framework.

Strategic Choices

In a recent executive roundtable discussion, executives from IBM, Yellow-Roadway, Luxottica Retail (Lens Crafters and Sunglass Hut), McKinsey & Company and Cisco Systems stated that that there were immense opportunities for the transformation of organizations through the integration of business processes and the use of technology to generate competitive advantage, cost saving efficiencies and an enhanced customer experience. Executives in Europe and North America strongly believe that successful organizations require a cross-functional process-oriented approach that positions CRM at a strategic level (Brown, 2005; Christopher, Payne, and Ballantyne, 1991; Payne and Frow, 2005). This notion is consistent with empirical evidence showing that firms' prior strategic commitments (as opposed to their general market orientation) have impressive effects on the performance of their CRM investments in a retailing context (Srinivasan and Moorman, 2005).

Organizational Learning

Based on extensive field interviews, Payne and Frow (2005) identify five key cross-functional CRM processes: a strategy development process; a value creation process; a multichannel integration process; an information management process; and a performance assessment process. They argue that an organization's strategy development process—a precursor for subsequent processes—requires a dual focus on its business strategy and customer strategy, and that how well the two interrelate will fundamentally affect the success of its CRM strategy.

In particular, organizational information processes—information reciprocity, information capture, information integration, information access, and information use—relevant to CRM can play a vital role in enhancing business performance (Jayachandran et al., 2005). This observation should not be surprising because the primary outcome of the adoption of CRM technology is the generation of an enormous database describing customer profiles, sales, costs, operations, and so forth. If intelligently processed and interpreted, these data can provide information regarding the value of customers and the effectiveness and efficiency of marketing actions (Berger et al., 2002). Each customer interaction is (or should be) part of an iterative learning process both from the customer and the company points of view (Ballantyne, 2004).

Challenges

Our review of prior research suggests two fruitful areas for future research. First, marketing scientists and practitioners have acknowledged that CRM technology alone cannot sustain a competitive advantage. The failure of many firms to reap economic rewards from investments in CRM technology is a symptom of an underlying problem, namely, how to create a coordinated strategy that integrates business processes and generates an enhanced customer experience (i.e., the creation of value for customers), competitive advantage, and cost saving efficiencies (i.e., the creation of value for the firm). The value a company has to offer to its customer is derived not only from the quality of its offerings but also from its relational characteristics and supplier characteristics (Crosby, Gronroos, and Johnson, 2002; Menon, Homburg, and Beutin, 2005; Storbacka, Strandvik, and Gronroos, 1994). For this reason, appropriate organizational structures and processes for a given firm are likely to depend on its business environment (i.e., they will be contingency-based). Thus, there is a critical need for more research on how CRM principles can guide strategic choices that improve business performance in different business contexts, thereby bridging the functional silos that exist in many organizations. Otherwise, firms will be unable to profitably exploit innovations in technology and business processes—for example, radio frequency identification technology.

Second, firms' experiences in implementing CRM technology have shown that transforming data into useful information—especially learning from past experience—is challenging for many organizations. Ambler (2003, p. 21) points out a paradox: "Marketing is the means whereby a company achieves its key objectives," but quantifying the results of marketing actions is extremely challenging. CRM systems can provide the tools for accurately measuring marketing outcomes, where "clarity of goals and metrics separate the professional from the amateur" (Ambler, 2003, p. 17). Gupta and Lehmann (2005) have suggested a set of metrics that is based on a profitability tree and is suitable for strategic decision-making. It is important to recognize that different metrics are required for different purposes. Hence, research is required to identify metrics linked to future profitability because, without making sense of the interrelationships of marketing variables, it will be impossible for marketing to evolve from a function in a company to a guiding principle (Hunt

2004). In addition, research is required to show how metrics can be *used* to manage value creation for customers and for the firm. Furthermore, at an implementation level, research is required to develop "interlocking" metrics that coordinate decision making at strategic and tactical levels, as well as decision making across channels and organizational units.

Dual Creation of Value

Dual creation of value requires that the firm simultaneously create value for customers and value for shareholders. First, we discuss how to create value for customers. Second, we consider how managers can assess the value of individual customers or segments, and then aggregate them to calculate the value of the customer base to the firm. We identify the research challenges associated with each task.

Creating Value for Customers

A common trait of many studies is a focus on measuring CRM's impact on the end results, such as profits and shareholder value, without studying the relations among processes and connections among variables (Boulding et al., 2005). Return on investment is certainly a measure of success, but—without a profound understanding of how relational processes can operate effectively—success from CRM initiatives is elusive. Although the specifics will be unique to each firm, prior research provides a conceptual framework for understanding how relational processes create value for customers. Specifically, research on the antecedents of service quality, customer satisfaction, trust, and commitment provide insights for managers (Berger et al., 2002; Rust, Lemon, and Zeithaml, 2004).

Relationships with Consumers

Research on CRM is a natural evolution of marketers' longstanding interest in understanding how relationships with individual customers are created, built, and sustained over time (Bhattacharya and Bolton, 2000). It began with investigations of how customers formed their assessments of products (goods and services). This research stream is extensive; therefore an extensive discussion of the antecedents of customer assessments (e.g., perceived service quality and customer satisfaction) as well as the implicit bonds (e.g., legal, economic, technological, knowledge, social, etc.) (Liljander and Strandvik, 1995) is beyond the scope of this section. Notably, customer satisfaction literature developed around the idea that satisfaction is influenced by the difference between expectations and experience (Oliver, 1980, 1999). Service quality literature developed along parallel lines (cf., Parasuraman, Zeithaml, and Berry, 1985, 1988). For example, Boulding and colleagues (1993) brought together two streams of service quality research in showing that both expectations as predictions (expectations about what *will* happen) and normative expectations (expectations about what *should* happen, often based on communications from the service provider) are important in determining perceived service quality. This stream of literature is extremely useful in helping researchers build theory-based models of customer behavior (Bolton and Lemon, 1999).

Business-to-Business Relationships

Researchers focusing on CRM principles have been especially interested in interorganizational relationships because—until the recent advent of electronic commerce with its potential for

precise (one-to-one) targeting of marketing activities to customers—business-to-business (B2B) relationships have been the most fruitful context for the application of the principles of customer relationship management. This stream of research has tended to have a strategic orientation, reflecting the notion that a coherent set of cross-functional activities is required to create, build, and sustain relationships (Ford, 1990).[2] Two important focal constructs in understanding inter-organizational relationships are trust and commitment (Morgan and Hunt, 1994). For example, Anderson and Weitz (1992) consider how commitment depends on self-reported and perceived "pledges" (i.e., idiosyncratic investments and contractual terms), communication, and relationship characteristics. Their research is particularly noteworthy because they studied 378 dyads—that is, pairs of manufacturer and industrial distributors—so that they were able to model the antecedents and consequences of each party's perception of the other party's commitment. Recent research has extended our knowledge of interorganizational relationships through studies of organizational norms, contracting, opportunism, and so forth (Heide and Weiss, 1995; Kalwani and Narayandas, 1995; Kumar and Corsten, 2005; Narayandas and Rangan, 2004; Wuyt and Geyskens, 2005). B2B decisions are especially complex because multiple people participate in the purchase decision (e.g., purchasing manager, end user, decision maker), and interactions occur at multiple levels (e.g., contract level, organizational unit level, firm level). This research stream is very helpful in building theory-based models of organizational buying behavior. Most prior research has been conducted at the enterprise level, using key informants; future research is required that uses information obtained from multiple informants as well as from multiple levels within the buying organization (Bolton, Lemon, and Bramlett, 2004).

Using Customer Assessments of Relationships to Explain Behavior

Numerous studies have shown that self-reports of customer assessments (such as satisfaction) can explain customer behavior. Bolton (1998) models the duration of the customer–firm relationship at the individual level. She finds that prior cumulative satisfaction is weighed more heavily than satisfaction from recent events, and that satisfied customers have longer relationships, and generate greater revenues and profits (for contractual relationships). However, Verhoef (2003) finds that, if customer assessments primarily reflect cognition (without an affective component), it may prove difficult to predict customer retention or share of the wallet. At the aggregate level, Gruca and Rego (2005) use data from the American Customer Satisfaction Index and Compustat to show that customer satisfaction plays a major role in increasing cash flow and enhancing its stability.

Challenges

CRM systems operate at the customer–firm interface, and firms frequently use information from customers to create and deliver valuable offerings to them. Customers are likely to be willing to reveal private information if they derive "fair" value from exchanges with the firm. However, firms may behave opportunistically (extracting all economic surplus), creating mistrust among customers, so that they act strategically when they provide information or participate in transactions with the firm (Boulding et al., 2005). For example, customers might retaliate against perceived unfairness by providing inaccurate information, generating unfavorable word of mouth, switching to the competition, or boycotting the firm. Consequently, successful implementation of CRM principles requires that firms carefully consider issues related to privacy and fairness (Boulding et al., 2005). Additional research is required on how these constructs influence business performance in the long run.

Mediating constructs, such as perceived fairness, satisfaction, and commitment, are important precursors of customer behavior. Moreover, prior research has shown that self-report measures obtained from survey data can be used to predict customer behavior (e.g., Bolton and Lemon, 1999). Researchers have also used survey measures *as proxies* for consumer behavior, assuming that the antecedents of the proxy are identical to the antecedents of the target variable. However, there is a significant body of literature that shows otherwise (Chandon, Morwitz, and Reinartz, 2005; Morwitz, 1997; Morwitz and Schmittlein, 1992; Seiders et al., 2005). For example, Mittal and Kamakura (2001) analyze the influence of satisfaction on behavioral intentions and actual behavior and find that the effect of satisfaction on behavioral intentions is nonlinear with decreasing returns, whereas its effect on behavior is nonlinear with increasing returns. For this reason, marketers must be cautious about using only survey data to study how relational processes create value for customers. Hence, there is also a need for additional research to develop more longitudinal models of customer behavior (Bolton, Lemon, and Verhoef 2004).

Value of Customers to the Firm

Customer Valuation

The value of the customer asset (i.e., the value that the customer provides to a company) is the sum of the customer's discounted net contribution margins over time—that is, the revenue provided to the company less the company's cost associated with maintaining a relationship with the customer (Berger and Nasr, 1998). Naturally, a company cannot perfectly predict the cash flows associated with an individual customer, but it can calculate the expected value of the cash flows (adjusting for risk) associated with an individual customer conditional on the customer's characteristics, the company's planned marketing actions and environmental factors (Hogan et al., 2002). For example, Pfeifer and Bang (2005) propose a model of calculating the mean CLV taking into account the fact that customers have not completed their purchasing cycle and therefore any mean calculation of their value is inaccurate because it does not include future purchases. They use a nonparametric method to compute mean CLV across all customers, to be used as guidance for the appropriate level of investment in customers.

Gupta, Lehmann, and Stuart (2004) propose forecasting CLV by decomposing it into three underlying sources: customer acquisition (i.e., trial), retention (repeat purchase behavior), and gross margins (influenced cross-buying, cost structure, etc). They demonstrate that the basic calculations are relatively straightforward. Research has shown that the CLV framework can be used to generate estimates of the future profitability of individual customers—given certain marketing actions and competitive conditions—and to identify optimal allocations of resources (cf., Jain and Singh, 2002; Kumar, Ramani, and Bohling, 2004). In contrast, substantial empirical evidence—using rigorous holdout sample procedures—indicates that measures of the past profitability of individual customers are poor predictors of future customer profitability (Campbell and Frei, 2004; Malthouse and Blattberg, 2005).

Forecasting Sources of CLV

To ensure accuracy, it is recommended that estimates of the revenue sources of CLV should be broken down to the customer or cohort or segment level (rather than the firm level). Customer-level forecasts of each source are preferable for five reasons (Gupta and Lehmann, 2005, pp. 7–9). First, customer-level profitability can be decomposed into its underlying sources—customer acquisition,

retention, and margin—which are amenable to managerial action. Second, by preparing forecasts of each underlying source (rather than extrapolating firm-level historical data), managers can explicitly account for changes over time in the underlying sources of profitability, thereby identifying turning points. For example, a firm might discover that its constant earnings over the past few years are the net result of increases in customer acquisition rates and decreases in margins. Further analysis might reveal that customer acquisition will slow down, causing a decline in future earnings. Third, projected customer revenues can take into account any effects of cross-selling (which increase margins) and word-of-mouth. Fourth, the effect of a planned marketing action will be different for each CLV source: acquisition, retention, and margins (Bolton, Lemon, and Verhoef 2004). For example, Thomas and Reinartz (2003) show that the amount of direct mail sent has an effect on cross-buying opposite to that on purchase frequency. Fifth, without considering customers' migratory behavior, customers will be undervalued since they are considered lost when they switch to competition and they are accounted for as new customers when they switch back (for a model of accounting for switching behavior see Rust et al., 2004).

To calculate CLV and identify the most profitable customers, the company must forecast the cost to serve a customer as well as revenue sources. As Kaplan and Narayanan (2001) point out, the cost to serve customers can vary dramatically: 20 percent of customers who are most profitable can account for 150 percent to 300 percent of profits, while the 10 percent who are least profitable may lose 50 percent to 200 percent of profits. Under these conditions, it is necessary to measure the real profitability of customers and (if necessary) take corrective actions to forestall losses (either by "firing" the unprofitable customers or by adopting solutions to make the relationship profitable).

Firm Valuation

Recent research has shown that the CLV framework (i.e., using forecasts of acquisition, retention, and margins) can be used to calculate the value of the firm's current and future customer base. Gupta, Lehmann, and Stuart (2004) use publicly available information from annual reports and other financial statements to calculate a customer-based valuation of five companies. They compare their estimates of customer value (post-tax) with the reported market value for each of the companies. Their estimates are reasonably close to the market values for three firms, and significantly lower for two firms (Amazon and eBay). They infer that these two firms either are likely to achieve higher growth rates in customers or margins than they forecast, or they have some other large option value that the CLV framework does not capture.

Challenges

Berger and colleagues (2002) discuss four critical and interrelated actions required of firms that wish to understand how their actions affect the value of their customer assets: (1) create a database; (2) segment based on customer needs and behavior; (3) forecast CLV under alternative resource allocation scenarios; and (4) allocate resources. Although the challenges of creating an integrated database cannot be overestimated, they are primary related to cost and implementation issues. In contrast, forecasting customer-level CLV is a significant technical challenge for four reasons.

First, the forecasts should reflect changes in customer behavior in response to changes in organizational decisions and the environment. To make CLV calculations tractable prior research has made strong implicit assumptions about customer behavior and marketing programs (e.g., Berger and Nasr, 1998; Blattberg and Deighton, 1996; Dwyer, 1989; Rust et al., 2004). For example, researchers frequently assume fixed marketing programs, deterministic retention rates,

and stable switching patterns among competitive offerings. Additional research is required to relax these assumptions in practical situations. For example, Lewis (2005) estimated a structural dynamic programming model that accounts for the effects of marketing variables, past purchasing activity, consumer expectations of future promotions, and preference heterogeneity on consumer behavior regarding online grocery purchases. The model was used to simulate customer response to marketing programs over an extended time period, thereby providing an estimate of customer value that is directly connected to organizational decisions. He found that, relative to a holdout sample, the simulation-based forecasts outperformed standard methods in terms of absolute error and were better able to account for variation in long-term values in a heterogeneous customer base. He was also able to estimate the long-term consequences of alternative pricing and promotion strategies.

Second, different customers will value the same product differently, and they will have different acquisition rates, retention rates, and margins (due to cross-buying); therefore, forecasting models must account for customer heterogeneity (cf., Chintagunta and Prasad 1998; Schmittlein and Peterson 1994). Third, it will be necessary to allocate costs to individual customers. In direct marketing contexts, firms are able to assign the costs of direct communication, delivery of the product, and promotions to individual customers (Berger and Nasr-Bechwati, 2001; Dwyer, 1989; Keane and Wang, 1995). However, in many industries, firms must create methods for accurately attributing the indirect costs of marketing actions to individual customers or customer segments. Berger and colleagues (2002) point out that cost allocation can be particularly challenging for firms that invest in programmatic efforts, such as service improvement efforts or investments in physical infrastructure.

A fourth challenge is to understand and incorporate competitive effects on customer acquisition and retention. Accounting for competitors' acquisition campaigns might explain customer behavior in most markets. Optical scanner data provide competitive information in retail environments, but information about competitive behavior is seldom available in other contexts.

Managing Sources of Value

Organizations can manage sources of value by acquiring and retaining the most desirable customers; expanding relationships through the stimulation of usage, upgrades, and cross-buying; improving their overall profitability by adjusting prices or managing costs; and managing the customer and product portfolios. Since not all customers are equally profitable, investments in customers should be based on their profit potential, as illustrated in Table 1.2. Firms should acquire customers in the upper-right quadrant and divest customers in the lower-left quadrant. Vulnerable customers may defect to competitors unless the firm develops an appropriate marketing program to retain them; free riders should receive lower product quality and higher prices.

These strategies require the firm to develop marketing programs targeted at individual customers or segments that influence acquisition, retention, and margins (via cross-buying), thereby maximizing CLV and value for customers. Marketers have developed a substantial body of knowledge about how firm actions influence customer behavior. A useful summary of this literature is provided by Bolton, Lemon, and Verhoef (2004), who identify six categories of marketing decision variables that can be used to influence customer behavior and CLV: price, service quality programs, direct marketing promotions, relationship marketing instruments (e.g., rewards programs), advertising communications, and distribution channels. In the following paragraphs, we briefly summarize some key considerations concerning how these marketing actions influence each source of value.

Table 1.2

Comparison of Value of Customers to the Firm with Value to Customers

	LOW Value to Customers	HIGH Value to Customers
HIGH Value of Customers	Vulnerable Customers	Star Customers
LOW Value of Customers	Lost Causes	Free Riders

Source: Gupta and Lehmann (2005), p. 44.

Customer Acquisition

Customer acquisition is a first step in building a customer base. Targeting, acquiring, and keeping the "right" customers entails a consideration of fit with current firm offering, future profitability, and contribution to the overall business risk. Many firms do not employ appropriate criteria to identify profitable customers and their marketing programs are broadly communicated to potential customers who may or may not be profitable. Consequently, customer acquisition can be a costly and risky process—especially because new customers may not represent a good fit for the organization's value proposition, a phenomenon that can often occur if acquisition is done outside previously targeted segments. Customer–product fit becomes important because campaigns aimed toward new customers—that change the positioning of a product—can alienate existing customers. Mittal and Kamakura (2001) discuss the nature of the relationship (or fit) of the customer and the brand, finding that customers with different characteristics have different satisfaction thresholds, and, therefore, different probabilities of repurchase.[3] This leads to the more general observation that customer acquisition influences the diversity of the customer portfolio—thereby influencing business risk—but this aspect of CRM is rarely studied in marketing (Johnson and Selnes, 2005).

Lack of focus during acquisition activities is very likely to result in adverse selection—whereby the prospects that are least likely to be profitable are mostly likely to respond to marketing efforts. For credit companies, the problem is particularly worrisome because they must verify the suitability of all respondents, thus incurring screening costs. Cao and Gruca (2005) address the problem of adverse selection by using data from a firm's CRM system to target prospects likely to respond *and* be approved. This approach increases the number of customers who are approved while reducing the number of "bad" customers. Their analysis is post facto and the marketing message is not altered, but their results show 30 percent to 75 percent improvements compared to traditional models that take into account either response likelihood or approval likelihood but not both. This method can be extended to new customer acquisition and better targeting of costly promotions to migrate customers to higher levels of lifetime value.

Customer Retention

Even though the optimal mix of marketing programs is unique to each business model, customer retention is often easier and cheaper than customer acquisition, especially in stable markets with low growth rates. An organizational emphasis on customer retention also makes sense when discount rates are low (Gupta and Lehmann, 2005). Hence, customer retention has received considerable attention from marketers. In fact, many organizations have considered the management of CLV as equivalent to the management of customer retention, and have ignored the

contribution of other sources of CLV.[4] Research confirms that consumers with higher satisfaction levels and better price perceptions have longer relationships with firms (e.g., Bolton, 1998). In a B2B context, suppliers who have long-term relationships with customers are able to achieve significant sales growth and higher profitability through differential reductions in discretionary expenses (Kalwani and Narayandas, 1995). However, customer retention and defection are complex processes (Åkerlund, 2005).

Relationship Expansion

Organizations can increase CLV and gross margin per customer by stimulating increased product usage or cross-buying (cf., Hogan et al., 2002). However, marketing programs designed to expand relationships with customers have received much less attention than programs for retaining customers. Customer loyalty and cross-buying may be simultaneously determined in some contexts. However, in a direct mail context, Thomas and Reinartz (2003) have shown that cross-buying is a consequence, and not an antecedent, of loyalty behaviors. Nevertheless, the effectiveness of a firm's customer retention and cross-selling efforts will certainly be jointly influenced by the organization's capabilities and systems. A few studies have investigated how service organizations can expand their relationships with customers by increasing usage or cross-buying of additional services (e.g., Bolton and Lemon, 1999; Kamakura et al., 2002; Kamakura, Ramaswami, and Srivastava, 1991; von Wangenheim, 2004; Verhoef, Franses, and Hoekstra, 2001). They typically show that experiences with currently owned products (goods or services) are an important predictor of cross-buying.

Customer Divestment

Although organizations may have customers who are unprofitable to serve ("free riders"), firing customers or refusing to serve them is seldom necessary. Instead, organizations can offer a less attractive value proposition to some segments (e.g., by raising prices or offering lower product quality). In addition, marketing campaigns can be designed to attract profitable customers and be unappealing to less desirable customers. Another option is to find a way to make the latter group profitable by changing the firm's business model. For example, IBM wanted to focus on Fortune 1000 companies, but could not ignore less profitable relationships with small business. Hence, they developed a dealer network that could serve the medium and small businesses in a profitable way.

Challenges

Many firms use the predicted value of the customer asset (also known as customer lifetime value or CLV) to allocate resources to customer or customer segments, thus accurate calculations are important. CLV predictions should be based on forecasts of revenue sources and costs to serve—based on a particular set of marketing actions and an environmental scenario—where multiple forecasts are possible. Dynamic models to forecast the sources of CLV are required for four reasons. First, CLV is often considered a fixed value, when it is actually influenced by and influences marketing strategy (Berger et al., 2002). For example, certain service attributes or marketing variables—such as price or quality—may become more (or less) important to customers as the duration of the relationship lengthens (Boulding et al.,1993; Mittal, Katrichis, and Kumar, 2001; Mittal, Kumar, and Tsiros, 1999). Consequently, dynamic models are required to reflect the evolution of customer

preferences and behaviors over time—so that the path-dependent nature of organizational decisions is explicitly recognized (Rust and Chung, forthcoming; Bolton, forthcoming).

There are established streams of research that model customer acquisition and retention, but there are fewer dynamic models that describe how relationships are expanded by stimulating usage, cross-buying, and word-of-mouth (WOM)—and how these sources affect CLV. Furthermore, customer behaviors are not (typically) considered to be jointly determined within a system of equations. For example, Hogan, Lemon, and Libai (2003, 2004) assess the impact of customer loss due to WOM on product adoption and examine the underestimated effectiveness of advertising due to failure to account for WOM. Subsequently, von Wangenheim and Bayón (forthcoming) propose a model for including the effect of customer referrals CLV calculations. We believe that much more work is required to build comprehensive, dynamic models of the multiple sources of CLV to produce accurate estimates of CLV, especially in light of the influence of socialization and networks on future behavior (see Hakanson and Snehota, 1995).

Second, forecasts of sources of CLV will depend on competitors' activities—and these activities will change over time. Current CRM models devote little attention to competitors and their influence on a customer's relationship with the target firm (for a notable exception see Rust, Lemon, and Zeithaml, 2004). Failure to account for competitive effects in a dynamic manner will impair the accuracy of estimating the impact of the marketing actions (Rust et al., 2004).

Third, it is necessary to forecast the implications of marketing actions for the long and intermediate term, as opposed to the short term (Lewis, 2005; Reinartz, Thomas, and Kumar, 2005; Rust and Verhoef, forthcoming). For example, Dekimpe and Hanssens (1995) estimate the long-term effect of marketing activity (specifically, media spending) on sales using persistence modeling based on time-series observations. The long-term advertising effect is a combination of consumer response, competitive reaction, and firm decision rules effects. The study shows that an advertising medium with lower short-term impact can have a higher long-term effect. Thus, their example demonstrates that traditional approaches can underestimate the long-term effectiveness of marketing expenditures. In subsequent work, they also show that the strategic context is a major determinant of marketing effectiveness and long-term profitability (Dekimpe and Hanssens, 1999).

Fourth, it is interesting to observe, that—from a customer portfolio management perspective—the goal of CRM is to invest in customer relationships to maximize value to the customer and (aggregate) value for the firm. Maximizing the duration of a specific customer–firm relationship or the CLV of an individual customer may not be appropriate. This issue arises whenever the firm makes decisions about which customers to acquire, retain, or divest—as well as how to create a portfolio of customers with desirable risk/return characteristics. In other words, decisions about individual customers cannot be made without considering the optimal characteristics of the entire customer portfolio.

Allocating Resources Within and Across Functions, Channels, and Organizational Units

Berger and colleagues (2002, p. 51) recommend that "firms should manage their customers like they manage their assets: by making profitable investments in value-producing areas." Marketers have been especially interested in methods for allocating resources between customer acquisition and retention to maximize return on investment. Unfortunately, many CLV calculations have been characterized as "undervaluing long term customers and over-evaluating prospects" (Hogan et al., 2002), which can lead to misallocation of resources.

In mature markets, customer retention is cheaper and easier and has more impact than customer

acquisition (Berger and Nasr, 1998; Gupta and Lehmann, 2005; Gupta, Lehmann, and Stuart, 2004; Jain and Singh, 2002; Reinartz, Thomas, and Kumar, 2005), yet overbidding on the future can shift the attention from retention to acquisition. Customer acquisition is vital in a growing market because it assures the future growth of the company; yet, in a mature market, retaining customers most often offers the best return on investment.

The problem of finding the equilibrium between investing in acquisition versus in retention is exacerbated by the fact that even though customer acquisition and retention are not independent processes, data limitations have frequently led marketers to treat them as such.[5] Thomas (2001) finds that naive predictions can lead to overinvestment in certain customers (e.g., due to incorrectly estimating the impact of add-on selling). The adoption of a long-term perspective implies maximization of neither acquisition rate nor relationship duration, but maximization of the profitability of the relationship over time (Reinartz, Thomas, and Kumar, 2005).

Strategic models have emerged to help firms allocate resources across diverse organizational actions that influence customer equity. For example, Rust and colleagues (2004) develop a comprehensive strategic model that links strategic investments (e.g., in quality, advertising, loyalty programs, corporate citizenship) to customer equity defined as the sum of current and future customer lifetime values. They account for competition (via switching probabilities) and customer heterogeneity. Their comprehensive model represents an important step toward understanding the complex effect of strategic changes. However, most research has focused (more narrowly) on resource allocation within specific functional areas, including employee selection and training, service quality, customer management effort, multiple channels, customization at the customer, cohort or segment level, loyalty or rewards programs, and the management of customer contacts and processes. We briefly summarize these literature streams below.

Employee Selection and Training

The "service–profit chain" links service operations, employee assessments and customer assessments to firm profitability (Heskett et al., 1994). For example, Schlesinger and Heskett (1991) describe a "cycle of failure" that occurs when firms minimize employee selection effort and training, so that employees are unable to respond to customers requests, and (consequently) customers become dissatisfied and do not return—yielding low profit margins. A significant stream of research has focused on a single link in the chain: the relationship between employees and customers. For example, Reichheld (1993) recommends that "to build a profitable base of faithful customers, try loyal employees." Subsequently, there have been numerous studies of the relationships among employee performance, satisfaction, organizational citizenship behaviors, service climate, and customer satisfaction (de Jong, Ruyter, and Lemmink, 2004; Donovan, Brown, and Mowen, 2004; Gruen, Summers, and Acito, 2000; Netemeyer et al., 1997; Netemeyer, Maxham, and Pullig, 2005).

The service–profit chain also provides an integrative framework to guide firms' investments in operations, employee selection and training, and customer management. Researchers have modeled components of the service–profit chain in different industry contexts, such as banking (Loveman, 1998; Roth and Jackson, 1995) and retailing (Rucci, Kim, and Quinn, 1998). Notably, Kamakura and colleagues (2002) develop a comprehensive approach to the service–profit chain, incorporating a strategic model estimated with structural equation modeling and an operational analysis based on data envelopment analysis. They were able to identify ways for bank branches to achieve superior profitability. Interestingly, they discovered that bank branches must be operationally efficient (in terms of deploying employees and technology) and must achieve high customer retention to be maximally profitable.

Service Quality

The marketing literature has linked service quality to profitability in six ways: as a mediator of key service attributes (e.g., responsiveness), through direct effects of service quality on profitability, offensive effects, defensive effects, links between perceived service quality and purchase intentions, and via customer and segment profitability. Zeithaml (1999) provides an excellent summary of this vast literature, so we do not review it in this chapter. In an early paper, Rust, Zahorik, and Keiningham (1995) provide a framework for evaluating service quality improvements. They illustrate its application and show how it is possible to spend too much (or too little) on quality. Subsequently, Rust, Moorman, and Dickson (2002) consider how financial returns from quality improvements arise from revenue expansion, cost reduction or both. On the basis of their empirical work, they conclude that firms that adopt primarily a revenue expansion emphasis perform better than firms that adopt a cost reduction emphasis or a combination strategy.

Customer Management Effort

Bowman and Narayandas (2004) investigate how increasing product quality and the effort dedicated to customer management influence customer satisfaction and profits. They find that customer delight "pays off," but there are diminishing returns on customer management efforts. Moreover, the presence of a viable competitor provides a benchmark for comparison, as well as resulting in lower margins and lower share of wallet. A competitor's customer management effort negatively influences customer perceptions of employee performance and responsiveness. However, the focal firm's customer management effort is twice as important (in terms of the magnitude of the effect) as competitors' actions. The size of the customer matters in three ways: margins increase with customer size (nonlinear relationship with decreasing returns); the responsiveness of share of wallet variables to satisfaction decreases with customer size; and larger customers are more demanding, and thus have a lower baseline for both satisfaction and performance assessment.

Multiple Channels

The advent of e-commerce has resulted in a proliferation of businesses that use multiple channels to reach their customers. If there is no "overlap" in customers across channels, each channel can be treated as a separate business entity for revenue generation purposes. However, if customers interact with the firm via multiple channels (e.g., browsing online but purchasing in the store) the firm can improve customer profitability by leveraging organizational information processes with CRM systems. Friedman (2002) points out that often the most efficient way to generate leads may be through direct mailing, Internet, or telechannels, while negotiation and sale closure is best done through direct sales channels, while customer support can be done through telephone or Internet. Only by sharing information across channels in real time can firms optimize the results of multichannel customer contact. Thomas and Sullivan (2005) show how multichannel retailers can use enterprise-level data to understand and predict their customers' channel choices over time. They use the information to develop strategies for targeting and communicating with customers in a multichannel environment. Their results indicate that the firm benefits from efficiency in marketing expenditures (i.e., increasing the value of each customer), thereby increasing customer profitability.

Interestingly, firms with extensive experience in one channel and limited experience in other channels are handicapped when they attempt to create value for customers. For example, Srinivasan

and Moorman (2005) show that retailers who are best at using CRM to create customer satisfaction have medium levels of experience in either channel. An explanation for the curvilinear (inverted-U-shape) relationship between length of experience and success of CRM implementations may be that medium levels of experience make firms more committed to the implementation of CRM because it is perceived as a tool to leverage organizational learning. Apparently, companies with low levels of experience cannot use CRM systems to overcome their lack of experience—and lack of involvement by users may exacerbate the situation. This study is a good example of how CRM principles indicate that firms' strategic choices should be contingency-based.

Customization at the Customer, Cohort, or Segment Level

Managerial decisions about investments in human resources, service quality, customer management, and channels are typically made at the organizational level. However, managers must also decide how to allocate resources across individual customers or market segments and organizational units (e.g., geographic regions or bank branches). At the customer level, customized activities can be based on classification variables (such as demographics, or previous purchases), but also on customer response to company-initiated campaigns, such as sales force effort or direct mailing (Rust and Verhoef, forthcoming). Customization at the market segment level can be equally effective (Libai, Narayandas, and Humby, 2002). For organizations with customers who have both unique and common requirements, implementation can be on a case-by-case basis, some customers treated uniquely, some grouped within segments, to optimize the efficiency of the system (e.g., Bolton and Myers, 2003). As the relationships evolve and customers are better understood, service can be further customized.

Loyalty or Rewards Programs

There is ample evidence that a loyalty program can stimulate purchase behavior. For example, when Hilton Hotels introduced a guest loyalty program about a decade ago, it helped the company focus on the most profitable group of customers and reduced the weight of brand positioning—changing the nature of competition in the hospitality industry (Bell et al., 2002). Bolton, Kannan, and Bramlett (2000) discovered that loyalty programs can positively reinforce purchase behavior via a virtuous cycle: more experience with the product stimulates more usage, and more usage leads to more experience. They observed that loyalty programs had complex effects on customer behavior. Members of the loyalty programs were more forgiving of billing errors and exhibited more stable behavior over time (because they were less affected by perceived losses or gains from previous transactions). The authors concluded that loyalty reward programs have the potential to "operate as a form of mass customization that strengthens customers' perception of the company's value proposition" (p. 106). Moreover, Kivetz and Simonson (2003) found that a key factor affecting consumers' response to loyalty programs is their perceived relative advantage or "idiosyncratic fit" with consumer conditions and preferences. When consumers believe they have an effort advantage over others, higher program requirements magnify this perception and can increase the overall perceived value of the program.

The "dark side" of loyalty programs is that some programs fail to contribute to the creation of customer assets or build brand loyalty. They primarily discount prices, thereby eroding future profits (Shugan 2005). Furthermore, customers who respond primarily to value propositions, even though satisfied, may actually provide little value for the company (Gummesson 2002). Verhoef's (2003) research suggests that relationship marketing efforts (i.e., direct mailings and

customer loyalty reward programs) increase customer retention and share of wallet when they influence customers' affective commitment, rather than their calculative commitment (which has an economic basis).

Managing Customer Contacts and Processes

Customer-firm contacts are sometimes called "touch points," "critical incidents," or "moments of truth" (Bitner, Booms, and Mohr, 1994). Information about customer contacts resides throughout the organization in fragments that are seldom linked, lacking the understanding of the entire process from the customer's perspective. These fragments are typically stored in information "silos" according to the nature of the activity: transaction histories, sales call records, service operations data, complaints or service requests, marketing communications (e.g., clickstream data, direct marketing activities), community building activities (e.g., Saturn picnics), consumer responses to loyalty programs, and so forth (Bhattacharya and Bolton, 2000; Winer, 2001).

The effects of customer–firm contacts on customer perceptions and behavior are complex; they depend on the number and nature of the contacts, the sequence and timing of the contacts, the channel, whether the contacts are customer- or firm-initiated, and whether short- or long-run effects are assessed. For example, Bolton and Drew (1991) develop a dynamic model of attitude change that shows that the effect of disconfirmation is larger and the effect of prior attitudes on customer attitude is smaller immediately after the service change than in a subsequent period. The effect of customer–firm contacts on profitability may be nonlinear or exhibit threshold effects. For example, Venkatesan and Kumar (2004) found inverted-U relationships between customer profitability and the number of products returned, number of customer contacts, and average time between two customer contacts.

The relationship context moderates the effect of customer–firm contacts. Reinartz and Kumar (2000) show that—contrary to popular opinion—the most profitable customers of a catalog company do not have a long tenure with the company; customer profitability does not increase over time, the cost to serve customers does not decrease over time, and that long-life customers do not pay higher prices. However, in contractual settings, long-term relationships are most profitable, and it makes sense to focus on customer satisfaction and retention (Bolton, 1998). The important effect of prior experiences is especially evident when the firm considers how to "win back" lost customers. Thomas, Blattberg, and Fox (2004) point out that the nature and influence of the prior relationship have an effect customer reacquisition and any subsequent relationship—so this feature should be taken into account when deciding which lapsed customers to target and how to design the firm's offering. For example, they find that lapsed customers who are more likely to be reacquired have a shorter second tenure with the firm after they have been reacquired.

Even in ongoing relationships, prior experiences have significant downstream effects. Two examples will suffice. Research has shown that extreme incidents—extremely satisfying or dissatisfying events—can affect purchase behavior and associated revenues two years later (Bolton, Lemon, and Bramlett, 2004). Second, theoretical and empirical research shows that brands are social entities, created as much by consumers as by marketers, implying that brand communities are sources of value for customers and influence behavior (Algesheimer, Dholakia, and Herrmann, 2005; Muniz and O'Guinn, 2001).

Challenges

As discussed earlier, researchers have relied on simplifying assumptions to make it possible to calculate CLV and to identify "optimal" solutions. Indeed, Gupta and Lehmann (2005) cor-

rectly argue that executives can gain important strategic insights from fairly straightforward analyses. However, our current models are stylized representations of a much more complex reality. Prior research has established that the effects of investments in employee selection and training, service quality, customer management effort, customization of marketing communications, loyalty programs, and the management of customer contacts on customer behavior (and CLV) are frequently characterized by nonlinear effects, as well as interaction effects with other decision variables and relationship context variables. Moreover, simultaneous relationships in which organizational actions and customer behavior have feedback effects, are frequently observed. In the future, it will be necessary to build more complex statistical models to capture the richness of these underlying processes (e.g., systems of simultaneous equations that accommodate sample selection bias, threshold effects, nonlinearities, etc.). In addition, since naturally occurring data tend to provide insufficient variation to disentangle simultaneous effects, field and laboratory experiments will also be useful—especially when evaluating alternative courses of action.

A better understanding is required of how companies can implement a coherent and synchronized set of activities that cuts across organizational functions (e.g., marketing, operations, and human resources), multiple channels, and an increasingly diverse set of marketing actions (brand equity, communications activities, loyalty programs, service guarantees, etc.). For example, as we discuss later in this chapter, we know very little about how brand equity, product portfolio decisions, or innovation contribute to CLV. A third challenge for many organizations is accounting for competitive action and reaction (Boulding et al., 2005). The incorporation of competitors' actions and reactions into CRM models—plus consumer responses to these actions—has been largely ignored by researchers (due to the unavailability of data), although we know that competitive effects can be important (Shankar and Bolton, 2004). Current approaches either assume that competitive behavior will remain stable or that relatively straightforward forms of competitive reaction (based on game theoretic models) will occur. In the future, it is likely that technological progress will make it possible to collect competitive information in some study contexts, thereby enriching our understanding of marketplace dynamics.

Global Optimization Models

One of the central tenets of recent customer equity models is that the firm's portfolio of customers is a portfolio of *assets* that should be managed accordingly. Not all customers are equal in terms of the investment required to acquire or retain them, or in terms of their long-term profitability (Thomas, Reinartz, and Kumar 2004). Moreover, investing in customers based on an estimate of their current lifetime value ignores the future potential of these customers under different strategies (Reinartz and Kumar, 2000, 2003). Hence, firms require sophisticated methods for managing customer relationships *as effectively as possible* to achieve desired levels of risk and return. We refer to these methods as "global optimization models," despite the fact that this term implies a degree of precision in resource allocation that is currently unattainable.

In order to be able to successfully manage customers as assets, a suitable system of CRM metrics should be developed and used to guide resource allocation strategies. Gupta and Lehmann (2005, pp. 110–115) recommend that the organization develop metrics for each element of a "profitability tree" (based on sources of CLV). Alternative strategies can be analyzed by tracing their effects through the tree. Firms will require two sets of metrics to provide diagnostic information: customer-focused metrics, to assess value to the customer, and company-focused metrics, to assess the value of the customer (p. 132).

Segmentation

Traditional market segmentation variables include geography, channel, customer cohort, demographics or "firmographics" (e.g., industry type, growth rate, customer size), and so forth. However, to determine the desirability of customers, Thomas, Reinartz, and Kumar (2004) propose segmentation based on ease of acquiring and retaining customers, observing that there is a negative correlation between acquisition and retention costs and profitability. Boulding and colleagues (2005, p. 158) remark on the unexpected relevance of traditional market segmentation to CRM activities as follows:

> Some may equate CRM with the idea that every firm offer/activity should be customized for individual consumers. However, in all [four] of the application papers [in the *Journal of Marketing* Special Section on CRM], we saw the use of basic market segmentation . . . and three of the papers identify just two segments. Admittedly, these segments were not based on standard demographics, but instead on detailed analyses of prior observed behavior.

This observation is at odds with popular enthusiasm for one-to-one marketing and e-customization—which have been successful in some contexts (e.g., Peppers and Rogers, 2005; Ansari and Mela, 2003). One explanation may be that customized approaches are required in dynamic environments where choices are complex and customers have heightened expectations. Consequently, marketers face two basic questions: (1) Which segmentation variables are most effective for the implementation of CRM procedures and under what conditions? (2) To what extent should organizational actions be standardized or customized—that is, what is the appropriate level of aggregation of customers for organizational action?

Challenges

Economic content, resource content, and social content have to concur for a customer to engage in a relationship characterized by commitment and trust (Morgan, 2000; Morgan and Hunt, 1994). Customers' level of engagement with the firm arises from how their needs fit with the characteristics of the product, as well as from the supplier's actions. Customers will expand their relationship with a firm if new needs arise that require a "problem solving" approach to decision making, whereas they are likely to maintain a less intimate relationship when needs can be met by a routine purchase. Therefore, customers are likely to expand (or withdraw from) a relationship when their needs change. For this reason, research is required to develop a deeper understanding of relationship dynamics and trigger points to select the forward-looking segmentation variables that are leading indicators of future customer profitability (Gustafsson, Johnson, and Roos, 2005). There is a need to return to basic principles of market segmentation (Elrod and Winer, 1982), which call for the creation of market segments by aggregating customers who have the same response function coefficients (obtained from behavioral models). This need is particularly critical in global environments, where the trade-off between customization and standardization is an especially "high stakes" decision (e.g., Bolton and Myers, 2003).

Matching the Customer Portfolio and the Product Portfolio

The Customer Portfolio

The customer portfolio should include customers who have close relationships with the firm *and* customers who have weaker relationships. Although this recommendation may seem counterintui-

tive, the underlying rationale is that firms require a future-oriented perspective that recognizes that they can strengthen weaker relationships with customers over time, yielding greater future cash flows, and that different levels of relationships might require different levels of service. Johnson and Selnes (2004) illustrate this important insight by developing a stylized model and using it to simulate the outcomes of customer portfolio decisions. Their simulations assess the impact of organizational decisions on business outcomes, such as profits and shareholder value, based on a foundation embedded in relational processes and connections among variables.

They postulate that customers can be classified into four groups: strangers, acquaintances, friends, and partners. Strangers—potential customers—have no current relationships with the firm. Acquaintances are customers who have low involvement with the firm, can easily switch suppliers, and are retained based merely on their satisfaction with current offerings. Friends base the relationship with the firm on satisfaction and trust. Partners represent the most committed segment, and the offering for them is customized, dedicated resources being devoted to the individual customer. As the level of commitment increases, the value of the offering becomes more customized and thus more difficult to compare to other firms' offers.

Managers are accustomed to thinking in terms of a dichotomy: offensive marketing, which emphasizes customer acquisition, versus defensive marketing, which emphasizes customer retention (Fornell and Wernerfelt, 1987). Johnson and Selnes (2004, 2005) demonstrate that CRM strategies are more nuanced, arguing that "the individual relationships are the building blocks for understanding the value created across an entire customer portfolio" (2004, p. 3). Firms must identify ways to connect with their customers and create value by adapting their offer to the customer's specific needs. Assuming that all customers have the same needs, even in terms of relationship intensity, is a naive oversimplification (Gadde and Snehota, 2000). The process of dual value creation and relationship development takes time and effort, and requires a substantial commitment to ensure that future cash flow increases from the target market. Johnson and Selnes (2004, 2005) recommend (1) balancing closer customer relationships with weaker ones and (2) balancing customers who have stable purchasing patterns with customers who have more volatile patterns. For example, a broader customer base that includes customers who have weaker relationships with the firm (e.g., friends and acquaintances) provides opportunities for economies of scale, insulation from cost shocks, and more opportunities to build stronger relationships. Their approach extends conventional notions of customer behavior-based market segmentation to explore dynamic considerations of customer portfolio management.

The Product Portfolio

The construction of the product portfolio begins with investments in brands over time (Park, Jaworski, and MacInnis, 1986). Keller (1993) defines customer-based brand equity as the differential effect that knowledge about the brand has on customer response to the marketing of that brand. This framework suggests that brand marketing activities (and investments) should be designed to enhance brand awareness and improve the favorability, strength, or uniqueness of brand associations. Ailawadi, Lehmann, and Neslin (2003) have shown that revenue premium, an outcome-based measure of brand equity, is stable over time and correlates with brand and category characteristics as well as with other measures of brand equity.

In an integrating framework that builds on the work of Keller and Lehmann (2003), Ambler and colleagues (2002) make a compelling argument regarding the synergy between brand equity and customer equity. Recently, customer equity models have incorporated brand equity as a distinct revenue source (cf. Rust, Lemon, and Zeithaml, 2004). Fournier (1998) argues that conceptual-

izing brand equity in terms of brand–consumer relationship provides more insight into the ways that strong bonds or relationships are created, maintained, and deepened over time. Consistent with this notion, Hogan and colleagues (2002, p. 30) point out that "the valuation of brand extension opportunities is fraught with uncertainty" because the value of the brand and its ability to be extended depends on the "quality" (i.e., current and future value) of the customer portfolio. They explicitly recognize the role of influencers with social connections to other potential customers.

A recent study of the relationship between customer satisfaction, cash flow, and shareholder value by Gruca and Rego (2005) shows that the larger the brand portfolio, the less efficient firms are in growing their cash flows. They also find that firms operating in more concentrated industries (i.e., with fewer competitors) are better able to convert satisfaction into reduced cash flow variability. Mizik and Jacobson (2005) find that brand assets (especially measures of a brand's relevance and vitality to consumers) influence stock returns both directly and indirectly via current earnings. These findings suggest that viewing the product portfolio decision through a "relationship lens" is appropriate.

Challenges

At present, there is a clash between customer-centered and product-centered views of the firm. Yet, recent research suggests that simultaneously "matching" the product and customer portfolios is crucial to long-term business performance. A matching approach is much different from current approaches to determining the appropriate depth and breadth of a firm's product portfolio (Bordley 2003). This issue is especially critical when we consider innovation or new product development or new customer acquisition. For example, Thompson, Hamilton, and Rust (2005) show that products are loaded with many features to stimulate trial (customer acquisition), but this strategy can potentially decrease customer lifetime value. Additional research is required to understand and manage the dynamic process by which customer and product portfolios should be adjusted over time to achieve strategic objectives for the dual creation of value. This topic has important implications for the management of innovation, investments in brand equity, the development of new markets, and the deepening of relationships in existing markets.

Managing Risk and Return

Segmenting the market and then nurturing selected customers—thereby developing trust and commitment to the relationship—is (potentially) a high return strategy. However, a firm's targeted customers are very likely to be vulnerable to the same business cycles and economic factors. Consequently, customer satisfaction and commitment will not insulate the firm from market downturns, even though customers may be less price elastic in their purchasing intentions (Anderson and Sullivan, 1993). In other words, it is insufficient simply to consider future customer profitability. Factors such as the customer's industry, firm size, geography, and contribution to revenue volatility should be considered when making resource allocation decisions.

Financial principles suggest that a diversified customer base can help companies to dampen the volatility of earning streams and ensure the stability of the business (Dhar and Glazer, 2003; Srivastava, Shervani, and Fahey, 1998, 1999). A diversification strategy requires a long-term assessment of "desirable" customers in terms of both risk and return, as opposed to a short-term focus on expected returns. CLV calculations incorporate both risk and return by discounting revenues and costs to estimate net present value. Marketers have typically used a risk-adjusted rate of return—that is, they employ a single discount rate, the weighted average cost of capital. Von Wangenheim and

Lenz (2005) propose calculating customer beta based on volatility of purchase to account for the risk associated with a customer. An alternative approach, called the "certainty equivalent approach," explicitly adjusts cash-flow streams for various risk factors (such as the probability of defection) and then discounts them at the risk free rate (cf. Hogan et al., 2002, p. 31).

Recent research has shown that customer satisfaction is linked to the growth and stability of a firm's future cash flows. Anderson, Fornell, and Mazvancheryl (2004) reported a positive association between a firm's current level of customer satisfaction and contemporaneous financial market measures such as Tobin's Q, stock and market-to-book ratio. Subsequently, Gruca and Rego (2005) reported that satisfaction increases shareholder value by increasing future cash flow and reducing its variability, and their findings were robust when alternative measures of firm value or model specifications were explored. Their study was based on longitudinal data from the American Customer Satisfaction Index and Compustat databases. They were able to show that the relationship between satisfaction and cash flows is moderated by industry (e.g., product purchase cycle) and firm (e.g., magnitude of advertising expenditures) characteristics. Not surprisingly, they find that there are trade-offs between cash-flow growth and cash-flow variability. These findings suggest that marketers should explicitly recognize different risk factors in resource allocation decisions.

Challenges

The development of an "optimal" strategy requires a balancing of risk and return that goes beyond current CRM practices that target the most profitable or easy-to-serve customers. Yet, marketers do not have appropriate procedures to adjust for the differential risk of various customers when making resource allocation decisions. The financial principles are especially challenging because—in these situations—customers with certain characteristics (e.g., industrial buyers in specific industries or consumers in specific geographical areas) may yield more volatile earnings streams. If marketers wish to explicitly recognize risk factors other than defection, their CLV calculations should use a risk-adjusted discount rate rather than a weighted average cost of capital. Hogan and colleagues (2002) say that this task can be accomplished either by measuring the variance of returns over time for various segments and calculating the appropriate discount rate—analogously to the evaluation of real options (Copeland and Antikarov, 2001)—or by decomposing customer profitability into additional sources. The financial principles of portfolio management are well established, but marketers know very little about how CRM principles should be applied to customer and product portfolios.

Conclusions

Based on our review of the evolving literature on CRM, we have argued that CRM is an integral part of a company's strategy. A company's decisions regarding the development of organizational capabilities, the management of value creation and its sources, and the allocation of resources across investment opportunities are crucial elements in the array of strategic choices of the company. CRM principles provide a strategic and tactical focus for identifying and realizing sources of value for the customer and the firm. This chapter has described how CRM principles can guide five key organizational processes: making strategic choices that foster organizational learning, creating value for customers and the firm, managing sources of value, investing resources across functions, organizational units, and channels, and globally optimizing product and customer portfolios. For each organizational process, we have identified some of the challenges facing marketing scientists and practitioners. These are summarized in our research agenda, which is displayed in Table 1.3.

Table 1.3

Future Research Agenda

Process	Research topics
Strategic choices	• Methods for achieving cross-functional coordination • Development of organizational information processes and learning capabilities • Guidelines regarding the effective application of customer relationship management (CRM)principles in strategic, cross-functional contexts • Metrics for establishing goals and assessing outcomes • Frameworks that link strategic-level metrics to tactical metrics for functional groups, business processes, and business units
Dual creation of value	*Value for the customer* • Extension of theoretical work on how to create value for customers • Models that predict how customers will perceive value in the future • Studies of the antecedents and outcomes of customers' willingness to reveal private information, perceptions of fairness • Research that extends current knowledge of retrospective measures (satisfaction, purchase intentions) to leading indicators and antecedents of future behavior *Value for the firm* • Better forecasts of sources of customer lifetime value (CLV): acquisition, retention, and margin • Decomposition of forecasts of margin into underlying components (product usage, cross-buying, word-of-mouth [WOM]) • Research to link organizational actions to sources of value • Research to reconcile customer-based valuation with market values for firms • Dynamic forecasts that account for changes in customer preferences, organizational actions, and competitor actions, heterogeneity across customers • Methods for allocating "lumpy" costs • Improved methods for incorporating value of WOM into CLV
Managing sources of value for customers	• How to create product–customer fit • How to recruit/divest customers and avoid "adverse selection" problems • Further investigation of antecedents of each source of value: trial, usage, product usage, and (especially) cross-buying and word-of mouth • Development of dynamic models of customer behavior to accommodate shifts in customer preferences (e.g., due to triggers), context effects, changes in competitive behavior, short and long-run outcomes
Allocation of resources within and across functions, channels, and organizational units	• How to maximize future customer profitability in the long run instead of current customer profitability in the short run • Managing dynamics in changing customer relationships, such as fading and growing • More sophisticated models that recognize simultaneity among variables representing marketing actions and customer responses (including WOM) • How to implement a coherent (across functions) and synchronized (over time) set of activities • Use of systematic experimentation so that opportunities are not overlooked
Global optimization models	• Segmentation should go beyond "classic" variables (geography, customer size, past customer behaviors) to reflect underlying customer needs, trigger points, and so on, that signal future behavior • Models of how to create "balanced" customer portfolios with desired levels of future earnings and risk

Table 1.3 *(continued)*

Process	Research topics
	• Conceptual models of customer–brand relationships, and models of when and how to invest in brands to increase CLV
	• Matching (new and existing) product benefits to (new and existing) customer needs
	• Matching the product and customer portfolio over time
	• Developing a diversified customer portfolio
	• Adjusting for the differential risk of different customer groups

In this concluding section, we identify three features that are likely to characterize future research on the topic of managing customer relationships. These features provide a unifying perspective on how future research is likely to unfold.

Customer Portfolio Management as a Unifying Framework

In his famous article, "Marketing Myopia," Levitt (1960) argues that firms exist to fulfill needs, not to sell products. In other words, customers are the building blocks of firms. The ultimate objective of the firm is to position itself for long-term survival, and the role of marketing is to assist the firm in its endeavor by building strong market assets such as a valuable customer base and strong brands (Anderson 1982). Hence, the development of a customer base is vital to firm survival and should be one of the main foci of marketing (Hunt and Horn, 1983).

Wayland and Cole (1997, p. 12) claim that most businesses suffer from "a glut of products that blur the company's focus." An illustrative example is the grocery store manager who attempted to increase profitability by eliminating small volume items, thereby alienating customers and opening the gates to competition (Rust, Zeithaml, and Lemon, 2000, pp. 16–22). This example shows that an inadequate strategy for the dual creation of value—especially regarding the synchronization of the customer and product portfolios—can impede long-term growth and profitability. Knowledge of products is not enough. Knowledge of what products mean to customers and their role in building the customer asset is vital. The role of CRM is to assist firms in leveraging "the information and experience in acquisition, development and retention of a profitable customer portfolio," which Wayland and Cole call *customer knowledge management* (1997, p. 32).

For these reasons, customer portfolio management provides a unifying framework for considering any expenditure or investment decision. Customer portfolio management frames questions that arise within and across all five organizational processes. At the strategic level, research is required to guide firms in establishing goals for managing their customer portfolios, as well as assessing business performance outcomes. This issue is closely intertwined with the need for research to reconcile customer-based value creation with market values for firms, build models to predict sources of value for both the customer and the firm, and develop metrics that can be used to manage sources of value. In addition, research is required to guide firms in how to identify and implement cross-functional activities, synchronized over time, to be maximally effective in creating portfolios with desired levels of earnings and risk.

Models of Complex Systems

When the majority of firms have adopted CRM technology and related best practices, firms that use CRM systems to connect with customers across multiple channels will no longer have a competi-

tive advantage in their markets. As Porter (1996) observes, operational systems are not a long-term sustainable source of competitive advantage. Consistent with this notion, research indicates that CRM technology leverages an organization's prior capabilities and information processes to create value for customers and the firm. Day (2003, p. 77) argues that firms must create a superior customer-relating capability by aligning the organization through incentives, metrics, accountabilities, and structures. Consequently, additional research is required to investigate "how an organization can create, communicate, and deliver value for customers by integrating and coordinating cross-functional processes to produce coherent, mutually beneficial outcomes" (Bolton, 2006).

Firms will require comprehensive, integrative models to guide strategic choices, allocate resources to create value for customers, and manage customer acquisition, retention, cross-buying, word-of-mouth, and divestment in ways that increase value for the firm. They need models of *complex systems* that capture relations among organizational processes as well as connections among strategic and tactical variables. We use the term "complex systems" to refer to systems of equations that describe simultaneous relationships among multiple dependent variables (customer and firm actions) that contribute to CLV, that capture the effects of interactions among organizational functions (e.g., employee selection and training, quality of service operations) and among marketing variables—price, direct marketing promotions, relationship marketing instruments, advertising communications, and distribution channels—and also the effects of competitive actions and heterogeneity across customers.

Based on past experience, purely predictive models are unlikely to provide sufficient insight into the path-dependent nature of the value creation process. Hence, models of complex systems must be based on strong theory about how customer behavior changes over time, recognizing the important role of mediating constructs (e.g., fairness, satisfaction, commitment, trust, brand preference) as precursors of customer behavior. They must also reflect how customers actively participate in the creation of the customer experience (Prahalad and Ramaswamy, 2004). These features have become increasingly important as firms interact with customers in "real time" where communication and interactions are (potentially) two-way and take place across multiple channels. For these reasons, models are likely to be based on increasingly sophisticated theory and methods (e.g., agent-based models).

A Shift in Focus Toward Contingencies or Context Effects

Throughout this chapter, we have noted many instances in which CRM research has discovered contingency-based findings. For example, Gruca and Rego (2005) found that firms operating in more concentrated industries were better able to convert satisfaction into reduced cash flow variability (i.e., reducing the risk associated with the customer portfolio). Kamakura and colleagues (2002) found that bank branches must be operationally efficient (in terms of deploying employees and technology) and must achieve high customer retention if they are to be maximally profitable (i.e., increasing returns from the customer portfolio). Based on these and other findings, there is now compelling evidence that CRM research must move away from studies of marketing decision variables in isolation.

We believe that marketing scientists should make a conscious effort to investigate how context variables—which prior research may have considered "background factors"—moderate the effectiveness of firm decision variables on business performance outcomes (Lynch, 1982). By moving background factors into the foreground, marketers can begin to understand how the effectiveness of marketing activities depends on organizational and market contingencies. There are numerous ways to design research studies to attack broader issues (without modeling complex systems), depending on the nature of the underlying problem.

First, laboratory experiments can be designed to study organizational variables that tend to covary in field settings. For example, prior research indicates that: (1) activities that enhance brand awareness and/or improve the favorability, strength, or uniqueness of brand associations, create "brand equity" and yield a revenue premium (Ailawadi, Lehmann, and Neslin, 2003); (2) brands are social entities, created by communities of consumers, as well as by marketers (Muniz and O'Guinn, 2001); (3) the success of brand extensions depends on the quality of the current and future customer portfolio (Hogan et al., 2002). In an experiment, the cognitive, social, and relational effects associated with a brand can be manipulated to help assess their relative size, as well as the existence of interaction effects, and the net effect on the value of the customer to the firm. Experiments are also a useful way to study threshold effects, nonlinear effects, and so forth.

Second, field experiments are useful for studying how organizations allocate resources in situations that are characterized by endogenous or "feedback effects." These situations are especially prevalent in CRM settings. For example, a firm may use CLV estimates to target certain market segments with a loyalty program, but the existence of the loyalty program has altered customers' purchase behavior and consequently influences the firm's estimate of CLV. Companies should engage in systematic experimentation to disentangle these effects. Small-scale "pilot studies" provide opportunities to conduct simple field experiments that vary organizational actions across customers, organizational units, and so forth. A compelling argument in favor of pilot studies is that—without systematic experimentation—opportunities for revenue expansion are likely to be overlooked.

A variety of quasi-experimental designs are useful when collecting cross-sectional or longitudinal data. Furthermore, when sufficient academic research has accumulated, meta-analyses can play an important role in identifying moderating variables.

In Closing

Research on managing customer relationships has the potential to provide a unifying framework for studying diverse marketing issues, and to contribute more broadly to business practice. It also identifies fruitful new areas for theoretical and methodological advances in addressing organizational challenges at the cultural, strategic, and tactical levels. We know very little about how brand equity, product portfolio decisions, or innovation contribute to customer equity, and we do not understand the relationship dynamics that unfold to create customer value. Research on these topics will generate new intellectual insights for marketing scientists and managers.

Notes

1. There is a long tradition of reach frequency monetary value models that use the number and timing of previous transactions to identify customers who should be targeted with advertising and promotion (Venkatesan and Kumar, 2004). Interestingly, customer–firm contacts or touch history is not considered in models for predicting whether a customer is "dead" or "alive"—probably because firms do not routinely record the occurrence of customer–firm service encounters.

2. See the work of the Industrial Marketing and Purchasing Group (IMP) (e.g., Ford, 1990).

3. See: Abell and Hammond (1979).

4. A few database marketers have incorporated additional sources of value into their calculation of CLV (e.g., Hughes, 1996; Wayland and Cole, 1997).

5. Thomas (2001) shows that a Tobit model with selection is better than a standard Tobit model for linking customer acquisition to retention. The primary reason is that the Tobit model with selection addresses both censoring and data truncation problems. The length of the customer's lifetime is observed conditional on the customer being acquired and—since the direct costs of acquisition are higher than the direct costs

of retention—standard Tobit model predictions can lead to overinvestment in certain customers (e.g., due to incorrectly estimating the impact of add-on selling). Generally, selection bias may require sophisticated analytical techniques to correct for censoring and truncation (Heckman 1979).

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