

## Data Quality and Other Hidden Factors Affecting the Success of CRM Systems

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**ABSTRACT:** *Technological improvements are responsible for majority of innovations in banking over past few decades. It started with introduction of personal computers and come a long way with computerized banking, Internet banking, ATMs, and CRM as the latest buzz. Customer Relationship Management Systems are adopted by the banks in order to achieve the success in the business and also business strategies can be formulated based on the predictions given by the intelligent data mining tools. Though a good data mining software plays major role in success of CRM impact of data quality cannot be ignored for the same. There are other hidden factors which affect the successful implementation of these systems. This paper intent to, identify these hidden factors with special reference to the Indian banking sector.*

**Key words:** Customer Relationship Management; intelligent data mining tools; Success factors

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### INTRODUCTION:

Customer Relationship Management (CRM) is a broad approach to doing business. It is holistic in that it encompasses all aspects and functions of a company, focusing on managing the relationship between customer and company just as much between company and customer. Over the past few years, many companies have implemented Customer Relationship Management Systems and have turned their attention to "mining" their customer databases. Now they can learn more about customers, use that information to make appropriate offers to customers, and understand which offers succeed. Customer information can be distributed across an enterprise for use in analysis and marketing.

King (2005) points out that the combination of good customer information, data mining, and technology enables companies to better understand their customer base and communicate with them more effectively. Once a firm is actively using customer information to make decisions about how, when and what to market to customers, they often increase the volume of targeted customer contacts.

Data mining, data exploration and knowledge discovery are all terms that create an image of the demanding and sometimes tedious search to uncover insights that are neither obvious to competitors nor easy for competitors to duplicate. CRM depends on data analysis activities to uncover directions and opportunities and highlight warning indicators for CRM initiatives.

### ***Customer Relationship Management Systems:***

CRM is more than just a set of technologies: it is a process. This fact will be of significant importance to Information Technology professionals who will be asked to support CRM with information and applications. Furthermore, it is intended to be a repeatable process to ensure ongoing, continually improving, and consistent results. Simply stated, CRM comprises the acquisition and deployment of knowledge about customers to enable a company to sell more of their product and service more efficiently. Lin, (2003) has suggested the following four software modules of a typical CRP system:

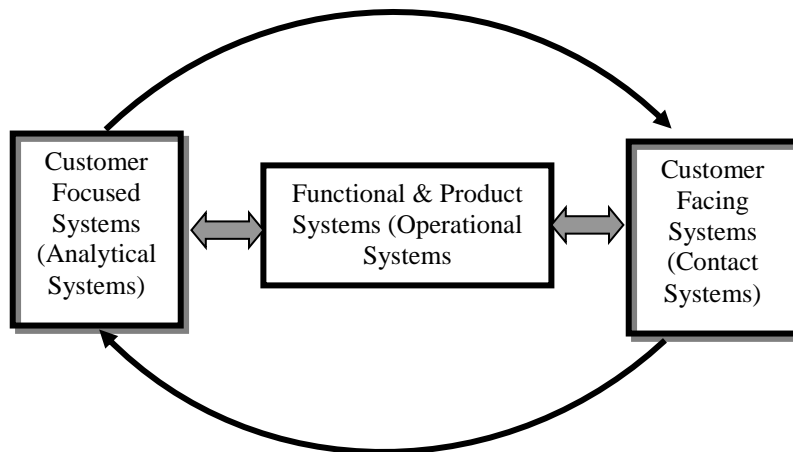
**Sales Automation Module** – This module is designed to automate sales related tasks such as sales-customer interaction, contact scheduling, sales campaign and promotion activities, sales lead tracking, sales trends, etc.

**Marketing Automation Module** – This module is designed to automate marketing related tasks such as marketing analysis and planning, marketing campaign activities, products promotion and scheduling, etc.

**Customer Service & Support Module** – This module is designed to document and manage customer information and activities thereby building strong and long lasting customer relationships.

**Reporting and Analysis Tools** – These tools are a set of software and technology to enable cross-channel, complete view of sales, marketing, and customer service information that stored on company's databases for analytic reporting and analysis.

**Figure 1**  
**Key elements of CRM Architecture (Source: META Group)**



A successfully implemented CRM system allows seamless integration with the existing software and systems, increases productivity in time pressured situations, and supports business performance, scalability, and reliability. Business functions including marketing, sales, customer services and support must work together to build a successful CRM that can support a typical Customer-Life Cycle in daily business operations. However there are various other factors which contribute to the success of a CRM initiative take by the firm.

Organizational database are pervaded with the poor quality of data as most of the times the data is not collected for the purpose of data mining in the mind, and the sources, which seems to be quite reliable can provide deflecting information. The data mining tools when applied on this effective data will result in poor quality model following the garbage in garbage out for the data. If business decisions are take on these models they may lead to the failure of the whole CRM initiative. So business organizations are spending a great amount of their budget on improving the data quality and pre-processing of data for the model.

### **REVIEW OF THE LITERATURE:**

According to Walters (2004), the financial services sector has been perceived by many as leading the adoption of CRM, and defining many leading practices. However, while financial services companies, have pioneered in some cases, in others they have fallen victim to common mistakes in there approach to CRM investments. These shortcoming he related to “how” they went about applying CRM services to their CRM program, and on “what” objectives they focused these activities. Cole (2005) identified that CRM offers so much more than the contact management systems of the past - but only for those organisations that can successfully embrace an open culture underpinned by access to the key business systems. Visibility across finance, sales, service and marketing provides an organisation with the joined up business understanding required to achieve return on investment, whether from credit control or stock reduction, and drive operational strategy, while supporting the CRM objective of enabling improved customer value. Data mining software can help find the "high-profit" gems buried in mountains of information. However, merely identifying the best prospects is not enough to improve customer value. The Data Mining results should fit into the execution of marketing campaigns that enhance the profitability of customer relationships. Unfortunately, Data Mining and Campaign Management technologies have followed separate paths – until now. Your organization stands to gain a competitive edge by understanding and utilizing this new union (Thearling, 1999).

Thompson (2005) suggested that retaining the right customers or winning back defecting customers can be accomplished by following these steps: Identify potential defectors, Communicate with customers, Listen to front-line people, Treat valuable customers well, Be fair, even when you don't have to, Use exit barriers, carefully, Win the right customers back. Eckenrode (2005) recommends the capability to integrate two or more delivery channels through shared technology have only recently been deployed in any significant way. IT managers within the bank, as well as business managers that rely on the delivery channels to service their products, know deep down that integrating the channels is the right thing to do because some benefits of channel integration are intuitive if not scientifically provable. Customer information if collected properly helps in delivering a unified view of each customer, boosts the ability to target marketing programs based on comprehensive analytical tools, enhances flexibility to adapt to processes and working methods to meet rising customer expectations as given by SAP(2003) in their white paper. Edelstein (2006) emphasized that CRM is essential to compete in the today's market place and the more effectively the information about customers can be used to meet their need, more success is in the business. But the route to successful business requires that you understand your customers and their requirements essentially.

Rance (2005) in his survey tried to find out the answer of the question, "How do you make CRM work?" The answers were interesting:

- The company needs to have a clear sense of journey. CRM is not a destination; it's merely some of the tools that facilitate the business becoming more customer-centric;
- There needs to be a clear customer strategy that is implemented across the company end executed consistently through all points of customer engagement;
- The organization should be designed around execution of the customer strategy, not around business functions;
- The information architecture should be just that, providing the right information to support every customer engagement and supporting rapid change.

Winsten (2004) concluded from his research that the actual results being measured and achieved in organisations are falling short of expectations. This research finding, in fact, supports the criticisms being made about CRM that CRM is producing disappointing results in practice. It was recommended that organisations concentrate on implementation issues very carefully, ensuring that their adoption of CRM is well executed and therefore successful in terms of delivering real results. Hop (2005) also advocated while companies continue to invest in CRM enhancements, the technology is still under-delivering in the call center. Customer service staffers are still grappling with disparate systems that are often not underpinned by a clear customer centric strategy.

The CRM system is based on the customer profile and transaction history. Therefore, the company needs to collect data about its customers (Kracklaur, Passenheim and Seifert, 2001). Successful CRM requires a flow of customer information around the organization and tight integration between operational and analytical systems. Having the right information at the right time is essential to successful CRM strategies, providing customer insight and allowing effective interaction across any channel (Radcliffe, 2001). Stimpson (2003) suggested that CRM is all about having the information at your fingertips to understand the client, communicating back to them, and tracking your correspondence. Dravis (2003) points out that according to Giga Information Group Research, data quality occasionally turned out to be the weak underbelly of CRM implementations. Myron (2003) indicates that dirty data or inaccurate and old information are dangerous to companies. Dirty data cannot only cost companies millions on wasted direct marketing dollars, but also it can severely hinder CRM adoption rates.

From the above survey of literature it can be seen that there are various methods to implement the CRM systems and technological supports these in form of data mining and warehousing. Still companies are failing with the CRM solutions, which indicate that there are other factor determining the success or failure of these system and so are needed to be identified. Hence we take the study with following objective.

## **RESEARCH OBJECTIVES AND METHODOLOGY:**

The main objective of this research is to identify the hidden factors that affect the success of CRM systems. The organizations selected for the study are for the banking

services. Two private banks: an Indian bank (ICICI Bank) and a foreign bank (Standard Chartered Bank) are selected. These banks have already implemented CRM.

The banks needed to manage and analyze the huge volumes of data captured by its OLTP systems. It had to get the right information, to the right people, at the right time, in order to carry out a number of critical business activities and provide excellent customer service.

**Methodology:**

- 1) Secondary data for research was collected from related books, publications, annual reports and records of the organization under study.
- 2) Primary data for research was collected using questionnaire cum interview methodology. The questionnaire was developed on the basis of existing literature and was pre-tested on 30 managers from the actual number to be interviewed for checking its reliability and content validity. The suggestions collected during pre-testing of the questionnaires were incorporated in the questionnaire. Thus, pre-tested and modified questionnaire was administered to all the respondents. 140 experienced managers (70 managers from each bank i.e. ICICI and Standard Chartered Bank), who were working for the customer relationship management, participated in the study.
- 3) Data was collected on 5 point scale. Pearson’s Correlation and average scores were computed using SPSS package. For identifying the success and hindrance factors extensive literature review was done. Table 1 illustrates the various factors.

**EMPIRICAL DATA AND ANALYSIS:**

A total of 50 factors were arranged in the questionnaire to identify them as success or hindrance factors. Respondents were asked to rate each factor on a five point scale. Eleven factors have been extracted using Factor Analysis as given in Table 1.

**Table 1  
Total Variance Explained**

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.424	29.437	29.437	6.550	13.368	13.368
2	6.678	13.628	43.065	5.934	12.111	25.479
3	2.518	5.138	48.203	5.646	11.523	37.002
4	2.198	4.485	52.688	3.232	6.597	43.599
5	1.835	3.744	56.433	2.915	5.949	49.548
6	1.659	3.386	59.818	2.903	5.925	55.473
7	1.593	3.251	63.070	2.217	4.524	59.997
8	1.438	2.934	66.003	1.839	3.753	63.749
9	1.248	2.547	68.551	1.583	3.230	66.980
10	1.123	2.293	70.843	1.477	3.015	69.994
11	1.023	2.087	72.930	1.439	2.936	72.930

Extraction Method: Principal Component Analysis.

**Factors Extracted:**

- Factor 1: CRM implementation issues
- Factor 2: Implementation of CRM through employees
- Factor 3: CRM Business Strategies of Bank
- Factor 4: Interpretation and synchronization of service
- Factor 5: customer centric approach
- Factor 6: Differences between IT and CRM
- Factor 7: Right Method to interact with customer
- Factor 8: Right tool of data mining
- Factor 9: Clear methodology and steps
- Factor 10: Measurable goals and ROI of Bank
- Factor 11: Training of the front people

Score for the above factors is given in Table-2

**Table: 2**  
**Mean Score. (N = 70-ICICI, N=70, SCB)**

	<b>Name of bank</b>	<b>Mean Score</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
CRM implementation issues	ICICI	2.0750	.87195	.10422
	SCB	2.3607	.66025	.07892
Implementation of CRM through employees	ICICI	1.9429	.72915	.08715
	SCB	2.2810	.73160	.08744
CRM Business Strategies of Bank	ICICI	4.1079	.62967	.07526
	SCB	3.6857	.69220	.08273
Interpretation and synchronization of service	ICICI	4.1190	.75934	.09076
	SCB	3.9048	.67422	.08058
Customer centric approach	ICICI	4.0679	.51061	.06103
	SCB	3.9214	.66423	.07939
Differences between IT and CRM	ICICI	2.5607	.78992	.09441
	SCB	2.5786	.78198	.09346
Right Method to interact with customer	ICICI	4.1000	.70733	.08454
	SCB	3.6667	.56180	.06715
Right tool of data mining	ICICI	4.1714	.74155	.08863
	SCB	3.8571	.76681	.09165
Clear methodology and steps	ICICI	4.1714	.74155	.08863
	SCB	3.8571	.76681	.09165
Measurable goals and ROI of Bank	ICICI	4.0643	.69115	.08261
	SCB	3.7429	.71598	.08558
Training of the front people	ICICI	3.8857	1.05697	.12633
	SCB	3.6286	.96566	.11542

From the empirical data analysis listed in Table 2, it is revealed that

- Improper CRM implementation issues are hindrances and can lead to the failure of the whole system. This should be addressed rightly in synchronization of the technology and the bank policies.
- CRM implementation through employees, require the right kind of offers given to the customer while interacting without forcing it otherwise it may lead to irritating the customer. Internet banking, e-mails, phone calls, face-to-face is the various methods used by the banks to give offers. It when asked by the managers most of them agreed that face-to-face method is considered as the best way to interact with the customers.
- CRM strategies of the bank play most important role in the success of the whole setup. When interpreted correctly and synchronization of the services is there it may enhance the customer relations as well as business.
- Customer centric approach should be adopted by the bank, where customers' benefits and interests should be put before the banks own interests. Training of the front people while implementing the CRM plays very important role in the success of the implementation and it should be done properly.
- Technology plays vital role in the whole CRM process, as every stage can be automated. There are various CRM vendors who provide the required software. The selection of the software should be done with utmost care keeping the requirements of the bank in mind as at wrong selection may be disastrous.
- While using the data mining tools for generation of the prediction model selection of the right tool for a particular problem should be there.
- CRM is implemented for the marketing department through the IT department of the bank. The differences between the two can be the hindrances and may affect the success of the CRM. It is recommended that while applying the data mining tools IT department should consult the marketing people.
- Though CRM is implemented in the banks most of the time they are not clear about the expectations from the whole initiative. If the banks have measurable goals and Return on Investment (ROI), the performance of the CRM can be measured and analyzed.

For the impact of data quality the respondents were asked to rate the (From the chapter 5)

On the basis of analysis and interpretation following findings are put forward.

#### **FINDINGS AND RECOMMENDATIONS:**

- For the successful implementation the success factors emerged out to be CRM business strategies of bank, interpretation and synchronization of service, customer centric approach, right Method to interact with customer, Right tool of data mining, Clear methodology and steps, Measurable goals and ROI of Bank, and Training of the front people

- The above success factors should be taken into consideration while implementing the CRM in the bank.
- Hindrances are the CRM implementation issues, implementation of CRM through employees, and differences between information technology and CRM.
- Data quality plays very important role in the success of the CRM systems, so there should be measures taken to get good quality information about the customers. The best method to collect data is through account opening form.
- Data quality affects the data preparation time and the quality of the model generated on basis of which offers are given to the customers.

### **OPEN RESEARCH ISSUES:**

Many companies have implemented CRM in anticipation of improving their business prospects. Studies show that most of the money spent on CRM system goes to drain in spite of investing in the technological solution and maintaining a data warehouse, which acts as a backbone for the whole CRM initiative. This indicates that there are various other factors, which affect the CRM success. The study have been carried for the banking sector including two banks, in order to find out these hidden factors which, if ignored can do damage to the whole business. Including more number of banks as well as the private sector banks, the research can be carried forward which, can give better insight of the whole scenario. There are other services sectors like Hotel, Airlines, etc. who have also implemented the CRM. The study can be carried out for these sectors also.

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