Mobile Customer Relationship Management (M-CRM): Issues, Benefits and Challenges for B to B in E-Commerce

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Introduction

CRM is a process designed to collect data related to customers, to grasp features of customers, and to apply those qualities in specific marketing activities. CRM is not a new concept. In fact, CRM has continuously existed from the past. However, CRM has recently become the focus of attention. The backgrounds are as follows:

- the relationship with customers is newly recognized as a key point to solidify competitive power of Business;
- as Business procure large volumes of data related to customers, they can perform customer management more easily and efficiently using data warehousing, data mining, and other information technologies; and
- the E-Commerce has opened up a new medium for business and marketing, and we can express customer actions in online into data. In other words, the scope of data to analyze behaviors of customers is extended, and the environment for one-to-one marketing have been enhanced.

The addition of the mobile medium as a channel through which to manage customer relationships not only creates possibilities, but also poses challenges as well. For instance, companies need to build the technological infrastructure that enables the management of customer relationships through the mobile medium. Subsequently, the technological infrastructure enabling the utilization of the mobile medium needs to be integrated to the existing CRM system. In addition, further challenges stem from the fact that customers need to opt in for the M-CRM program and provide the company with information necessary for initiating communication with them.

M-CRM in E-Commerce

Most companies now have online M-CRM capabilities on their web sites which incorporates technology into consumer services and also provides cost controlled purchasing. These E-Commerce web sites or enterprise portals are for sales ordering systems that control the access of retailers and wholesalers to the companies' products at the point of loading while also guaranteeing product level availability and high service level. For example, the oil industry has become a more vertical enterprise, which means that it spans the supply-chain from the exploration and the recovery of crude to refining to retailing of fuel and consumer products and services. As a result many companies take on different programs or strategies to capture more customers. These strategies could include integrated fuel credit cards, personalized services, and so on. Another example is the banking industry. Almost all banks offer online banking and in each of these web sites, we normally see a rich format of graphical and media contextual format that are designed to please the customers' eyes. These web sites offer customers access to their account anytime they wish. Besides online banking, the banks also offer other information such as credit rating reports, promotional rates for credit cards, personal loans, mortgage, etc. Online banking customers find this very useful. The banks on the other hand, track the web sites that their customers are visiting and use this information to improve customer service. Nowadays, many banks offer M-CRM on their web site.

Interactive voice response technology is another enhancer for M-CRM in E-Commerce. It can mimic most actions of live agents such as identifying customers by name, asking for identification verification, speaking in any languages, or connecting to a live agent when appropriate. This new technology can even allow call centers to contact their customers more frequently to offer new services and improve the relationship between the companies and their customer. Based on the stored
information, M-CRM can also be automated to respond to customers in terms of offering special discounts according to the customers' needs.

With the rapid development of technology, CRM has become a centralized document repository that allows organizations to profile and manage their customers' documents while it is fully integrated with the companies' business system. It gives the capability for customer service staff and their customers to secure access and collaborate over those documents, whether synchronously or asynchronously. It also gives management the ability to apply business rules and processes to those documents in order to achieve greater efficiency and accuracy. Finally, it creates triggers and events to those documents that would enable decision makers to make better decisions and develop better knowledge management capabilities.

M-CRM Specific Features

M-CRM specific issues and challenges stem from the addition of the mobile medium to traditional CRM systems. As mentioned earlier, technology plays a substantial role in CRM. Similarly, in order to utilize the mobile medium in CRM, the technological infrastructure needs to be built. On the other hand, customers will not begin using their mobile phones for new functions simply because new technology exists. The key challenge is to get customers to opt in for the M-CRM program and subsequently provide the information required to initiate communication with them. Thus, companies have to find the marketing means to attract customers' attention and convince them to initiate customer dialogue over a mobile medium. So, at the initiation of M-CRM, there are two aspects to consider:

- Technology.
- Marketing.

Based on the purpose of the study, the empirical part of this paper aims to enhance understanding of M-CRM specific features, which are divided into the technology- and marketing-related issues. Before advancing to the study, the methodology that helped us gain an understanding of the subject phenomenon is described.

Issues and Future Trends

The success of a business derives from satisfying the needs of all the stakeholders – customers, shareholders, employees, suppliers and the community at large. Of these perhaps the most pressing demands come from customers. If customers are regarded as an important equity for a company, CRM is undoubtedly a necessary tool to get this valuable equity. The future of CRM is largely decided by three factors: market, technology, and economy:

- Market. Since markets are becoming saturated and communication channels delivering marketing messages are more and more saturated, customers are demanding to have a different relationship with suppliers from the traditional sales model. This makes CRM more important than ever due to the change of marketing model from traditional product-centered to current customer-centered.

- Technology. The future successful companies in business will be those which focus their main efforts on the research of what customers want, how to better meet the customers’ needs, and how to keep customer loyalty and retention. CRM is a business system for acquiring and retaining customers. A good CRM system of a company should be integrated with the advanced technology to provide a differentiated service for holding the customers.

- Economy. It is between five and ten times more cost-effective to retain customers than to attract new customers. The cost of losing profitable customers to the competition is very high and it is unlikely that once lost the customer will return. This challenges CRM very much and thus makes CRM especially important to customer retention and loyalty. A CRM system is also able to provide information regarding who your customers are and what they buy. This enables analysis and modeling to identify what other products those customers may buy. CRM, from this perspective, is a typical value-added activity and it largely helps the company to increase the revenue and reduce the sales cost.
The benefits of adopting CRM-B2B are obvious. However, the development of CRM-B2B is still in its infancy. The current issues on CRM-B2B development include:

- **B2B functionality.** It is necessary to include more functionality to meet the changing needs of customers. A good example is the need to add the capability to link into credit line authorization and sales tax valuations or automatic tax reports for customers.

- **CRM functionality.** There is a need to develop new Internet activators for major segments of the sales community including mobile personal data assistant (PDA) users (estimated at six million), small office/home office (SOHO) users, and enterprise CRM application users, and to develop a robust Internet application architecture capable of supporting millions of salespeople and delivering relevant, in-context e-services to Internet subscribers.

- **New challenges.** The challenges of CRM-B2B include outsourcing intellectual activities, downstream services, and competing in the information space. Companies need to get prepared for dealing with these issues.

International Data Corp. (IDC) predicts that IT services firms will make billions over the next five years helping companies integrate their information systems with B2B online exchanges (Drucker, 2000). IDC sees spending on marketplace services rising from $5.2 billion in 2000 to $17 billion in 2005. By then, more than half the opportunity in the exchange services market will come from systems integration compared with today where 85 percent of revenue comes from marketplace creation. The future trends of CRM-B2B include:

- The integration of CRM and B2B will further facilitate customer relationship management. The CRM improvement will lead to more benefits to the B2B environment and enhance market research.

- The increasing impact of B2B globalization in the future will provide CRM-B2B with more chances to access the global market and improve multinational customer relationships, thus establishing the competitive position.

- In the future, more attention will be paid to the CRM-B2B activities that are presently associated with only front office business-to-consumer (B2C) and analytical CRM.

**Strategies for implementing M-CRM**

As opposed to the wired web site, that are rich in graphics, with multiple navigation structures and various selections, mobile CRM must be simple and plain. Most mobile customers are on the run and are much more interested in convenience and reliability than graphics and infinite options. In addition, graphical content requires power, so that if the web sites the mobile customers visit contain too much graphical content, the customers will run out of battery before completing the orders. Regardless of the type of wireless devices that are used to access the web site, the following are some basic rules for mobile business:

- **Basic function.** The interface designs on the web site for wireless are very important. One could easily lose a customer because of design factors that are device dependent or out of control. For example, most web-enabled cellular phones have a “soft key” that can be assigned multiple actions such as to go “back” or “home.” By programming logical navigation functions into these soft keys, the web site can be designed to help the customer to navigate the wireless site in a similar way they navigate the wired web sites. Since, the soft keys are dynamic, the function assigned to each key should be evaluated screen by screen for the wireless site to enable those actions required by the users at that particular moment in the buying process.

- **Basic structure.** Simple and descriptive web sites save customers time and prevent them from getting lost in the wireless web site. Naming menus and numbering options will help. A help option should be available on all pages. Text-based descriptions are best for guiding customers through the selection and purchasing processes.

- **Basic content.** As mentioned, basic content is important because power is a critical issue. Therefore, instead of building a super store on a wireless web site, designers should build a mini convenience store. Designers should allow quick navigation ability to the customers
because to these customers, time is important and they will not have time to spend on browsing.

Benefits of M-CRM

The new area of mobile medium makes it possible to promote CRM activities, which were not possible before (Sinisalo et. al., 2006). According to the authors Sinisalo et. al. (2006), consider mobile medium of being a powerful opportunity to reach customers, by offering different ways for companies to plan and implement more advanced ways to communicate with their customers. One particular way is SMS, which is seen to be immediate, automated, reliable, personal, discreet and customized channel, which allows an efficient way to reach customer directly. Other benefits that the authors see with M-CRM are that mobile medium allows high speed message delivery, relatively low cost and high retention rates. In this sense, M-CRM is also suited for industries like retailing, involving plenty of communications with their customers. Interactivity is however the most essential characteristics that differentiates the mobile medium form the traditional media. This is the two-way communication in real-time between companies and their customers. In that sense, Sinisalo et. al. (2006) believe that the mobile medium may not have a comparative alternative when it comes to building a continuing dialogue between the company and the customer.

Problems with M-CRM

On the surface M-CRM might seem to be an easy way of implementing CRM in a mobile form. However there are certain barriers related to the implementation of M-CRM. Although there is not much mention of barriers of M-CRM in research literature, there is an abundance of information to be found on reputable internet sites, in the form of articles, discussion topics and interviews with CRM vendors. In 2001 technological barriers were the topic of discussion. The communication standards utilized within M-CRM, being in their infancy, hindered M-CRM from being readily adopted (Hayes, 2001). Although the technical development within communications technology has come a long way since 2001, there are other issues that have been lifted to the forefront. Hildreth (2006) states that the issue of security is a concern within M-CRM. Although security is not completely satisfied to date, improvements are steadily made by M-CRM vendors. Not suitable in all situations – Certain businesses maybe more suited for M-CRM than others. According to vice president at Gartner, William Clark, sales force automation and field service automation are areas that have been the main focus of M-CRM (Hildreth, 2006). Need – According to Hildreth, (2006) there also exists a misalignment in terms of what M-CRM applications offer, and what the end users needs. In Hildreth’s opinion the user only needs basic data and functionality.

Inexperience with mobile applications (migration problems) – Many companies do not have experience with using mobile applications (All, 2006). Due to this issue the learning curve for some companies may be higher than others.

Mobile devices

A company that decides to implement an M-CRM solution has a variety of options in terms of hardware. Although there is not much mention of mobile devices in the M-CRM literature, the authors of this thesis have identified some commonly used mobile devices.

Notebooks

Most M-CRM applications are supported for PC use. Although notebooks are vastly superior in terms of performance and flexibility, due to size, these are not always suitable (Heinze et. al, 2004).

Handheld devices

Handheld devices are according to Schierholz, Kolbe and Brenner (2006) the most commonly used M-CRM devices. They offer the user a blend of mobility and flexibility that the user does not get
from a notebook. As there does not exist a universal standard device for using M-CRM applications, the company has to choose appropriate mobile devices. Schierholz et al. (2006) describes different considerations that companies ought to take into consideration when choosing a mobile device. Different devices run on different platforms, or operating systems. The M-CRM application might not be supported by the device, as the vendor of the application might not support a specific platform. For instance, Microsoft’s M-CRM application, Microsoft Dynamics CRM3.0 Mobile, only supports Windows Mobile operating system (Microsoft, 2006) There are of course M-CRM vendors that offer alternatives that are run through web browser, also known as thin M-CRM clients. Because M-CRM thin clients are only usable in connected mode, they require that the device being used has the ability to connect to i.e. the internet (Schierholz et al., 2006). According to the authors, choice of mobile device can have implications on potential future design decisions.

Mobile CRM – A Closer Look

Mobile CRM needs to address some specific issues that set them apart from the regular family of CRMs. Specifically, they need to focus on two principal users:

- The customers
- The sales reps

Support for mobile customers. M-CRM should enhance value for the customer money and value for the customer time. p-Commerce, or location-based commerce, can enhance these two values by providing information to the customer that saves her time and money. For example, while driving in an area, the sales in the area could be sent to you and if you respond you get special discounts. Examples and issues in customer focus for M-CRM.

- Mobile marketing can be used to acquire, retain, and enhance customers. SAP uses handheld devices to get customer feedback and collect buying and future customer lead information. This is done in the SAP annual conference called SAPPHIRE. Each attendee is given a wireless-enabled Palm device that he/she uses to keep track of the sessions, demos, and keynote speeches attended. The attendees also enter the feedback and issues in the handheld device. This information is later used by SAP to determine possible leads, provide follow-on product information, or email selected presentations.

- Mobile devices provide a very convenient way of capturing customer feedback. For example, Taco Bell used “mystery shoppers” who would go to different Taco Bell restaurants and buy food and pay for it just like everyone else. The only difference is that customers would take note of quality of food, quality of service, attitudes of staff, and general look and feel of the restaurant. These customers used to fill a form that was turned in, typed, and entered into a computer for processing – a long process. The mystery shoppers now use handheld devices to note their observations and transmit them wirelessly to Taco Bell’s system by simply pressing a button. This allows the company to quickly analyze, identify, and react to any trouble spots.

- Mobile customers can determine status of their orders and reported problems by using mobile devices. UPS, for example, allows mobile customers to query the status of their parcels by using mobile devices, thus increasing customer satisfaction.

- Mobile coupons are sent to the interested buyers to entice them to buy new products. The buyers can use these coupons to get discounts when they actually purchase the products. For example, CompUSA uses mobile coupons to boost in-store sales. The customers view CompUSA adds and click on mobile coupons for a $20 discount on purchases. The customer has to take the handheld device into the store for verification before getting the discount.
Support for Mobile Sales Force.

M-CRM needs to focus not only on administration but also on supporting mobiles sales representatives. Many wireless CRM projects tend to focus on administrative applications that – unlike mobile sales – do not deliver bottom-line value to a company’s operations. Mobile sales representatives use voice and positional information effectively to generate sales and have special requirements for information synchronization. Mobile CRMs should:

• Concentrate on solving the day-to-day problems of mobile salespeople. Siebel has extended its CRM applications to pay special attention to its outbound salesperson by combining wireless and voice technologies to generate an accurate quotation for a client while on site.

• Use wireless devices to receive information in either voice or data format. A practical application would allow someone who is traveling from meeting to meeting in the car to request information by voice.

• Exploit voice support as much as possible. As stated previously, 50 to 80 percent of CRM implementations fail because entering sales data is time-consuming and expensive [Eklund 2002]. To attack this problem, speech recognition technology plays an important role in M-CRM.

Mobile Computing Applications

• Integrate the field representative activities with the company’s call centers so that a sales rep can simultaneously obtain contact information and be connected to the customer or prospect by support personnel.

• Support field reps with handhelds to interact with account management, contact management, opportunity management, activity tracking and expense reporting modules of common CRM systems.

• Support user authentication, navigation and data retrieval, speech recognition, speaker verification and text-to-speech for secure and quick interactions. Pay special attention to synchronization of mobile workers’ laptops with the latest CRM data stored on the company servers. For example, the corporate office must have timely field intelligence collected by mobile professionals, and similarly, a field service rep might have a question about availability of a certain item at the corporate warehouse. This synchronization should take minutes and not hours. The massive downloads and uploads should be minimized in favor of selective information transfers by using online access to CRM databases and selective downloads/uploads from mobile devices.

How Mobility can Help Customer Relationship Management

CRM systems can benefit from wireless access and result in increased revenues, entrance into new markets, improved quality and higher customer loyalty. The particular functions impacted by mobility are:

• Advertising and marketing campaigns
• Sales force automation (SFA) functionality
• Order entry and order status
• Customer service and support
• Field force automation (FFA) functionality

Technologies and Architectures

Technically speaking, designing M-CRMs is similar to designing many mobile computing applications. The specific issues to be considered for M-CRM design include the following:
• Information access and exchange issues from different mobile devices, i.e., what information needs to be shared, in what form, with whom and under what type of controls. The different form factors and display capabilities of mobile devices need to be considered.

• Communication process management issues, given the complexity of inter-team communications, communications rules (i.e., who manages the communications flow between and among teams) and communications tracking. SMS, MMS, and other messaging services can be extremely valuable for a mobile sales team.

• Transaction management issues such as what is currently on order, what is the delivery status, and what are the open issues. Once again, SMS could be used in some of these areas.

CRM software is currently provided by vendors such as Siebel, Vantive, and Clarify along with ERP vendors Baan Co. and Oracle Corp. Most of these vendors are adding mobility as another dimension to their products the following elements:

• **Wireless and Wired Web**: The most important use of the Web from the CRM perspective is self-service, so customers can make inquiries about their accounts any time from anywhere. The Web (wireless + wired) should also be used for Electronic Bill Presentment and Payment (EBPP), so customers can see what they owe and pay online if appropriate. For revenue-enhancement, companies can also provide instant messages to be used for cross-selling and up-selling services based on the profiles of customers using their website.

• **Short Messaging Services (SMS) and Interactive Voice Response (IVR)**: SMS, or other types of messaging services, play an important role in M-CRM. An IVR system is required for customers to do self-service inquiries via the phone instead of the Web.

• **Call Center Technology**: Some type of call center technology with PBX or VoIP (Voice over Internet Protocol) integrated with mobile devices and intelligent call-routing is crucial for interfaces with the live customer service representatives.

• **Business Rules**: Business rules are needed to ensure that any transaction with the customer is processed in an efficient manner. For example, if a company wants the most profitable and high-volume customers to be serviced by experts, the business rules should clearly define what those criteria are. Based on the complexity of transactions, an organization may need hundreds of business rules.

• **Customer Database**: This contains the complete customer information that includes customer profile, products bought, complaints filed and issues raised by the customer, and any other pertinent customer data.

• **Integration framework**: A technology framework that allows all the applications and databases that have customer information to be integrated can make a big difference in implementation.

• **Additional Databases, Data Warehouses and Data Mining**: Managing relationships with the customers depends on customer information, which is usually in various disparate databases. You can access these sources through the integration technologies or develop a data warehouse. Consolidating the relevant information in one place and making sure that the information interrelates is not an easy task. Once done, however, data warehousing augments a company’s revenue potential and customer service. For example, a company can segment the types of customers it has in the data warehouse and launch a marketing campaign geared toward specific types of customers. Similarly, good data warehousing can help in presenting the information based on certain business rules to help in cross-selling and up-selling to customers calling for other reasons. Data mining of customer data (e.g., what they have bought, when) and Web mining (e.g., mining of click streams that show what Web pages the customer visited before he/she bought something) are an essential aspect of contemporary CRM systems.
Conclusion

M-CRM has become a centralized document repository that allows organizations to profile and manage their customers' documents while it is fully integrated with the companies' business system. It gives the capability for customer service staff and their customers to secure access and collaborate over those documents, whether synchronously or asynchronously. M-CRM is also suited for industries like retailing, involving plenty of communications with their customers.

M-commerce is about new opportunities made available to us thanks to E-Commerce. So it involves the advent of new technologies, services, business models and marketing strategies. It differentiates itself in many ways from e-commerce. This is because mobile phones have very different characteristics than desktop computers. And it opens so many windows of opportunities for businesses to exploit. Business to Business refers to all E-Commerce transactions that occur between business organizations like retailers, manufactures, suppliers, distributors and electronic fund transfer providers.

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