

# Analyzing the Diffusion of Global Customer Relationship Management: A Cross-Regional Modeling Framework

V. Kumar, Sarang Sunder, and B. Ramaseshan

## ABSTRACT

*Most recent research on customer relationship management (CRM) has been restricted to developed economies such as the United States. Researchers have done little to study the growth of CRM in developing markets such as Asia and South America, which are becoming increasingly relevant to business today. With the changing business climate, firms are beginning to embrace the concept of managing customers rather than products. This leads managers down the path of customer centricity, and here lies the relevance of truly global CRM (GCRM). The authors conduct a qualitative study to understand the concept of GCRM and its relevance. Their results quantify the growth of CRM on a global scale using a diffusion modeling framework. The results of the generalized cross-regional diffusion model indicate that there is untapped market potential in the GCRM market, with varying adoption patterns across regions. The authors also propose a conceptual framework to understand the factors that affect cross-regional learning in GCRM adoption. In addition, the study provides insights into implementation and calibration of a GCRM framework and directions for further research.*

**Keywords:** customer relationship management, diffusion of innovation, global customer relationship management, global customer relationship management implementation, cross-regional diffusion model

As marketing shifts from a product-centric view to a customer-centric one, organizations' need to know their customers has become paramount. As a result, the concept of customer relationship management (CRM) has become central; CRM can best be described as a business strategy that originates from the conceptual and theoretical foundation of relationship marketing.

---

V. Kumar is the Richard and Susan Lenny Distinguished Chair Professor of Marketing and Executive Director, Center for Excellence in Brand & Customer Management (e-mail: vk@gsu.edu), and Sarang Sunder is a doctoral student in Marketing (e-mail: ssunder1@gsu.edu), J. Mack Robinson College of Business, Georgia State University.

B. Ramaseshan is Professor of Marketing, Curtin University of Technology, Perth (e-mail: Ram.Ramaseshan@cbs.curtin.edu.au).

Reinartz and Kumar (2003) define relationship marketing as the establishment and maintenance of long-term buyer-seller relationships. It has had a significant influence on marketing theory to the extent that some researchers have described it as a genuine recent paradigm shift in the discipline of marketing (Morgan and Hunt 1994; Sheth and Parvatiyar 1995). According to Hansotia (2002, p. 121), "at the heart of CRM is the organization's ability to leverage customer data creatively, effectively and efficiently to design and implement customer-focused strategies" that increase the breadth, depth, and length of their relationship with the firm.

---

*Journal of International Marketing*  
©2011, American Marketing Association  
Vol. 19, No. 1, 2011, pp. 23-39  
ISSN 1069-0031X (print) 1547-7215 (electronic)

With the passage of time, firms have crossed borders, both regional and cultural, aided greatly by the Web and technology. However, delving further into the field of CRM, it is evident that historically, CRM has been a localized concept. If that is the case, how do firms manage their customers in the midst of expansion and growth worldwide? Previous research has reported that almost 80% of all CRM implementations have failed (Bush, Moore, and Rocco 2005), and the problems are further compounded when applied to a global scale. Here, the significance and potential of a globally relevant CRM paradigm is immense. Customer relationship management's operational scope has gone beyond local and national boundary to become global CRM (GCRM). Global CRM presents new benefits to firms, but along with the benefits come challenges. Ramaseshan et al. (2006, p. 196) define GCRM as "the strategic application of the processes and practices of CRM by firms operating in multiple countries, or by firms serving customers who span multiple countries." They suggest that firm- and customer-level differences affect the success of firms practicing CRM across national boundaries or cultures. Firm-level differences include firm size, product portfolio, production, and operations, and customer-level differences include customer expectations, drivers of satisfaction, loyalty, and profitability. Endacott (2004) evaluates the international perspectives of a CRM system and proposes that the growth of a customer-centric view among companies could be driven by their goodwill. The view of CRM today has undergone a significant change since then. Now, companies view CRM as a medium through which they can attain profitability on a global perspective. However, no researchers have studied the adoption of GCRM technology across regions and investigated the factors that affect it.

Hofstede, Steenkamp, and Wedel (1999) propose that a vertical market segment is not simply bounded by a country but can be extended to a regional or global market. Moreover, they conclude that firms must concentrate on not just vertical growth (local) but also horizontal growth (multinational). This growth along international borders increases the need for a globally consolidated CRM system. When implemented on a global scale, CRM is dependent on various macroeconomic (e.g., trade barriers, country-specific corporate culture) and microeconomic (e.g., the firm's marketing activities, customer relationship orientation) factors. As the number of factors increases, customers become increasingly more heterogeneous, an issue that both academics and practitioners must face. In addition, customers change preferences and are dynamic in their decision making, a phe-

nomenon that has been reported in business-to-consumer (Li, Xu, and Li 2005) and business-to-business (Flint, Woodruff, and Gardial 2002) markets. Previous research has indicated that consumers learn from one another. This effect is more pronounced when observing cross-national adoption behavior (Takada and Jain 1991). In this study, we attempt to capture this learning effect and account for some of the dynamic behavior of business-to-business customers of CRM technology in a global context. Essentially, our goal is to answer the following questions: Is there a significant learning effect between regions with regard to CRM technology adoption? If so, what is its magnitude and direction? Is there variability in learning between regions? If so, what factors cause this variation?

To answer these questions, we conducted two studies: a qualitative analysis and a quantitative analysis. The qualitative study helps clarify the relevance and growth of GCRM adoption in the marketplace, and the qualitative study identifies the motivations behind the adoption of CRM technology. In the quantitative study, we propose a unique modeling framework that captures the innovation, imitation, and learning effects across regions and provide answers to the our research questions. Using the results from the qualitative and quantitative studies and drawing from prior literature, we propose a conceptual framework outlining the factors that drive the variation in the learning effects across regions. Using the definitive results of the GCRM diffusion model and the qualitative study, we develop insights for GCRM implementation and its impact on a firm's bottom line. Finally, we discuss the managerial and academic implications of this research and provide directions for further research in this nascent area of marketing.

## **BACKGROUND AND MOTIVATION**

### **Growth of CRM Technology**

Rigby and Bilodeau (2009) indicate that CRM was the fourth most used tool in 2008 with a fairly high rating (3.83/5). The CRM technology sales market has experienced an upward trend since its inception. In addition to being a marketing concept, GCRM is slowly becoming an information technology concept with the rise of software as a service, or SaaS. Many multinational enterprises are now deploying SaaS to integrate their customer-level data across various regions of operation, a trend that has hastened the growth of smaller service firms, such as Salesforce.com. Although the SaaS market is treated as a broad concept, many providers offer CRM solutions

in their portfolios. The growth of CRM has largely been positive, though only 12% of firms are confident of extracting the full potential of the GCRM system (IBM 2004). This statistic, though alarming at a first glance, indicates that there is great opportunity for CRM in the future and that the CRM knowledge flow from academics to industry has room for improvement. In addition, firms are looking to expand their view by moving operations offshore and therefore improve long-term dynamic governing. Partnerships (business relationships) forged across borders have proved to be a direct driver to increased trust between the seller and the buyer (Vivek, Richey, and Dalela 2009). A truly global CRM strategy could enable firms to reach this goal.

The growth of GCRM can be visualized as three broad perspectives: functional, industrial, and regional trends. Although there is variation in CRM success in the functional and industrial perspectives, Sharma and Iyer (2007) report that national and regional heterogeneity are significant factors determining the success of CRM implementation. Working along this line of thought, we investigate the growth of CRM in various regions of the world using the adapted version of the generalized Bass diffusion model (Bass, Krishnan, and Jain 1994) while capturing the cross-regional learning effect as Kumar and Krishnan (2002) do.

### **Global Diffusion of CRM**

In this age of communications and technology, national boundaries have become thinner, distances have become shorter, and, as a consequence, firms have expanded into new regions. Such global growth implies that the type of clients and the nature of business vary greatly as well. Implementing a CRM system would enable managers to understand their global partners and clients better and thus make more informed strategic decisions. However, as with any other technological innovation, the diffusion of CRM technology has been uneven across countries and regions. In 2003, the United States had the highest CRM penetration rate overall (from 50% to 75%, depending on the source of information), but its growth has been stabilizing. The most relevant managerial question for a CRM provider (e.g., Siebel) now is this: Which country/region is going to display the most growth in CRM adoption? The answer to this question lies in understanding the CRM technology diffusion process on a global scale.

Little research has been done in the area of GCRM adoption; to address this gap, we conducted an

exploratory study (face-to-face interviews) with executives from various regions of the globe (Asia-Pacific, Europe, and North America). The next section describes the details of this qualitative study and its results.

### **EXPLORATORY STUDY**

We designed a study in which top managers from different organizational environments responded to questions pertaining to their perceptions of adopting the CRM system given their organizational goals. We conducted face-to-face, 15-minute interviews with senior marketing executives who attended marketing conferences in 2009 in Italy, Singapore, and New York. We conducted 20 interviews in each of the three locations (representing the European, Asia-Pacific, and North American regions, respectively), resulting in a total sample size of 60 respondents. The executives who participated in the study represent the top 1000 corporations in their regions. The issues addressed in the interview pertain to the following: Have their organizations adopted a CRM system to track their customers' purchase behavior? If they have, what benefits have they realized thus far? Have they publicized the benefits? If they have not adopted a CRM system yet, would they be looking at firms that have implemented the CRM system within and outside their region? What factors would be relevant in selecting firms to benchmark for the adoption of CRM system within or outside their region? What are the factors that might affect the adoption of CRM in their firms?

Because prior research is limited in the area of GCRM adoption, we conducted these managerial interviews to get insights into the specific market characteristics that determine the adoption of a CRM system. Most executives stressed the importance of managing customers properly as their foremost concern. However, they also mentioned that they did not want to lose money in doing so. For example, most of the North American executives mentioned that CRM system implementation has helped them not only to manage their customers to their customers' satisfaction but also to do so profitably. In contrast, the executives from the Asia-Pacific region believed that it would be beneficial to implement a CRM system so that their firms could realize the benefits that North American firms have experienced from CRM.

Specifically, the following observations emerge when we compare the responses between the regions:

- The adoption of CRM systems seems to be omnipresent in North America, but it is only being considered by many Asia-Pacific firms. The European firms were in the process of adopting and integrating CRM systems across all their business units. For example, the European executive from Johnson & Johnson was eager to begin using the integrated system because he had observed the tangible benefits of his competitors in the North American region.
- Executives from the Asia-Pacific region were enthusiastic about adopting CRM systems but also displayed a great deal of caution when asked about whether they would implement within the next year. In contrast, the North American executives considered the CRM adoption necessary to compete in the marketplace; to elaborate, they viewed CRM system adoption as an interaction orientation (Ramani and Kumar 2008) initiative rather than only an innovation.
- Firms from the Asia-Pacific region tended to benchmark some of their successful North American counterparts more than the European ones with regard to issues involving technology adoption (in our study, CRM systems), process innovation, and other organizational transitions. We observed similar trends for European firms as well. Similar to their Asia-Pacific counterparts, European executives preferred to benchmark firms in North America to gauge the benefits of implementing a CRM system. However, none of the North American firms stated that they learned from firms in Europe or the Asia-Pacific region.

When we delved deeper into the learning process, executives from both Europe and the Asia-Pacific region stated that it depended on various factors:

- The executives from the Asia-Pacific and European regions indicated that benchmarking of ideal firms happens to a large extent in their firms. Elaborating on the issue, they stated that to enable benchmarking and learning, the firm must be very similar to theirs along the organization level; that is, there must be congruence in organizational culture, business strategy, and firm size between the learning firm and the benchmarked one. We broadly categorize this into a more generic concept: organizational sim-

ilarities that positively influence cross-regional learning.

- More than 70% of the executives from Europe and Asia-Pacific stated that in addition to organization-level similarities, it is important that the benchmarked firm be operating in similar market/industry conditions (e.g., governmental regulations, technological standards). Therefore, market/industry similarity influences the learning effect between firms from two regions.
- There was a consensus on the benefits of adopting a CRM system across executives in all the three regions. They indicated that competitive advantage and creating customer affinity were the main benefits they identified for their respective firms. However, they also unanimously stated that it was extremely important that the benefits of adopting CRM be known in the public domain (in the form of white papers, testimonials, or case studies). Therefore, visibility of adoption benefits has a major role in influencing the learning between regions.
- Many firms from the Asia-Pacific and European regions delayed their adoption of technology (CRM in particular) because with every innovation comes the risks of failure. According to an Asia-Pacific executive, “Firms in North America are continually refreshing their technology to expand their capabilities. So we wait until a stable and better version of the technology [is] ... introduced and then adopt. So the delay in adoption [is] sometimes beneficial.” From this explanation, we conclude that time lag between lead and lag regions has a definite influence on the learning effect between the two.

The key insights of this exploratory study unequivocally establish the importance of cross-regional learning in the CRM system adoption process. Firms from the Asia-Pacific region tend to mimic the adoption process of the North American firms more than the European ones, citing reasons of organizational and business process similarities. In summary, there seems to be significant learning between Europe and North America and the Asia-Pacific region and North America with regard to CRM technology adoption. Furthermore, firms from the Asia-Pacific region tend to learn more from their North American counterparts and take more time to adopt compared with European firms. In the subsequent

section, we explore the existing research on cross-regional learning and attempt to quantify this effect.

## CROSS-REGIONAL LEARNING EFFECTS

Following the results of the qualitative study, our next step was to determine whether learning from another region in the global CRM marketplace actually occurs. To do this, we studied the diffusion of CRM technology on a global scale while accounting for cross-regional learning. Researchers have determined that several factors are known to affect cross-regional learning effects, including cultural, geographic, and organizational similarities (Ganesh and Kumar 1996; Gatignon, Eliashberg, and Robertson 1989; Helsen 1993). While these studies focus on the effects of time lag on the diffusion process, Muller, Peres, and Mahajan (2009) elaborate that diffusion of innovation across regions occurs because of not only temporal but also spatial factors. Previous research has found that there is a consistent (positive) entry lag influence on the speed of the diffusion process (Dekimpe, Parker, and Sarvary 2000; Ganesh, Kumar, and Subramaniam 1997; Tellis, Stremersch, and Yin 2003) and results in a faster takeoff time (Van-Everdingen, Fok, and Stremersch 2009). Kumar and Krishnan (2002) propose a modeling framework to account for bidirectional learning between countries. The first is called a lead-lag learning effect, in which the lead region exerts an effect on the laggard region's adoption. The second kind of learning occurs in the reverse direction. That is, in addition to a lead-lag effect, the lead country also benefits by learning from the adoption process of the lagging region. This effect is more commonly known as the lag-lead learning effect and has been investigated in previous research (Bass 2004; Kumar and Krishnan 2002). With regard to CRM technology adoption across regions, we propose a generalized cross-regional diffusion model to account for both lead-lag and lag-lead effects.

The cross-regional effects could arise from two sources: ties (inter- and intrafirm interaction) and signals (from the marketplace). The former occurs when adopters and potential adopters communicate directly with one another and facilitate the diffusion process. In the case of CRM technology diffusion, firms or subsidiaries of a multinational corporation communicate with one another and facilitate the adoption of the technology, or at least influence the decision to do so. The latter arises from signals between markets. In the context of CRM technology, firms of the lag country are often aware of the growth and adoption patterns in the lead

country. From the exploratory study, it is evident that the extent to which North American firms have incorporated CRM systems acts as a driver of the propensity for adoption in the lag countries (Asia-Pacific and Europe). That is, the level of adoption in the lead country could act as a deciding factor for the level of adoption in the lag country. Using a generalized cross-regional diffusion model on the CRM technology adoption across regions and accounting for the learning effects between regions, we were able to capture the adoption process with reasonable accuracy.

## DATA DESCRIPTION

Data on CRM technology adoption is often difficult to come by and often is not tracked in underdeveloped and developing economies. This makes data accumulation across regions difficult and thus scarce. We obtained the data used in this study from various sources and consultant reports, such as Gartner Research, Euromonitor, Datamonitor, and the EIU Newswire. To maintain and verify data credibility, we double checked these data with the press releases of individual vendors of CRM software, such as Siebel and SAP. The data collected consist of annual software licenses for North America, Europe, and the Asia-Pacific region for the 1998–2008 period.<sup>1</sup> During the data collection, we learned that in its present form, CRM technology was introduced in North America in 1998, Europe in 1999, and the Asia-Pacific region in 2004. Therefore, North America is the lead region, and Europe and the Asia-Pacific region are the lag regions in various stages of the life cycle. In this study, we investigate not only the learning effects between North America and Europe and North America and the Asia-Pacific region but also that between Europe and the Asia-Pacific region.

## MODEL SPECIFICATION

To quantify the diffusion of CRM technology across regions, we resort to the classic Bass (1969) diffusion model, which is structured as follows:

$$(1) \quad \frac{\partial F_i(t)}{\partial t} = [p_i + q_i F_i(t)] \times [1 - F_i(t)],$$

where

$\partial F_i(t)/\partial t$  = CRM sales at time  $t$ ,

$F_i(t)$  = market penetration ratio =  $N_t/m$ ,

$N_t$  = cumulative sales until time  $t$ ,  
 $m$  = total market potential for product,  
 $p_i$  = coefficient of innovation,  
 $q_i$  = coefficient of imitation, and  
 $i$  = focus region (e.g., Asia-Pacific).

This model can capture the raw diffusion of CRM within a region alone without considering the learning effects between regions; CRM technology adoption in a specific region does not restrict itself to region-specific reasons. There are several other direct and indirect interactions that occur among people, firms, countries, and regions. We use the learning diffusion model for our model to reflect this (Ganesh and Kumar 1996). The learning model represents the effect of the lead region on the lag region. As indicated in the “Data Description” section, CRM technology was introduced earlier in the North American (lead) region and then later in the European and Asia-Pacific (lag) regions. In line with Ganesh, Kumar, and Subramaniam (1997), the learning model is of the following form:

$$(2) \quad \frac{\partial F_i(t)}{\partial t} = [p_i + q_i F_i(t) + c F_j(t)] \times [1 - F_i(t)],$$

where

$F_j(t)$  = penetration ratio of region  $j$ ,  
 $c$  = learning effect between regions  $i$  and  $j$ ,  
 $p_i$  = coefficient of innovation (propensity to innovate),  
 $q_i$  = coefficient of imitation (propensity to imitate),  
 $i$  = lag region in focus (e.g., Asia-Pacific), and  
 $j$  = lead region (e.g., North America).

Equation 2 describes a one-way learning effect between regions  $i$  and  $j$  and has no closed-form solution, which makes the estimation procedure complex and cumbersome. Because we intend to study the

learning effects between more than two regions, we found that it adds another level of complexity in the estimation process. In our analysis, we encounter scenarios in which learning occurs among three regions (the Asia-Pacific region learning from North America and Europe). To account for this and to obtain a closed-form solution, we resort to Kumar and Krishnan’s (2002) suggested approach:

$$(3) \quad \frac{f_1(t)}{1 - F_1(t)} = [p_1 + q_1 F_1(t)] \times \left[ 1 + b_{21} \frac{dF_2(t)}{dt} \right],$$

where  $b_{21}$  is the learning effect of Country 2’s diffusion on the diffusion in Country 1.

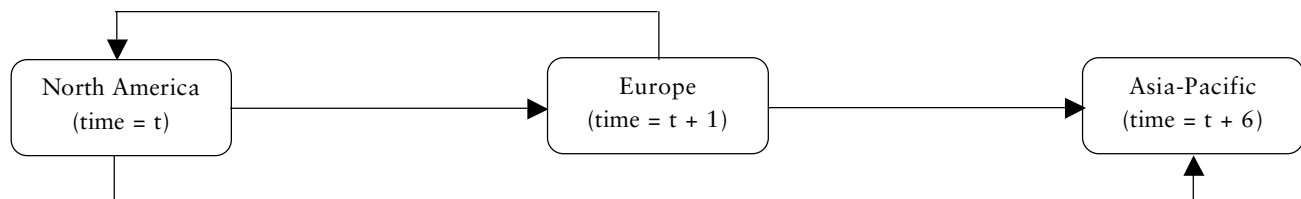
To estimate Equation 3, we differentiate the preceding and substitute  $F_1(t)$  at  $t = 0$  to be 0 (Bass, Krishnan, and Jain 1994) to obtain the following:

$$(4) \quad F_1(t) = \frac{1 - \exp[-(p_1 + q_1)\{t + b_{21}F_2(t)\}]}{1 + \frac{q_1}{p_1} \exp[-(p_1 + q_1)\{t + b_{21}F_2(t)\}]}$$

Equation 4 accounts for the effect of Country 2’s diffusion on  $p$  and  $q$  of Country 1 (assuming that the product is introduced in Country 2 before Country 1). However, there is a possibility of a reverse causality as well. That is, in addition to the effect of Country 2 on Country 1, the diffusion/adoption process in Country 1 could affect Country 2, especially if the time lag between the two countries is relatively low. Again, this is referred to as a lead-lag and lag-lead learning effect (Bass 2004; Kumar and Krishnan 2002). In our modeling approach, we account for all these effects and modify Equation 4 accordingly.

Figure 1 describes the progression in the adoption of GCRM technology. It begins in the North American

**Figure 1.** Global Diffusion of CRM Across Regions



region (innovator). Then, it continues on to Europe and finally to the Asia-Pacific region. The framework suggests that innovation levels in Europe are affected in part by the diffusion process in North America and the levels in the Asia-Pacific region are influenced by Europe and North America. In addition, the diffusion of CRM in North America can also be affected by the laggard country (Europe).<sup>2</sup>

Equation 4 describes the diffusion of CRM technology in North America in its raw form, where  $b_{21}$  is the lag-lead learning effect of Europe on North America. In the case of Europe, we introduce the lead-lag learning effect term  $b_{12}$  (Kumar and Krishnan 2002), given as follows:

$$(5) \quad F_2(t) = \frac{1 - \exp\left[-(p_2 + q_2)\{t + b_{12}F_1(t)\}\right]}{1 + \frac{q_2}{p_2} \exp\left[-(p_2 + q_2)\{t + b_{12}F_1(t)\}\right]},$$

where  $b_{12}$  is the lead-lag learning effect of North America on Europe.

The diffusion of CRM technology in the Asia-Pacific region is influenced by both the lead regions, namely, North America and Europe. Adapting from Kumar and Krishnan (2002), we show the diffusion model for the Asia-Pacific region as follows:

$$(6) \quad F_3(t) = \frac{1 - \exp\left[-(p_3 + q_3)\{t + b_{13}F_1(t) + b_{23}F_2(t)\}\right]}{1 + \frac{q_3}{p_3} \exp\left[-(p_3 + q_3)\{t + b_{13}F_1(t) + b_{23}F_2(t)\}\right]},$$

where  $b_{13}$  is the lead-lag learning effect of North America on the Asia-Pacific region and  $b_{23}$  is the lead-lag learning effect of Europe on the Asia-Pacific region. By simultaneously estimating Equations 4–6, we can obtain reliable estimates for  $p$ ,  $q$ , and the learning effects between regions.

## ESTIMATION

Several researchers have suggested various methods to estimate the Bass diffusion model, the earliest of which is the maximum likelihood estimation method (Schmittlein and Mahajan 1982), which Srinivasan and Mason (1986) subsequently prove to underestimate the standard errors of the parameters. They propose the nonlinear least squares method to estimate the Bass diffusion model. In this study,

we use the nonlinear least squares estimation method coupled with sequential search algorithm to obtain the parameter estimates. Equations 4–6 indicate that the CRM technology sales growth for all the three regions is a recursive function. Fortunately, because they are functions of one variable, time, we can estimate the equations simultaneously and arrive at closed-form solutions (Kumar and Krishnan 2002). We follow the common method of beginning at a certain parameter value (meta-analysis values) and proceed iteratively until we achieve convergence (Seber and Wild 2003). We follow the iterative estimation procedure that Kumar and Krishnan (2002) recommend, in which we first estimate the classic Bass model and then introduce the learning effects ( $b_{12}$ ,  $b_{13}$ ,  $b_{23}$ ) while feeding the market potential ( $m_1$ ,  $m_2$ , and  $m_3$ ) values exogenously to achieve quick convergence. The preceding estimation technique involves solving the equations simultaneously. To this end, we use a system of nonlinear equations (SYSNLIN) procedure scripted in the Statistical Analysis Software (SAS) to perform the iterative process described previously and obtain reliable parameter estimates for the three regions. We were able to achieve convergence within nine to ten iterations for all the three regions' diffusion models (Equations 4–6). We believe that by comparing the coefficients  $p$ ,  $q$ ,  $m$ , and  $c$  for each region, we can demonstrate how the learning process occurs between regions across the globe and how the concept of customer centricity is growing at an aggregate level.

## RESULTS AND DISCUSSION

### Model Results

Table 1 presents the results of the diffusion models (Equations 4–6). In line with Sultan, Farley, and Lehmann (1990), for this study, the coefficient for innovation ( $p$ ) is higher for North America ( $p = .0059$ ) and lower for Europe ( $p = .0026$ ). We also observe that the innovation coefficient for the Asia-Pacific region ( $p = .000234$ ) is the lowest among the regions tested. With regard to the coefficients of imitation ( $q$ ) for the three regions, it is greater in the Asia-Pacific region ( $q = .68$ ) than the other regions. There are two possible explanations for these diffusion patterns. First, collectivistic cultures, which are widespread in Asia-Pacific, have lower rate of innovation and higher rates of imitation than individualistic cultures (such as North America and Europe). Second, products and technologies that exhibit network effects or require heavy investments in complementary infrastructure, which is applicable to CRM/GCRM, come with uncertainty, which affects the innovation coefficient (Gatignon, Eliashberg, and Robertson 1989).

**Table 1.** Diffusion Model Results

Region	First Data Point	p	q	m	Learning Effect	
					From North America	From Europe
North America	1998	.0059*	.35*	365,280*	—	n.s.
Europe	1999	.0026*	.42*	163,735*	.006*	—
Asia-Pacific	2004	.000234*	.68*	13,197*	.014*	.007*

\* $p < .05$ .  
Notes: n.s. = nonsignificant.

With regard to the business culture of these regions, firms in the Asia-Pacific region are known to be different from firms in the rest of the world: They are characterized by high levels of organizational rigidity and risk aversion and relatively low levels of learning orientation. We attempt to explain these variables using Hofstede's (1980) power distance dimension: Compared with the rest of the world (average power distance level = 55), China (representing the Asia-Pacific region) exhibits a high level of power distance (80). From this, we conclude that there is a greater distance between employees and managers among Chinese firms when compared with the world average. This greater distance between managers and subordinates leads to rigidity in the organization and could be viewed as a barrier to free-flowing innovation (e.g., of GCRM) in the country. The firm's long-term orientation also has an important role in the adoption process. When we compare the long-term orientation (Hofstede 1980) for the three regions, it is evident that firms in North America (63) are more oriented for long-term prosperity than short-term gains. In addition, it is important that the firm is willing to take risks. On an aggregate/market level, we capture this using the uncertainty avoidance index (Hofstede 1980). We observe that Asian firms are more cautious and prefer to imitate rather than be innovators. In contrast, North American firms are more open to the idea of taking decisions despite uncertainty in the market.

From a GCRM implementation point of view, the Asia-Pacific region is characterized by heavy data and technology availability problems due to the low levels in infrastructure (relative to the West). For example, customer-level data are unavailable for most business-to-consumer companies in this region. Most retailers in countries such as India are individual businesspeople who do not track customer data and rarely share data with the manufacturer. Political stability and macroeconomic

variables also have an important role in the implementation of GCRM in the Asia-Pacific region. Many countries (e.g., Indonesia, the Philippines) have macroeconomic and political barriers, which impede the growth of CRM in those countries.

With regard to the questions posed previously, Table 1 indicates that there is a learning effect across regions. Specifically, there is a positive and significant learning effect between (1) North America and Europe (.006), (2) North America and the Asia-Pacific region (.014), and (3) Europe and the Asia Pacific region (.007). The results from Table 1 confirm that there is a clear lead-lag learning effect between regions with regard to GCRM adoption. Moreover, specific to these data, there is no lag-lead learning effect between Europe and North America, the Asia-Pacific region and North America, and the Asia-Pacific region and Europe. The reason for the insignificant lag-lead learning effects between Asia-Pacific and North America and the Asia-Pacific region and Europe could be the large time gap between the lead and lag regions. The organizational culture of the lag region also has a vital role in the lag-lead learning effects. Firms in Europe and Asia-Pacific are known to be more closed than their North American counterparts. The qualitative study indicates this as well: The North American respondents overtly stated that they do not have much access to information regarding technology adoption from firms in Europe and the Asia-Pacific region. This could be a reason for the insignificant lag-lead effects that we observe in the GCR diffusion model.

### Forecasting Results

Table 2 provides the forecasting results and fit statistics for the three GCR diffusion models estimated. Note that the R-square values for all the models are very high



**Table 2.** Forecasting Results

Region	Relative Absolute Error (Compared with Classic Bass Model)	R <sup>2</sup>	Adjusted R <sup>2</sup>
North America	1.0	.991	.989
Europe	.79	.986	.982
Asia-Pacific	.76	.996	.995

(.991 for North America, .986 for Europe, and .996 for the Asia-Pacific region), showing that the models fit the historical data well. In addition to using this as an indicator, we also calculated the relative absolute error (RAE), as Armstrong and Collopy (1992) recommend. The naive model that we used for comparison was the classic Bass diffusion model with no cross-regional effects. Our cross-regional learning model provides a significant improvement in forecasting (21% improvement in Europe: RAE = .79; 24% improvement in the Asia-Pacific region: RAE = .76). We show the fit of the model relative to the actual data in Figures 2, 3, and 4.

The figures indicate that the proposed models (Equations 4–6) predict CRM growth in North America, Europe, and the Asia-Pacific region well.

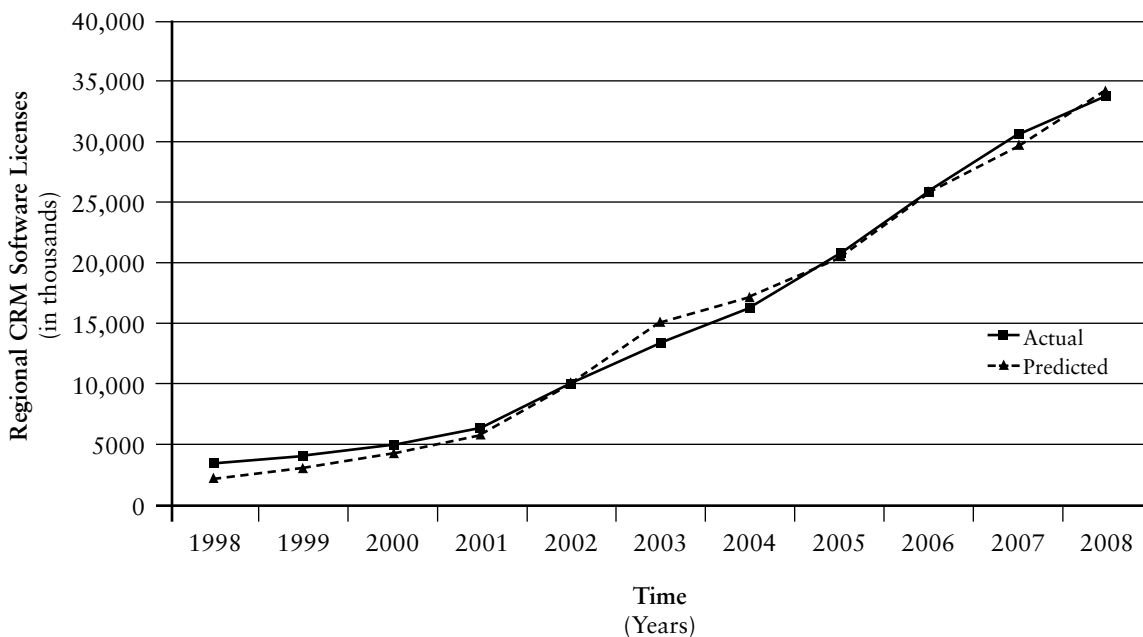
Although the results from the GCR diffusion model suggest that positive and significant learning exists between regions with regard to GCRM technology adoption, it is significant that the learning effects (Table 1) vary across regions. Given this variance in learning from region to region, the next logical path of research is to study which factors affect this variance in learning effects.

### FACTORS THAT AFFECT LEARNING (ACROSS REGIONS/COUNTRIES)

Previous research has investigated some of the factors that affect learning among firms across regions and countries. In this section, we put forth a conceptual framework consisting of the factors that affect GCRM technology adoption across regions/countries according to our qualitative study and the extant literature.

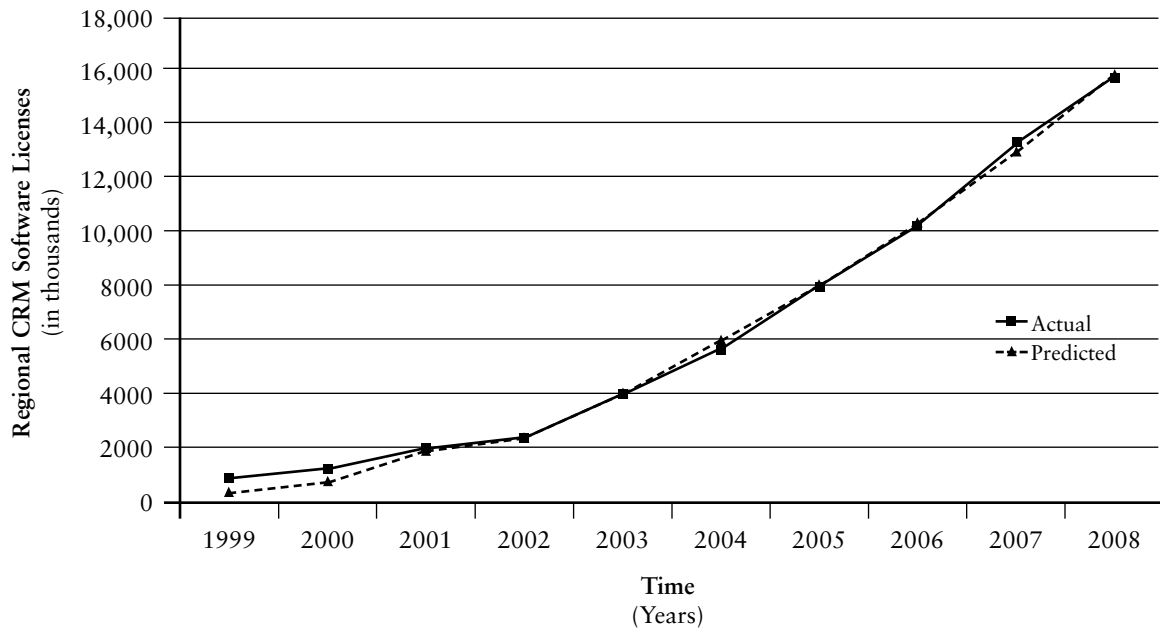
We find that executives of firms across the globe consider cross-regional learning an important prerequisite for implementation of CRM in their respective firms.

**Figure 2.** Cross-Regional Diffusion Model Fit (North America)



Notes: Values are indexed.

**Figure 3.** Cross-Regional Diffusion Model Fit (Europe)



**Figure 4.** Cross-Regional Diffusion Model Fit (Asia-Pacific)

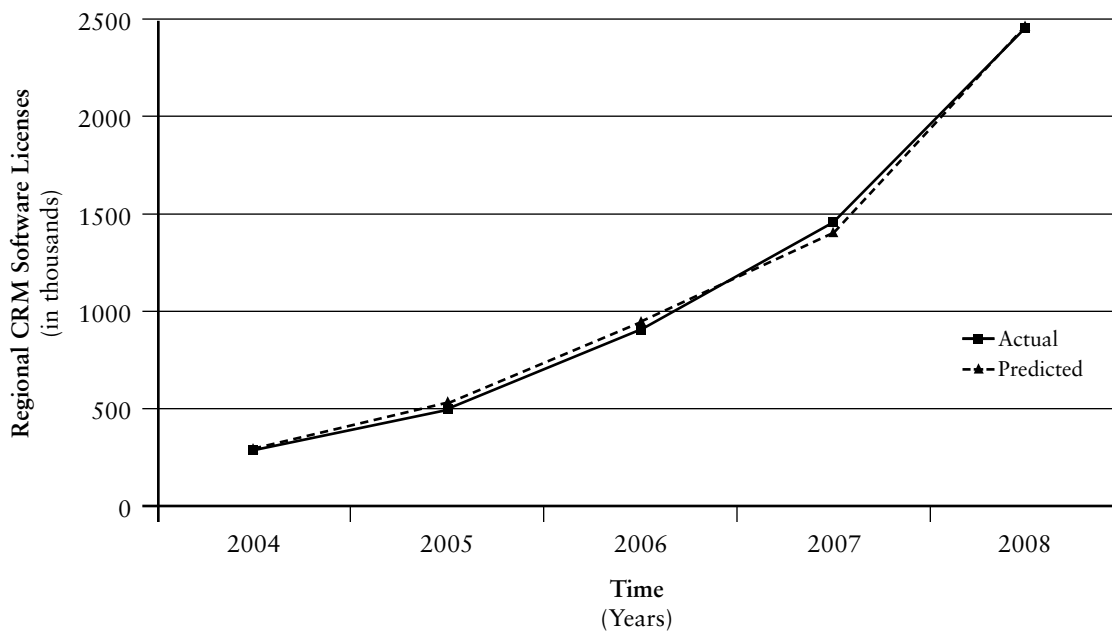


Figure 5 is a description of the conceptual framework outlining the factors that drive cross-regional learning. Our qualitative study and the GCR diffusion model indicate that firms from the European and Asia-Pacific regions often benchmark their North American counterparts. Furthermore, adoption of technology in these regions (Europe and Asia-Pacific) is expedited when there are visible and documented benefits of adoption (e.g., through industry-specific conferences, annual reports, white papers, best-practice case studies). Therefore, in the case of CRM technology adoption, the learning between lead and lag countries is enhanced when the laggards see documented benefits in CRM adoption. Thus:

**Conclusion 1:** The visibility of benefits of CRM adoption in the lead regions positively affects the learning process between lead and lag regions/countries.

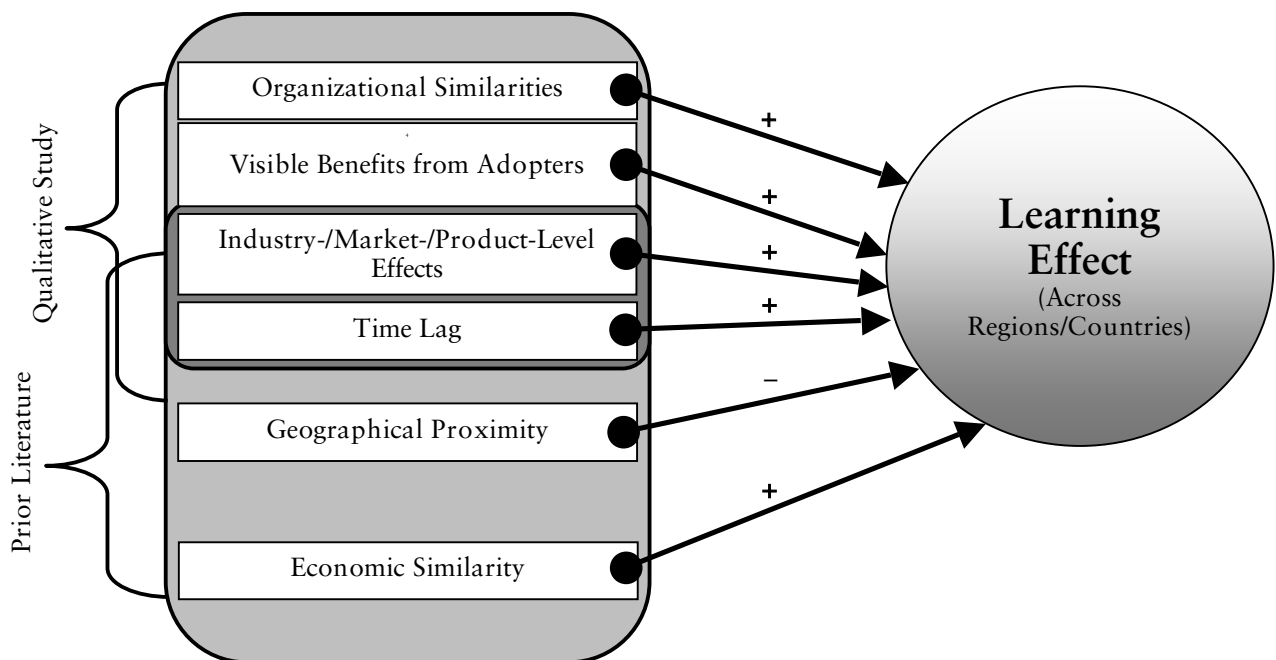
In a business-to-business setting, such as the CRM technology market, there could be several variables that govern the cross-regional learning effect, broadly classified into organizational and industry-level factors. Organizational factors that could influence the learning effect include how similar the lagging region firms are com-

pared with the lead region firms with regard to business structure and culture. An example of this phenomenon is evident in the aviation industry in the United States and India: The rise of the budget carrier in both regions follows identical patterns. The sudden increase in low-cost airlines (e.g., Southwest airlines in the United States, Air Deccan in India) has led to cross-regional learning between the two. For example, American low-cost airlines are known to have aggressive fuel hedging programs, a strategy that is beginning to gain attention in India as well (Sanjay 2006). In addition, from our qualitative research, we observe that the benchmarking of North American firms by executives from Europe and the Asia-Pacific region is governed by business culture, firm size, and so on. Therefore, similar regions would adopt CRM technology more readily than dissimilar ones. Thus:

**Conclusion 2:** Organizational similarity between lead and lag regions/countries positively influences the learning effect between the two.

The learning effect between regions/countries is enhanced by industry-, market-, and product-level similarities as well. For example, it would be more intuitive for a financial services company in the Asia-Pacific or European

**Figure 5.** Factors Influencing Cross-Regional Learning



region to adopt CRM technology after learning from another financial services company in North America, because there is much more interaction between firms within an industry (e.g., through practitioner conferences, white papers, case study publications), which leads to a high level of information transfer, eventually resulting in cross-regional learning. In addition, the presence of industry-level standards influences the learning effect. In the business-to-consumer environment, Ganesh, Kumar, and Subramaniam (1997) report a positive influence of this effect on learning between lead and lag countries. Therefore, we expect that with regard to CRM technology adoption, the learning between lead and lag regions is enhanced when the lead and lag firms operate in similar industry conditions.

Similarities between regions with regard to the type of markets they are host to have a vital role in defining the learning between them. The type of market in a specific region can be ascertained through various metrics (e.g., market maturity, consumer demographics). For example, a car manufacturer operating in North America, which is considered a mature market, would more easily learn from another car manufacturer in a mature market (e.g., Japan) because exchange of information (learning) across markets is more likely when the markets are similar.

Finally, firms that sell similar products are more likely to learn from one another. For example, this trend is visible in the motorcycle industry, in which BMW (Germany) introduced the first motorcycle with an antilock braking system in 1988. Honda (Japan) later adapted and used this technology in 1992, and Harley-Davidson (United States) followed suit in 2005. The results of our qualitative study support this trend with the use of CRM technology, in which learning occurs more easily between firms that offer similar products. Thus:

Conclusion 3: (a) Industry-, (b) market-, and (c) product-level similarity between lead and lag regions/countries positively influences the learning effect between the two.

Another factor affecting cross-regional learning is the effect of time lag between regions. Ganesh and Kumar (1996) conclude that the lead-lag time effect often acts a proxy for other systematic influences in the adoption processes, such that the potential adopters learn from existing users, resulting in a faster diffusion rate. Kalish, Mahajan, and Muller (1995) report a similar result, proposing that the success of a product/innovation reduces

perceived risk among potential adopters, thus leading to a faster diffusion. These results are in line with the results of our qualitative study, in which executives cited the technological refresh rate in the lead region as a reason for delaying adoption of GCRM. Thus:

Conclusion 4: Time lag between lead and lag regions/countries positively influences the learning effect between the two.

Much of the research in diffusion of innovation has involved the temporal aspects of the phenomenon while leaving the spatial aspects to geographers (Mahajan and Peterson 1979). However, the geography of the lead and lag region/country has an important role in the diffusion process. In line with Craig, Douglas, and Grein (1992), although there is evidently a great deal of technological advancements today, the effect of geographic proximity is still pronounced in the diffusion of innovations. Although Ganesh, Kumar, and Subramaniam (1997) conclude that it is insignificant in the business-to-consumer setting, we expect the effect of geographical proximity to be pronounced in the CRM technology adoption process (business-to-business setting), because adopting a complex technology solution such as CRM requires a high level of time and monetary investment on the firm's part. In such a case, we expect that firms that are closer to each other geographically will learn more from one another. Thus:

Conclusion 5: The greater the geographical proximity between lead and lag regions/countries, the greater is the learning effect between the two.

From a macroeconomic point of view, the region's/country's economics has a vital role in the diffusion process (Lee 1991). The argument behind this result is that economically prosperous regions are more likely to adopt early, and the poorer regions, because they are cash strapped, are more likely to delay the process until absolutely necessary. Following the preceding argument and Ganesh, Kumar, and Subramaniam's (1997) findings, we expect that the more economically similar regions are, the greater the learning is between them:

Conclusion 6: Economic similarity between lead and lag regions/countries increases the learning effect between the two.

Although the proposed factors listed here may affect the learning and the adoption of GCRM, it is possible that there are impediments in the GCRM implementation

process as well. Therefore, in addition to studying the factors that affect the intention to learn from others, the need to understand the issues with GCRM implementation and its impact on the firm is critical. The next section enumerates some of these issues and the benefits of implementing GCRM.

## IMPLEMENTATION OF GCRM

Global CRM in an organization begins with the top management, while its implementation is typically region/country specific (Dyche 2001). Firms need to reconcile the country-specific and global requirements of GCRM to best serve a customer-centric strategy. There is no “one size fits all” solution to GCRM; its implementation depends on industry and customer type (Buljan 2006). For example, customers’ bank data are considered sensitive and are protected by privacy laws within a country and cannot be shared on a global basis. In contrast, if the customer is a frequent flyer or hotel guest, transaction data and accumulated points could be centrally maintained and accessed on a global basis so the customer could get personalized service wherever he or she goes. It is clear that firms need to allocate priority to these processes to achieve customer centrality. The U.S. electronics retailer Best Buy is a good example of a firm that has successfully adopted customer centrality. In its transition to complete customer centrality, Best Buy first spent almost \$50 million to capture and analyze customer-level data. The next step was to improve the hierarchy of the firm and orient the salespeople toward the customer rather than toward the product. In this process, the retailer discovered who its customers were and streamlined its marketing strategies to woo them.

The implementation of a GCRM program is more complex than it seems. There are several factors that influence and sometimes impede the growth process. One of the biggest challenges to GCRM implementation is the global versus local focus trade-off that managers must make, which Ramaseshan et al. (2006) extensively study. They conclude that an organization must devise CRM strategy at the highest management level while providing enough flexibility to international subsidiaries for successful CRM delivery. Thus, customers are assured that local requirements are observed, and the company maintains its global standards.

The successful implementation of an efficient GCRM program does not simply end with the application of the

software. Firms need to strategize before the implementation of a GCRM program. There are numerous cases in which firms have implemented marketing programs that have been fiascos in foreign markets. Managing a global strategy begins from a localized version and later is integrated into a globally managed one.

## IMPLICATIONS AND FURTHER RESEARCH

Global CRM serves to build and maintain relationships with customers that span multiple countries and is an integral part of the overall global business strategy that aids in the paradigm shift from product centrality to customer centrality. Firms that have implemented GCRM can leverage their integrated database to segment regional and global market and target the most profitable segment(s) as well as individual customers with the right product offer at the right time regardless of their geographical location, thereby fulfilling customer-centric strategy. Global CRM also enables firms to have more effective data analytics and more accurate forecasts about global, regional, and individual market trends. New products or innovations do not usually diffuse simultaneously (sprinkler strategy) throughout several countries because of different economic, political, or cultural conditions; rather, they sequentially spread (waterfall strategy) from one country to another (Kalish, Mahajan, and Muller 1995). Thus, GCRM provides a firm with learning benefits as it applies the knowledge it gains from one country to another.

### Academic Significance

Most of the extant literature involves CRM implementation and its impact on firm performance within a firm (e.g., Krasnikov, Jayachandran, and Kumar 2009) or on a macroeconomic scale (e.g., Sharma and Iyer 2007). In this article, we describe the possible international implications of implementing CRM. The impact of this article could be viewed from the perspective of a firm that operates across international borders, having to deal with complex cultural, organizational, and legal structures. We develop a cross-regional GCRM diffusion model to capture the learning effects between regions across the globe and establish the direction of the diffusion process. In addition, we provide a road map to the successful implementation of GCRM. The adoption rate of CRM at the country level gives researchers an indication of how customer centric the firms of that country are. As firms become more customer centric, they gain more customer-level data, which is critical for furthering

academic knowledge in the CRM stream. Historically, marketing research has focused on mature markets (e.g., North America, Europe) and not developing economies because of many barriers (e.g., cultural, legal, operational). From a modeling perspective, the current study is the first to capture cross-regional effects in the adoption of CRM technology on a global scale. Our results could serve as an indicator of how the concept of customer centricity is increasing across regions.

### Managerial Significance

Customer relationship management is now one of the most widely used management tools in the world with the lowest defection rate. Despite this, 80% of CRM implementations have failed or are not being used properly (Bush, Moore, and Rocco 2005). Because of its global perspective, we expect GCRM implementation to be more complex and more challenging than CRM but to reap greater benefits. In addition to its similarities with localized CRM tools, GCRM offers superior data aggregation and analytics, which translate into additional advantages, such as market segmentation and targeting at regional and global level, higher customer satisfaction and loyalty, and learning opportunity across the markets. All these benefits contribute to the firm's ability to acquire and maintain favorable relationships with customers globally. In this study, we find that there is great growth potential in GCRM with firms in the Asia-Pacific region investing heavily overseas and realizing the potential of maintaining customer relationships.

The estimated diffusion coefficients of our diffusion model for the Asia-Pacific region indicate low innovation levels in contrast to the high levels of innovation in North America. Moreover, we observe higher imitation coefficients in the Asia-Pacific region than in North America. In addition, we track a lead-lag learning effect between North America and the Asia-Pacific region, North America and Europe, and Europe and the Asia-Pacific region. Using these results, managers can plan CRM investments according to the growth of CRM in a specific region. Using our conceptual framework, we can also explain some of the factors (e.g., organizational, market/industry level) that contribute to the variance in learning effects across regions of the world. In our study, we find that though firms around the world are adopting a customer-centric view progressively, the rate of adoption and innovations are different. Therefore, it is critical for CRM users to understand the adoption behavior among firms within a region before entering the country, which is where GCRM diffusion research cements its relevance.

### Future Directions

As the world becomes more connected, the scope and potential for CRM continues to increase. Global CRM is the management tool that enables firms to establish and maintain long-term relationships with customers at a global level and enables managers to make quick data-driven decisions. In this study, we identify the possible drivers to GCRM implementation and track the diffusion of CRM technology in the Asia-Pacific regions. A noteworthy area of further research would be to compare the diffusion of CRM technology across regions of the world and understand the extent to which the concept of customer-centricity is prevalent across the globe.

The results of this study reiterate the impact and importance of organizational learning across regional boundaries in the case of CRM. These drivers of the learning effect in a business-to-business setting, specifically CRM technology, have not been investigated previously. The data we used are at a regional level, which restricts our capability to test the drivers of the learning effects statistically. However, we propose a conceptual framework based on our qualitative analysis outlining the factors that drive the cross-regional learning. Further research could statistically quantify the effects proposed in Figure 5, using more granular (country-level) data.

Although the diffusion of CRM follows the general mechanism of diffusion in innovation, it is important that researchers understand its unique characteristics, which dictate its diffusion parameters. We recommend further research on the CRM diffusion process in different regions—specifically, which factors drive and/or affect CRM diffusion in these regions and what impact GCRM has in this process.

Although the implementation of a globally unified CRM system (GCRM) offers a variety of potential advantages to the firm at a global level, the quantification of the impact remains a challenge. The success of any venture can only be determined by measuring it. In the past, many metrics, which mostly focus on measuring what GCRM is supposed to deliver, such as increased customer satisfaction, top line growth, customer loyalty, or decreased marketing expenses (Farris et al. 2006), have been proposed to measure the efficiency of CRM. When deciding on a metric to measure the impact of CRM, Kumar and Petersen (2004) argue that the frequently used return-on-investment measure is not optimal because of its short-term focus. Building on this, Venkatesan and Kumar (2004) assess the benefits of customer profitability (measured using customer life-

time value) as an indicator of the impact of CRM on the bottom line. Krasnikov, Jayachandran, and Kumar (2009) note that CRM investment efficiency influences firm performance. However, measuring investment efficiency with respect to GCRM is not an easy task given the fragmented structure of implementation and captured benefits, length of investment, and cost accounting difficulties. The lack of a truly comprehensive metric to understand GCRM investment efficiency indicates an area of promising further research.

Studying the diffusion of CRM technology across the globe is only the beginning. Further research in the area could examine the diffusion of CRM strategies (e.g., customer lifetime value metric and other forward-looking strategies) across regional boundaries. Currently, CRM strategies are prevalent and are being practiced more among North American firms than in Asia. A promising avenue for further research is to study this diffusion rate as well as its drivers.

Finally, it is evident that the influence of truly global firms on markets and industry growth is rising. Companies in the United States alone account for 28% of the global *Fortune* 500 companies. Although it is not surprising that North American companies account for a large percentage of the global *Fortune* 500 companies (30.4% in 2010), it is important to understand the influence of Asian firms across the globe. According to the “*Fortune* Global 500 Report” (2010), the number of Asian companies in the *Fortune* 500 has increased 6% in just five years (2005–2010), while the number of North American companies has dropped 8% in the same period.

## NOTES

1. In this study, we use CRM technology licenses as a metric for units sold to capture the actual CRM market size.
2. We do not expect any simultaneous interaction effects from the adoption process in the Asia-Pacific region on the diffusion in North America because the time lag is too great (six years). Estimation of the model including this effect yields insignificant results as well.

## REFERENCES

Armstrong, J. Scott and Fred Collopy (1992), “Error Measures for Generalizing About Forecasting Methods: Empirical Comparisons,” *International Journal of Forecasting*, 8 (1), 69–80.

Bass, Frank (1969), “A New Product Growth for Model Consumer Durables,” *Management Science*, 15 (5), 215–27.

——— (2004), “Comments on ‘A New Product Growth for Model Consumer Durables’: The Bass Model,” *Management Science*, 50 (12), 1833–40.

———, M. Trichy, V. Krishnan, and Dipak C. Jain (1994), “Why the Bass Model Fits Without Decision Variables,” *Marketing Science*, 13 (3), 203–223.

Buljan, Silvana (2006), “Think Global, Act Local: Is CRM Country Specific?” technical paper, Buljana & Partners Consulting S.L.U., Madrid.

Bush, Alan J., Jarvis B. Moore, and Rich Rocco (2005), “Understanding Sales Force Automation Outcomes: A Managerial Perspective,” *Industrial Marketing Management*, 34 (4), 369–77.

Craig, C. Samuel, Susan P. Douglas, and Andreas Grein (1992), “Patterns of Convergence and Divergence Among Industrialized Nations: 1960–1988,” *Journal of International Business Studies*, 23 (4), 773–87.

Dekimpe, Marnik G., Philip M. Parker, and Miklos Sarvary (2000), “Global Diffusion of Technological Innovations: A Coupled-Hazard Approach,” *Journal of Marketing Research*, 37 (February), 47–59.

Dyche, J. (2001), *The CRM Handbook: A Business Guide to Customer Relationship Management*. Boston: Addison-Wesley.

Endacott, R.W.J. (2004), “Consumers and CRM: A National and Global Perspective,” *Journal of Consumer Marketing*, 21 (3), 183–89.

Farris, Paul W., Neil T. Bendle, Phillip E. Pfeifer, and David J. Reibstein (2006), *Marketing Metrics: 50+ Metrics Every Executive Should Master*. Upper Saddle River, NJ: Wharton School Publishing.

Flint, Daniel J., Robert B. Woodruff, and Sarah Fisher Gardial (2002), “Exploring the Phenomenon of Customers’ Desired Value Change in a Business-to-Business Context,” *Journal of Marketing*, 66 (October), 102–117.

*Fortune* (2010), “*Fortune* Global 500 Report,” (accessed December 17, 2010), [available at <http://money.cnn.com/magazines/fortune/global500/2005/countries/U.html>].

Ganesh, Jaishankar and V. Kumar (1996), “Capturing the Cross-National Learning Effect: An Analysis of an Industrial Technology Diffusion,” *Journal of the Academy of Marketing Science*, 24 (4), 328–37.

———, ———, and Velavan Subramaniam (1997), “Learning Effect in Multinational Diffusion of Consumer Durables,” *Journal of the Academy of Marketing Science*, 25 (3), 214–28.

- Gatignon, Hubert, Jehoshua Eliashberg, and Thomas S. Robertson (1989), "Modeling Multinational Diffusion Patterns: An Efficient Methodology," *Marketing Science*, 8 (3), 231–47.
- Hansotia, Behram (2002), "Gearing Up for CRM: Antecedents to Successful Implementation," *Journal of Database Marketing*, 10 (2), 121–32.
- Helsen, K. (1993), "A New Approach to Country Segmentation Utilizing Multinational Diffusion Patterns," *Journal of Marketing*, 57 (October), 60–71.
- Hofstede, Frenkel Ter, Jan-Benedict E.M. Steenkamp, and Michel Wedel (1999), "International Market Segmentation Based on Consumer-Product Relations," *Journal of Marketing Research*, 36 (February), 1–17.
- Hofstede, Geert (1980), "Motivation, Leadership, and Organization: Do American Theories Apply Abroad?" *Organizational Dynamics*, 9 (1), 42–63.
- IBM (2004), "Doing CRM Right: What It Takes to Be Successful with CRM: Asia Pacific View," *CRM Global Study*, (accessed December 17, 2010), [available at [http://www-935.ibm.com/services/au/bcs/pdf/ge510-3604-01f\\_ibm\\_crm\\_study\\_asiapac.pdf](http://www-935.ibm.com/services/au/bcs/pdf/ge510-3604-01f_ibm_crm_study_asiapac.pdf)].
- Kalish, Shlomo, Vijay Mahajan, and Eitan Muller (1995), "Waterfall and Sprinkler New-Product Strategies in Competitive Global Markets," *International Journal of Research in Marketing*, 12 (2), 105–119.
- Krasnikov, Alexander, Satish Jayachandran, and V. Kumar (2009), "The Impact of Customer Relationship Management Implementation on Cost and Profit Efficiencies: Evidence from the U.S. Commercial Banking Industry," *Journal of Marketing*, 73 (November), 61–76.
- Kumar, V. and Trichy V. Krishnan (2002), "Multinational Diffusion Models: An Alternative Framework," *Marketing Science*, 21 (3), 318–30.
- and J. Andrew Petersen (2004), "Maximizing ROI or Profitability," *Marketing Research*, 16 (3), 28–34.
- Lee, Chol (1991), "Determinants of National Innovativeness and International Market Segmentation," *International Marketing Review*, 7 (5), 39–49.
- Li, Chunqing, Yinfeng Xu, and Hongyi Li (2005), "An Empirical Study of Dynamic Customer Relationship Management," *Journal of Retailing and Consumer Services*, 12 (6), 431–41.
- Mahajan, Vijay and Robert A. Peterson (1979), "Integrating Time and Space in Technological Substitution Models," *Technological Forecasting and Social Change*, 14 (3), 231–41.
- Morgan, Robert M. and Shelby D. Hunt (1994), "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, 58 (July), 20–38.
- Muller, Eitan, Renana Peres, and Vijay Mahajan (2009), *Innovation Diffusion and New Product Growth*. Cambridge, MA: Marketing Science Institute.
- Ramani, Girish and V. Kumar (2008), "Interaction Orientation and Firm Performance," *Journal of Marketing*, 72 (January), 27–45.
- Ramaseshan, B., David Bejou, Subash C. Jain, Charlotte Mason, and Joseph Pancras (2006), "Issues and Perspectives in Global Customer Relationship Management," *Journal of Service Research*, 9 (2), 195–207.
- Reinartz, Werner J. and V. Kumar (2003), "The Impact of Customer Relationship Characteristics on Profitable Lifetime Duration," *Journal of Marketing*, 67 (January), 77–99.
- Rigby, Darrell and Barbara Bilodeau (2009), "Management Tools and Trends 2009," research report, Bain & Company, (accessed November 11, 2010), [available at [http://www.bain.com/bainweb/PDFs/cms/Public/Management\\_Tools\\_2009.pdf](http://www.bain.com/bainweb/PDFs/cms/Public/Management_Tools_2009.pdf)].
- Sanjay, P.R. (2006), "Indian Plans to Hedge Fuel Costs," *Rediff India Abroad*, (December 27), (accessed November 11, 2010), [available at <http://www.rediff.com/money/2006/dec/27indian.htm>].
- Schmittlein, David C. and Vijay Mahajan (1982), "Maximum Likelihood Estimation for an Innovation Diffusion Model of New Product Acceptance," *Marketing Science*, 1 (1), 57–78.
- Seber, G.A.F and C.J. Wild (2003), *Nonlinear Regression*. Hoboken, NJ: John Wiley & Sons.
- Sharma, Aran and Gopalkrishnan R. Iyer (2007), "Country Effects on CRM Success," *Journal of Relationship Marketing*, 5 (4), 63–78.
- Sheth, Jagdish N. and Atul Parvatiyar (1995), "Relationship Marketing in Consumer Markets: Antecedents and Consequences," *Journal of the Academy of Marketing Science*, 23 (4), 255–71.
- Srinivasan, V. and Charlotte H. Mason (1986), "Nonlinear Least Squares Estimation of New Product Diffusion Models," *Marketing Science*, 5 (2), 169–78.
- Sultan, Fareena, John U. Farley, and Donald R. Lehmann (1990), "A Meta-Analysis of Applications of Diffusion Models," *Journal of Marketing Research*, 27 (February), 70–77.
- Takada, Hirokazu and Dipak Jain (1991), "Cross-National Analysis of Diffusion of Consumer Durable Goods in Pacific Rim Countries," *Journal of Marketing*, 55 (April), 48–54.
- Tellis, Gerard J., Stefan Stremersch, and Eden Yin (2003), "The International Takeoff of New Products: The Role of Economics, Culture, and Country Innovativeness," *Marketing Science*, 22 (2), 188–208.



Van-Everdingen, Yvonne, Dennis Fok, and Stefan Stremersch (2009), "Modeling Global Spillover in New Product Take-off," *Journal of Marketing Research*, 46 (October), 637–52.

Venkatesan, Rajkumar and V. Kumar (2004), "A Customer Lifetime Value Framework for Customer Selection and Resource Allocation Strategy," *Journal of Marketing*, 68 (October), 106–125.

Vivek, Shiri D., R. Glenn Richey Jr., and Vivek Dalela (2009), "A Longitudinal Examination of Partnership Governance in Offshoring: A Moving Target," *Journal of World Business*, 44 (1), 16–30.

## THE AUTHORS

**V. Kumar** is the Richard and Susan Lenny Distinguished Chair Professor of Marketing, Executive Director of the Center for Excellence in Brand & Customer Management, and Director of the PhD Program in Marketing at the J. Mack Robinson College of Business, Georgia State University. He has been recognized with more than 25 teaching and research excellence awards including seven lifetime achievement awards for contributions to marketing strategy, business-to-business marketing, and marketing research methodology. He has published more than 150 articles and books, including the recently released *Managing Customers for Profit*, *Customer Lifetime Value: The Path to Profitability* and *Customer Relationship Management: A Databased Approach*. His work has been published in scholarly journals, including *Harvard Business Review*, *Journal of Marketing*, *Journal of Marketing Research*, *Marketing Science*, and *Operations Research*. His current research focuses on multi-channel shopping behavior, international diffusion models, customer relationship management, customer lifetime value analysis, sales and market share forecasting, and international marketing research. He has consulted for many *Fortune* 500 firms.

**Sarang Sunder** is a doctoral student in Marketing and Marketing Intelligence Analyst at the Center for Excellence in Brand and Customer Management in the J. Mack Robinson College of Business, Georgia State University. His research interests include customer relationship management in business-to-business and business-to-consumer settings, sales force optimization, global diffusion modeling and studying network effects among customers (group buying behavior).

**B. Ramaseshan** researches in the area of marketing strategy and customer relationship management. His work has been published in several journals, including *Journal of Retailing*, *Journal of Service Research*, *Journal of Business Research*, *Industrial Marketing Management*, *Psychological Reports*, *Journal of Personal Selling and Sales Management*, *European Journal of Marketing*, and *International Marketing Review*. He was the vice president of International Membership of the Academy of Marketing Science (United States) (2004–2006). In 2005, the Marketing Institute of Singapore honored him with the title Fellow of the Marketing Institute of Singapore in recognition of his contribution to the profession of marketing. Professor Ramaseshan has engaged in several major consulting and applied research projects in both public and private sectors and led training courses for business executives on the theme of marketing research, international marketing, and marketing strategy. He has traveled widely and has taught in several countries in Southeast Asia.

## ACKNOWLEDGMENTS

The authors thank two marketing research firms for providing the necessary information to conduct this study. They also thank the three anonymous *JIM* reviewers, S. Sriram, Joseph Pancras, and Hongju Liu for their comments on an earlier version of the article and Renu for copyediting the manuscript.

Copyright of Journal of International Marketing is the property of American Marketing Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.