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CUSTOMER RELATIONSHIP MANAGEMENT (CRM) NETWORK: A NEW APPROACH TO STUDYING CRM

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Abstract

The technology and the climate to support the tenets of CRM, which are not new, have become available recently. However, researchers face the problem of defining CRM and mapping out what it entails. As such, this paper takes a new approach to defining and studying CRM. It defines CRM as a business strategy that seamlessly integrates every aspect of business that touches the customer. Based on this definition, this paper suggests that CRM study should be approached as a study of five sub-topics: marketing and sales, project implementation and management, e-business, knowledge management and supply chain management, each of which is established in its own right. This approach provides a framework to carry out future research to integrate these sub-topics and form a comprehensive blueprint on how to become a customer-centric CRM-organization.

Introduction

Although Customer Relationship Management (CRM) is a recent concept, its tenets have been around for some time (Peppard 2000). Neighborhood shop owners knew customers by name and built close relationships with them. Over the years, through mass marketing and increased consumerism, customers traded relationships for anonymity, reduced variety and lower prices (Peppard 2000). Today, through effective use of information and communications technology, such a tradeoff is not necessary. Organizations can offer customers variety, lower prices and personalized service and all at the same time (Peppard 2000).

However, researchers have difficulty in defining CRM and mapping out how to implement it. The main problem is that CRM means different things to different people (Winer 2001). A number see it as a combination of business process and technology that seeks to understand a company's customers from the perspective of who they are, what they do, and what they are like (Ryals & Knox 2001). To some, CRM integrates marketing, sales, and service functions through business process automation, technology solutions and information resources to maximize each customer contact (Ryals & Knox 2001). Others opt to take an information technology (IT) perspective and focus on the fact that IT is the 'glue' that holds these together and enables the whole to be operationalized (Ryals & Knox 2001).

This paper adopts the definition that CRM is an approach or business strategy which provides seamless integration of every area of business that touches the customer – namely marketing, sales, customer service and field support – through integration of people, process and technology (Pan & Lee 2002). At this juncture, it would be useful to clearly differentiate the term, e-CRM, which some may confuse with CRM. E-CRM involves taking advantage of the revolutionary impact of the Internet to expand the traditional CRM techniques by integrating technologies of new electronic channels such as Web, wireless, and voice technologies and combining it with e-business applications into the overall enterprise CRM strategy (Pan & Lee 2002). Thus, while CRM is a business strategy, e-CRM involves the use of IT to facilitate and enhance CRM.

With this in mind, this paper aims to answer the question plaguing researchers and managers alike: "How does a company become a CRM-organization?" To answer this question, this paper first examines several key global trends and their impact on organizations. Next, it identifies five sub-topics of CRM, each of which represents a facet of what it means to be a CRM-organization. Overviews of each sub-topic, which are academically established in their own right, are presented, before concluding

with some potential research questions for the future. Hopefully, this multi-pronged approach will lead to a better understanding of not just Customer Relationship Management, but more importantly, how to become a CRM-organization.

Analysis of Global Trends

Five global trends are of particular interest to the study of CRM. The first trend concerns new customer needs that have emerged as a result of changes in life-styles and working habits, such as convenience and ease of transactions (Yakhlef 2001). Customers are driving the process, searching for information they need to make choices, creating their own products and services, setting their own prices, and self-selecting themselves into segments (Wind & Rangaswamy 2001). For example, the reluctant adoption of the MP3 standard by the music industry, after vigorous attempts by leading industry players to thwart it, is a testament to the clout that online customers have in decisively influencing the direction of entire industries (Wind & Rangaswamy 2001). As a result, the first sub-topic to be studied is **Marketing and Sales**, since at the core of CRM is its focus on the customer.

However, changes in CRM practice are being driven not only by evolving customer demand, but also by developments in the enabling technologies (Ryals & Knox 2001). These changes are occurring because the relationship between organizations and consumers is increasingly being facilitated through electronic information technology (Strader & Shaw 1997). In fact, the belief is that information technology is a transcendent technology, like railroads in the 19th century and automobiles in the 20th century, and provides a way to return to the high-growth, low-inflation conditions of the 1950s and 1960s (Shu 2001). This leads us to the second sub-topic for study, which is **Project Implementation and Management**, and the issues that facilitate not only the introduction of new IT-enabled CRM projects, but also a customer-focus in the organization.

In particular, the Internet's World Wide Web is considered a strategic information technology with the potential to change the ground rules by which businesses interact with their consumers (Strader & Shaw 1997). The Internet is not just another marketing channel; it is not just another advertising medium; it is not just a way to speed up transactions. The Internet is a foundation for a new industrial order (Yakhlef 2001). It would thus be prudent to study the area of **e-Business**, and understand how Web functions can be applied to facilitate interaction between the organization and its customers and partners, as well as to support internal processes (i.e. the Intranet).

Another emerging phenomenon in contemporary society and organizations is the large and increasing supply of readily available information in electronic forms (Hansen & Haas 2001). The velocity and dynamic nature of the new marketplace has created a competitive incentive among many companies to consolidate and reconcile their knowledge assets as a means of creating value that is sustainable over time (Gold *et al.* 2001; Massey *et al.* 2001). For example, Wal-Mart, the largest retailer in the U.S., has a customer database that contains around 43 terabytes of data, which is larger than the database used by the US Internal Revenue Services for collecting income taxes (Shaw *et al.* 2001). Therefore, the next area of study is **Knowledge Management**, which looks in particular at the management of knowledge from, to and about customers, between the organization, their customers, and their business partners.

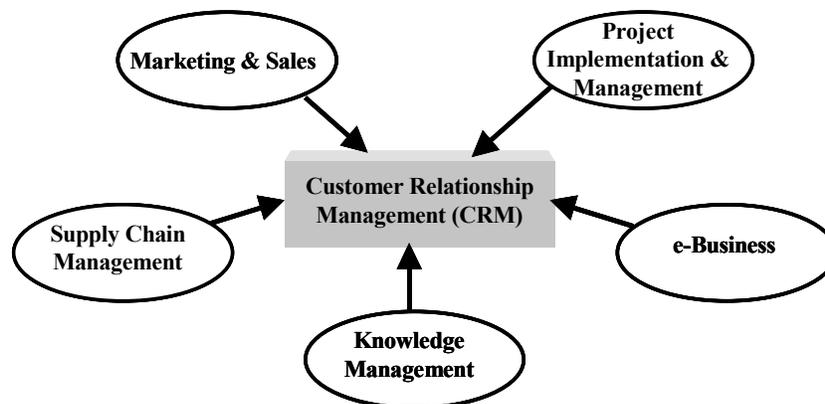


Figure 1. The Customer Relationship Management (CRM) Network

The final trend in the market today that is of particular importance to CRM is the rising interest in supply chains and collaboration across supply chain partners. Basically, the concept of supply chain refers to the chain of activities, executed by two or more separate organizations, to fulfill customer orders (Papazoglou *et al.* 2000). As such, it is important for us to study the issues surrounding **Supply Chain Management**, and how they help to create a CRM-organization.

These five sub-topics should provide a deeper understanding of what it means to be a CRM-organization, as well as a broad blueprint of how to become one. Taken together, these five sub-topics form the Customer Relationship Management (CRM) Network (See Figure 1).

Marketing and Sales

According to the “80/20 rule” or Pareto rule, twenty percent of customers produce eighty percent of sales or value to the company (Ryals & Knox 2001; Winer 2001; Zeithaml *et al.* 2001). It thus makes sense for organizations to identify their most profitable customers via customer information analysis and segmentation, and focus on meeting specific needs. Although customer segmentation and customization have proven useful in the past, recent findings have shown that this is insufficient, and we need to engage in one-to-one marketing, with decision-makers devising specific strategies for each individual customer based on their profile, resulting in higher overall customer profitability (Gillenson *et al.* 1999; Shaw *et al.* 2001; Zeithaml *et al.* 2001). Ultimately, to become a CRM-organization, you need to focus on maximizing the lifetime value of a customer to the organization. Research has shown that such a marketing focus has to cover maximizing current and future customer profitability (Ellinger *et al.* 1999; Peppard 2000; Ryals & Knox 2001; Winer 2001; Zeithaml *et al.* 2001). Furthermore, competitive pressures dictate the need to develop better understandings of customer needs and preferences (Ellinger *et al.* 1999; Shaw *et al.* 2001).

Another step towards becoming a CRM-organization is by building close customer relationships to improve customer satisfaction and better understand customers’ habits, needs and taste (Peppard 2000; Yakhlef 2001). With such understanding, organizations are able to better position operations and what they have to offer by emphasizing factors that are considered important by customers (Bajaj 2000; Ellinger *et al.* 1999). They can then build strong “learning relationships” that engage customers in two-way dialogues (Massey *et al.* 2001; Peppard 2000). In addition, researches have identified that recent advances in IT play a big role in helping to transform some idealistic business concepts, such as one-to-one marketing and interactive communication, into reality (Gillenson *et al.* 1999; Raghu *et al.* 2001; Wells 1999).

A third key component in marketing and sales that is necessary for a company to become a CRM-organization is the management of detailed customer information. With available technology, pressure is mounting to not only the gather such information, but use it to personalize customer service (Peppard 2000; Raghu *et al.* 2001). Such information has proven to be very useful as a means of helping vendors perform effective customer segmentation (Dibb & Simkin 2001; Emmelhainz & Kavan 1999; Raghu *et al.* 2001; Zeithaml *et al.* 2001), and realize other marketing concepts more effectively. Some companies, such as priceline.com and DealTime.com, even customize the price determination process; letting customers specify their own prices and then trying to locate providers who are willing to sell at those prices (Wind & Rangaswamy 2001). This customization is attractive to customers because it reduces search costs and presents customers with products that have a higher degree of relevance (Rowley & Slack 2001). This will be covered in greater detail later under knowledge management.

In helping to create a CRM-organization, these components of marketing and sales bring a host of benefits. Firstly, a five percent increase in customer retention results in an increase in average customer lifetime value of between 35 and 95 percent, leading to significant improvements in company profitability (Ryals & Knox 2001; Winer 2001), especially when considering that it costs up to five times more to attract a new customer than it does to retain an existing one (Kos *et al.* 2001; Peppard 2000). Other studies also show that improved customer marketing increases customer satisfaction, which increases customer loyalty, thus improving their price elasticity, repeat buying rate, potential for cross-selling, and inclination towards positive word-of-mouth advertising (Anderson *et al.* 1994; Herrmann *et al.* 2000; Massey *et al.* 2001; Peppard 2000).

Project Implementation and Management

Having developed the necessary marketing focus, the next step towards becoming a CRM-organization is to design, implement and manage the actual CRM project. As with other projects, it is imperative to have clear objectives and an understanding of the desired outcome (Jiang *et al.* 2001; Kos *et al.* 2001). At the same time, organizations especially need to engage in risk management planning, since a CRM initiative is complex and uncertain, relying largely on a detailed understanding of ever-

changing customer needs and wants, thus making risk management an ongoing activity throughout its project life cycle, without which, companies are continually 'fire-fighting'. With this risk management program in place, companies shift to proactive decision-making that tries to anticipate and avoid problems before they occur (Smith *et al.* 2001).

In addition to these traditional issues, to become CRM-oriented, organizations need to learn that they have to adapt to survive, and this means fundamental changes in the way that firms are organized (Ryals & Knox 2001). As it relates to CRM, organizations should forget about the way they had always done things previously and should figure out how to do things most efficiently and effectively as seen through the customers' eyes (Markus 2000). However, everyone knows that radical change is hard to institute, particularly when standard operating procedures and organizational routines are structured so as to resist change (Albers *et al.* 1994). Any initiative to transform or change an enterprise must thus consider how the enterprise operates as an integrated whole, and its relationships with suppliers, customers and business partners (Papazoglou *et al.* 2000). This holistic view of the organization with a customer-focus can help to facilitate the radical change that is required.

It has long been recognized and acknowledged that in the majority of organizations, there is a 'gap' between the IS organization and the rest of the business (Peppard 2001). Emerging research suggests that in the search for IT-based sources of sustainable competitive advantage, organizations must focus less on technology per se, and more on the process of organizing and managing IT within the organization (Peppard 2001). This means that there should be closer alignment between the organization's processes, resources, performance measures, IS support and organizational structure for treating customers as an asset (Anderson *et al.* 1994; Chang & King 2000; Jiang 2001; Markus 2000; Peppard 2000). However, the intent of CRM is to build an integrated and corporate-wide view of the customer by tying together all of the customer's interactions via any and all channels with the organization (Kos 2001; Peppard 2000; Winer 2001). Thus, to become CRM-oriented, the organization needs to instill this corporate-wide customer-focus into its alignment efforts.

A major obstacle for developing an organizational CRM-focus is the organizational culture, which has been mentioned as a critical success factor in IS implementation (McDermott & Stock 1999; Weber & Pliskin 1996), as have inherent and organization-wide beliefs (Xia & Lee 2000). Too often, companies seek to build CRM capabilities by designing a powerful IT system without considering wider business issues (Peppard 2000) or without the necessary level of user involvement and empowerment during technology implementation (McDermott & Stock 1999). Ultimately, the full benefits of CRM will not be realized unless there is buy-in from the people involved with and affected by this endeavor (Kos *et al.* 2001). This includes everyone from the assembly line employee to the CEO. Unless everyone is on board the CRM bandwagon, any such initiative will fail.

Finally, to facilitate successful implementation and monitoring benefits of CRM projects, there is a need to devise new standards of measurements that incorporate the desired customer-focus and CRM-orientation. This is necessary due to high levels of organizational investments and the need for managers to have a better understanding of the impact on organizational performance (Giaglis 1999). For marketing, this includes setting targets for customer retention as well as new customer acquisition; while for IT, it includes measuring the success of a CRM project in terms of its contribution to building relationships with customers rather than its architecture and functionality (Ryals & Knox 2001). Although financial and market-based indicators have been and will still be important, in a CRM-organization, increased emphasis should be placed on developing measures that are customer-centric and give managers a better idea of how their CRM policies and programs are working (Jiang *et al.* 2001; Slaughter 1996; Winer 2001).

E-Business

As mentioned earlier, the Internet is a foundation for a new industrial order, and is probably potentially the most profound enabler of one-to-one marketing (Gillenson *et al.* 1999; Paper & Tingey 2001; Yakhlef 2001). In its current manifestation, e-business falls into two broad categories (Peppard 2000), namely using technology to re-engineer internal business processes, or interfacing with business partners, whether they are customers or suppliers. It is precisely this internal and external facilitation that makes e-business such a vital component for an organization to become CRM-oriented.

With regards to internal business processes, the web technology used is the Intranet, which has matured enough to become an attractive platform for business applications and organizational information systems and is quickly becoming a technological platform able to support all facets of organizational work (Bansler *et al.* 2000).

As for the external Web, or Internet, a major use is to create new two-way channels for interactive communication with customers, thus building stronger relationships between customers and the organization (Wind & Rangaswamy 2001; Winer 2001). The

Internet is paving the way for organizations to create new global marketplaces, where a major concern is content localization, which covers language translation, local tastes, original editorial content, local payment methods, and customer service (Paper & Tingey 2001). Furthermore, the Web is also proving to be an important and convenient source of customer information, through online forms and by analyzing customer visitation patterns (Gillenson *et al.* 1999; Shaw *et al.* 2001), a topic discussed further in the section on knowledge management.

The benefits of e-business to a company looking to be a CRM-organization are numerous, not the least of which is the leveling of the playing field between large and small organizations (Gillenson *et al.* 1999). Organizations are also able to respond directly to customer requests and provide customers with highly interactive, customized experiences (Winer 2001), cut costs of interactions and payment transactions (Yakhlef 2001), increase prices as customers are more willing to pay for the convenience of conducting business online (Wind & Rangaswamy 2001), and reduce overhead costs due to minimal need for physical stores (Gillenson *et al.* 1999).

From the customer's point of view, it allows for shopping twenty-four hours a day, seven days per week, from the comfort of home, and easily increases the number of sellers with whom the consumer can comparison shop (Gillenson *et al.* 1999), while the falling costs of Internet access globally, development of localized content, and new wireless, cable and satellite technology enable more people from all over the world to conduct business online (Paper & Tingey 2001). Ultimately, the biggest result is the return of power and control from sellers to customers (Peppard 2000). However, despite this, research has shown that customers still harbor concerns over doing business online, such as regarding privacy and the potential for misuse of the vast amount of customer knowledge that organizations possess (Rowley & Slack 2001; Winer 2001).

Knowledge Management

Studies show that an essential element for successful relationship marketing is the effective management of information (Emmelhainz & Kavan 1999; Peppard 2000). In response to increasingly volatile and competitive environments, organizations are examining how they can better leverage knowledge assets for value creation by integrating the knowledge discovery process with the management and use of the knowledge for marketing strategies (Massey *et al.* 2001; Shaw *et al.* 2001). It is this effective management of organizational knowledge, especially knowledge pertaining to customers, which separates a regular company from a CRM-organization.

One element of knowledge management especially relevant to CRM is the sharing of organizational knowledge. Organizational structures need to be designed so as to encourage and facilitate the sharing of customer knowledge across boundaries within the organization and with supply chain partners (Gold *et al.* 2001; Shaw *et al.* 2001). Although many parties still see the release of any kind of information as a loss of power, researchers advocate that organizations integrate customer knowledge from every corner of the business to facilitate successful management of customer relationships (King & Ko 2001; Massey *et al.* 2001; Peppard 2000; Ryals & Knox 2001; Shaw *et al.* 2001). In addition, such information sharing is central to the integration and coordination of supply chains to assure that goods and services are delivered at the right time, at the right place, and at the right price (Shore 2001). Moreover, effective CRM hinges on the availability of customer knowledge on demand, that is, on a real-time basis (Kos *et al.* 2001; Massey *et al.* 2001).

IS plays a crucial role in supporting effective customer knowledge management in a CRM-organization. In fact, in order for the company to gather, disseminate and act upon customer-specific information, a significant investment in technology needs to be made (Kos *et al.* 2001). Through the linkage of information and communication systems in an organization, previously fragmented flows of information and knowledge can now be integrated (Gold *et al.* 2001). What's more, new information systems (e.g. the Internet, data warehouses and software agents) increase the volume of data available to organizations, while simultaneously enabling and increasing the sharing of knowledge (Alavi & Leidner 1999; Massey *et al.* 2001; Shaw *et al.* 2001).

Probably one of the most important advances in technology is improved database systems, which permit the storage and efficient retrieval of vast amounts of customer data, while appropriate tools and techniques are used to analyze these huge databases for more effective targeting of marketing communications and relationship-building activities (Gillenson *et al.* 1999; Shaw *et al.* 2001; Winer 2001). Data warehousing technology further aids in the efficient storage and retrieval of disparate sources of internal and external information thus provides an integrated environment for reporting, data analysis and data mining (Gillenson *et al.* 1999; Markus 2000). From there, organizations can utilize data mining techniques to analyze this data to uncover a wealth of previously hidden actionable customer knowledge (Hui & Jha 2000; Shaw *et al.* 2001). Such knowledge can then be used to formulate effective and competitive marketing strategies for CRM.

The benefits of knowledge management are well documented. Here are some key benefits relating to CRM in particular. Organizations are able to utilize the knowledge gained to create better customer profiles and anticipate customer needs (Massey *et al.* 2001), be more flexible and innovative in reacting to changing market conditions (Alavi & Leidner 1999), and minimize dysfunctional activities such as re-inventing the wheel or loss of knowledge (Gray & Chan 2000). Knowledge management has a significant impact on the supply chain as well, such as time compression and improved data accuracy, as well as close integration of inter-organizational business processes, which allow modern management philosophies like Just-in-time systems, concurrent engineering concepts, and various inventory replenishment schemes to take root (Humphreys *et al.* 2001).

Supply Chain Management

The supply chain is generally referred to as a chain of activities executed by organization and various partners, including material suppliers, production facilities, distribution services and customers, who are linked via the feed-forward flow of material and feed-backward flow of information, to effectively produce and deliver products and services to customers (Humphreys *et al.* 2001; Papazoglou *et al.* 2000; Shore 2001). Likewise, supply chain management (SCM) refers to the management of flows between the stages in supply chains to maximize total profitability so as to deliver the right products, at the right time, at the right place, and at a competitive price (Shore 2001) to the customer. This customer focus behind a supply chain and its management makes it important for a CRM-organization. It should however be noted that stakeholders outside the organizational boundary, that is external partners, are relatively free agents who are able to set the terms on which they participate, if at all (Coakes & Elliman 1999).

As mentioned earlier, organizations need to engage in business re-engineering so as to incorporate the concepts of CRM into how they do business. However, this organizational re-engineering goes beyond focusing on internal processes to the consolidation and harmonization of the many islands of disparate business processes and information systems scattered both throughout an organization and its partner enterprises into a unified whole (Papazoglou *et al.* 2000). Effective SCM requires that organizations redesign business processes and restructure corporate structures so as to align with and support the integrated value chain, thus achieving desired results in a collaborative fashion (Papazoglou *et al.* 2000). This improves a firm's internal initiatives, and the initiatives of participating external firms to the benefit of all firms in the entire supply chain (Humphreys *et al.* 2001).

A major result of such re-engineering is the customer-oriented integration of value chains throughout the value system. Value system integration can be defined as the process by which multiple enterprises within a shared market segment collaboratively plan, implement and manage the flow of goods, services and information along the value system in a way that increases customer-perceived value and optimizes the efficiency of the chain, and are the result of strategic alliances between business partners for achieving competitive advantage (Papazoglou *et al.* 2000). This integrated value-chain business model should be customer-centric, as value needs to be created at the relationship level across products and channels rather than at the individual product level (Papazoglou *et al.* 2000). It helps to streamline processes and improve customer service through greater connectivity between business processes and key operational systems, with IS playing a major part in this drive for competitive edge as it allows business allied partners to use information much more effectively in the rapid delivery of goods and services to customers (Papazoglou *et al.* 2000).

Research has shown that for this new form of intense collaboration to effectively cope with market demands and changes, and maintain competitive advantage, various inter-organizational relationships (e.g. strategic alliances) need to be established to better meet customer needs and expectations (Humphreys *et al.* 2001; Papazoglou *et al.* 2000). Another important business objective of such alliances is to eliminate supply chain discontinuities that produce delays and waste (Papazoglou *et al.* 2000). They also promote value transparency, which goes beyond mere bilateral sharing of sensitive information to managed risk for all parties, which removes the costs and delays implicit in traditional poses (Lamming *et al.* 2001). Recent studies also indicated that such collaborations, coupled with loosening of trade restrictions and the need for responsiveness to new global competitive threats and opportunities, have given rise to the internationalization of supply chains (Lamming *et al.* 2001; Shore 2001).

As with other areas in a CRM-organization, IS has a big role to play in the facilitation of customer-oriented supply chains. Findings show that computer-based systems and integrated technical infrastructures are necessary for the success of integrated collaborative supply chain systems (Markus 2000; Papazoglou *et al.* 2000; Shore 2001). Previously, electronic data interchange (EDI) systems were used to facilitate various inter-organizational activities such as sales/purchase, order processing, and the transfer of funds (Humphreys *et al.* 2001). More recently, advances in information technology facilitate the deployment of electronic commerce within the supply chain system, and the Internet looks set to become the new backbone of the management of the supply value chain (Humphreys *et al.* 2001). Furthermore, new inter-organization information systems (IOIS) are assisting

the information flow and storage for everything from engineering design to sales/purchase orders, thus enabling the application of new concepts in supply chain management, for example, systems such as reversed inventory replenishment schemes (Humphreys et al. 2001).

Conclusion

This paper has presented Customer Relationship Management as a composition of five sub-topics, which together form a CRM Network. Based on this approach, the following conclusions are drawn.

1. Each of the five sub-topics contributes distinct factors towards better understanding of different aspects of CRM, and studying a sub-topic in isolation will merely show us one facet of what it means to be CRM-oriented.
2. The literature review further highlights the inter-connected nature of these sub-topics, another indication that they not only can but should be studied in unison to build a comprehensive view of what it takes to become a CRM-organization.

By viewing Customer Relationship Management as a network of sub-topics, this paper has shifted the focus from struggling to comprehend CRM *per se*, to utilizing the vast pool of available literature on each of these topics to better understand each strand in the CRM network. It is believed that following this train of study will ultimately lead to a better and more comprehensive understanding of what CRM truly is. Based on this, some possible tracks for future research are:

1. In depth research should be made into each sub-topic, with the customer in mind. This helps to avoid duplication of previous research efforts, while providing a much needed focus that is necessary to understand specific features of CRM-orientation.
2. From there, studies should be conducted to integrate the separate tracks of research derived from the above, thus providing a comprehensive blueprint of what it takes to become a complete CRM-organization.
3. Following this, studies should also be made of organizations at various stages in CRM-implementation, to better comprehend the issues they are facing as well as to enhance the richness of understanding of what it takes to become a CRM-organization.
4. Another important research area is the potential of technology in facilitating companies to become complete CRM-organizations, and the issues in exploring this potential.
5. Finally, it becomes necessary to develop customer-centric measures of organizational performance and performance of CRM systems.

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