INTRODUCTION

In its simple term, Customer Relationship Management (CRM) manages the relationships between a firm and its customers. Managing customer relationships requires managing customer knowledge. Thus CRM and knowledge management are directed towards improving and continuously delivering good services to the customers. The CRM begins with the concept of relationship marketing introduced by Berry in 1983 (as cited by Ryals and Payne, 2001). This concept is examined to attract and maintain the multi service organizations to enhance customer relationships with organizations. Increasing the relationship with the high demand from customer changed the term from relationship marketing to the Customer Relationship Management (CRM). It involves organizations providing and satisfying customers’ needs. This will in turn, maintaining customer loyalty and ultimately contribute to the profitability of the firms. However, previous researchers had determined Customer Relationship Management (CRM) in different ways. For example, Ryals and Payne (2001)¹

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defined the CRM as a management approach by using IT to build long-term relationship with customers and profitability for organizations.

Chen and Ching (2004)\(^2\) described the CRM as a relationship of information technology (IT) that described customers from database to be more effective in relationship with customers. Gordon (2002)\(^3\) recognized the CRM as the most innovative process to create loyalty by maintaining a long term relationship of trust between customers and organization. (Brown, 2000)\(^4\) defined Customer Relationship Management (CRM) as “a process of acquiring, retaining and growing profitable customers and business strategy that aims to understand, anticipate, and manage the needs of an organization’s current and potential customers”. Therefore, the CRM is a comprehensive strategy and process which focuses to establish, maintain and enhance relationship with customer to create value for the organizations (Jham and Kaleem, 2008)\(^5\).

Nowadays, the CRM is an important issue to increase opportunities in using data which will be used to understand customers and implement well in


relationship marketing strategies. The CRM is also important because it is more advanced in financial service that represents the largest sector of the UK Gross Domestic Product (GDP). The CRM is able to create sustainable competitive advantage by being understanding, communicating, delivering and developing existing customers and acquiring new customers for organizations (Zineldin, 2005). To understand more in customer relationship management, one has to understand three components which are customer, relationship and their management (Peppers and Rogers, 2004). Relationship is not just making customers satisfied with the products or services by lowering the price but it is more on how managers treat them and how they feel when dealing with the organizations.

More often, managers always make mistakes by seeing customers’ satisfaction from their eyes and not from customers’ eyes. Banking sector is a customer-oriented service where the customer is the focus. Research is needed in such sector to understand customers’ need and attitude so as to build a long relationship with them. Many researchers who study on customer relationship CRM focus on organizations’ perspectives to retain customers in their


organizations. Dutta and Dutta (2009)\(^8\), studied on customer expectations and perceptions; Park and Kim (2003)\(^9\) on a framework of dynamic CRM. Research on the CRM for financial services sector is still lacking (Lu and Shang, 2007\(^{10}\)).

**Indian Banking**

The total number of Public Sector Banks (PSBs) stands at 28. In the category of Private Banks (PBs), there are 16 banks classified as Old Private Banks (OPBs) which were existing prior to the liberalization of the banking sector. The New Private Banks (NPBs) were born after 1991-92 with the opening up of this sector to private players. The total number of the NPBs, as of 1\(^{st}\) May, 2007, is 8. Plus, there are 29 Foreign Banks (FBs), most of which are limited to the metropolitan cities. In all, the total number of scheduled commercial banks as of 1\(^{st}\) May, 2007 is 81.

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Retail Banking

Retail banking refers to the dealing of the commercial banks with individual customers, both on liabilities and assets sides of the balance sheet (Gopinath, 2005)\textsuperscript{11}. Similarly, Sood (2003)\textsuperscript{12} defines retail banking as “catering to the multiple banking requirements of individuals relating to deposits, advances and associated services”.

Need for the Study

The cost of attracting new customers to the bank is too high than the cost of retaining of existing customers in all industries. The banking industry is not an exceptional case. The banking industry consists of poor customer loyalty because of the entrance of new commercial banks and also offering new services as higher service quality to their customers. With this existing trend of the banking industry, the bankers are struggling to retain their existing customers. All the bankers know that the pricing is not an advisable weapon to enrich or retain their customer base. The only way is offering better service quality and services to their customers. The better services and service quality is only a relative concept since it depends on their customers’ needs and finds the ways to deliver a right service to right


customer at right price and time. For this, there is a higher need for the Customer Relationship Management (CRM) unless, there is no established CRM at commercial banks, the delivery of better services and service quality is not possible. Hence, there is a need to analyse the rate of implementation of the CRM at commercial banks and its consequences. The present study focuses on this aspect to enrich the quality of banking service.

**STATEMENT OF THE PROBLEM**

All services in the banking industry can be managed theoretically by the IT applications on the internet. The private and the public sector banks in India are going for higher technology adoption especially after globalization. But due to lack of resources, absence of vision and planning, resistance from trade unions, their rate of adoption of new technology is very slow. The banks are struggling to maintain a good customer relationship due to their inability to cross sell, long queues, poor service attitude, lack of information and poor service quality. The customers in the service sector is becoming more educated and they expect the services and service quality at par with the foreign banks. They are expecting not only core and value added services from the banks but also personalized services.

Those banks that are offering such personalized services and maintaining their customer relationship are performing better than others. Since the cost of acquiring new customers is greater than the cost of retaining existing customers,
the banks are competing with each other to retain their existing customers and attract new customers if possible. For that some banks are using the customer relationship management as its strategic tool. Still many banks in the private sector banks are highly traditional like the public sector banks, hence they are losing their customers. It is a hectic problem in the competitive banking industry.

**Related Reviews on CRM in Commercial Banks**

Gupta and Sonal Shukla (2002)\(^{13}\) in their article “Learnings from Customers Relationship Management (CRM) Implementation in a Bank” attempted to highlight the learnings from the Customer relationship Management (CRM) implementation in the banking sector. The important issues examined include organizational information, the CRM strategy, strategic changes resulting from the CRM implementation, implementation priorities for the banks and the factors indicating the performance after the CRM implementation. The study was supported by a case study of the CRM systems in a major Japanese Bank, the Bank of Tokyo, Mitsubishi and also a field survey of scenario in the Indian banking sector. The study revealed that the CRM is gradually picking up and is definitely considered as a viable proposition by the banks in improving services to

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their customers. Since there is a resistance to change, while implementing the CRM, high commitment is required in those who are implementing it.

Kallol et al., (2009)\textsuperscript{14} identified 29 important CRM practices implemented at the commercial banks in India. These practices are related with key consumer focus, CRM organization, knowledge management and technology-based CRM. They identified that the public sector banks especially the State Bank of India and the Bank of Baroda are much lagging behind their counter parts regarding deployment of the CRM practices.

Leverin and Liljander (2006)\textsuperscript{15} found that the implementation of a relationship marketing strategy in a retail bank did not result in the increase of loyalty with respect to the most profitable customer segment.

Sami and Ibrahim (2011)\textsuperscript{16} indicate that the CRM concept did not seem to be well incorporated in the business strategy of most Jordanian banks and financial institutions.


Rootman et al., (2008) investigated the variables that influence the effectiveness of the CRM strategies in banks with the help of attitude, knowledgeability and two-way communication related to bank employees. They found that attitude and knowledgeability had influenced the effectiveness of the CRM strategies in banks at the 99 per cent significant level.

Ndubisi et al., (2007) examined the impact of relationship management at the banks. They found that the commitment, competence, communication and conflict handling had significantly influencing customer loyalty.

Lu and Shang (2007) explored the CRM perception in services from the managerial perspectives. They had come out with six dimensions of the CRM namely customer acquisition, customer response, customer knowledge, customer information system, customer value evaluation and customer information process.


Sin, et al., (2005)\textsuperscript{20} identified four dimensions of the CRM namely customer focus, the CRM organization, technology-based CRM and knowledge management generate the retention of profitable customers and their long term relationships.

Anshari et al., (2009)\textsuperscript{21} analysed the CRM of banking sector in Saudi Arabia. They showed that banking success in implementing the CRM because of its clear strategy which focuses on the goals of maintaining customer loyalty and of using complaints handling data to solve problems and address issues raised by customers.

Romano and Fjermestad (2003)\textsuperscript{22} identified the role of the IT management strategy, the IT related contact channel management, the IT related customer data management, the IT-related enterprise-wide management and the IT infrastructure in the process of implementation of the CRM in the commercial banks.


Sadek et al., (2011)\textsuperscript{23} revealed that the components of the CRM namely key customer focus, the CRM organization, technology based CRM and knowledge management have a significant positive impact on customer satisfaction and customer loyalty in commercial banks.

Blery and Michalis (2006)\textsuperscript{24} identified that the expected areas to generate future value for the banks are customer segmentation, distance sales/outbound, delays and human capital management.

Wang and Ma (2005)\textsuperscript{25} opined that the CRM system is helpful to optimize market value chain. It will enable the commercial banks to timely catch up with market demands, and attract new customers on the basis of retaining old ones by continuously improving customers’ satisfaction and loyalty.


Pisharodi et al., (2003)²⁶ found that a process oriented strategic approach to connect the operational, informational and the organizational components of the CRM are critical for the success of the CRM application.

Paravatiyar and Sheth (2001)²⁷ observed that the CRM is a comprehensive strategy and process of acquiring, retaining and partnering with selective customers to create superior value for the company with the customers.

Ramachandra, (2002)²⁸ made a study on “Customer Relationship Management-Emerging Strategies”. The main objective of the study was to develop a scale to measure the depth of relationship and stages of relationship development. Further this study also attempted to identify effective and timely cross-selling and up-selling of the products and services. The study concluded that for laying the right foundation for a better CRM, the banks should be customer-centric and give importance to the retention of existing customers than acquiring new ones for it promote cross-selling and repurchase of products.


Alok Mittal, et al., (2003)\textsuperscript{29} together presented an article on “An Exploratory Study of CRM Orientation among Bank Employees”. The paper aimed at exploring the aspect of CRM orientation among the bank employees of both the public and the private sector banks. The findings of the research highlighted that there is need for improvement on some of the components of the CRM such as customer communication, customer orientation, customer care and handling of complaints in both the public and the private sector banks. The aged employees in the public and private banking institutions need to improve the CRM skills in order to compete with their younger counterparts.

Tapan, K. Panda (2003)\textsuperscript{30} in his article “Creating Customer Life-time Value Through Effective CRM in Financial Services Industry”, has stressed the importance of the CRM in the financial services industry. The customer data management gives clues about the probability of customer demand and the technology helps in tracking the characteristics and categorization of customers depending on their past behaviour. He concluded that with increased competition and customers moving very fast from one firm to another, it is essential to have an


integrated CRM strategy across the whole organisation for generating higher customers life-time value.

Gani and Bhat (2003)\(^\text{31}\) in their study titled, “Service Quality in Commercial Banks: A Comparative Study” attempted at studying the service quality in the commercial banks with a view to making overall service quality in the banks more effective and efficient. The study was conducted in selected states of northern India which include Jammu and Kashmir, Punjab, Haryana and Delhi. The study is restricted to five banks in northern India namely, the State Bank of India, the Punjab National Bank, the Jammu and Kashmir Bank, the Citi Bank and Standard Chartered Grindlays Bank. In this study, the main area of questioning and analysis is related to customers’ expectation and perception in relation to service quality dimensions. For examining service quality and its dimensions in the banks SERVQUAL the model was used. The results of the study revealed that the service quality of the foreign banks was comparatively much better than that of the Indian banks and suggested heavy investment by the Indian banks in tangibility dimension to improve the quality of service to customers.

Dhillo et al., (2003)\textsuperscript{32}, in their study “Paradigm Change; Relationship Marketing and Service Quality of Banking Services”, highlighted the changing dimensions of marketing of the banking services in the public sector banks and the private sector banks in India after liberalization in the 1990s. The study focused on the emerging banking scenario particularly in the post-liberalization era in Indian banking, changing dimensions of banking services, comparison of customers satisfaction rendered by the private sector banks and the public sector banks. The result of this study revealed that the private sector banks were fairly doing well with innovative technologies, better understanding of customers and better services. Good relationship marketing strategies like better segmentation, enquiry management, welcoming the customer, getting to know the customers, customer development, managing problems and winning back the customers contributed to the growth and market share of the private sector banks in India.

Chirwa (2003)\textsuperscript{33} in his article “Determinants of Commercial Banks’ Profitability in Malawi: A Co-Integration Approach” investigated the relationship between market structure and profitability of the commercial banks in Malawi using time series data between 1970 and 1994. He used time series techniques of


co-integration and error correction mechanism to test collusion hypothesis and determine whether a long-run relationship exists between profits of the commercial banks and concentration in the banking industry. He concluded by supporting the traditional collusion hypothesis of a long-run positive relationship between concentration and performance.

Eapan and Ganesh (2003)\textsuperscript{34} in their study titled, “Customer Service in Banks: An Empirical Study” mainly focused on the ‘speed’ aspect of customer service by assessing customers’ experience with regard to time taken to transact business with the public sector banks and the old generation private sector banks operating in Tiruvananthapuram district of Kerala. The study revealed that there was no difference between the public and the private sector banks in the customers’ time consumed for transacting business in the banks.

Sathya Swaroop Debasish (2003)\textsuperscript{35} conducted a study in Delhi to study service quality in the banks. He used the Rust and Oliver model to study the service quality in banks. The study revealed that the ICICI bank and the SBI provided better quality service. However, on the whole the public sector banks failed to satisfy their customers.


Arvind Singh (2004)\textsuperscript{36} in his article “Customer Relationship Management-New Horizons in Banking” argues that the truly most productive and desirable assets are not buildings and fixtures but a profitable customer base. He states that enhanced customer relationship implies taking customer service and associated profitability to new heights by increasing interactive banking and client links. He suggests that banks globally must consider themselves as innovative solution providers satisfying customers rather than just a product-driven or a profit driven distributor. He discusses extensively how the advancement in technology has changed the face of banking and has compelled banks in the UK and the USA to reconsider their strategies. He also suggests that banks must reassess their strategies and must acquire a mind-set in managing customer relationships to be successful in the ever changing markets.

Dibb and Maureen (2004)\textsuperscript{37} in their research paper, “Relationship Marketing and CRM: A Financial Services Case Study” considered the shift towards relationship marketing principles and the implementation of the CRM in retail financial service sector. Many players offering banking and related products have now ‘bought in’ the concepts behind relationship marketing and are investing


heavily (particularly in new information technology) to enhance customer relationship and improve retention rates. This trend is considered from the perspective of an organisation that is one of those leading the change. An in-depth case study reveals the progress made in the recent years towards the company’s goals focusing especially on the introduction of new systems and moves to enhance customer data. However, the analysis also suggests that major challenges remain if the benefits of the CRM are to be fully realized with particular concerns for the implementation of the CRM principles.

Upinder et al., (2004)\textsuperscript{38} together made a study on “Service with a Difference: A Comparative Analysis of Private and Public Sector Banks”. Their aim is to study different service quality factors in the private and the public sector banks, both for the employees, as well as for the customers to understand the emerging trend in competition, service feature required by the customers, quality expectance and perseverance. The study reveals that the employees have felt that competence and tangibility are higher in the public sector as compared to that in the private sector and the customers have felt that public sector has higher tangibility. Responsiveness is higher in private sector.

Rajeswari Krishnan (2004)\textsuperscript{39} in her article “Banking CRM makes the difference” observes that customer relationship management can be helpful in customer identification, cross-selling of products, customer acquisition and retention. Operational CRM, which provides required information and Analytical CRM, which traces activities and makes information more sensible are the two tools of the CRM. The CRM cell, portfolio of products, customer-metrics and latest methodology are some of the requirements suggested by the author for efficient implementation of the CRM in the banks.

Gopal, (2004)\textsuperscript{40} in his article “Retail Banking going the CRM Way” observes that attracting and retaining the individual, high net-worth and profitable customers are key challenges to the banks today. Customer relationship management can help the retail bank managers in facing this challenge. He has suggested that in order to derive the maximum benefit from the CRM, the banks must prepare their process compatible to the customer relationship management.

Ganesan and Rajagopalan (2004)\textsuperscript{41} in their article ‘e-CRM in Service Excellence”, addresses e-CRM strategies to explore the possibilities in active,

\begin{itemize}
\item \textsuperscript{39} Rajeswari Krishnan (2004), “Banking-CRM Makes The Difference”, \textit{Professional Banker}, August, pp.91-96.
\item \textsuperscript{40} Gopal, V.V., (2004), “Retail Banking-Going the CRM Way”, \textit{Professional Banker}, August, pp.97-100.
\end{itemize}
preactive and proactive service excellence. They highlight that competitive environment, eroding margins, need to reduce costs and keeping customers are the prime drivers for the organizations to embrace e-CRM. They conclude a well-executed e-CRM strategy can result in a number of quantitative benefits including greater ability to sell and cross-sell, improved customer retention besides reduced cost of service.

Raji Srinivasan and Christine Moorman (2005) in their study on “Strategic Firm Commitment and Rewards for Customer Relationship Management in Online Retailing”, say that a firm’s strategic commitments may be an overlooked organizational factor that influences the rewards for a firm’s investment in the CRM. Using the contest of online retailing, the authors consider the effects of two key strategic commitments of online retailers on the performance effect of the CRM, their bricks and mortar experience and their online entry timing. They have tested the proposed model with a multi-method approach that uses manager ratings of firm CRM and strategic commitment and third-party customers ratings of satisfaction from 106 online retailers. The findings indicate that firms with moderate bricks and mortar experience are better to leverage the CRM for superior customer satisfaction outcomes than firms with either low or high bricks-and-mortar experience. Likewise, firms with moderate

online experience are better able to leverage the CRM into superior customer satisfaction outcomes than firms with either low or high online experience. These findings help resolve disparate results about the value of the CRM and they establish the importance of examining the CRM within the strategic context of the firm.

Eventhough, there are so many studies related to the CRM in the banks, the studies have focused either the customers perception on the CRM at the banks or the implementation of the CRM practices at the banks. There is no exclusive study on the linkage between the implementation of the CRM practices and its consequences in the old and new private sector banks in India. Hence the present study has made an attempt to fill up the research gap with the help of proposed research model.
PROPOSED RESEARCH MODEL

The proposed research model of the present study is given in Figure 1.

FIGURE 1

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRM implementation</td>
<td>Service Quality</td>
</tr>
<tr>
<td>♦ Development</td>
<td>Customer Interaction</td>
</tr>
<tr>
<td>♦ Stages</td>
<td>Customer Retention</td>
</tr>
<tr>
<td>♦ Steps</td>
<td>Customer Service Strategies</td>
</tr>
<tr>
<td>♦ Systems</td>
<td>Customer Satisfaction</td>
</tr>
<tr>
<td>♦ Instruments</td>
<td>Customer Loyalty</td>
</tr>
<tr>
<td>♦ Rate of Implementation</td>
<td></td>
</tr>
</tbody>
</table>

OBJECTIVES OF THE STUDY

Based on the proposed research model, the following objectives have been identified.

1. To reveal the profile of the employees;

2. To identify the stages and the steps in the CRM development and implementation at the commercial banks;
3. To analyse the execution of the CRM systems and the practices at the commercial banks;

4. To identify the discriminant CRM practices among the new and old private banks;

5. To exhibit the profile of the customers in the commercial banks;

6. To identify the various consequences of the CRM at the banks;

7. To analyse the linkage between the CRM practices and its consequences at the commercial banks;

8. To identify the discriminant consequences of the CRM in new and old private sector banks; and

9. To evaluate the various benefits of the CRM at the commercial banks.

**METHODOLOGY**

Research methodology is the way of systematically solving the research problem. It is a science of studying how research is conducted scientifically. Under it, the researcher acquaints himself/herself with the various steps generally adopted to study a research problem, along with the underlying logic behind them. The Advanced Learner’s Dictionary of Current English lays down the meaning of research as “a careful investigation or inquiry specially through search for new
facts in any branch of knowledge”\textsuperscript{43}. Redman and Mory defined research as “looking for new facts in any branch of knowledge”\textsuperscript{44}. In the present study, research methodology covers the research design, locale of research, sample and sampling, operation alienation and measurement variables, method of data collection, framework of analysis and limitations.

**The Research Design of the Study**

The most important problem after defining the research problem is preparing the design of the project report, which is popularly known as the ‘research design’. A research design helps to decide upon issues like what, when, where, how much, by what means, and the like with regard to an enquiry or a research study.

Selltiz et al., (1962)\textsuperscript{45} defined, “A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. In fact, the research design is the conceptual structure with which research is conducted; it constitutes the blue print for the collection, measurement and analysis of data”.


\textsuperscript{44}. Redmen, L.V., and Mory, A.V.H., The Romance of Research, 1923, p.10.

\textsuperscript{45}. Clair Selltiz et al., Research Methods in Social Sciences, 1962, p.50.
In the present study, descriptive research design has been administered. Since this research describes the profile of the employees and the customers in the banking industry and their views on the implementation of the CRM at the banks and its consequences, it is descriptive in nature. As this study analyses the impact of the CRM practices implemented by the banks on the customers’ perception on service quality, customer interaction, retention, customer service strategy, customer satisfaction and loyalty it is diagnostic in nature. Besides, as this study has its own confined, well planned and designed objectives, methodology for the data collection, sample collection, analysis of the collected data and reporting the findings, it is descriptive and analytical in nature.

Locale of Research

Due to globalization and liberalization, the banking industry is facing a stiff competition from the new private sector banks and the foreign banks. The customers are expecting from them service at par with the international standard. In order to compete in this banking environment, the banks in the industry are trying to adopt suitable strategies to retain their existing customers and also to attract the new customers. One of the important expectations of the customers in the banking industry is understanding the customers’ needs and provision of personalized services. Hence the banks are establishing the CRM systems and practices at their banks to have better relationship with their customers. With this view, the rationals of the study will be to explore the employees’ views on the
implementation of the CRM aspects at the banks and also the customers’ views on the various consequences of the CRM implementation at the banks.

**Selection of the Study Area**

Madurai district was purposively selected as the study area by the researcher for the following reasons:

1. Madurai is one of the developing districts in Tamilnadu. The growth of modernization and literacy in the district are growing at faster rate. It is also the second largest city in Tamilnadu.

2. Madurai District consists of both rural and urban consumers.

3. Familiarity to the culture, local dialect and infrastructural facilities available at this district would help the researcher to develop a good rapport with the employees and the customers of the banks in the district. Hence, better and valid responses could be received.

4. Only private sector banks are included for the study because there is tough competition among them regarding the services offered to their customers.

**Sampling Procedure**

In total, there are 31 old and 25 new private sector Commercial Bank branches in this district. All banks have been included for the study. From each bank branches, 5 Employees and 10 Customers have been identified with the help
of the Bank Managers as the sample of the study. Hence, the included samples Employees and Customers are 280 Employees and 560 Customers. The applied sampling procedure of the study is purposive sampling.

Collection of Data

Two different questionnaires were prepared for employees and customers separately. The special care was taken to prepare the questionnaire. The questionnaire for the employees focuses on the implementation of the various aspects of the CRM at the banks whereas the questionnaire for customers includes the various consequences of the CRM at the banks. The relevant variables related to various aspects in the CRM have been collected from various previous studies and also the view of experts in this field. A pilot study was conducted among 50 Employees and 50 Customers of the banks in Madurai City only. As per the result of pre-test, certain modifications, deletions and simplifications were carried out to enrich the quality of the questionnaire. The questionnaire was mailed to both the employees and the customers to collect the relevant data.

Response Rate

Out of the 280 employees, the employees who responded to the questionnaire at the fullest level in the first and the second attempt made by the researcher are 104 and 132 employees respectively. Hence the sampled employees came to 236 whereas the response rate is 84.29 per cent to its total. The response
among the customers was only 117 at the first attempt. At the second attempt, the number of responded customers came to 197. In total, the fully responded customers is 314. The response rate is 56.07 per cent to its total of 560 customers. Hence, the final sample included for the study are 236 bank employees and 314 bank customers.

**Framework of Analysis**

For analyzing the data collected during the investigation, the following statistical tools were used based upon the nature of data and relevance of the information required.

1. **T-test**

Several hypotheses in marketing are related to any parameter from the two different populations. In order to find out the difference between the two means related to any parameter, the ‘t’ test has been applied. There is one condition on the nature of data. That is the data related to any parameter are in interval scale. The t-statistics can be calculated by

\[
t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\left( n_1 - 1 \right) \sigma_1^2 + \left( n_2 - 1 \right) \sigma_2^2}{n_1 + n_2 - 2} + \frac{1}{n_1} + \frac{1}{n_2}}}\]

With the degree of freedom of \((n_1 + n_2 - 2)\)

Whereas
In the present study, the test has been administered to find out the significant difference among the employees in the new and old private and public sector banks.

\[ t = \text{t-statistics} \]
\[ \bar{X}_1 = \text{mean of the first sample} \]
\[ \bar{X}_2 = \text{mean of the second sample} \]
\[ \sigma_1^2 = \text{variance of the first sample} \]
\[ \sigma_2^2 = \text{variance of the second sample} \]
\[ n_1 = \text{number of samples in first group} \]
\[ n_2 = \text{number of samples in second group} \]

In the present study, the test has been administered to find out the significant difference among the employees in new and old private sector banks regarding various aspects related to the CRM implementation in commercial banks. It is also applied to find out the significant difference among the customers in the new and the old private sector banks regarding their views on various outcomes of the CRM at the commercial banks.

2. Analysis of Variance (ANOVA)

Analysis of variance is used for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables, after taking into account the influence of the uncontrolled independent variables. Essentially, ANOVA is used as a test of means of two or more populations. One-way analysis of variance involves only one categorical
variables or a single factor. ANOVA is applied when the categorical variables in interval scale. (Rick and Julian, 2001)\(^{46}\).

\[
F\text{ ratio} = \frac{\text{Variance between groups}}{\text{Variance within groups}}
\]

are calculated and compared with the respective table value of \(F \left[ \frac{(k-1)/(n-k+1)} \right] \) degree of freedom whereas \(k\) – number of groups and \(n\) – number of samples.

In the present study, the one way analysis of variance has been used to examine the association between the profile of employees and their views on the various aspects of the CRM and the association between the profile customers and their views on the various consequences of the CRM at the banks.

3. Multiple Regression Analysis

Multiple regression analysis is used when there is one dependent variable and more than one independent variable. But these independent and dependent variables are in interval scale. The impact of independent variables on the dependent variable is measured with the help of multiple regressions. (Goldberg and Cho, 2002)\(^{47}\). The fitted regression model in the present study is

\[
Y = a + b_1x_1 + b_2x_2 + \ldots + b_nx_n
\]


whereas

\[
Y = \text{Dependent variables} \\
x_1, \ldots, x_n = \text{Independent variables} \\
b_1, \ldots, b_n = \text{Regression co-efficient of independent variables} \\
a = \text{intercept and} \\
e = \text{error term}
\]

The multiple regression analysis is applied to find out

i) the impact of the CRM practices implemented at the banks and the customers’ perception on overall service quality of the Commercial banks;

ii) the impact of the CRM practices of the banks on the customer interaction at the banks;

iii) the impact of the CRM practices at banks on the customer retention at the banks;

iv) the impact of the CRM practices at banks on the customer service strategies at the banks;

v) the impact of the CRM practices at the banks on the customers’ satisfaction and customers’ loyalty in the banks.

4. Exploratory Factor Analysis (EFA)

Exploratory Factor analysis is a general name denoting a class of procedures primarily used for data reduction on summarization. In marketing research, there may be a large number of variables, most of which are correlated
and which must be reduced to manageable level. Relationship among sets of many interrelated variables are examined and represented in terms of a few underlying factors. (Nargundkar, 2004)\(^\text{48}\)

If the variables concluded in factor analysis are standardized, the factors model may be represented as:

\[ X_i = A_{i1}F_1 + A_{i2}F_2 + A_{i3}F_3 + \ldots + A_{im}F_m + V_iu_i \]

whereas

- \(X_i\) = \(i^{th}\) standardized variable
- \(A_{ij}\) = Standardized multiple regression co-efficient of variable on common factor \(j\)
- \(F\) = Common factor
- \(V_i\) = Standardized regression co-efficient of variable \(i\) on unique factor \(i\)
- \(U_i\) = The unique factor for variable \(i\)
- \(m\) = Number of common factors.

The unique factors are uncorrelated with each other and with the common factor. The common factors themselves can be expressed as linear combination of the observed variables.

\[ F_i = W_{i1}X_1 + W_{i2}X_2 + \ldots + W_{ik}X_k \]

Whereas

- \(F_i\) = Estimate of \(i^{th}\) factor
- \(W_i\) = Weight of factor score sufficient
- \(K\) = Number of variables

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The key statistics associated with factor analysis are as follows:

**Communality**

It is amount of variance a variable shares will be all the other variables being considered. This is also the proportion of variance explained by the common factor.

**Eigen Value**

It represents the total variance explained by each factor.

**Factor Loading**

Factor loadings are simple correlations between the variables and the factors.

**Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy**

The KMO Measure of Sampling Adequacy is an index used to examine the appropriateness of factor analysis. High values (between 0.5 and 1.0) indicate that factor analysis is appropriate. Values below 0.5 imply that factor analysis may not be appropriate.

**Factor Scores**

Factor scores are composite scores estimated for each respondent on the desired factors.
Percent of Variance

This is the percentage of total variance attitude to each factor.

5. Reliability Co-efficient

It explains the reliability of the variables in each factor. It is also called as Cronbach Alpha. The minimum threshold of Cronbach Alpha is 0.60. (Nunnally, 1978)⁴⁹.

In the present study, the factor analysis has been applied to narrate:

i) Important stages in the CRM development at the banks;

ii) Important CRM systems at the banks;

iii) Important CRM practices implemented at the banks;

iv) Important critical success factors in the adoption of the CRM;

v) Important service quality factors in commercial banks; and

vi) Important benefits of the CRM at the banks

6. Confirmatory Factor Analysis (CFA)

The confirmatory factor analysis is a statistical tool which is used to test the reliability and validity of the variables included in each factor identified by the EFA. (Segars and Grover, 1993⁵⁰) The important statistics drawn from the CFA

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are the standardized factor loading of the variables, its ‘t’ statistics, composite reliability and average variance. (Li et al., 200751) These are computed for the purpose of testing the content, convergent, and discriminant validity of the factor extracted by the EFA. (Fornell and Larcker, 198152)

In the present study, the CFA is applied to test the reliability and validity of variables included in each factor extracted by the EFA.

7. Discriminant Analysis

The discriminant analysis is used to identify the importance of discriminant variables in the discriminant functions (Tacq, 1997)53. It is applied when the dependent variable is in nominal scale and the independent variables are in interval scale. The discriminant analysis model involves linear combinations of the following form

\[ Z = b_0 + b_1x_1 + b_2x_2 + \ldots + b_nx_n \]

whereas

\[ Z \] = Discriminate Score  
\[ b_1, \ldots, b_n \] = Discriminate co-efficients or weights


\[ x_1, \ldots, x_n = \text{Predictors or independent variables} \]

The Wilk’s Lambda was calculated as a multi-variant group difference over discriminating variables. The higher Wilk’s Lambda indicates lower discriminate power of the variables whereas the lower Wilk’s Lambda represents higher discriminate power of the variable. (Richard and Dean, 2001).

The relative discriminate power of the variables was calculated by

\[ I_j = k_j (\bar{X}_{j1} - \bar{X}_{j2}) \]

Whereas

\[ I_j = \text{the important value of the } j^{\text{th}} \text{ variable} \]

\[ K_j = \text{unstandardized canonical discriminant co-efficient of the variable ‘j’} \]

\[ \bar{X}_{jk} = \text{mean of the } j^{\text{th}} \text{ variable for the } k^{\text{th}} \text{ group}. \]

The relative importance of a variable \( R_j \) is given by

The two group discriminate analysis has been administered to identify:

i) the important discriminant stage of the CRM implementation in old and new private sector banks;

ii) the important discriminant CRM systems in old and new private sector banks;

iii) the important discriminant CRM practices in old and new private sector banks;

iv) the important discriminant antecedents of the CRM acceptance in old and new private sector banks;

v) the important discriminant critical success factor of the CRM implementation in old and new private sector banks;

vi) the important discriminant service quality factors, customers’ interaction variables, customers retention variables, customer service strategies variables, customer satisfaction variables and customers’ loyalty variables in old and new private sector banks;

LIMITATIONS OF THE STUDY

The present study is subjected with the following limitations:

1) No scientific sampling procedure has been followed to identify to sample of the study;

2) The employees and customers are selected on the basis of personal judgement of the bank managers in the district;

3) Only new and old private sector banks are included in the present study;

4) The variables related to the CRM implementation and the consequences of the CRM have been measured at five point scale and

5) The impact analysis has been applied under an assumption of linear relationship between the dependent and independent variables.

CHAPTERISATION

For neat and clear presentation of the report, the study is presented in six chapters.
Chapter I includes the introduction, need for the study, statement of the problem, related reviews, research gap, proposed research model, objectives, methodology, limitations and chapterization.

Chapter-II consists of meaning, definitions, methods and measurement of various concepts included in the study namely, stages, steps, systems, practices and instruments of the CRM implemented at the banks, service quality, customer interaction, customer retention, customer service strategies, customer satisfaction and customer loyalty towards the commercial banks.

Chapter-III explains the profile of the employees, the implementation of stages, steps, systems, practices and instruments of the CRM at the commercial banks and the discriminant CRM practices among the new and old private sector banks.

The Chapter-IV reveals the profile of the customers, their views on the various consequences of the CRM at the commercial banks namely service quality, customer retention, customer interaction, customer service strategies, customer satisfaction and customer loyalty and the discriminant consequences of the CRM among new and old private sector banks.

Chapter-V discusses the impact of the various CRM practices in the Commercial banks on various consequences of the CRM, and

Chapter-VI summarizes the findings, conclusions, research implications, suggestions and scope for future research.