Critical Success Factors for Mobile CRM: A Research Framework

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ABSTRACT

The past few years have seen a rapid development and momentous growth in mobile technologies and their diffusion into societies worldwide. The concept of Mobile Customer Relationship Management (mCRM) has emerged, as a one-to-one marketing strategy focused on services built for individual customers in an increasingly mobile world. However, the experience of many organizations, which deployed a Customer Relationship Management (CRM) strategy in the late 1980s and early 1990s, has left them sceptical. To address this, we propose that a Critical Success Factor (CSF) study of mCRM is both relevant and timely. In this paper, we establish the need for such a study and present a research framework.

INTRODUCTION

Globalisation of markets and the emergence of electronic business channels, enabled by the Internet, have resulted in a marketplace driven by consumers. During the late 1980s and early 1990s, to improve customer lifetime value (Reichheld 1995) and build market share in the consumer driven marketplace, many organizations invested in Customer Relationship Management (CRM) - a business strategy enabled by information technology (Peelan 2005). Following the dot.com bust and economic downturn, however, organizations confronted with the rationalisation of investment in electronic channels began questioning CRM initiatives. In the face of such scepticism and to provide guidelines for future deployment, studies on critical success factors or CSFs for CRM emerged (Williams and Ramaprasad 1996; Gordon 2002; Croteau and Li 2003). These studies proved crucial for organizations, which were confronted with investment optimisation to achieve long-term success.

While organizations are still coming to terms with the investments in CRM, in the past few years the marketplace has been subject to a radical paradigm shift. Consumers are becoming increasingly mobile, and therefore they have come to demand personalised services, anytime, anywhere (Nelson et al. 2003). This shift has been a consequence of the rapid diffusion and acceptance of mobile technologies and services in the world markets. For example, mobile subscriptions rose from 739 million at the end of the year 2000 to 2,168 billion at the end of the year 2005 (World Telecom Indicators 2006). The latest IDC reports reveal that the shipment of mobile devices in the second quarter of 2006 alone touched 20 million units (IDC 2006).

In order to meet the needs of the consumer market, the concept of mobile CRM (mCRM) has emerged as a one-to-one marketing strategy that focuses on services built for individual customers in a mobile world (Nelson et al. 2003). However, other than industry based success stories (Picarille 2004; Compton 2004; PA Consulting Group 2001), which are arguably vendor biased and the optimism of some commentators (Omatseye 2001; Pastore 2001), there are no rigorous critical success factor studies of mCRM to help organizations rationalise what will be yet another investment. In addition, the rapid evolution of mobile technologies and uncertainties regarding 3G-network diffusion, together with recent legal disputes surrounding patents (e.g. BlackBerry), understandably renders some organizations reluctant to deploy mCRM. Nevertheless, a metamorphosis from CRM to mCRM may well already be apparent (Nelson et al. 2003) because mCRM has the potential to become the future of CRM. Encouraged by the efficacy of CSF studies in CRM, we argue that the time is now appropriate for a CSF study of mCRM. This paper presents a research framework for a study of Critical Success Factors (CSFs) for Mobile Customer Relationship Management (mCRM) building on constructs identified in earlier CSF studies of CRM.

LITERATURE REVIEW

A review of related domains and the proposed CSF method is required as a precursor to the design of a research framework appropriate to the proposed study. In this section, we present an evolutionary review of developments from CRM to mCRM, highlighting links and differences. We also present some highlights from the existing CSF studies that have been influential in CRM deployments. Following this, we present a brief review of the method outlined by Rockart (1979) for undertaking critical success factor studies, to illustrate its application in the context of our proposed study.

Customer Relationship Management

Customer relationship management emerged in the late 1980s (Chen and Popovich 2003), as a business strategy, which enables organizations to realise the value of customer retention and to develop in a consumer driven global marketplace. It is a cross-functional, customer driven, technology integrated business process management strategy that maximises relationships, spanning an entire business. Underpinning this strategy is the concept of relationship marketing (Sheth and Pavatiyar 1995) and customer lifetime value, leading to return on investment. For example, studies by Reichheld (1995) demonstrate that even 5 percent increases in retention can deliver impacts as high as 95 percent on the net present value of customers.

CRM systems link front and back office functions via technology applications, with a business customer's touch points including Internet, email, sales, direct mail, telemarketing, call centres, advertising, pagers, stores, kiosks etc (Chen and Popovich 2003). During the second half of the 1990s, the deployment of CRM as part of an integrated eBusiness push was seen as a potential source of operational cost savings. For example, a call centre was able to service clients when there is non-availability of sales staff after hours, at significantly lower costs. Post the dot.com bust, however, businesses began to realise that automating processes, in particular by facilitating business-to-client (B2C) communication, is not sufficient to retain existing or to attract new customers. Some existing CRM implementations were observed to fail to yield expected benefits (Kotorov 2003). The fear of losing long term sustained market share to competition was compounded with a need for economic rationalisation of technology related investments, including CRM.

In the CRM context, critical success factors (CSFs) are those key factors that must be achieved for the success of CRM (Williams and Ramaprasad 1996). CSF studies have been used as a method to help organizations realise the full potential of CRM deployments in the boom period and to rationalise investments in the post dot.com bust period.

Amongst the major CSF studies of CRM reported in the literature are those of Williams and Ramaprasad (1996) conducted prior to the economic downturn and Gordon (2002) and Croteau and Li (2003), post the dot.com bust. These researchers have applied the concept of critical success factors, as described by Rockart (1979), to conceptualise, classify or categorise CSFs for CRM. They have, however, used various methods to elicit the CSFs, including combinations of literature/industry reviews, surveys, statistical analysis and extending technology adoption frameworks. In summary, the CSFs highlighted in the above studies are as presented in Table 1, in descending order of significance.

During the boom period, Williams and Ramaprasad (1996) identified that management commitment is crucial to CRM success, as it reduces resistance to the change that was required when CRM was implemented. Post the dot.com

Table 1. CSFs for CRM

CSF1	Management Support
CSF2	Knowledge Management Capabilities
CSF3	Perceived Operational and Strategic Benefits
CSF4	Actual Return on Investment (ROI)
CSF5	Organisational Readiness
CSF 6	Technical Awareness

downturn, Gordon (2002) elicited four CRM CSFs, based on an examination of best practices in 35 US and Canadian corporations. These four CSFs focussed on technology, people, processes and knowledge/ insights. While Gordon (2002) did not specify any particular order of significance, *management commitment and knowledge/insights* were highlighted as major CSFs.

Croteau and Li (2003) is arguably the recent work in the elicitation of CSFs for CRM. In a comprehensive literature review, and extending the work of Iacovou et al. (1995) on the technology based framework, they categorised five CSFs: CRM impact; perceived operational and strategic benefits; top management support; organisational readiness; and knowledge management capabilities. *CRM impact* refers to the actual ROI from CRM investments, rather than perceived benefits. While *management support* remained a crucial CSF, the *knowledge management capabilities* of the organization emerged as a significant CSF (Croteau and Li 2003:18).

CRM to mCRM
As pointed out in the introduction, we are now at a point in time when customers are demanding personalised services, when and where they need them (Nelson et al. 2003). The diffusion of mobile technologies into everyday life has been the major facilitator of this apparent shift -- which has the potential to change perspectives in relationship marketing (Sheth and Pavatiyar 1995). In the meantime, organizations which are apparently becoming cautious of technology related investments (Bull 2003) are searching for new ways of optimising their resources and have realised that deploying mCRM within their organizations might enable sales and service personnel to become more efficient:

"Mobile CRM has emerged as one of the more critical factors for success in today's competitive environment. In fact, the use of mobility, whether for the enterprise's field force or for servicing customers, will change the traditional approach of engaging customer relationship." (Tong 2004)

Peppers and Rogers (1999) view CRM as a one-to-one marketing process, which emerged from the deployment of sales force automation tools, augmented by advances in enterprise software technologies. Christopher et al. (1991) note that CRM has its roots in relationship marketing, with its emphasis on winning new customers, via the management of cost effective relationships, fostered by field personnel, namely the sales/service force. Conversely, the focus of mCRM is on field force personnel.

PeopleSoft (2002), which presented a comprehensive business case for mobile CRM, highlights the role of the sales force. They are of the opinion that an information gap exists in the traditional CRM life cycle. While sales people manage their notes, information, task lists etc in an organiser, mobile phone or handheld device, field technicians develop their own systems for managing schedules, for taking notes or tracking inventory. The result is that valuable information remains in an ad-hoc form, of which only part gets entered into enterprise-wide CRM systems at the end of the day or week. This information gap then translates into an inability of sales/service staff to address queries quickly. In the event of an employee leaving or being off-shored on a contract, the gap widens. Mobile CRM can address this gap by linking employees instantly into the enterprise-wide

framework. Information is instantly transferred from field personnel's devices on to the organization's database.

PA consulting group (2001) has had concurrent deployments of CRM and mCRM and have already achieved success in enabling online access to customer information via the handheld mobile devices of their field personnel. Cingular Wireless in the US improved its interaction with its growing field sales force after successful deployment of mobile CRM in 2004 (Compton, 2004). MCRM helped Smith and Nephew, a provider of medical devices and surgical implants to orthopaedic surgeons at nearly 10,000 US hospitals to give hands-on service (Picarille 2004). Pitney Bowes Inc recently invested USD 20 million in mCRM (Solheim 2005) which has proven to be a cost efficient way of managing 1800 service personnel in real time.

The key to mCRM applications lies in connecting employees and their employers, in particular in developing and enhancing business-to-employee (B2E) sales applications, which was set to grow from USD 70 million in 2000 to USD 1.3 billion in 2005. While both CRM and mCRM are customer relationship focussed strategies, mCRM is apparently more useful in connecting front line personnel to the organization.

The pervasiveness of mobile devices such as phones and PDAs, and the increasing bandwidth available to these devices, via third generation mobile phone networks might also be critical to the success of mCRM. This may, however, be offset by apprehensions regarding 3G network diffusion and the legal patent disputes that the BlackBerry maker faced in 2005, in addition to media speculations and the volatility of the environment, rendering organizations sceptical about mCRM. As Beal (2005) pointed out, for years commentators predicted mCRM was ready to take off, only to be disappointed. To address this scepticism, and encouraged by the usefulness of CSF studies in CRM, we propose a comprehensive and structured study for eliciting CSFs for mCRM.

**Toward CSFs for mCRM: A Proposed Study Using Rockart's Approach**
We acknowledge that the CSFs for CRM that were derived from previous studies (see Table 1) may be relevant to mCRM, in particular given their common roots in relationship marketing. However, given its apparent focus on the sales force and its dependence on *technologies* and *the environment*, we anticipated that additional CSFs may emerge for mCRM. Conversely, the CSF studies for CRM seem to have followed varied methods that may not be appropriate to establishing CSFs for mCRM. For example, none of the previous studies of CRM specifically take into account the need to investigate the *environment, political and economic sources* that may well be crucial to understanding the mCRM context. To study mCRM, therefore, we propose to revisit the three-step method, as prescribed by Rockart (1979), which explicitly takes all these influences into consideration.

Rockart (1979) offered a method to provide information to top management, based on Critical Success Factors (CSFs) or the 'few key areas where things must go right'. Specifically, CSFs were the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department or organization. The basis of this method was a study conducted for eliciting the information needs of managers in three supermarkets situated in different geographical locations. The study revealed that depending on the manager's situation, organizational or industry context, the CSFs could differ.

The approach is particularly relevant to mCRM, as it provides guidance to managers in understanding where to focus their attention and assists in prioritizing investment decisions. Bullen and Rockart (1981) suggested there are five sources for an organization to consider when identifying CSFs: *the industry, the organization's strategy and industry position, the environment, temporal factors and the managerial position.*

The *industry* related sources are probed to identify a set of CSFs that are determined by the characteristics of the industry itself. For example, Rockart's initial study on the supermarket industry found that managers in each supermarket should be concerned about product mix, inventory, sales promotion and price. Conversely, each *organization* within any industry has its own unique characteristics, determined by its own history and current competitive strategy. *Environmental* factors are those that an organization has limited control over, including national politics, fluctuations in the economy, population trends and regulatory trends, which can contribute to CSFs. *Temporal* factors are those areas of activity within an organization that are critical for a short period of time. A crisis that results from the loss of a large number of executives in an air crash is perhaps a good example.

Figure 1. Potential mCRM CSFs in the Rockart model
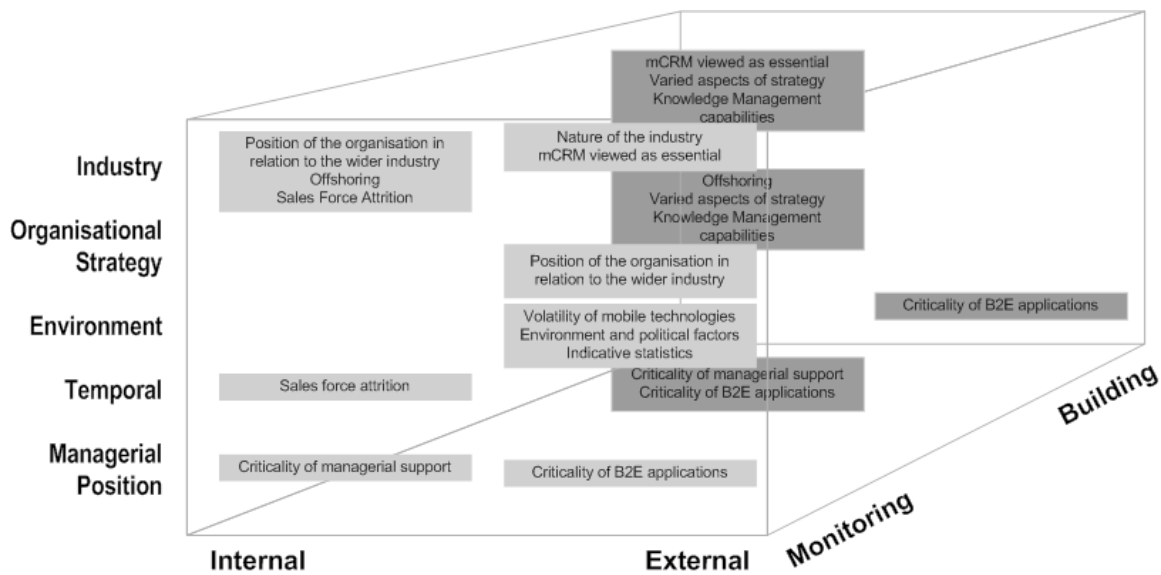
Managerial position refers to those generic CSFs associated with the functions of management.

Bullen and Rockart (1981) then presented a useful classification of CSFs according to three dimensions: (a) the above five sources; (b) internal vs external; and (c) monitoring vs building. These are shown in a model adapted to present our conceptual framework (Figure 1). The *internal vs external* dimension refers to the fact that every manager will have internal and external factors that affect their team. Internal factors may relate to matters within managerial control while external factors may pertain to situations such as the availability of raw material that affects production, which falls outside managerial control. The *monitoring* dimension refers to CSFs that involve continued scrutiny of existing situations. Often these relate to actual performance versus budget, personnel turnover rates, or current status of product costs. The *building* dimension refers to those CSFs that involve the role of managers who spend time involved in change management or the implementation of new programs.

Thus, Rockart's model for conceptualising the CSFs takes into account various sources, augmented by multidimensional perspectives for CSF classification. Given the characteristics of mCRM discussed earlier, we argue that Rockart's framework may well prove appropriate to conceptualising and classifying possible CSFs for mCRM.

The three-step method as outlined by Rockart consists of an introductory workshop, interviews within the organization/s and a focus workshop. This paper is restricted to the presentation of the conceptual framework, which will be a preliminary step prior to the implementation of this method.

THE RESEARCH FRAMEWORK
In the proposed investigation of CSFs for mCRM, we revisit Bullen and Rockart's (1981) classification of CSFs according to three dimensions: (a) the five sources (industry, organisational strategy, environment, temporal, and managerial position) (b) internal vs external; and (c) monitoring vs building (see Figure 1). As such there are 20 cells in this classification scheme (5 by 2 by 2).

As a starting point, the six CSFs extracted from the appraisal of the extant literature on CSFs for CRM (see Table 1) were placed into the classification scheme. These were arguably limited to *organisational strategy* and *management support* sources and could be classified as *internal*, embracing both *monitoring and building*. However, we argue that for eliciting CSFs for mCRM, the perspective of the *nature of the industry, its relative position, environment related factors and temporal factors* are necessary. Subsequently, in Figure 1, we provide additional

CSFs identified from the discussion of mCRM that can be used to seed a study that extends previous studies of CRM to the world of mCRM.

Specifically, the figure presents the three-dimensional view based on Rockart's classification model. Each of the cells relates to potential CSFs as could be extrapolated from existing CRM related CSFs as well as from the literature. Visibly, there are some overlapping dimensions. For example, mCRM may be viewed as essential to the *organisation* and thus become a CSF. However, the source of this CSF could be *industry* or the *organisation*. Specifically, if the *industry* at large regards mCRM is becoming essential to the organization, it becomes an *externally* motivated CSF, which needs to be *monitored*. Conversely if the organisation also feels that mCRM is essential for the success of the organization, it becomes a CSF that is *internally* motivated and that which an organization will *build* on. Offshoring is a CSF, which seems to have the potential to encompass all the dimensions. Managerial support is of *internal* orientation, but can be of *monitoring /building* dimension.

While Figure 1 is representative of these overlaps as well as 12 of the identified mCRM related CSFs. Table 2 supports the figure, mapping the sources against identified CSFs and their dimensions making it clearer that the sources can be varied for each CSF. At this time, we have only highlighted some of the potential CSFs identified to show the existing gaps that could not be addressed via CRM CSFs. For example, it is clear that all CRM CSFs were internally oriented, while there are a number of potential *external oriented* CSFs for mCRM identified. As the study progresses, more CSFs may emerge and some of the potential ones may merge together to form one CSF. The model as such with its 20 cells may or may not be completely filled with the mCRM CSFs.

Nevertheless, the usefulness of the Rockart model is evident due to its wider coverage of sources and dimensions that could well be relevant to mCRM, given its dependence on the environment, industry and technological factors. Thus, we establish that the model provides a complete structural framework for the proposed study.

CONCLUSIONS AND OUTLOOK
In this paper we have argued that with the development and diffusion of mobile technologies, customers are demanding personalised services when and where they need it. To address this, mCRM has emerged as a one-to-one marketing strategy and is often considered as an extension of CRM. However, organisations are reluctant to deploy a new strategy, given that CRM is yet to realise its complete value.

Table 2. Sources Vs identified CSFs/dimensions

Sources	Identified Potential CSFS and Dimensions
Industry	• Nature of the industry (External/Monitoring) • mCRM viewed as essential to the organization (External/monitoring) • Position of the organization in relation to the wider industry (Internal/Monitoring or External/Monitoring) • Offshoring (External/Monitoring)
Organization Competitive Strategy and Industry Position	• Varied aspects of organisational strategy (Internal/Monitoring and building) • Position of the organization in relation to the wider industry (Internal/Monitoring or External/Monitoring) • mCRM viewed as essential to the organization (Internal/building) • Organisational readiness and awareness of new technologies (Internal/Monitoring or Building) • Knowledge management capabilities (Internal/Monitoring and Building) • Influence of mergers/partnerships (External/Building) • Perceived and actual ROI (Internal/Monitoring and building) • Sales force attrition (Internal/monitoring or building) • Offshoring (Internal or External/Monitoring and building)
Environment	• Volatility of the mobile technologies (External/monitoring) • Changing consumer behaviour (External/monitoring) • Regulatory decisions within the telecom and mobile environments (External/Monitoring) • Economic/Political factors (External/monitoring) • Apprehensions surrounding mobile networks (External/monitoring) • Legal disputes in mobile environment (External/monitoring) • Indicative statistics (External/monitoring)
Temporal	• Sales force attrition (Internal/monitoring) • Offshoring (Internal/External and Monitoring/building)
Managerial Position	• Criticality of managerial support (Internal/Building or Monitoring) • Managerial support directed or participative with sales force (Internal/Building) • Criticality of B2E applications (External monitoring/building or Internal building) • Criticality of change in perspective to promote participation (External monitoring/building or Internal Building)

To address the scepticism of organisations and encouraged by the usefulness of CSF studies for CRM, we proposed a CSF study for eliciting potential mCRM CSFs, using the Rockart (1979) three-step process, adapting his conceptual model for the proposed research framework. We revisited Bullen and Rockart's (1981) classification of CSFs, presented as a model, classified according to three dimensions: (a) the five sources (industry, organisational strategy, environment, temporal, and managerial position) (b) internal vs external; and (c) monitoring vs building, for building a conceptual research framework as a percusor to this study, which is presented in the paper.

As a starting point, the six CSFs extracted from an appraisal of the extant literature on CSFs for CRM, were situated in the classification scheme, to make the gaps apparent. Further the potential CSFs identified from a comprehensive literature review were placed into the framework – emphasising the need to validate mCRM related CSFs. Based on this conceptual framework, we propose to undertake a study for eliciting mCRM CSFs initially in the healthcare sector.

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