Evaluating the impact of electronic customer relationship management (E-CRM) on customer satisfaction in retail banking

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Abstract

The objectives of this research were twofold: (1) to examine the impact of customer relationship management (CRM) and customer experience quality on customer loyalty at India Retail Bank, and (2) to evaluate the role of corporate image as a mediating variable. This study employed a quantitative research approach. The sample consisted of 500 customers who use credit services for entrepreneurs at India Retail Bank in the central region. Multistage random sampling was used, and data were collected through questionnaires. The data were analysed using descriptive statistics, including frequency, percentage, mean, and standard deviation, as well as inferential statistics, specifically regression analysis. The research findings indicated that both CRM and customer experience quality significantly influenced the corporate image of India Retail Bank, with statistical significance at the 0.01 level. Furthermore, corporate image was found to partially mediate the relationship between CRM, customer experience quality, and customer loyalty at India Retail Bank. These findings suggest that developing effective CRM strategies and enhancing customer experience quality can improve the corporate image, which in turn fosters greater customer loyalty at India Retail Bank.

Keywords: Customer relationship management, customer experience quality, customer loyalty

1. Introduction

Customers are essential to the success of any company. As the individuals who pay for a company's products or services, customers play a crucial role in its operation and growth [1, 2]. Because of their importance, customers should always be valued and respected as a key asset. By maintaining and respecting customers, businesses can foster growth and increase profits. In other words, for an entrepreneur to successfully run and develop their business, customer loyalty must be a top priority [3]. Customer loyalty can be assessed through four key dimensions: cognitive, affective, conative, and action-oriented aspects. The cognitive dimension relates to a customer's knowledge and awareness of the products and services offered by the company. The affective dimension involves the emotional ties and overall evaluations that customers have with the company [4]. The conative dimension reflects a customer's commitment to purchasing products or using services from the company again in the future. The action-oriented

dimension is about the positive actions customers take, such as recommending the company to others over competitors. The higher the level of customer loyalty, the more likely it is that the company will thrive and grow. Therefore, customer loyalty is a key driver of success for any business. The higher the level of customer loyalty, the more likely it is that the company to develop. Therefore, customer loyalty to the company will be the key to success for the company [5]. Particularly, while analysing the present scenario of CRM implementation in Indian banking sector, there arises a question whether the customer knowledge management has been properly utilized for CRM practices which facilitates increasing customer knowledge and thereby satisfying the customers, as the aim of every business is to make customers satisfied and the more, they are satisfied, the more they become loyal to the business and keep coming back for more. Hence successful implementation requires identification of the customers by differentiation of their needs and tailoring those things through customer

knowledge. Moreover, banking sector is related to financial services where there is a dire need to generate trust and belief among. But many past studies witnessed the unsatisfied performance of CRM, the unavailability of effective and good technology, and the need for a trustworthy way in this sector. Customer relationship management could be examined in two different ways, namely qualitatively or quantitatively [6]. Many research studies have been carried out on CRM and that have come with the output that CRM influences the sales and profit, customer behavior and retention, antecedents and strength of social customer relationship acceptance, as well as the relationship between e-service quality and ease of use and the customer relationship management and its performance. But there evidenced a lesser number of studies in connection with the effect of CRM on faithfulness to the organization by the clients by considering factors like customer knowledge management, customer satisfaction, and customer trust. Hence, the researchers have selected this topic as the core question and coined the primary objective as discussed to tackle the problem. The evolution of E-commerce innovations can be illustrated using the S curve, as shown in Figure 1 [7]. An E-commerce innovation takes place when an E-commerce application shifts from one S curve to another. I-commerce was implemented based on a fixed wired network using the Internet until the ability to connect started approaching a physical limit-mobility. M-commerce based on wireless infrastructure gave rise to a new S curve, with the new physical limits being a higher level of ubiquity and universality.
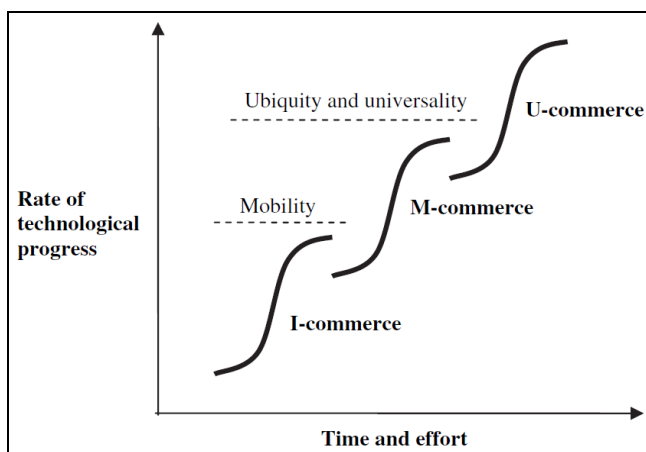

Fig 1: S Curves of E-commerce innovation from I-, M-, to U-commerce.

The study aims to explore how retail banks have integrated Electronic Customer Relationship Management (E-CRM) systems into their operations. This includes understanding the technologies and strategies employed, the extent of their usage, and how these systems are tailored to meet the specific needs of the retail banking sector. A primary objective is to analyse the direct impact of E-CRM on customer satisfaction. This involves examining how E-CRM systems affect various aspects of the customer experience, such as service quality, personalized interactions, response times, and overall convenience. The study seeks to determine whether E-CRM leads to higher customer satisfaction levels compared to traditional customer

management methods. The study aims to assess the role of E-CRM in retaining existing customers and fostering customer loyalty. By enhancing the customer experience, E-CRM systems are expected to increase customer retention rates, reduce churn, and encourage long-term relationships with the bank. The research will evaluate the overall effectiveness of E-CRM systems in achieving the intended business outcomes. This includes measuring improvements in customer satisfaction, analysing customer feedback, and identifying key performance indicators (KPIs) related to E-CRM success in retail banking. The study also seeks to identify any challenges that retail banks may face in implementing and optimizing E-CRM systems. It will explore potential barriers to effective E-CRM use, such as technological limitations, customer resistance, or integration issues, and will highlight opportunities for further improvement. Ultimately, the study aims to demonstrate how E-CRM can contribute to the long-term success and profitability of retail banks. By enhancing customer satisfaction and loyalty, E-CRM systems are expected to lead to increased customer lifetime value, better customer retention, and a stronger competitive position in the market. Based on the findings, the study will offer recommendations for retail banks on how to optimize their E-CRM strategies to maximize customer satisfaction and achieve sustainable growth. This objective emphasizes a comprehensive evaluation of E-CRM's impact on customer satisfaction and its broader implications for the retail banking sector's success. The rest of article explore in section 2 explores recent work in the area of customer satisfaction in retail banking, in section 3 describes Customer relationship management, in section 4 explores methodology of research and finally conclude in section 5.

2. Literature Review
Marketing experts have increasingly emphasized the importance of cultivating long-term customer loyalty in the service industry. While past literature has recognized the significance of customer loyalty, it remains a critical challenge for service industries to fully address. A key reason for the difficulty in achieving customer loyalty is the high volatility within the business environment. Companies often struggle to meet and exceed customer demands, expectations, and behaviours due to a lack of focus from management on customer engagement. This disconnect can lead to the loss of existing customers and difficulty in attracting new ones. To overcome these challenges, companies must prioritize building strong, lasting relationships with their customers. Understanding customer needs and providing the best possible services are essential for attracting new customers and retaining existing ones. Numerous studies have examined the impact of Electronic Customer Relationship Management (E-CRM) on customer satisfaction, retention, loyalty, and financial profitability in developed economies. Wadjdi, Farid, and Zulkifli Djamin (2021) [1] adopt a quantitative approach in their study, characterized by a systematic, well-structured methodology with clearly defined requirements. Quantitative research is distinguished by its methodical and organized process, with explicit guidelines from the initial stages to the development of the research design. Adnan, Muhammad, and Muhammad Yaseen (2021) [2] utilize a survey method featuring a 7-point

Likert scale comprising 50 items, ranging from 1 ("Strongly Disagree") to 7 ("Strongly Agree"). These items are associated with four latent variables, providing a comprehensive measure within the research framework. Shah, Syed Asim, and Muhammad Haroon Shoukat (2021) [3] introduce an innovative integrated Social-Customer-Relationship-Management (SCRM) model in their study, utilizing self-congruity theory. The model examines Social-Media-Technologies (SMTs) usage, online brand communities, SCRM capabilities, customer engagement, customer loyalty, and university reputation, offering groundbreaking insights and recommendations for Higher-Education Institutions (HEIs). Gopalsamy, Selvalakshmi, and Suganthi Gokulapadmanaban (2021) [4] recommend that bankers prioritize client satisfaction and provide reliable services, emphasizing that this initial step is crucial for establishing customer loyalty. Naim, Arshi, and Kholood Alqahtani (2021) [5] focus on the analytical, operational, and targeted applications of Decision Support System (DSS) models in Customer Relationship Management (CRM). The study draws data from three Knowledge, Skills, and Abilities (KSA)-based online retailers to analyze and enhance CRM through DSS models. Vesal, Mahdi, and Vida Siahtiri (2021) [6] highlight a lack of thorough explanation regarding how environmental sustainability contributes to robust brand reputation and improved market success for B2B manufacturers. Additionally, there is a notable absence of findings on organizational practices that facilitate the transition from environmental sustainability to enhanced market performance in existing research. Arora, Lokesh, and Prakash Singh (2021) [7] employ a self-administered questionnaire within the framework of descriptive research to achieve their objectives. Statistical tools such as SPSS and AMOS 18.0 were used for the collection, modification, and analysis of primary data obtained from a diverse group of respondents. These methodologies ensured a comprehensive examination of the data, contributing to the research's effectiveness in meeting its specified goals. Tuti, Meylani, and Nanda Putri Wicaksono (2021) [8] apply inferential statistics to explore the influence of Customer Relationship Management (CRM) and brand image on loyalty and retention decisions. Structural Equation Modeling (SEM) using LISREL was utilized as the chosen inferential statistic for a comprehensive analysis of these relationships. Md Shahed Mahmud and Noman Hasan (2021) [9] propose a model that outlines a conceptual framework elucidating the interplay among CRM factors, customer happiness, customer loyalty, and client retention. Adyavi Ananto and Mohamad Afifudin (2021) [10] explore the potential of the digital ecosystem in effectively overseeing and harmonizing pilgrim demands throughout the entire process, aiming to prevent conflicts between start-ups and the Pilgrim Protection and Information Unit (PPIU). Noviana, Graha (2021) [11] employed customer loyalty levels and ECRM Quality Measurement Questionnaires to collect data, followed by basic linear regression analysis to analyse the gathered data. Pindalini Ayu Kristiya Putri and Silviana Fitri Ayu Wardani (2021) [12] investigate the influence of customer happiness and Customer Relationship Management (CRM) on client loyalty. The study's R-square value, standing at 31%, indicates that 31% of consumer loyalty can be attributed to the factors examined, while the remaining 68% is influenced by external factors or variables beyond the model's scope. Nandya, Tasya, and Dudi Permana (2021) [13] employ survey methodologies within a descriptive research design. Sampling is meticulously conducted based on specific criteria, including respondents' familiarity with Pixy Cosmetics items endorsed by Key Opinion Leaders and their engagement in at least one purchase of Pixy Cosmetics from both online and offline retailers. Cavaliere, Luigi Pio, and Ruby Khan Leonardo (2021) [14] collected quantitative data through questionnaires distributed to 100 distinct bank customers. The gathered data underwent analysis using the statistical program SPSS, encompassing both descriptive and inferential statistical methods. Kahokaew, Phatnarin, and Wasutida Nurittamont (2021) [15] examine the influence of customer experience quality and Customer Relationship Management on customer loyalty within Thai Credit Retail Bank Public Company Limited. The study also explores the role of corporate image as a mediating variable in understanding these relationships. Celik, Kamil, and Ayhan Karakaş (2021) [16] contribute to the limited literature on E-CRM studies in the transportation sector by developing an online questionnaire to gather data from bus operators' clients in Bartın. This data was then used to assess and validate the research model. Raja Ria Yusnita and Wahyi Busyro (2022) [17] utilized SPSS to examine the collected data. A questionnaire, completed by 100 respondents through the Slovin method, was employed to gather primary data. The residents of Ekambar were chosen as the study's participants. Al-Diabat, B. (2022) [18] employs a descriptive-analytical method to analyse opinions from 367 workers across diverse industries nationwide, constituting a random sample in the research. Kumar, Pushpender, and Anupreet Kaur Mokha (2022) [19] offer valuable practical insights for researchers and marketers, with the potential to assist bank management in improving the quality of customer service they provide. Nuseir, Muhammed, and G. El Refae (2022) [20] collected data through a cross-sectional survey questionnaire. Employing partial least-square structural equation modelling (PLS-SEM), the study empirically showcases the significant impact of digital marketing skills on enhancing corporate performance.

3. Customer Relationship Management (CRM)
Several studies have explored the relationship between Customer Relationship Management (CRM), customer loyalty, customer satisfaction, and organizational performance. However, the majority of these studies have focused on developed societies, with fewer investigations conducted in developing contexts. Establishing this relationship within an organization is complex, and researchers have employed various methodologies to examine it. For example, a study investigated whether CRM usage impacts customer satisfaction and firm revenue in India, grounded in the service-profit chain model. Simmons (2019) argued that CRM usage contributes more to branch revenue than to customer satisfaction. However, the study did not specify the revenue targets before and after CRM implementation, making it difficult to conclusively attribute revenue increases to CRM usage. A comparative analysis could have provided clearer evidence of the revenue impact. The study's conceptual framework was developed based on

observations, concepts from the literature, and personal experience with CRM activities. A thorough review of the literature revealed that multiple factors influence bank performance, which can be conceptually categorized into four predictive variables: CRM practices, customer satisfaction, and customer loyalty. These variables are integral to the study's proposed model. As shown in Fig.2, organizational performance is the dependent variable, heavily influenced by customer-related factors. A bank's performance, particularly in non-financial indicators, is likely to improve as it expands its customer base and retains existing customers. The independent variables include four dimensions of CRM practices: service quality, technology infrastructure, personalization, and customer orientation. Customer satisfaction and customer loyalty act as mediators in this model.
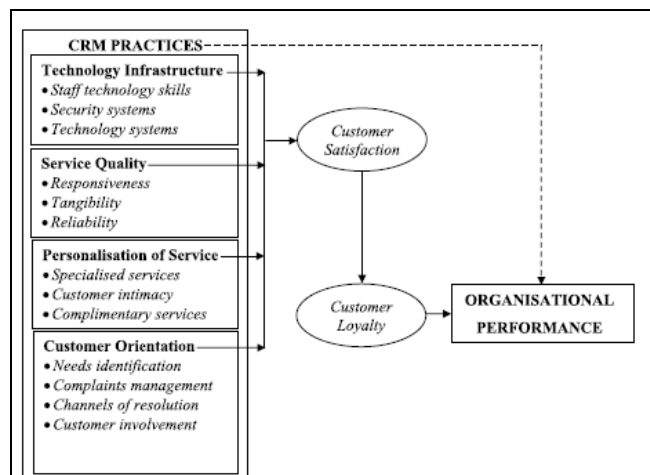

Fig 2: Framework of CRM for modelling in retail banking

4. Materials and Methods
This study aims at investigating the CRM model, particularly private and public banks. The objective of this study is to understand the factors that influence the CRM adoption among the banks of major cities such as Bhopal, Indore and Jabalpur. The sub-contracting units were taken as the unit for analysis and a survey was conducted to bring about their opinion on adopting the online business with their customer. Penetration of computers in the small industry it had been successful and the use of email for communication has been well established. The order and other documents are received through email. The data collected through a survey is processed and analyzed. At first, the data are described to elaborate the characteristics of the respondents. Then the data are checked for its reliability and validity. For further analysis of data uses regression testing and neural network-based testing models. The following steps were followed for questionnaire design. First researcher identified related and validated scale from earlier studies. Then, those identified scales were finalized with the help of TAC, IS and MSME experts. Total of 500 questionnaires were distributed to sample medium enterprises of electronics good and fashion sector. Data collection was conducted from September 2020 to April 2021. Out of 500 distributed questionnaires; 460 filled questionnaires were got. Out of these 460 filled questionnaires; 322 filled questionnaires (70 % response

rate) were usable, therefore meeting the sample size requirement. There were two returned questionnaires which were largely incomplete and therefore removed from data set. Finally, from these 500 questionnaires; we got 460 were valid filled questionnaires for this research study to infer conclusions (70% of total). In all segment of questioner consist of 20 questions. Total 500 questionnaires are categories into three sections, in first section consider 200 questions for e-commerce customers and 150 questionnaires for business entrepreneur and another 150 questions for support system related employee in e-commerce business model. The description of questionnaires attached with appendix of thesis.

Table 1: Area of industry distribution for the collection of data

Banks	City	Total intake of industry	Cover
Public	Bhopal	50	20
Private	Indore	60	25
	Jabalpur	30	10

The table 2 presents the demography of the respondents. Out of 250 responses received, around 70 respondents making 28.69 percent of the sample are from Bhopal. 119 respondents making 48.77 % of the sample are from Indore and another 61 respondents making 22.54 % of the sample are from Jabalpur. The analysis business line of the respondents reveals that 92 respondents, who are 37.70% of the sample, are in electronic goods manufacturing. 58 respondents, who are 23.77 % of the sample, are in auto component manufacturing. Further 94 respondents, making 38.52% of the sample are from fashion industry.

Table 2: Demography of the respondents

		N	Percent	Cumulative Percent
City	Bhopal	70	28.69	28.69
	Indore	119	48.77	77.46
	Jabalpur	61	22.54	100
	Total	250	100	
Business Line	Electronic Goods	150	60	60
	Fashion	100	40	100
	Total	250	100	
Organization Size	Small	170	69.67	69.67
	Medium	80	30.33	100
	Total	250	100	
Market Area	Regional	128	52.46	52.46
	National	99	40.57	93.03
	International	23	6.97	100
	Total	250	100	

Table 3: Maximum response of questioner 200

Questioner	Frequency	Response
17	150	Positive
15	130	Positive
14	120	Positive
9	125	Positive
8	105	Positive
19	90	Positive
TOTAL	720	

Table 4 shows the Factor Structure Matrix of Loadings and Cross-Loadings. The results were obtained by the Confirmative factor analysis (CFA) using SEM technique in

PLS tool. Visual PLS was used for the analysis. The highest factor loading of each item is marked in bold. The results confirm that the items are highly associated with their latent construct and there is no cross loading observed. This confirms the convergence and discriminant validity of the measurement instrument and the fitness of the data.

Table 4: Factor Structure Matrix of Loadings and Cross-Loadings

Scale Items	Protomer Satification	Support System	Intensity	Recall	Not Response	Positive	It Failure	Adoption
CS1	0.8516	0.7703	0.2485	0.6964	0.7905	-0.2092	0.2662	0.6313
CS2	0.8525	0.786	0.2805	0.7045	0.7739	-0.2807	0.2209	0.6025
CS3	0.8698	0.7913	0.3279	0.7139	0.8082	-0.2236	0.1483	0.5916
CS4	0.8418	0.7776	0.3328	0.6683	0.7818	-0.1714	0.1868	0.7039
CS5	0.8848	0.7542	0.1819	0.6818	0.7372	-0.2668	0.1567	0.6026
CS6	0.8618	0.7988	0.217	0.6204	0.7906	-0.2614	0.2158	0.6298
CS7	0.8461	0.7778	0.3307	0.6614	0.7029	-0.1605	0.2277	0.654
CS8	0.8656	0.7109	0.2688	0.6758	0.7376	-0.2677	0.248	0.638
CS9	0.8649	0.7145	0.2582	0.6934	0.768	-0.2744	0.1675	0.527
SS1	0.627	0.8633	0.2449	0.6134	0.5101	-0.3301	0.1742	0.6186
SS2	0.6157	0.8726	0.2863	0.6196	0.5831	-0.1976	0.1589	0.6154
SS3	0.6907	0.8686	0.3143	0.6449	0.7767	-0.2328	0.2237	0.6511
SS4	0.6155	0.8808	0.3406	0.6321	0.7998	-0.199	0.1701	0.5895
SS5	0.616	0.8739	0.3338	0.6869	0.7686	-0.2888	0.1115	0.5981
SS6	0.6836	0.8648	0.3483	0.6356	0.7469	-0.2268	0.1851	0.5805
IS1	0.2698	0.3019	0.8836	0.2028	0.2423	-0.0262	0.2723	0.4073
IS2	0.2429	0.2868	0.8965	0.216	0.1974	-0.0361	0.2925	0.3448
IS3	0.1521	0.2113	0.8237	0.1437	0.1357	0.0973	0.2672	0.243
IS4	0.3389	0.3647	0.8667	0.2857	0.2832	0.0656	0.2763	0.4528
IS5	0.3262	0.3483	0.8553	0.2701	0.2608	0.0622	0.2518	0.373
IS6	0.2049	0.2496	0.8555	0.1568	0.1498	0.023	0.3084	0.2886
IS7	0.3675	0.3955	0.8566	0.2474	0.2988	-0.0543	0.237	0.4306
RE1	0.5081	0.663	0.2816	0.8944	0.6751	-0.2434	0.2314	0.4779
RE2	0.5942	0.6693	0.1904	0.8727	0.7162	-0.3058	0.1135	0.4358
RE3	0.5613	0.6352	0.2359	0.8846	0.6522	-0.2582	0.2118	0.4658
RE4	0.5155	0.663	0.2489	0.8762	0.7251	-0.2324	0.2138	0.4381
RE5	0.5814	0.631	0.2067	0.8713	0.6673	-0.2743	0.2112	0.4567
RE6	0.5018	0.6826	0.1859	0.8610	0.6991	-0.2794	0.1484	0.4965
RE7	0.5766	0.6506	0.2302	0.8748	0.7022	-0.2297	0.1653	0.4375
RE8	0.5088	0.6907	0.1914	0.8848	0.7023	-0.2629	0.2203	0.5016
NR1	0.6114	0.4648	0.2556	0.4072	0.8598	-0.1523	0.2495	0.5921
NR2	0.6956	0.7762	0.252	0.6655	0.8842	-0.3062	0.252	0.6304
NR3	0.6103	0.7823	0.3183	0.6422	0.8328	-0.249	0.1797	0.677

5. Conclusion & Future Scope

In today's global business environment, Customer Relationship Management (CRM) practices are crucial for building a competitive advantage in the banking industry, particularly in selected commercial banks in India. This study explored customers' perceptions of CRM practices and their impact on the performance of these banks. The primary objective was to examine the effect of CRM practices on organizational performance, with a focus on the mediating roles of customer satisfaction and customer loyalty. The study identified key CRM practices-technology infrastructure, service personalization, service quality, customer orientation, customer satisfaction, and customer loyalty-as significant predictors of the organizational performance of commercial banks in India. Among these, service personalization, technology infrastructure, service quality, and customer orientation were found to have a particularly strong influence on performance. Additionally, customer satisfaction and loyalty were shown to mediate the relationship between CRM practices and bank performance. When customers perceive the banks' CRM practices positively, particularly in areas like technology infrastructure, service quality, personalization, and customer orientation, they are more likely to be satisfied with the bank's products and services. This satisfaction fosters greater customer loyalty, which in turn drives increased patronage, the expansion of bank branches for better accessibility, the introduction of innovative products and services, enhanced corporate social responsibility initiatives, and ultimately, an increase in market share and financial growth for commercial banks in India.

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