

# Electronic Customer Relationship Management: Opportunities and Challenges of Digital World

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## Abstract

Management information systems (MIS) considerably changed business processes. According to this, Electronic customer relationship management (ECRM) emerged in conjunction with evolution of traditional customer relationship management in e-business contexts. In an analogy, Electronic customer relationship management is similar to a double-edged sword i.e. it provides some opportunities for the system performers, on one side; and challenges the firms, on the other side. In this paper we are seeking for marketing opportunities such as better communication and interactions with customers as well as created choices regarding any customer data storage that ECRM offered as a potential source to benefit from firms' competitive advantages. On the other hand, it studies the challenges including on-line channel management as well as integrating data and issues related to information technology architecture firms encounter in implementing ECRM.

**Keywords:** E-business, Electronic customer relationship management (ECRM)

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## **Introduction**

All organizations operating in business-to-business (B2B) and Business to customer (B2C) activities must adapt against the new phenomenon of ECRM. Nowadays, customer relationship management lacking additional internet-based structures relying on electronic business innovations are rarely discussed (O'Reilly and Paper, 2010). As Romano stated electronic customer relationship management is to economically attract and retain customers and to create value. ECRM investigates developing information systems and associated fields such as computer science, marketing, and psychology (Romano and Fjermestad, 2003).

There are two dimensions defined for Customer relationship management philosophy, which the first is customer attitude (perspective). This perspective not only considers four applications of classic marketing namely product, price, place (location), and promotion, but also specially pays attention to the quality of customers' interaction to suppliers. Customers look for those suppliers who understand their requirements capable of responding to their requests; so, they prefer using interaction channels.

Considering interaction channels and functions of customer relationship management, this term achieved a widespread reputation that consequently convinced firms to invest on this system. Of the most significant advantages of such system for customers and organization include improved efficiency, reduced cost, improved profitability, increased sale, and improved perceived value by customer, and finally, increased customer satisfaction and loyalty.

The second dimension is supplier perspective. It is clear that all customers have no equal value to business. According to these dimensions, information systems create values considering both technical and behavioral aspects of ECRM along their business process, so that by identifying more profitable customers through created profiles for any customer maximize their efficiency and profitability. Figure 1 shows the business creation value.

## **History and significance of the problem**

Development process of customer relationship management divides into four steps in terms of compliance, applying information technology, as well as integrating and developing applied information systems. The technologies used in steps 3 and 4 include internet, a combination of telephone and computer, in addition to using customer relationship management advanced information systems that appropriately mobilize all organizational levels to do the task of customers' personification (Wang, 2007).

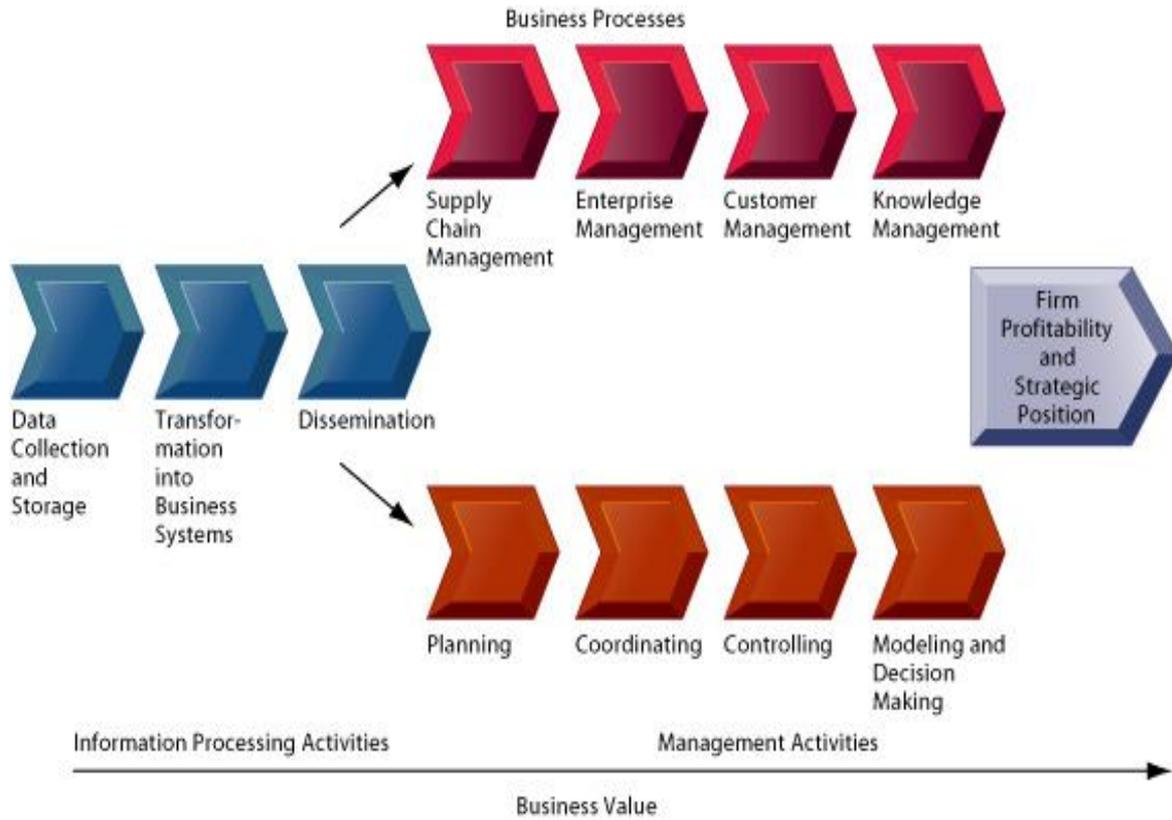


Figure 1 Business creation value

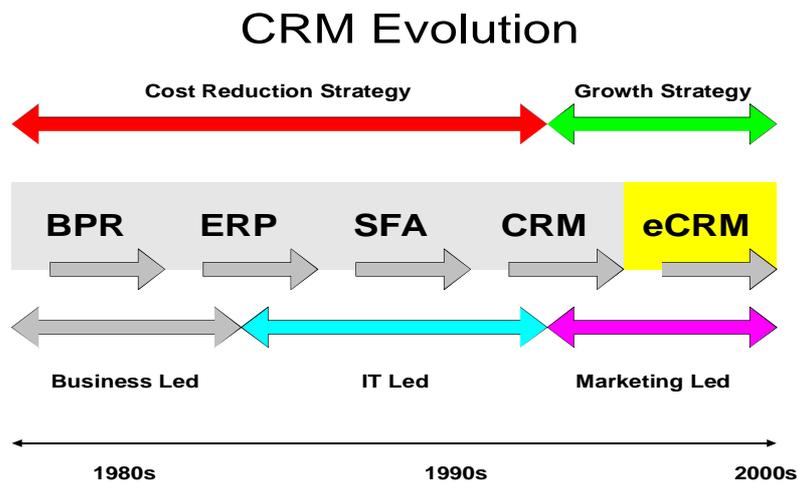


Figure 2: CRM Evolution

As seen in Figure 2, customer relationship management appeared at the late of sales force automation (SFA) and early 90's. Before this, firms ignored investing on information technology as marketing and sale prerequisite.

Electronic customer relationship management (ECRM) refers to customer relationship management using internet technology in addition to a database, online analytical processing (OLAP), information storage, data mining, etc (Wang, 2007).

ECRM is important as:

1. ECRM creates a database.
2. Database leads to data collection.
3. Data are measurable.
4. Measuring is required for an improved process.
5. Improved process leads to revenue growth and profit.

According to Forrester Research, Inc, extensive use of customer relationship management system reaches up to 11 billion dollars by year 2010, i.e. two times in year 2003 (O'Reilly and Paper, 2010).

### **Traditional customer relationship management**

Customer relationship management is a selecting, maintaining, and managing customers' strategy in order to create the value in long-term. Customer relationship management system is a commercial approach (strategy) through software and technologies connected in direct or indirect channels to more help effective management of customer's interactions. Customer relationship management uses one-to-one marketing so that customizing the products. It embraces a continuous data collection process and then transforming these data to knowledge to more effectively communicate with customer along with higher profitability. The key to a firm's success in customer relationship management is how to use the data rather than huge customer data (Jain, 2003).

### **Electronic customer relationship management (ECRM)**

ECRM, simply, means accessing to customer relationship management database through web. In other words, it corresponds with Intranet access for internal users, extranet access for business partners and customers, and of course, internet access for market in macro scale.

Electronic CRM software provides the profiles and histories of all organization's contacts with its customers. ECRM is an integration of hardware, software, applications, and management commitments.

Dyche (2001) indicated to two types of electronic customer relationship management:

1. Operational electronic customer relationship management
2. Analytical electronic customer relationship management

Operational ECRM embraces customer's contact centers such as telephone, fax, and email as well as marketing and sale by particular groups. Analytical electronic customer relationship management requires technology to offer large data of customer. The aim of this section is to analyze customer data, purchase patterns, and other important factors causing opportunities in new business. ECRM has several different forms according to organization's objectives. It does not merely include software and technology rather it also contains customer-oriented strategies-based business processes supported through software and various technologies. Rosen (2001) mentioned the systems that need to be designed in order to concentrate on customer and its processes.

### *ECRM performance*

In the present world, customers interact and communicate with organizations through different communication channels such as World Wide Web, telephone centers, marketers, sellers, and partners' network. Electronic customer relationship management encourages customers to do business with organizations and provides a way in which the customer receives any goods, anywhere, anytime through any channels and by any language. Further, the customers feel comfort as they are uniquely behaved. ECRM systems create a central repository for storing and keeping customers' information, it is placed in staffs' computers easily accessed at any time. Figure 3 illustrates the performance of a multichannel CRM.

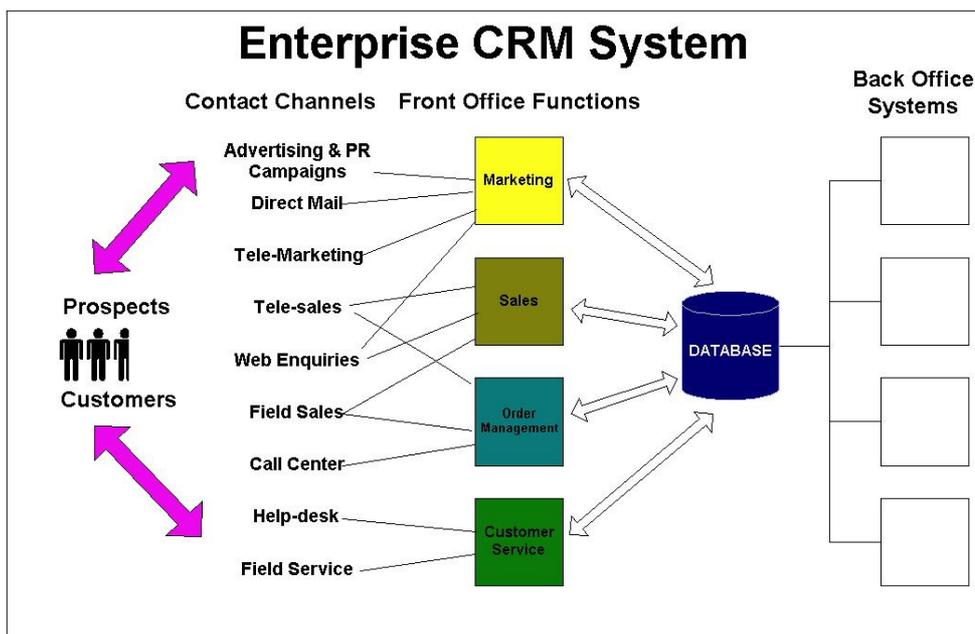


Figure 3 performance of a multichannel CRM

Customer relationship management, at its most fundamental level, requires integration of front office and back office systems; moreover, customer data centralization is also of these requirements. The most critical notions of CRM may be customer attraction, customer retaining, and customer satisfaction to achieve customer loyalty.

### *Profits of Electronic customer relationship management*

Keeping the current customers satisfied is much profitable than attracting new customers. The best way to satisfy the current customers is to value their conditions. Those firms owning such technology could increase the firm capital to 130 billion dollars from 1 billion dollars. However, the profit of ECRM includes as follows:

#### Increased customer loyalty

An electronic customer relationship management allows the firm to individually and uniquely interact with its customers; though, several different communication channels exist. ECRM software makes accessing to customer history and information possible. The obtained information helps the firm to estimate the real costs of acquiring and retaining individual customers. Such data enables the firm to cause customers' higher profitability by concentrating on time and sources. Personification is of the means by which a firm attracts customers' loyalty. Customer's customizing software creates full time profiles for any customer to use data of sources including database and transaction systems. Through this tool, the firm recognizes the customer whenever visiting firm's website, and facilitates purchase process according to customer's profile. Such issues lead to customer loyalty.

#### Effective marketing

Acquiring customer information through ECRM system allows the firm to predict various types of products the customer interested to buy. This information assists the firm to utilize its marketing and sale with more efficiency so that satisfying the customer. Customer data analyzed from different views in order to provide proper marketing for higher profitability in selling the products. On the other hand, sorting the customers may improve marketing process. Sorting customers based on common needs allow the firm to personalize the products for its customers.

#### Improved services and customer support

An ECRM system provides an individual storage of customers' information. This enables the firm to rapidly and efficiently commit customer needs at all customer service centers. Electronic customer relationship management technologies include search engines (browsers), on-line and live help, email management, news content management, and supporting various languages. Owning an ECRM, the firm can:

- Perfectly receive, update, and implement the orders
- Record orders' information, costs, and the time of the orders

- Observe customer service contracts
- Look for the most secure and the best methods
- Be a member of product- and software-oriented sites
- Access to knowledge tools that are useful in completing service orders

#### Increased efficiency and less costs

Data mining, which is data analysis known as the relation between those data sections acting as valuable sources. Collecting customer data in a unitary, common database let all internal units (marketing team, sale team, etc) share their information and tasks (Howard et al, 2010)

#### *Electronic customer relationship management challenges*

Implementing any system in organization is challenging; however, CRM may face higher challenges. Thus, preceding an organization implements customer relationship management it must be aware of potential and possible problems (difficulties) so that dealing with as required. At organization level, it is necessary to have effective relation among different divisions directly interacting with customers and all other divisions related to CRM so that apply their knowledge at all organizational levels. Therefore, the established relation with customer also influences staffs' internal roles. Further, it increases focusing on participation a particular division at firm, too. Such strategic changes often oppositely encountered at early implementation stages.

A study indicated that fractional implementation of customer relationship management system not only eliminates existing difficulties and objections, but also leads to directing system financial benefits toward the organization. However, only some part of resources used in this investment (Pennington, 2007).

Effective transferring of customer relationship management requires skilled and qualified labors. Moreover, the firms need to attract executives' commitments and to control and manage resulting resistances against changes.

It is necessary for organizations to retain the best talents of sale and service divisions, nurture talented staffs' individual skills, and reward them. In telephone centers, for instance, six months needed to change a novice into a qualified person; and another six months takes to turn the qualified one into a professional, skilled individual. Therefore, maintaining this is trying to keep the organization's one-year effort already approached to full productivity stage.

Internal employees must be included in discussions related to customers' needs. Production and service development must consider customer feedbacks. Since all organizations' divisions cooperate to satisfy customer, a reward system injecting required motivations to such areas need to be considered or created. Customer relationship management should not be supported through individual rewards. For instance, if a sale manager only gets reward based on sale numbers and figures, he may

not concern that if other divisions meet customers' needs. On the other side, managements in consulting CRM implementation in different organizations always seek for solutions of the following issues:

### Initializing cost

Initializing cost is one of CRM challenges. Organizations, maybe, largely invest on customer management applied tools. Since some of these tools may be specifically applied, it is difficult to share them in different divisions. Therefore, it would be much wiser to initially well targeted and well spent in order to prevent reworking.

### Integrated applications

Organizations need integrated applications based on customer life cycles and interactions. The organizations requiring several languages and currencies for customer interaction management, could not implement CRM through traditional technologies. High flexible applications capable of being personalized and customized for the organization, and user-friendly are recommended. Furthermore, the systems must be connected to organization's other systems as much as possible.

Two studies in 2008 showed that proper organizational structure and hierarchy strongly correlated to information ease of use in achieving organization's objectives (Hart-Davidson et al, 2007).

### Cooperation in various sectors

CRM is an integrated approach requiring cooperation of those business sectors previously operated autonomous. A study revealed that only 39% of the executives believe staffs' authority in solving customers' problems (Strativity Group, 2009).

Data collected in one division must share in all other sectors. Some divisions may be reluctant of data sharing. Here, establishing recipient organization, applying first and second-generation knowledge management tools (such as organizational WIKI), as well as employees' training are recommended, as higher investment on such divisions, more achievements.

### Safety and security

Designing and developing technology to facilitate using current system and simultaneously create a proper security space (distance) so that minimizing the risks of personal information exposure were frequently demonstrated and proved in several studies (Cieslak and Gaby, 2006; Whittemore, 2008).

On the other hand, studies show that however ease of use and CRM security are both critical, in cases of moral (ethical) dilemmas for customers, system security is prioritized (Yee, 2002).

### *Failure factors of CRM projects*

Several factors contribute in failing customer relationship management projects, the most important of which is the absence of effective relation among individuals in customer relationship chain that may lead to a partial image of the customer.

The organization may succeed implementing hardware application in organization; however, it would not be efficient without effective relationships. Unfortunately, it is a frequent issue of most Iranian firms.

A survey conducted in 2007 showed that four-fifth of managers encounter challenges in implementing CRM and staffs' acceptance. Moreover, 43% of the authorities stated that they maximally utilize system capacity; and 67% expressed that the major problem is the required time for system evaluation. Regarding the costs increase up to 11 billion dollars by 2010, businesses require comprehensive programs dealing with these challenges (Sims, 2007).

Interesting statistics obtained in this part of U.S. 500 top premier American companies tried CRM (re)implementation for four times due to sale personnel resistance against previous efforts for sharing customer data. The other important factor is considering all individuals' interest in the organization. For instance, if sale personnel interests are not totally consistent with system, they may not record information of a particular population leading system achievement and or ignoring suppliers' interests discouraging them of producing the products consistent with customer needs to be provided by sale department.

#### *The future of electronic customer relationship management (ECRM)*

Once economic conditions cause precisely investigation of information technology budgets, CRM still sustains as a priority for firms. A study of retail firms showed that 52% of such firms regard CRM as their business main priorities. Electronic customer relationship management market is still young. Yet growing and maturing applications and technologies, as well as sellers strengthening their activities on such technologies lead firms deliver high-quality multichannel services to customers, the customers that make ECRM sellers offer better, and more productive solutions (Howard et al, 2010).

#### **Conclusion**

Entering information technology into organizations under customer relationship management umbrella directs organizations toward smart and knowledge-oriented organizations so that reduce information-processing costs through applying CRM software, rapidly interact with customers in less time the final result of which is increasing organization's competitive power in today's dynamic environment. Properly and successfully implementation of customer relationship management causes changing of all divisions and sectors in a firm or organization directly relates with customer; and ultimately, leads to a fundamental evolution in the organization or firm's future.

It is also worth notifying that successful implementation of electronic customer relationship management (ECRM) requires organizations' senior support as well as labor fully commitment and all individuals involving in the value chain.

## References

Cieslak, D. and Gaby, B. (2006). "Programs Provide Extensive Tools For Adaptability And Customization." CPA Technology Advisor 16, No. 8 (December 2006): 38-45

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

Goldberg, H. (2001) "10 Ways to Avoid CRM Pitfalls", B to B,,Vol. 86 Issue 17, pp. 11-19.

Hart-Davidson, W.; Bernhardt, G.; McLeod, M.; Rife, M.; & Grabill, J. T. (2007). "Coming to Content Management: Inventing Infrastructure for Organizational Knowledge Work", Technical Communication Quarterly, Vol. 17, No. 1: 10-34.

Howard G. Bennett, Marcy D. Kuhn (2010). "The Emergence of Electronic Customer Relationship Management", IEEE, Third International Conference on Intelligent Networks and Intelligent Systems, pp. 1-6.

Jain, V. P. (2003). "Importance of Information Flow, Customer Relationship Management & Customer Satisfaction in Strategic Management of E-Commerce", Information & CRM in E-Commerce: 16-28.

Kennedy, A. (2006). "Electronic Customer Relationship Management (eCRM): Opportunities and Challenges in a Digital World". Irish Marketing Review. Volume 18. Number 1&2: 58-67

O'Reilly, K. and Paper, D. (2010) Customer Relationship Management (CRM): A dichotomy of online and offline activities. Book chapter for Encyclopedia of E-Business Development and Management in the Digital Economy, IGI Global, Chapter currently in production at IGI Global.

Pennington, L. L. (2007). "Surviving the Design and Implementation of a Content-Management System", Journal of Business and Technical Communication, vol. 21 no. 1 62-73.

Romano, N.C., and Fjermestad, J. (2003). "Electronic Commerce Customer Relationship Management: A Research Agenda", Information Technology and Management, Volume 4, Issue 2-3, pp 233-258.

Rosen, K. (2001), "Five myths of CRM", *Computerworld*, available at: [www.computerworld.com/softwaretopics/crm/story/0,10801,60972,00.html](http://www.computerworld.com/softwaretopics/crm/story/0,10801,60972,00.html) (accessed 31 May).

Sims, D. (2007, November 30). *CRM Adoption 'Biggest Problem' in 83 Percent of Cases, Wigan Gets CRM Treatment, CDC and Savills Asia Pacific, PacificNet Q3 Results, UltraSoft Wins UK CRM Award*. Retrieved from TMC.net. Bloggers:

<http://blog.tmcnet.com/telecom-crm/2007/11/30/crm-adoption-biggest-problem-in-83-percent-of-cases-wigan-gets-crm-tre.asp>

Strativity Group (2009). *2009 Global Customer Experience Management Benchmark Study*. Retrieved from Strativity Group, Inc website:<http://strativity.com/products/2009-Experience-Management-Benchmark-Study.aspx>

Wang, MY. (2008) "Measuring e-CRM service quality in the library context: a preliminary study", *The Electronic Library*, Vol. 26 Iss: 6, pp.896 – 911.

Whittemore, S. (2008). "Metadata and Memory: Lessons from the Canon of Memoria for the Design of Content Management Systems." *Technical Communication Quarterly* 17, no. 1 (Winter 2008): 88-109.

Yee, KP. (2002). "User Interaction Design for Secure Systems", *Information and Communications Security Lecture Notes in Computer Science*, Volume 2513, pp. 278-290.