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Customer relationship management: Finding value drivers

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Abstract

Despite significant interest from both academicians and practitioners, customer relationship management (CRM) remains a huge investment with little measured payback. Intuition suggests that increased management of customer relationships should improve business performance, but this intuition has only inconsistent empirical or real world support. To remedy this situation, this study identifies a core group of expected CRM benefits and examines their ability to increase a firm's value equity, brand equity and relationship equity which are components of customer equity. Ten propositions explore the anticipated effects of these drivers and form an agenda for future research. These propositions establish a framework for measuring CRM and supporting the link between CRM and performance.

Keywords: Customer relationship management; Customer equity; Value drivers; Performance

The disappointing results from many customer relationship management (CRM) implementations are well documented in both the academic and business press. In 2006 McKinsey Quarterly cited a Forrester Research report indicating that only 10% of the business and information technology executives they surveyed strongly agreed that expected business results were achieved from implementing CRM (Bard, Harrington, Kinikin, & Ragsdale, 2005). A 2003 Gartner study estimates that 70% of CRM projects result in either losses or no bottom line improvement. According to a 2001 Bain and Company survey of 451 senior executives, one in every five users reported that their CRM initiatives not only failed to deliver profitable growth, but also had damaged long-standing customer relationships. Despite this evidence, several industry groups have estimated that billions of dollars are being spent on CRM annually. Gartner research suggests that there was a reduction in CRM spending between 1999 and 2003 (Rigby & Ledingham, 2004), but most estimate an increase in CRM spending. Current spending on CRM-related projects is estimated around $10 to $15 billion and experts predict future growth in CRM spending to reach $75 billion and beyond over the next several years (Chatham, 2002; Tiazkun, 1999; Winer, 2001).

Rigby and Ledingham (2004) attribute this spending increase to some recent CRM success stories. These successes have two common characteristics: one is a highly focused approach to CRM with a relatively narrow scope for the projects and the second is a healthy skepticism regarding the overblown claims of CRM vendors. This reduction in scope for CRM projects and more conservative projection of benefits is bringing some much needed financial responsibility to CRM implementations.

Even with some successes, academicians and practitioners remain challenged in their ability to define and measure the results of CRM in a way that allows for accurate cost-benefit analysis. Several stumbling blocks remain between a clear understanding of what constitutes a successful CRM project and where we are today. First, we suffer under multiple definitions of CRM. Before we are able to measure CRM, we must be able to define it clearly and consistently. Second, the benefit drivers associated with CRM projects have to be identified and related to relevant measures. Finally, we need to establish an effective method for measuring the success of CRM efforts in a way that supports management decision making.

This study will contribute to the CRM literature in three ways. First, it will attempt to simplify the confusion surrounding CRM

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definitions by using management decision making as a benchmark for evaluating definitions. Second, it will identify benefit drivers associated with CRM initiatives via an extensive literature search. Third, it will advocate propositions that relate the benefit drivers to appropriate measures. To achieve this result, two streams of research will be integrated and used to develop a measurement of CRM based on its contribution to customer equity (CE). Ultimately, this research will relate CRM investments to financial measures in a way that provides managers with the necessary information for marketing investment decision making.

1. Customer relationship management and customer equity: literature review

1.1. Customer relationship management

The integration of CRM and CE literature streams will build on the desire of marketers to effectively measure the benefits of their investments in CRM. Research in marketing has been focused on relationships and building partnerships for some time (Crosby, Evans, & Cowles, 1990; Dwyer, Schurr, & Oh, 1987; Morgan & Hunt, 1994), but it was not until technology became available to support managers in building relationships that CRM became an important part of this research (Chen & Popovich, 2003). Consistent with the overall desire to manage relationships, CRM is generally defined as the "management of mutually beneficial relationship(s) from the seller's perspective" (LaPlaca, 2004, p. 463). However, when a more specific definition is required, as it is in the case of measurement, scholars and practitioners alike have found CRM to be difficult to define and measure.

An exploration of some of the more common definitions of CRM will illuminate the ways that these multiple definitions have slowed progress in measuring CRM investments. To simplify the discussion, current definitions will be classified into one of two categories: strategic or operational. This bifurcation of definitions is similar to that of Leigh and Tanner (2004) who suggest that CRM is either analytical or operational. For the purpose of this research, we are making a distinction between strategic and operational definitions.[2] First, CRM is often defined as a form of relationship strategy. Considered from a top-management perspective, The Sales Educators (2006, p. 93) define strategic CRM as "the process that identifies customers, creates customer knowledge, builds customer relationships, and shapes customers' perceptions of the firm and its products/solutions". Determining how a firm will relate to its customers via channels, messages, products and services is also thought of as strategic CRM. "A comprehensive strategy and process of acquiring, retaining, and partnering with selective customers to create superior value for the company and the customer" is one strategic definition offered by Parvatiyar and Sheth (2001, p. 5) However, Parvatiyar and Sheth continue by explaining that CRM involves the integration of marketing, sales, customer service, and the supply-chain functions of the organization to achieve greater efficiencies and effectiveness in delivering value. This extension to the definition is similar to the way that The Sales Educators define a more process-oriented view of CRM later in their book. These dualistic definitions indicate that strategic definitions and operational definitions may be closely related. This relationship is further born out in a practitioner's definition: CRM aligns business processes with customer strategies to build customer loyalty and increase profits over time (Rigby, Reichheld, & Schefter, 2002).

The second category of CRM definition is more process oriented and less strategic than the first. These non-strategic definitions, or operational definitions, are more closely related to the processes and technologies associated with enabling better customer relationships. Bain and Company executives have offered this explanation in a recent Harvard Business Review article, "CRM allows companies to gather customer data swiftly, identify the most valuable customers over time, and increase customer loyalty by providing customized products and services" (Rigby et al., 2002, p. 101). To add to the confusion, some of the earlier process definitions were very narrow in scope relating CRM to database marketing by emphasizing the promotional aspects of marketing linked to database efforts (Bickert, 1992). Winer (2001) builds on this notion that CRM is ill defined. He states,

> CRM means different things to different people. For some, CRM means direct e-mails. For others, it is mass customization or developing products that fit individual customer's needs. For IT consultants, CRM translates into complicated technical jargon related to terms such as OLAP (on-line analytical processing) and CICs (customer interaction centers) p. 91.

More recently, Reinartz, Krafft, and Hoyer (2004) conceptualized CRM at the customer-facing level. Based on their view that CRM is process related, they also posit that there are three customer relationship stages: initiation, maintenance, and termination that impact the CRM process. Following this they define CRM as, "A systematic process to manage customer relationship initiation, maintenance, and termination across all customer contact points in order to maximize the value of the relationship portfolio" (p. 294).

The bottom line from all of these definitions is that academicians have yet to land on a definition that fully supports the complexity of CRM while maintaining a level of parsimony required for its measurement. Parvatiyar and Sheth (2001) called out the need for a CRM definition that articulates CRM's unique characteristics for example: one-on-one relationships, interactive processes not transactions, value-added activity through mutual interdependence, and collaboration between suppliers and customers. It is to this end that we provide the following definition.

For the purpose of this research, CRM will be defined as a set of business activities supported by both technology and

[2] Zablah, Bellenger, and Johnston (2004) offer five perspectives of CRM based on their assessment of the literature. Given our focus on measuring CRM we opted for a more simple representation of the definitions available. However, it should be noted that our definition of CRM is consistent with the nature of the Zablah et al. (2004) definition in that both conceptualizations attempt to integrate the disparate definitional categories.

processes that is directed by strategy and is designed to improve business performance in an area of customer management. This definition is consistent with our desire to shape the decision to invest in CRM in terms of a return on investment. To be specific, CRM will not be conceptualized as a strategy, but rather as a means to achieve desired strategic goals. CRM, therefore, is not an overarching business salvo, but it is an enabler to help companies achieve improved customer relationships. This is consistent with broader marketing and business strategy frameworks. The constituency-based theory of the firm suggests that in effective corporate decision making, strategic goals are set and internal groups compete for resources to achieve the desired goals (Anderson, 1982). Measuring the output of investments in CRM will, in effect, measure the strategy that drives the need to invest in CRM process and technology. Thus, by choosing to operationalize the definition in this way and by measuring the output of CRM projects this provides a more complete picture of overall CRM performance.

Our approach differs from recent attempts to measure CRM in that it relates CRM investments specifically to customer equity (CE) and CE provides a common basis upon which to measure different customer-impacting initiatives. Reinartz et al. (2004) summarize recent measurement attempts that relate satisfaction from CRM initiatives to a variety of business performance outcomes. These studies link satisfaction to business performance (Kamakura, Mittal, de Rosa, & Mazzon, 2002); customer loyalty to profitability (Reinartz & Kumar, 2000); customer profitability heterogeneity (Niraj, Gupta & Narasimhan, 2001); and affective commitment, satisfaction, and payment equity to customer retention and customer share development (Verhoef, 2003). Additionally, Reinartz et al. (2004) measured both perceptual (subjective) and objective performance of CRM across four industries and three countries to establish a link between CRM and business performance. They found some support for their conceptualization of CRM as having three distinct customer relationship-related stages: initiation, maintenance, and termination. However, they found mixed support for CRM's impact on perceptual performance and even less support for objective performance across the three stages. In the initiation and maintenance stages, some support was found for CRM's impact on performance, but little support was found for CRM's impact on the termination stage. These first two stages, initiation and maintenance, will be used in the building of propositions to aid in better understanding the effectiveness of CRM investments.

In spite of the difficulties, CRM remains an emerging field of inquiry. Given our definition and the market's demand for better management of customers, we next turn our attention to CE as a potential measure of CRM outcomes.

1.2. Customer equity

The need to effectively measure CRM leads us to the second stream of literature. Customer equity (CE) is concerned with identifying the value of a customer to the selling firm. Measuring CE provides an indication that margin is generated above and beyond both the product costs and the costs to sell those products to a group of customers. This type of measure is particularly useful because it focuses on two important concerns of today's marketers: customer relationships and financial accountability. In the calculation process for CE, individual customer lifetime values (CLV) are determined for each customer and ultimately CE is related to a return on marketing measure. Customer lifetime value is defined as the net present value of a single customer's value and CE is defined as the discounted sum of each customer's CLV less any on-going investments required to maintain customer relationships. Rust, Lemon, and Zeithaml (2004) present a model that relates marketing investments to drivers of CLV, CE, and ultimately return on marketing investments. Their model is consistent with previous CLV measurement attempts (Berger & Nasr, 1998; Blattberg & Deighton, 1996; Blattberg, Getz, & Thomas, 2001; Bolton, Lemon, & Verhoef, 2004; Reinartz & Kumar, 2000) and previous attempts to relate marketing investments to ROI (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994; Kamakura et al., 2002; Rust, Zahorik, & Keiningham, 1994).

In addition to the somewhat formulaic definition above, there are three sub-components of CE that explicate the formation of CE. Following the earlier work by Rust, Zeithaml, and Lemon (2000), three types of equity have been described as antecedents to customer equity: value equity, brand equity, and relationship equity.

Value equity is the customer's appraisal of the brand based on its utility. Customers evaluate what is given up and what is received to determine this aspect of equity (Zeithaml, 1988). Managers have three levers that impact value equity — the customer's perceptions of quality, price, and convenience. This type of equity is fundamental to establishing long-term relationships. Without the perception that the customers are getting more than they are paying for, there will be little motivation for the customers to make repeat purchases.

Brand equity is a more subjective appraisal of the brand and is more concerned with image and meaning than the rational evaluation of price, quality and convenience (Lemon, Rust, & Zeithaml, 2001; Rust et al., 2000). In some contexts the definitions of value equity and brand equity are combined to form a more broad definition of brand equity. However, for the purpose of understanding specific antecedents to CE, it is beneficial to consider a more narrow definition thereby highlighting their individual impacts on CE. Brand equity is driven by brand awareness, attitude toward the brand and corporate ethics. Each of these elements serves to enhance the customer's perception of the brand and increase attraction and retention rates.

Finally, relationship equity involves the special relationship elements that link the customer to the brand and serve to cement the relationship above and beyond value and brand equity. Relationship equity represents the impact on the customer from the company's attempts to build relationships and operate retention programs (Lemon et al., 2001; Rust et al., 2000). A customer's evaluation of loyalty programs (e.g., frequent flyer programs), affinity programs, community-building programs, and knowledge-building efforts (e.g., personal selling relationships) is captured to measure relationship equity. The three drivers of CE: value, brand, and relationship equity, will be used to classify measurable CRM outputs and to carry the benefits of CRM through to CE.

Given our focus of measuring CRM in a manner that supports management decision making, choosing to measure CRM investments as changes in CE is a logical choice. First, similar to CRM, customer acquisition and retention rates are important to understanding CE (Blattberg & Deighton, 1996). At some level, most CRM initiatives are focused on either attracting and/or retaining customers. Second, CE captures both revenues and costs associated with marketing actions. This is particularly important when attempting to justify expenditures across a broad range of marketing activities as is the case with CRM. Investments in CRM technology and processes, we argue, should be made to support strategic marketing initiatives that may range from product development enhancements to customizing marketing messages and therefore require a measurement tool that can capture a wide range of activities. Third, inputs to CE calculations may be readily obtained in most CRM systems (Rust et al., 2004). While estimates will be required, available cost analyses and customer data can be used to develop good estimates of CE inputs. Fourth, CE measures are more financially rigorous and more suitable for investment decision making than are intermediate marketing measures such as market share and profitability (Srivastava, Shervani, & Fahey, 1998). Fifth, CE and CRM share a common goal of understanding customers and realizing greater value from customers over a long-term relationship. Both constructs are concerned with understanding how customers are profitable over their lifetime with the firm. This provides strong theoretical support for the marriage of CE and CRM in this model.

2. Core CRM benefits

Early CRM researchers had hypothesized that CRM benefits varied by industry as the processes and technologies associated with CRM were tailored to specific industry structures (Rust, Lemon, Zeithaml, 2001). However, findings in a recent cross-cultural, multi-industry study of CRM done by Reinartz et al. (2004) support the notion that desired CRM benefits do not vary greatly across industries or countries, as had earlier been thought. This later finding lends support to the idea that core benefits associated with CRM initiatives exist across contexts. It is this set of core benefits that we will identify and use to build our model linking CRM benefits to the three components of CE: relationship, value and brand equity. We will position each desired benefit as a value driver for CRM. These value drivers represent the activities associated with the goal of improving customer relationships.

The following lists of desired CRM benefits were collected and summarized from an extensive survey of recent CRM studies. Each benefit was selected based on two criteria. First, for a benefit to be considered a core benefit it must be cited multiple times by different authors. This suggests that the benefit is sought across many types of CRM implementations. Second, the benefit must be conceptually consistent with our definition of CRM, which includes both software and process changes intended to support the development of important customer relationships based on a firm's strategy. Table 1 provides a summary of the sources of each of these benefits from the relevant literature.

Again, the list of desired benefits will be used as the critical link between CRM initiatives and the development of CE. These core benefits of CRM will be linked theoretically to the three types of equity (relationship, value and brand) and ultimately to CE. Seven core benefits were identified to serve as value drivers in the model:

1) improved ability to target profitable customers;
2) integrated offerings across channels;
3) improved sales force efficiency and effectiveness;
4) individualized marketing messages;
5) customized products and services;
6) improved customer service efficiency and effectiveness; and
7) improved pricing.

During the identification of these benefits, careful attention was paid to both novel and common benefits across the literature. For example, improving sales force efficiency and effectiveness is listed in fewer studies related to CRM, but has strong connections in sales force automation (SFA) studies which is a subset of CRM (Jones, Sundaram, & Chin, 2002). One potential CRM benefit that did not make the list includes improved employee motivation (Rigby et al., 2002). This benefit was mentioned in only one study and therefore fails to achieve critical mass for inclusion in a list of core/foundational benefits. Our goal in creating this list was to capture the core benefits of CRM initiatives that represent CRM benefits in a fairly comprehensive way capturing both the revenue generation (e.g., improved sales performance) and cost saving (e.g., integrated across channels) attempts often associated with investments in customer relationships. Given the close conceptual alignment of CRM and CE noted above, we will use these core benefits as value drivers that managers employ to create CE across their customer relationships.

3. Research propositions

The following propositions provide an outline for future research regarding the value drivers of CRM and their relationships with the value, brand and relationship equity sub-dimensions of CE. A conceptual model has been developed to further explain the relationships between CRM and CE. In accordance with the relative importance of each sub-dimension of CE, we will present the value equity drivers before brand equity drivers both followed by relationship equity drivers (Fig. 1). Rust et al. (2000) suggest that, in general, companies must first focus on building value equity and then they are able to enhance that with brand equity and cement the relationship with relationship equity. When value equity is missing for a consumer it is very difficult for brand and relationship equity to maintain a long-term relationship. However, when value equity is strong, then brand and relationship equity add incremental value to the relationship and increase CE.

As we consider value, brand and relationship equity, we will also review the first two CRM process stages, initiation and maintenance, to ensure that each CRM value driver is properly identified with its ability to impact CE. As previously noted, we will not include the termination stage of the CRM process as it

Table 1
Summary of CRM benefits and indications of their support of the value drivers

Authors/date	Value drivers							Core CRM benefits
	Target	Integrate	Sales	Messages	Customize	Cust. serv.	Pricing	
Buttle (2004)						*	*	• Reduces cost to serve • Increases revenue • Increases customer satisfaction and loyalty
Chen and Popovich (2003)	*	*	*	*		*		• Increases data sharing across selling organization • Improves customer service • Improves cross-selling/up-selling • Improves customer targeting • Enables better personalization of marketing messages • Provides better self-service options for customers • Improves buyer–seller integration
Croteau and Li (2003)			*	*	*			• Enables customization of products and services • Provides customers a "one-to-one" experience • Improves sales force efficiency and effectiveness • Enables customized marketing plan for each customer
Eggert, Ulaga, and Schultz (2006)		*			*		*	• Improves support for product development • Increases supply-chain efficiencies via personal contact • Enhances supplier know-how
Jones, Brown, Zoltners, and Weitz (2005)			*		*	*		• Improves customization of services and product offerings • Enhances ability to create long-term partnerships • Improves salesperson efficiency and effectiveness
Jones, Stevens, and Chonko (2005)	*	*		*		*		• Improves ability to find, obtain and keep customers • Increases salesperson efficiency • Assists in gathering competitive intelligence • Coordinates communication • Enables salespeople to have a lifetime value perspective
Jones, Sundaram and Chin (2002)		*				*	*	• Improves sales force efficiency and effectiveness • Improves pricing • Reduces cost-to-serve
Leigh and Tanner (2004)		*	*					• Improves sales force effectiveness and efficiency • Enables knowledge management • Improves knowledge sharing within the selling firm
Park and Kim (2003)					*	*	*	• Simplifies customer support • Reduces cost-to-serve • Improves product differentiation • Improves pricing
Parvatiyar and Sheth (2000, 2001)	*	*		*		*		• Improves customer segmentation • Enables key account management and business development • Improves customer loyalty • Improves cross-selling/up-selling • Enables co-branding, joint-marketing and strategic alliances
Reinartz, Krafft and Hoyer (2004)	*					*	*	• Improves pricing • Enables segmentation based on economic value of customer • Improves resource allocation to accounts
Rigby, Reichheld and Schefter (2002)	*			*	*			• Improves customer acquisition and retention efforts • Enhances ability to offer right products and services to right customer • Enables companies to pursue "best processes" • Motivates employees to foster customer relationships

Table 1 (*continued*)

Authors/date	Value drivers							Core CRM benefits
	Target	Integrate	Sales	Messages	Customize	Cust. serv.	Pricing	
Rigby and Ledingham (2004)	*	*	*	*				• Improves information sharing within the selling company • Automates all aspects of customer relationship cycle (development of offering, sales, superior experience, retention and win-back, and targeting and marketing)
Rivers and Dart (1999)			*				*	• Reduces administrative duties • Improves sales effectiveness • Improves pricing
Sabri (2003)			*		*			• Enables personalized products and services • Improves sales force efficiency • Enhances product development
Sheth, Sisodia and Sharma (2000)				*			*	• Improves customization of marketing efforts to individual customers • Enhances ability to understand costs
Sheth and Sharma (2001)				*			*	• Improves the financial efficiency of marketing efforts
Spekman and Carraway (2006)		*						• Enhances decision making • Improves supply-chain planning and integration
Tanner, Ahearne, Leigh, Mason, and Moncrief (2005)	*	*					*	• Improves customer segmentation and valuation • Enhances acquisition, development and retention of customers • Enables better allocation of resources across the customer portfolio • Enhances communication across multiple selling channels
The Sales Educators (2006)			*		*	*		• Enhances customer knowledge and feedback • Supports new product/service development • Improves customer solutions and relational values
Thomas, Blattberg, and Fox (2004)	*			*				• Enables companies to win-back lost customers
Thomas, Reinartz and Kumar (2004)				*	*			• Improves marketing effectiveness • Enables customization of products and services • Improves customization of marketing efforts to individual customers
Verhoef (2003)						*		• Improves customer commitment, satisfaction and loyalty
Wilson, Daniel, and McDonald (2002)		*					*	• Improves channel choice • Allows multi-channel integration • Enables individualized pricing
Winer (2001)				*				• Enables better customer attraction, conversion and retention of target customers
Zikmund, McLeod, and Gilbert (2003)	*	*			*	*	*	• Improves customer focus • Improves retention efforts • Increases share of customer • Enhances long-term profitability • Enables continuity across channels • Personalizes service • Enhances satisfaction

* Indicates support for each of the seven value drivers.

was not linked empirically to performance in Reinartz et al. (2004) model. The combination of these two classification systems creates a framework consisting of three CE sub-dimensions and two CRM stages that provide a larger theoretical framework to aid in better understanding the expected contribution of each CRM value driver on CE.

3.1. *Improved ability to target profitable customers*

The ability to target the most profitable customers is best served by understanding the balance between expenditures designed to acquire and maintain customers over their lifetime and the expected gross margin associated with each relationship

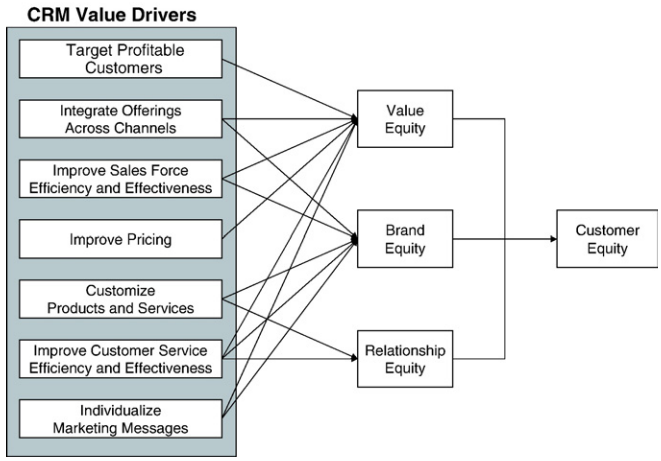

Fig. 1. Conceptual model relating CRM value drivers to customer equity.

(Chen & Popovich, 2003; Reinartz et al., 2004; Rigby et al., 2002; Sabri, 2003). Thomas, Reinartz, and Kumar (2004) have investigated the trade-offs between customers that are expensive to acquire versus those that are less expensive to acquire and have determined that companies often ignore the long-term profitability that makes high initial acquisition costs worth the expenditure. Using information commonly available in CRM technology, these authors have demonstrated that profitable customers may exist across a range of acquisition costs and retention rates. As managers are able to use these types of sophisticated models to mine the information available in CRM technology, improved customer targeting will result. One desired outcome of improved customer targeting is an improvement in CE. The priority in terms of developing CE is the development of value equity. Rust et al. (2000) indicate that brand and relationship equity are important, but customers will only maintain long relationships with companies that deliver on a value promise. In the initiation stage of the CRM process, the ability to target profitable customers is a primary benefit associated with the pursuit of a customer relationship strategy. Specifically, value equity will be improved by targeting customers that are more likely to find the firm's products and services attractive. This will yield improved perceptions of the price, quality and convenience offered by the selling firm which leads to increased CE. Therefore,

P$_1$. *Improved customer targeting capabilities are positively related to value equity in the initiation stage.*

3.2. Integrated offerings across channels

As firms take advantage of multiple channels of distribution (e.g., personal selling, the Internet), customer interactions across channels often become fragmented and disjointed. This imperfect hand-off of customer information results in unplanned, inequitable treatment of customers and subsequent erosion of customer loyalty. CRM is being used to bridge the gap between distribution channels such that customer information from placing orders via the Internet can be used by salespeople in direct contact with customers and vice versa (Buttle, 2004). Improving the flow of customer information across channels provides more consistent customer contact experience to a multi-channel business and enhances performance during these critical customer contact points. Offering well integrated access to products will improve customers' perceptions of convenience as products will be more readily available across channels. The increase in convenience will make it possible for sellers to improve retention rates. The combination of improved perceptions of convenience and greater retention will generate increased value equity in the maintenance stage of CRM. In addition to value equity, customers with multiple points of access to product and product information across channels will be more aware of the seller's brand which will improve the seller's ability to up-sell and cross-sell. The improvement in up-selling and cross-selling that results from increased brand awareness, will positively impact brand equity. Therefore,

P$_2$. *Integrated offerings across distribution channels are positively related to value equity and brand equity in the maintenance stage.*

3.3. Improved sales force efficiency and effectiveness

Improving sales force efficiency and effectiveness has long been the goal of selling organizations (Jones, Brown, Zoltners, & Weitz, 2005, Jones, Stevens, & Chonko, 2005). In recent decades technology has been an important part of improving the sales force. Implementing sales force automation (SFA) technology has found mixed support among practitioners as is evidenced by the number of failures associated with the adoption of technology (Rivers & Dart, 1999). However, a recent study of SFA has found that adequate training and support moderates the relationship between SFA usage and salesperson efficiency and effectiveness (Ahearne, Jelinek, & Rapp, 2005). The results of this study indicate that as marketers learn how to better infuse CRM technology into the sales team it will have a positive impact on the ability of salespeople to establish profitable, long-term relationships (Ahearne et al., 2005; Jones et al., 2002). As salespeople improve their use of technology to support the initiation and maintenance of customer relationships, all three CE drivers will benefit. More specifically, customer acquisition will be improved via the more timely information made available to salespeople with respect to price and product delivery. Both new customer acquisition and upselling current customers will also be enhanced with this improved information flow. Additionally, more knowledgeable salespeople will have a positive impact on customers' attitude toward the brand which will support service recovery efforts and retention activities. Subsequently, these initiation and maintenance stage activities will have a positive impact on value equity and brand equity. Finally, as salespeople have better information on their accounts, they will be able to offer special recognition to their best customers. Improved recognition of top accounts will generate increased relationship equity.

The benefits of CRM to the sales force will result in improved value and brand equity in the initiation stage and improved value, brand and relationship equity in the maintenance stage. Therefore,

P$_3$. *Improved sales force efficiency and effectiveness is positively related to value equity and brand equity in the initiation and maintenance stages and relationship equity in the maintenance stage.*

3.4. Improved pricing

Efforts to improve pricing effectiveness have long focused on understanding costs and ensuring that costs are covered in pricing decisions. However, work still remains in understanding the costs associated with serving customers. Often costs are averaged across customers and accounts which may obscure the true costs of serving different types of customers (Reinartz & Kumar, 2000). CRM technology aids in the allocation of costs to individual customers and reduces the need to average costs across large groups of customers (Buttle, 2004; Rust et al., 2001). In addition, CRM supports better pricing decision making by increasing a marketer's ability to understand customers' needs and wants and to adjust prices accordingly. Blatant price discrimination is illegal, but it is not illegal to price your products differently based on different demand characteristics. Consider the airlines as an example, both first class and coach seats take off and land at the same time and across those two classes of seats both business and pleasure travelers pay varying amounts for each seat depending on their demand for flying. Customer relationship management technology allows companies to gain a better understanding of customers' implicit and explicit needs and wants. With improved information, prices can be set to cover costs, deliver value and extend profits. As consumers perceive greater value in pricing across all stages of their relationship with a company, their perceptions of what they are getting for the money, value equity, will improve. Therefore,

P$_4$. *Improved pricing is positively related to value equity in the initiation and maintenance stages.*

3.5. Customized products and services

Given the technological advancements and rise to prominence of the service economy over the past four decades, marketing, product development and production capacity have gravitated toward on-demand capabilities. In service contexts, buyers and sellers often co-create the product during the sale (Jones, Brown et al., 2005, Jones, Stevens et al., 2005). Similarly, manufacturers have become skilled at quickly delivering customized products to the market to meet the specific demands of individual customers. This move toward customization has already benefited from technology in the form of highly automated production facilities and self-service Internet offerings. In addition, the introduction of CRM technology into these environments will further increase a company's ability to customize products and services to meet the explicit and implicit needs of their customers (Chen & Ching, 2004; Sabri, 2003). CRM's ability to positively impact customized products and services lies primarily in its ability to inform companies of specific customer desires. Brand equity will be positively impacted by CRM technology as current customers' attitudes toward the brand are enhanced through their experience with these customized products and services. Relationship equity will also be enhanced as consumers become aware of the special recognition and treatment that results from customizing products and services. This special treatment serves as "glue" to cement the relationship. Therefore,

P$_5$. *Increased customization of products and services is positively related to brand equity and relationship equity in the maintenance stage.*

3.6. Improved customer service efficiency and effectiveness

Customer service functions are on the frontline of an organization, providing an important source of contact with customers. CRM initiatives designed to provide support for customer service personnel should improve the knowledge available to these representatives and reduce the time required to resolve disputes (Chen & Popovich, 2003; Park & Kim, 2003; Sabri, 2003). An increase in readily available customer knowledge to customer-facing employees will serve to improve both the speed and completeness of their resolution efforts. Service recovery efforts and more general retention efforts will be enhanced via this improved knowledge and will result in greater perceptions of service quality on the part of the customer resulting in an increase in value equity. As a result of these improved attempts at service recovery and retention, customers' attitudes toward the brands will also increase resulting in an increase in brand equity. Finally, relationship equity will be improved as customer service agents are better able to recognize top customers and to maintain accurate information on their accounts. Therefore,

P$_6$. *Improved customer service efficiency and effectiveness are positively related to value equity and brand equity in the initiation and maintenance stages and relationship equity in the maintenance stage.*

3.7. Individualized marketing messages

The movement toward one-on-one marketing and customized marketing messages has created both a shift in the function and the organizational structure of marketing departments (Sheth & Sharma, 2001). As firms move away from mass marketing, they find themselves in a battle to meet the escalating demands of each customer individually. Marketing departments and marketing efforts are now being designed around customers not products. Customer-centric marketing, a term used by Sheth, Sisodia, and Sharma (2000), describes this shift toward customizing marketing efforts for each individual customer. It follows that CRM capabilities, designed to understand individual customer behavior, should fully support the efforts of marketers to become more customer-centric and to individualize marketing messages. The use of CRM technology to support the customization of marketing messages has two effects. First, the value of information is important to consider in the consideration of value equity. Again, value equity is evaluated as a product's utility and is driven by quality, price and convenience. To include the impact of customized information in this equation recognizes that utility, quality, price and convenience are evaluated as customer perceptions. Further, these perceptions are subjectively evaluated and shaped by information. We expect that customized information would be valued more highly than information communicated to the mass market. Given the heightened impact of customized information on perceptions of utility, we expect customized marketing messages to have a positive impact on value equity, particularly in the initiation and maintenance stages where information may help solidify and maintain a relationship. Second, individualized marketing messages enabled by CRM technology will lead to greater brand awareness and improved brand attitudes leading to higher levels of brand equity. Brand equity will also be enhanced by more personalized service recovery efforts which will lead to improved attitudes toward the brand. Additionally, individualized marketing messages used as retention tools will also improve customers' attitudes toward the brand and brand equity. Therefore,

P_7. *Greater individualization of marketing messages is positively related to value equity and brand equity in the initiation and maintenance stages.*

3.8. Value, brand and relationship equity drive overall customer equity

Based on the previously mentioned conceptual work of Lemon et al. (2001), three propositions are cited below that relate relationship, value and brand equity to CE. These three relationships are supported based on the idea that as a customer's perceptions of these equity types increase, so does CE. Therefore,

P_8. *Improved value equity is positively related to customer equity.*

P_9. *Improved brand equity is positively related to customer equity.*

P_{10}. *Improved relationship equity is positively related to customer equity.*

The propositions developed here outline a broad framework for considering CRM investments as inputs to CE. As these propositions are pursued empirically, it will be necessary to consider any moderators that may impact their outcomes. For example, as is noted in support of improved sales force efficiency and effectiveness, training moderates the realization of benefits associated with increased technology use (Ahearne et al., 2005). The need to search for additional moderators is noted in future research below.

4. Benefits of this approach to measuring CRM

Foremost in this study is the recognition that greater clarity is needed regarding the definition of CRM and the identification of core CRM benefits that drive CE. Whether strategic or operational, definitions of CRM must provide clearer guidelines for its measurement. In this context, a dualistic definition is supported, where both process and strategy elements of CRM are considered simultaneously to provide an overall assessment of a company's investment in process, technology and strategic initiatives related to CRM.

In addition to the definition of CRM, this study also provides a summary of the anticipated, core benefits associated with these CRM investments. These benefits are positioned as a list of commonly expected benefits that many CRM investments will address and are evaluated as drivers of CE. Each of these propositions needs to be evaluated empirically to establish their usefulness for both understanding the outcomes of CRM investments and predicting the impact of CRM on CE.

Given the previous difficulties related to defining and measuring CRM initiatives, no measurement attempts will be without their difficulties. The truth associated with measuring CRM is that, even when well defined, it remains complex and all encompassing, which makes it difficult to evaluate. However, there are advantages associated with the approach outlined in this manuscript. First, this approach provides a broader view of measurement based on evaluating process and technology expenditures as well as the strategic initiatives that drive decision making. A broad measurement approach is well suited to an all encompassing initiative such as CRM. Second, employing CE as a measurement tool provides financial accountability for CRM investments. Many marketing measures stop short of evaluating both the cost of the initiative and the benefits (e.g., market share, customer satisfaction). These intermediate measures create difficulties for marketing executives competing for the necessary funds to support CRM initiatives. Measuring changes in customers' perceptions of value, brand and relationship equity and their subsequent impact to CE provides financial accountability for CRM initiatives. Third, CRM is captured here in terms that allow managers to use it in allocating scarce resources across a range of marketing and non-marketing investments. Because the results of measuring CRM as an investment yield a return on investment estimate, widely disparate CRM initiatives (e.g., improved products and services, enhanced sales force efficiency and effectiveness) can be compared to each other on equal footing. With this measurement framework, it will be possible for CRM initiatives to be evaluated based on their change in CE which provides a common yard-stick for a wide variety of customer-impacting initiatives.

5. Directions for future research

It is our hope that as this outline for future research is pursued, the field will draw nearer to understanding the impact of investments in CRM capabilities. Several research considerations should be noted as scholars begin to pursue this stream of research. It is clear from the nature of this research that the cooperation of both the academic and business communities is required to test these propositions. First, additional qualitative research related to the core value drivers will be necessary as measurements are developed for empirical analysis. Given the nature of collecting data from specific companies and industries, the measurement of the theoretical constructs involved in the model will have to be modified to accommodate the particular language of the sample industry. Second, data required to test these propositions will come from company records and surveys of both buyers and sellers. Even with improved CRM technology in place, it remains a challenge to collect these types of data because parties from multiple companies must cooperate in the research process. Third, to determine profitability, consideration must be given to the costs and benefits of these CRM initiatives which will require the cooperation of multiple functions within each company. These issues can all be addressed, but each will provide unique challenges to scholars as they pursue the measurement of CRM. Beyond the coordination of academicians and practitioners, additional work will need to be done to turn these propositions into testable hypotheses. In particular this effort will require a search for moderating conditions that may impact the proposed relationships. For example, we note training and support have been found to moderate proposition three as it relates to CRM technology impacting salesperson performance (Ahearne et al., 2005). Training as a moderator may also impact customer service people as well. In addition, a customer's value emphasis, the extent to which quality, price and convenience are prioritized by the customer, may also moderate propositions impacting value equity. It is clear that each proposition will need to be carefully examined as specific hypotheses are tested. Additionally, items may need to be developed to fully support the measurement of customer equity and its three components: value, brand and relationship equity. We anticipate that this framework will provide fertile ground for future research.

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