



National
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**IMPACT OF CRM IN IMPROVING PATIENT
SATISFACTION IN THE HEALTHCARE SECTOR OF
INDIA**

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Abstract

Customer Relationship Management (CRM) can be considered as a creative and innovative technology that improves transparent and convenient access to medical records and case history of the patients. In this regard, this study has aimed to evaluate the ways CRM software has enhanced patient satisfaction level. Considering that, the research objectives have been formulated to identify the influence of CRM software on customer satisfaction level followed by the challenges faced by the healthcare sector while integrating CRM software. Healthcare sector therefore has been benefited by the integration of CRM software as it has improved the digital patient record system. This study followed a primary quantitative data collection method and conducted a survey among 100-150 patients of the Indian healthcare sector followed by frequency analysis and statistical analysis method with the aid of SPSS software, resulting in-depth analysis. The findings reveal that patients in the Indian healthcare sector are satisfied with the quality services and CRM methods utilised. The personalised healthcare services and catering the individual customer demands will lead to improved customer loyalty and satisfaction. The challenges faced in the CRM in the Indian healthcare sector includes patient data management. The limitations of the study include lack of data gathered from rural areas and lack of in depth qualitative information. The survey can be improved by gathering a large number of respondents to get more accurate findings. The scope of the research includes development of policy framework in the healthcare sector.

Submission of Thesis and Dissertation

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Degree for which thesis is submitted: MSc in Management

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Abbreviation

CRM	Customer Relationship management
IT	Information Technology
AI	Artificial Intelligence
ML	Machine Learning

Chapter 1: Introduction

1.1 Background and Context of the study

In the healthcare sector, improvement of patient satisfaction and loyalty are the growing priorities as competition intensifies followed by the acceleration of expectations of the people. Customer relationship management (CRM) is a creative and innovative technology which seeks to upgrade customer loyalty, satisfaction and profitability through developing, maintaining and acquiring effective customer relationships as well as interactions with stakeholders in the healthcare systems (Nkrumah et al., 2020). Besides this, healthcare providers adopt CRM to improve patient comfort by using patients' mobile apps and portals. These digital platforms support patients for easily accessing the medical records, communication, appointments scheduling and obtaining personalised based health data by saving time (Asgari, Yaghoubi and Javadi, 2017). Therefore, through providing people with transparent and convenient access to their medical records, healthcare providers help in building loyalty and trust with patients and ultimately lead to greater range of satisfaction and boosted health outcomes. Thus, in the competitive market, the healthcare providers concentrate on CRM by assisting information systems for delivering high quality care and value over price. It has been found that the revenue in the CRM software market has been estimated to reach about \$1.22 billion in 2024 around India and predicted to increase to \$2.24 billion in 2028 (Statista, 2024) (*Refer to Figure 1*).

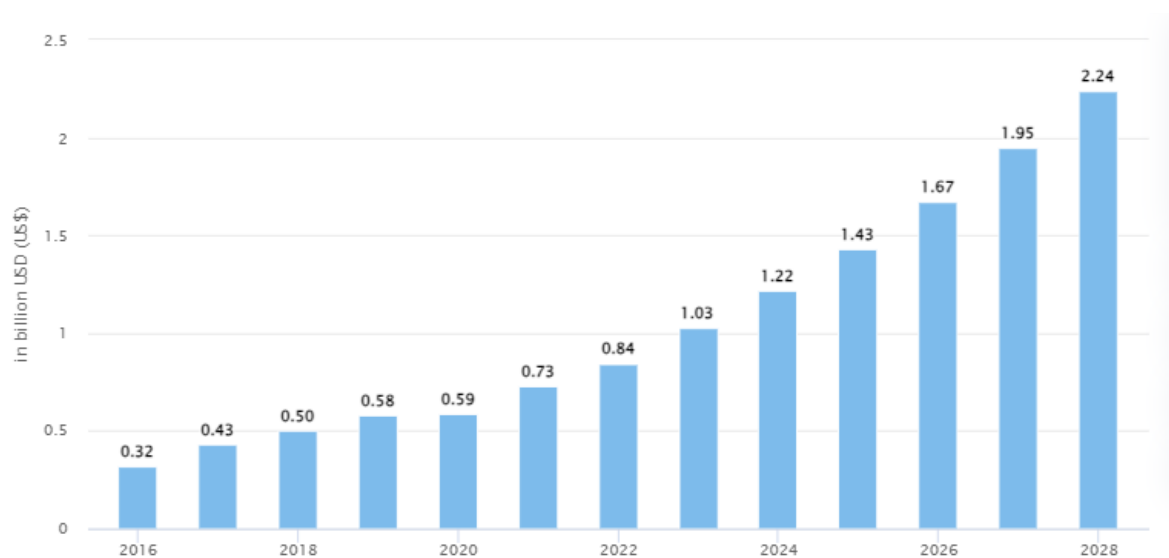


Figure 1: Revenue of CRM software market in India

(Source: Statista, 2024)

CRM has become increasingly prominent in the healthcare industry as a technological tool which helps in improving patient satisfaction and increasing their overall experience. Healthcare organisations involve the CRM technology to a large extent as healthcare providers are focused on providing high value and enhancing satisfaction of employees. As a result, the CRM software market has increased to enhance the satisfaction levels and improve overall patient experience, this in turn increases the size of the healthcare sector of India. In this regard, it has been reported that the healthcare sector of India was valued nearly \$280 billion in 2020 and expected to reach \$372 billion by 2022, (Minhas, 2023) (*Refer to Figure 2*). This indicated that the development and growth of the Indian healthcare market has been increasing significantly over the decades.

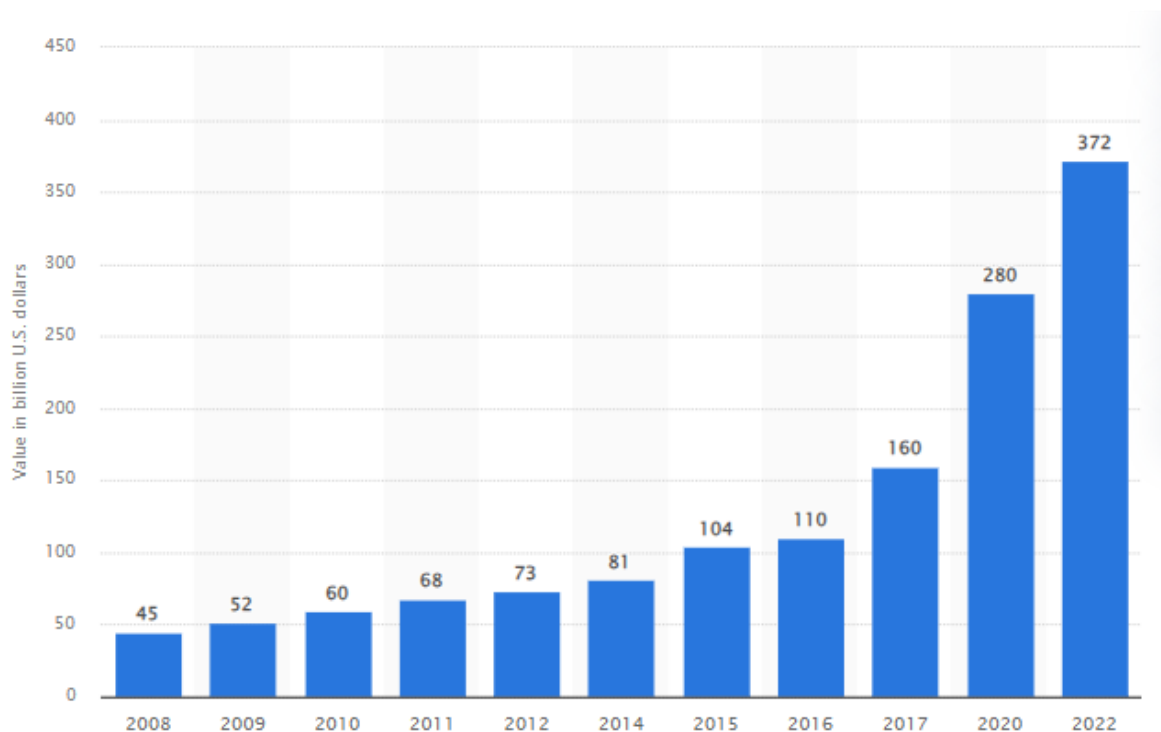


Figure 2: Size of the healthcare market around India from 2008 to 2022

(Source: Minhas, 2023)

1.2 Research Problem

In the competitive healthcare market, Indian firms as well as medical staff and patients experienced difficulties for transparent and convenient access over the last decades. For

example, insufficient communication, lack of customised treatment and personalised care, inefficient scheduling, poor quality of care (Mohanani, Hay and Mor, 2016). This in turn, has led to a decline in patient satisfaction and hindered the growth of healthcare organisations in India. In order to overcome the issues regarding insufficient communication, lack of customised treatment, inefficient scheduling, poor quality of care, CRM systems can be helpful to enhance customer satisfaction and loyalty. A customer relationship management system is an effective software tool which helps healthcare firms in managing patient information as well as streamlines their management (Baashar et al., 2016). Besides this, CRM systems can integrate data or information from several sources including patient demographics, website activity, and clinical information in order to offer comprehensive insights of patient activities and habits (Baashar et al., 2016). Therefore, it can be inferred that the implementation of CRM software has been influential in the healthcare sector for engaging, securing and retaining patients with suitable information. As a result, in recent times, the healthcare organisation is adopting CRM technology in order to enhance customer satisfaction and loyalty. However, due to deployment of CRM, major concerning problems such as data security and breaches, proper training, regulatory compliance, huge cost has been identified in the hospital sector (Svoboda et al., 2021). Hence, through identifying the issues, the present study would showcase the implementation of CRM software to improve patient care which increases their satisfaction and ultimately expands health business growth.

1.3 Literature Gap

The present study is based on the effectiveness of customer relationship management systems in enhancing patient satisfaction in the Indian healthcare sector. The majority of previous literature reviewed the impact of adaptation of customer relationship management systems in patient gratification and treatment in the healthcare industry. For example, Baashar et al. (2020) mainly focused on achieving generalised views of implementation and adoption of customer relationship management systems within the healthcare environments by incorporating systematic literature review. Moreover, the hospitals have assessed customer relationship management systems' impact on patient loyalty, satisfaction and some control variables such as socio-demographic characteristics (Nkrumah et al., 2020). However, only a few literature studies highlighted the effectiveness of integration of CRM systems within the healthcare sector across India. Inadequate information regarding Indian healthcare context

has been acknowledged as a gap in the present research. Therefore, the aim of the study is to decrease the gap in existing or previous literature by critically analysing the implementation of customer relationship management systems in the Indian healthcare landscape in order to enhance patient satisfaction and efficacy.

1.4 Research Aim and Objectives

1.4.1 Aim

The research study's objective is to assess the ways in which customer relationship management (CRM) systems contribute to higher patient satisfaction levels in the Indian healthcare industry through better care quality.

1.4.2 Objectives

The objectives of the research are:

- ❖ To assess the effectiveness of customer relationship management systems regarding improvement of patient engagement and comfort in the context of Indian healthcare sector
- ❖ To investigate the role of customer relationship management systems for personalised care for patients and treatment plans that contribute to increase patient satisfaction
- ❖ To address the issues encountered by the healthcare providers while deploying customer relationship management systems and barriers for accelerating the benefits of CRM regarding patient satisfaction

1.5 Research Questions

Main question

- How does the implementation of Customer Relationship Management (CRM) systems impact patient satisfaction in the healthcare sector of India?

Sub-questions

- How are customer relationship management systems effective for improving patient provider's engagement and communication in the healthcare sector of India?

- What is the role of customer relationship management systems for personalising patients care and treatment plans contributing to increased satisfaction of patients?
- What are the issues and barriers faced by the healthcare providers during implementation of customer relationship management systems for accelerating the benefits of CRM about patient satisfaction?

1.6 Research Hypothesis

H0: CRM system does not enhance patient satisfaction by improving the quality of care in the Indian healthcare sector.

H1: CRM system significantly enhances patient satisfaction by improving the quality of care in the Indian healthcare sector.

1.7 Significance of the Study

CRM systems have a vital function to improve as well as enhance patient satisfaction in the healthcare industry. In healthcare, CRM comprises the usage of strategies and technologies to analyse and manage patient interactions along with data in every part of the patient lifecycle by accomplishing the goal of improving patient satisfaction and outcomes (Gandhi, 2022). The study assesses the facilities of customer relationship management systems for personalising care of quality and treatment plans of patients. Therefore, gathering the knowledge of implementing this technology, healthcare organisations can analyse needs of sufferers, provide personalised services, improve communication and ultimately intensify overall their experience. According to Dhama et al. (2020), overworking staff, lack of knowledge and understanding of the patients about the disease create major challenges in obtaining patient satisfaction level in the context of Indian healthcare. Therefore, addressing the identified challenges such as overworking staff, lack of knowledge regarding disease, the study would make it easier for the policymakers to implement suitable strategies to mitigate those, which is one of its major significances.

Yang (2021) has prepared a report where he has presented the satisfaction level of the patients in healthcare systems of different countries worldwide (*Refer to figure 3*). The report reveals that the satisfaction level of the patients treated under the Saudi Arabian healthcare system is the highest. It has also reflected that 51% of patients are satisfied, wherein 24% are

neither satisfied or dissatisfied and 25% are not fully satisfied with the Indian healthcare systems. This indicates that the satisfaction level of patients from India have been less with healthcare services and it is lower as compared to the same services in the countries such as Saudi Arabia, Singapore, Belgium, United Kingdom and China. Therefore, by implementing CRM technology, healthcare organisations can improve patient trust and satisfaction. The way CRM could help in achieving patients' experience and satisfaction level in India would be evaluated through conducting the research study, it would in turn facilitate the implementation of the software in an increased number of healthcare organisations of the country. For such reasons, this research study is highly significant.

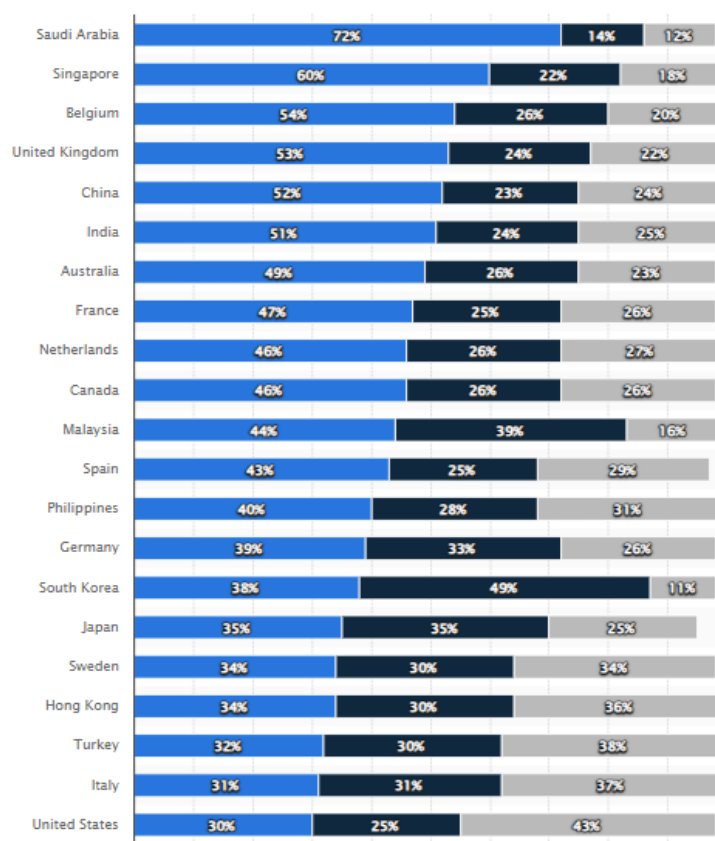


Figure 3: Satisfaction rate of the patients with the national healthcare systems of their respective countries

(Source: Yang, 2021)

(In figure 3, Blue represents very or fairly satisfied , Black represents neither satisfied nor dissatisfied , Grey represents not at all satisfied)

The above figure is representative of the responses on the satisfaction rate to national health system. It could be observed that in India showed a trajectory of 50% rate of satisfaction which stimulates the fact that the country disperses marginal accessibility of quality healthcare services not worthy for all.

1.8 Structure of the Dissertation

Dissertation chapters	Description
<i>Chapter 1: Introduction</i>	In this chapter, the research topic is contextualised through demonstrating the research background, problem, literature gap, aim, objectives, questions, hypotheses and significance of the study.
<i>Chapter 2: Literature Review</i>	In this section, a great variety of updated, related and authentic previous literature has been advocated critically to trace the development of knowledge in the field.
<i>Chapter 3: Research Question</i>	This chapter has been developed and presented in a way that achieves the research goals in a way that will offer important results.
<i>Chapter 4: Research Methodology</i>	This chapter is based on the research philosophy, choice, approach, design, data collection method, characteristics of the chosen databases, data analysis technique, time horizon and ethical considerations have been described in a proper way.

<i>Chapter 5: Main Findings and Analysis</i>	Based on collecting primary data, this chapter has critically analysed the quantifiable data to obtain a comprehensive understanding of the study. Moreover, this chapter presented empirical findings in order to answer the research questions and meet the research objectives.
<i>Chapter 6: Discussion</i>	In this chapter, prior analysis acquiring data from literature review, interpretation of the main findings and other relevant data have been done to meet the research questions and objectives critically.
<i>Chapter 7: Conclusions</i>	In this section, a brief explanation of the findings is presented to achieve the aim of the study successfully and meeting each of the research questions.

Table 1: Structure of the Dissertation

Chapter 2: Literature Review

2.1 Introduction

This literature review chapter tends to discuss the effectiveness of Customer relationship management (CRM) for improving patient provider engagement and enhancing patient satisfaction and to determine the issues faced by the healthcare providers during implementation of CRM within the different healthcare sectors in India.

2.2 Overview of CRM in healthcare

Customer Relationship management (CRM) is a practice based upon the relevant philosophy containing a healthy relationship between the consumers and marketing department of any organisation. The productivity of different organisations including healthcare organisations relies on their ability to develop efficient customer relationships, due to which these organisations imply significant effort towards customer relationships (Hassan and Bin-Nashwan, 2017). The healthcare industries are very much responsible to understand the effectiveness of CRM in patient care and patient satisfaction. According to Guido (2015) CRM includes customer satisfaction that can be defined as fulfilment of customers' needs, expectations and wishes during the service period by providing them good treatment within the healthcare sector (*Refer to figure 4*). Based on the above aspects it can be perceived that, within the healthcare sector, the satisfaction of the customers (patients and their families) is immensely important which contributes to making CRM immensely important for the sector. As a result, more strategies need to be implemented for getting excellent outcomes in order to retain the patient satisfaction and to overcome the challenges during the service period. Thus, in order to implement CRM, the patient loyalty and patient satisfaction needs to be improved within the healthcare sector worldwide to provide quality service to the patients.

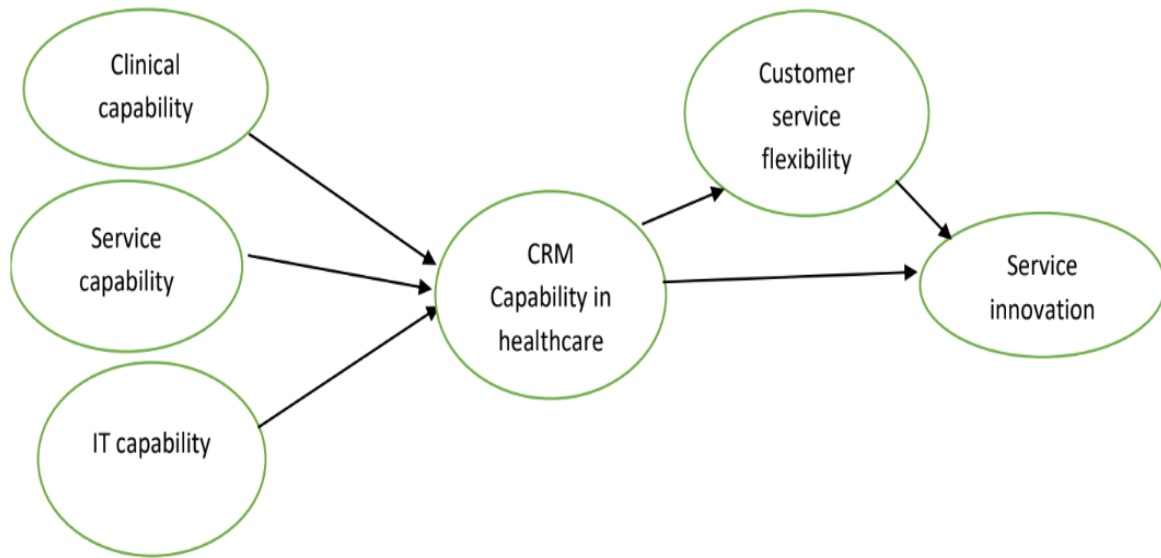


Figure 4: Overview of CRM practice in healthcare

(Source: Sanan, 2023)

2.3 Identification of key components and features of CRM systems in healthcare

Healthcare industries face huge kinds of substantial pressure to implement a high-quality service while maintaining patient loyalty and patient satisfaction in the form of CRM practices. “As stated by Baashar et al (2016) the main key components of CRM practices in the healthcare sector are healthy communication with patients, learning about the patients, building good relationships, providing relevant data of patient diagnosis, patient loyalty and their retention” (*Refer to figure 5*). Thus, it is identified that the main of the CRM practices for healthcare is proper communication, analysing the needs of the patients, developing better relationship, putting proper data of diagnostic which enhances loyalty of the patient.

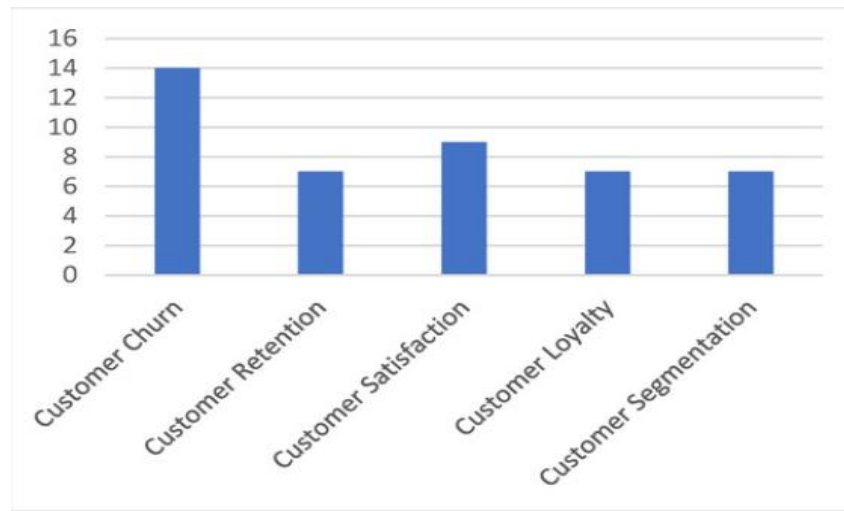


Figure 5: Key components of CRM

(Source: Saha et al., 2021)

Creating a good relationship not only helps in increasing the satisfaction but also maintains a good communication between the hospital, physicians and the patients which is one of the key features of implementing CRM. In addition, another feature of this CRM practice is to improve the quality of the services against chronic disease. According to Cai and Lo (2020), the implementation of different communication and various sales channels, denoted as the omnichannel incorporation which guarantees flawless and consistent customer experience via both online and offline platforms. ***Omnichannel incorporation*** in healthcare is another kind of feature of CRM practices that provides seamless and personalised digital care to the patients helps in enhancing the satisfaction and improving treatment plans in a low budget (Moreira et al., 2023). Thus, the adaptation of CRM practices can lead to high patient engagement, loyalty and improve the patient satisfaction for better quality service.

2.4 Analysing the impact of CRM upon patient satisfaction in terms of global perspective

Customer relationship management (CRM) has been involved in around every marketing sector including the healthcare industries. The implication of CRM has opened a new door by maintaining customer loyalty and satisfaction in the era of healthcare marketing and one of the most important components of CRM is patients' data management including medical history to personal information. CRM helps in streamlining the patient's management starting from patient's enquiry to nurturing emails after the patient visits the healthcare sectors. In

addition, the CRM practices allow to provide reminders to the patients about the next check-up, meeting and due bill that reduces the time of waiting. According to Gandhi (2022) the higher patient involvement plays a significant role in maintaining CRM specially when the patients get care after the discharge. This post discharge support helps the patients to provide faster recovery by enabling them in gaining support regarding the post discharge care approach and they are more satisfied with their service which puts a huge impact on the productivity of the healthcare sector. As stated by HAMADE (2022) the CRM practices involve a strategic plan to improve the communication with the patients, database establishment and customer satisfaction. This CRM practises and maintains a good relationship with the customers and can improve the total sales performance based on the customer loyalty and retention of the customer. Thus, the implication of CRM practices put a huge impact on maintaining patient satisfaction and patient care for producing a better-quality service in the healthcare sectors. CRM procedures involve the stages of recognising health needs, exploration of patient information, valuation, judgement regarding treatment, admittance of outpatients and follow-up feedback which enable maintaining the efficiency of the CRM approach in the healthcare sector (*Refer to figure 6*).

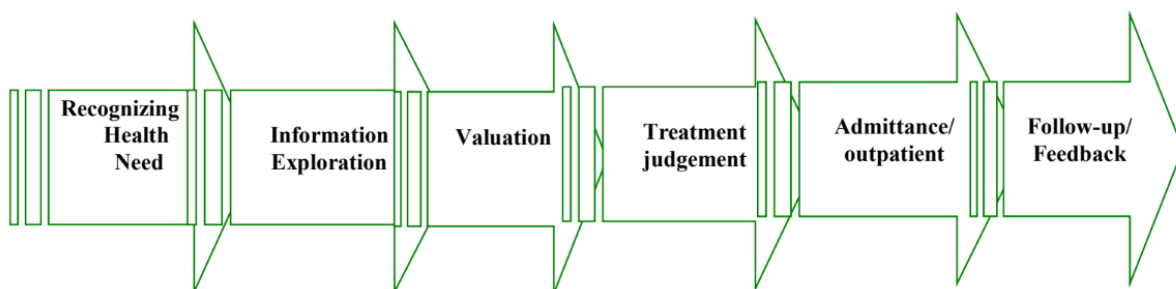


Figure 6: Impact of CRM Procedure for Effective Healthcare Service

2.5 Effectiveness of CRM for patient providers engagement and for effective communication in Indian Healthcare Sector

In the Indian healthcare industry, the use of Customer Relationship Management (CRM) technologies has greatly enhanced communication and patient provider collaboration. In the perception of Baashar et al. (2020), suggest that healthcare providers are able to improve patient information management, communication and personalisation of care by incorporating CRM technology. One of the largest hospital chains in India, Apollo Hospitals, is an important example of using CRM strategy (Roy, 2022). The CRM system of Apollo is

to centralise patient data, making it easier for healthcare providers to obtain comprehensive histories of patients and enhance treatment planning and diagnosis precision. Thus, it can be concluded that effective connections with patients and providers are enhanced through better informed interactions. Moreover, the data of Fortis Healthcare network has reported that there was a 20% improvement in the rate of patient satisfaction due to implementation of CRM system (Fortis, 2019). On the other hand, as noted by Haleem et al. (2021), the enhancement of communication channels, such as automatic reminders for meetings, calls to follow up and feedback from patients' tools, has been associated with this improvement. In order to preserve trust and fulfilment, these methods ensure individuals are acknowledged and valued. Based on Haleem et al. (2021), telemedicine enhances CRM by means of building personalized and reachable health care services that foster the patient-provider relationship. Also, as highlighted by Lambert (2019), utilization of CRM has kept the administrative process through telemedicine services where it reduces waiting hours rate hence improving healthcare provision effectiveness in general (see figure 7). For example, Manipal Hospitals integrated CRM with their billing system as well as appointment scheduling which reduced patient waiting time by 15% (Jacob & Kamath, 2019). Additionally, when patient engagement is improved doctors can spend more time taking care of patients rather than doing administrative work. Furthermore Nasir(2017) argues that apart from enhancing communication; Indian healthcare should use CRM systems because they promote a more patient centric approach. While this may be true, it can therefore also be said that among other things another function of crm is monitoring and personalizing care through centralization of patient data faster appointment scheduling. Through personalized health information and intuitive reminders it supports better communication thereby fostering trust and satisfaction between involved parties. Finally let us conclude our discussion here by stating that implementation strategy for customer relationship management helps in establishing effective communication channels among all stakeholders involved. These examples depict how essential customer relations management technology is towards transforming patient communication and engagement within Indian health care system leading to increased

satisfaction levels among them while at the same time achieving positive medical outcomes.

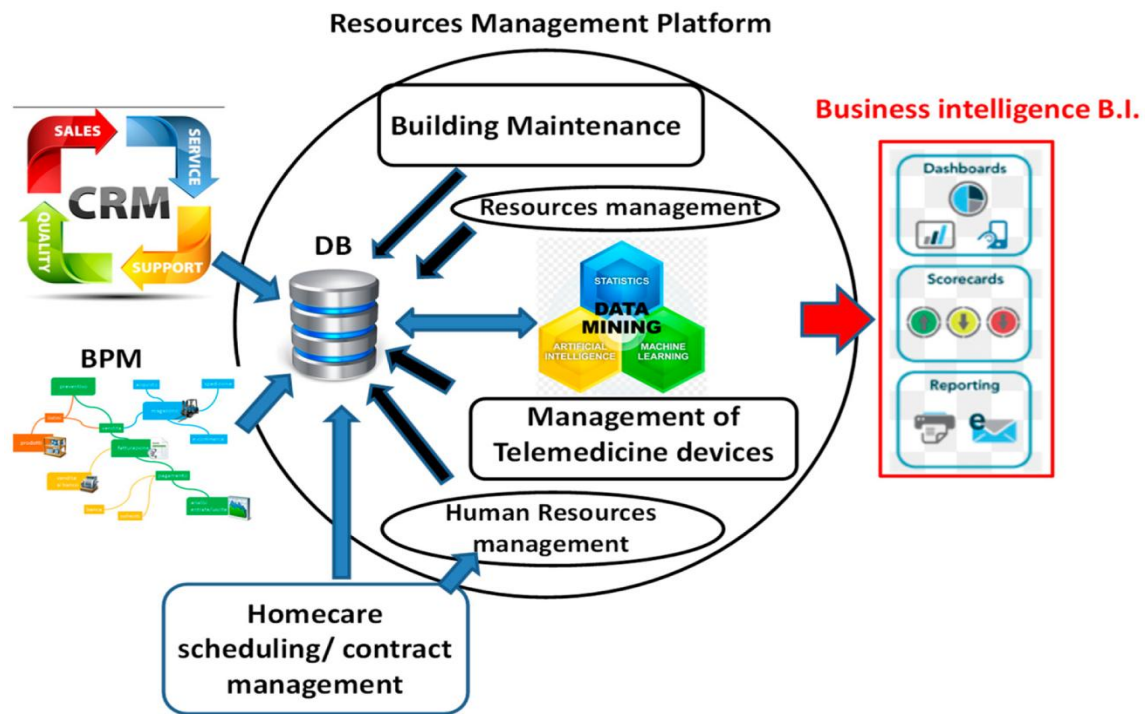


Figure 7: Health Resource Management Platform through telemedicine

(Source: Massaro et al., 2018)

2.6 Role of CRM for personalising patient care to enhance patient satisfaction in Indian healthcare sector

In the Indian healthcare industry, the CRM technologies are important for personalising the care of patients that automatically increases the level of satisfaction. In the perception of Gandhi (2022), the practitioners in healthcare are able to systematically collect and analyse patient data through using CRM technology which results in more individualised and effective care. In India, where patient expectations are changing quickly, and the healthcare system is diverse, personalisation is essential (Bin-Nashwan and Hassan, 2017). On the contrary, as mentioned by Jalal et al. (2019), CRM systems facilitate thorough handling of patient information that helps healthcare providers in understanding medical histories, treatment plans and preferences. Furthermore, this enables physicians to anticipate needs of the patient and respond promptly thus facilitating proactive care management (Jalal et al., 2019). A well-known hospital chain in India, Fortis Healthcare, for example uses CRM to keep track of patient contacts and preferences enabling more individualised service (Fortis,

2019). According to Fabozzi and Sullivan (2018), the study of Frost & Sullivan found that hospitals which utilized CRM systems had a 20% rise in patient satisfaction. Furthermore, a report by Deloitte highlights that personalised patient engagement through CRM tools can reduce hospital readmissions by 15%, which depicts the effectiveness of the system in enhancing patient care quality (Deloitte, 2022). Another significant Indian healthcare provider, Apollo Hospitals, has streamlined patient updates and communication by putting up a CRM system. These results highlight how CRM transforms patient care and satisfaction. Thus, it can be concluded that CRM strategy is most important in terms of personalising patient care through enabling detail of the patient and personalising communication which automatically enhances the rate of patient satisfaction.

2.7 Issues faced by the healthcare provider due to implication of CRM in Indian healthcare sector while managing customer relationship

Implementation of CRM systems for the healthcare sector in India poses several challenges for healthcare providers. In the perception of Mumtaz et al. (2023), one of the major issues is lack of digital infrastructure and lower rate of digital literacy among healthcare workers. Thus, it is noted that many healthcare sectors in India among rural areas rely on paper-based systems for documentation. The transition to digital CRM systems from traditional systems requires greater investment in the IT infrastructure which is quite expensive (Mumtaz et al., 2023). For example, according to a 2020 survey conducted by the Internet and Mobile Association of India (IAMAI), only 24% of rural healthcare providers have the infrastructure required to provide digital healthcare services (IAMAI, 2021). Additionally, as noted by Jha, Dave and Madan (2017), data privacy as well as maintaining security is another important issue. The healthcare industry usually handles huge amounts of data, and thus any breaches of data leads to severe results. Inadequate cybersecurity protections lead many hospitals to struggle to comply with legislation like the Personal Data Protection bill 2019 (Alanazi, 2023). One of the biggest diagnostic chains in India, Dr. Lal PathLabs, experienced a data breach that was disclosed by Cyble Inc. in 2021 (Dr. Lal PathLabs, 2022). The breach revealed over 70 lakh names, addresses, and test results, of patients among other sensitive personal data (Dr. Lal PathLabs, 2022). Therefore, a significant Indian hospital experienced a ransomware attack in the year of 2021, that exposed the data of patients (Dameff et al., 2023). Furthermore, identified by Monem, Hussin and Behboodan (2017), implementation of CRM

based on the existing hospital management system is quite complex. Thus, it increases compatibility, that often fragmented important data and lowers the rate of workflow. Based on the survey of Frost & Sullivan for the year of 2019, 45% of the healthcare providers in India face adequate challenges in infrastructure and resources, regulatory issues, proper training, maintaining data privacy while developing new digital systems which automatically delays the operations and enhances costs (Sullivan, 2024) (*Refer to figure 8*). Moreover, identified by Krist et al. (2017), developing patient trust and engagement is another issue that is identified. As many patients from vulnerable age groups usually prefer direct interaction than that of digital communication process (Krist et al., 2017). It is noted that Xenon Multi-speciality Hospital at Mumbai revealed many patients still visit in the hospital physically because they prefer direct interactions than that of digital systems (Xenon, 2023). Hence, it can be concluded that though CRM has the potential to transform the Indian healthcare sector, it also poses challenges like enhancing the rate of patient engagement, maintaining data security and many more. Thus, addressing these issues requires better investment in technology, proper training of staff.

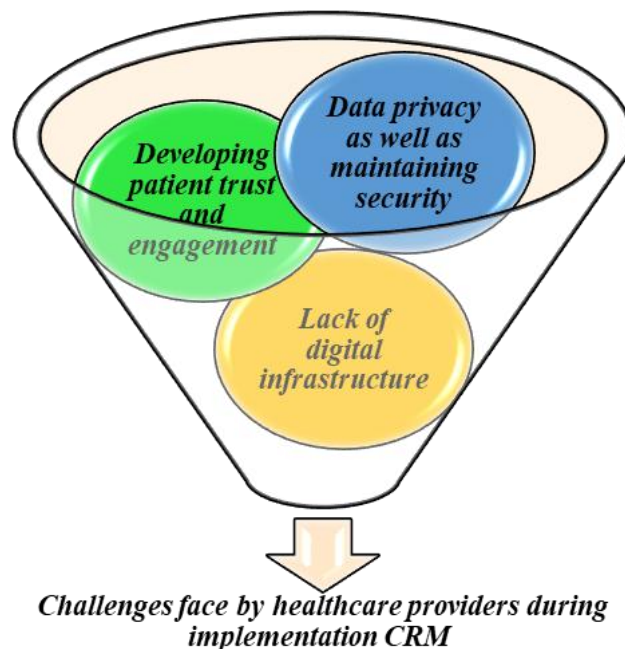


Figure 8: Challenges face by healthcare providers during implementation CRM

2.8 Strategies implemented to promote the usage CRM in healthcare sector

India is facing an era where the healthcare sector is continuously trying to improve their CRM practices but they have faced the above discussed issues which needs to be solved based on the current scenario. Lower digital literacy is one of the biggest problems of implementing digital treatment via CRM practices. According to Tegegne et al (2023) 48.2% health professionals were observed having poor digital literacy. To develop CRM practices in Indian healthcare, it is necessary that digital computer accessibility should be increased along with organizing training programs related to digital health technology and adopting an affirmative approach towards CRM practices can serve as an effective strategy for enhancing health information systems. The findings from Rathore's (2023) research showed that 52.46% health professionals need digital literacy training skills all over India to overcome the poor digital literacy issue.

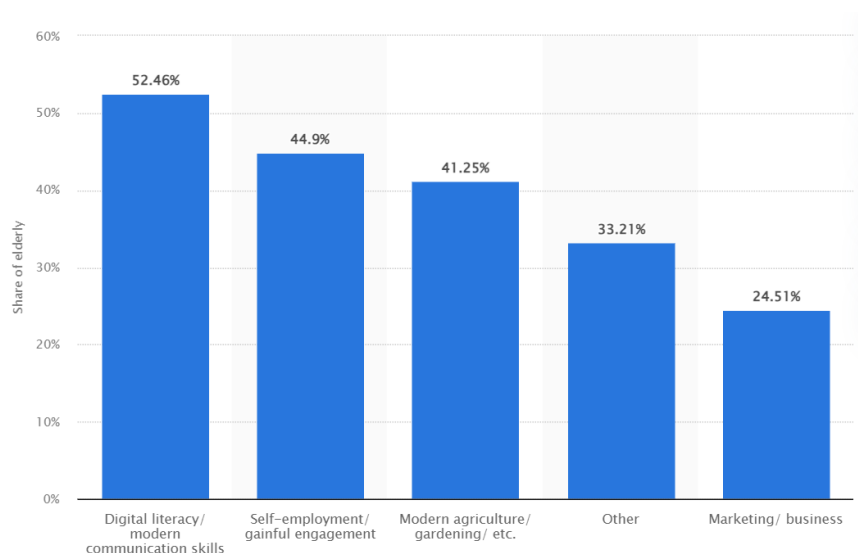


Figure 9: Requirement of digital skill training in India.

(Source: Rathore, 2023)

Apollo Medskills has chosen to work with the National Skill Development Corporation in order to enhance its teaching methods. This involves things such as simulated laboratories that require high digital skill levels, and web conferencing systems which students can use to ensure they are well versed with digital technology literacy for improved CRM practices (Apollo Hospitals, 2024).

The best practice of CRM to maintain the *privacy of patient identification* and securing the data. The accurate and specific data needs to be collected by the healthcare providers in the

form of patient consent through an affirmative and clear action-based manner. The personal data needs to be protected by the healthcare professionals through some technological and administrative controls in the form of cloud storage with strong password. *The Indian Digital Personal Data Protection Act (DPDPA)* needs to be incorporated in the healthcare sectors not only to secure the personal data of patients but also to protect the privacy of the health professional including hospital staff (Spencer and Patel, 2019). This DPA defines the patient right and in case of any data breaching the organisation may be fined a huge amount.



Figure 10: Cyber-attacks and security through cloud storage in healthcare of India

(Source: Pwc, 2019)

It is significantly shown in the figure according to a survey of Pwc (2019) 91% of Indian healthcare respondents faced data breaching and cyber-attack while 57% respondent suggested using Cloud storage with strong password as an effective strategy against data breaching for CRM practices. Thus, the implementation of the above-mentioned strategy including literacy training and DPDPA practice can be used for addressing the challenges arise due to the incorporation of CRM in healthcare sector of India

2.9 Exploring the future directions and emerging trends in healthcare for patient satisfaction by CRM

The incorporation of CRM systems that are essential for improving the satisfaction of patients is revolutionising the future of healthcare. As the healthcare system becomes more patient-centered, CRM systems are evolving to deliver individualized, efficient, and

responsive care, according to Jalal, Bahari, and Tarofder (2021) . The usage of artificial intelligence (AI) and machine learning in CRM to forecast patient needs and wants is a new wave that supports anticipatory care and timely response (Kumar, Sharma & Dutot, 2023). Thus, healthcare providers are able to assist their patients while enhancing patient outcomes by using AI driven analytics to identify trends in patient behaviour. On the other hand, identified by Baashar and Mahomood (2019), telehealth and remote monitoring creates scope in transforming CRM in healthcare. There was an increase in the rate of adopting telemedicine especially after the situation of COVID-19 which helps in continuous patient involvement and monitoring ensuring that individuals obtain care whenever they feel it is convenient (Kichloo et al., 2020). Hence, these trends not only improve healthcare access but also increase the rate of patient satisfaction as it reduces the cost and time of travelling. Furthermore, identified by Kichloo et al. (2020), sudden rise in the mobile health application is another most significant trend. It is noted that these healthcare apps usually connect with the CRM systems, which empowers individuals to effectively manage their healthcare activity, managing their appointment, better accessing the records and to get proper tips (Ventola, 2019). Therefore, patients feel more satisfied and in control when they have this level of involvement. Additionally, it is noted that advanced forms of CRM systems are designed in case of integrating electronic health records (EHRs) with that of other healthcare IT systems which ensures a thorough understanding of the medical journey of a patient (Ratwani, 2020). Therefore, this can be stated that this coordination helps in effectively managing the healthcare system thereby enhancing total patient experience for the future.

2.10 Theoretical underpinning

2.10.1 CRM Behaviour Theory

CRM Behaviour Theory focuses on utilising customer relationship management techniques to comprehend and forecast consumer behaviour. It integrates data analytics and psychological understanding to enhance client retention, loyalty, and satisfaction. Businesses may effectively address client desires and develop relationships that last by customising their strategy based on analysis of interactions and preferences (Labus and Stone, 2020). CRM Behaviour Theory plays an important role in terms of defining the effectiveness of CRM strategy that helps in developing patient engagement and to enhance communication in the

healthcare sector. Healthcare professionals can evaluate and enhance their relationships with their patients by concentrating on important CRM components such as relationship development, communication and individualised treatment. Rane, Achari and Choudhary (2023), suggests proper development of CRM systems helps in developing effective communication channels, which helps in better addressing the queries of patients which fosters trust and satisfaction. Furthermore, by leveraging patient data to alter medical care, these systems offer new possibilities for developing creative treatment plans and personalising care, which raises patient satisfaction rates (Javaid et al., 2022). However, developing CRM systems for the Indian healthcare systems poses challenges due to the issues like inadequate training to the providers of healthcare and resistance to the adoption of technology (Chatterjee et al., 2020). Hence, overcoming these issues needs better planning, an effective training process, and fostering an environment for open communication. Furthermore, identified by Awasthi, Dubey and Sangle (2015), addressing these challenges helps in accelerating the adaptation as well as enhancing the effectiveness of CRM systems which ultimately develop the level of patient satisfaction and engagement. Hence, it can be concluded that despite current challenges, CRM behaviour theory offers a framework for evaluating and enhancing CRM systems in the healthcare industry. It focuses particular emphasis on the significance of relationship-building, communication and personalisation in generating improved patient satisfaction.

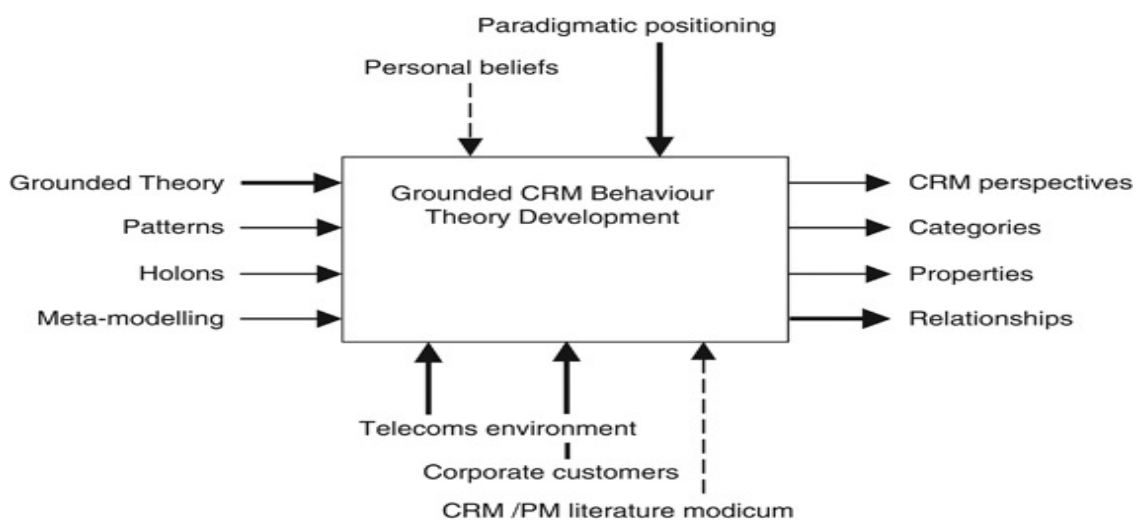


Figure 11: CRM Behaviour Theory

(Source: Labus and Stone, 2016)

2.10.2 Five Process model

In order to understand the CRM in the healthcare sector the five-process model developed by Payne and Frow (2006) is a very beneficial model. This model is contained with *five steps including strategy development, value creation, multi-channel integration, performance assessment and information management process (Refer to figure 12)*. According to Payne and Frow (2006) the first step, the strategy development process, includes the examination of patient needs and expectation in the form of customer strategy to handle the future circumstances according to the patient's requirement for implementing CRM activities. In addition, the value creation process signifies finding the valuable and specific customers to provide relevant benefits including maintaining the relationship with the patients for better growth of the health sectors. Multi-channel integration allows one to make a decision including all combinations of channels that ensures the patients have very positive interactions with the channels leading to better CRM implementation in the healthcare sector with huge success and opportunities to the patients. As per Payne's five process model, assessment of performance ensures that the main objective of the CRM practices has been delivered to the patients as major stakeholders of the healthcare sectors through their profit margin and shareholder value. Lastly, the analytical usage of this model is the information management procedure that includes the IT systems with hardware, software, analytical tools for collecting, organising the data for maintaining personal data security of the patients that is one of the key components of good CRM practices for patient satisfaction and expectation in the healthcare sector.

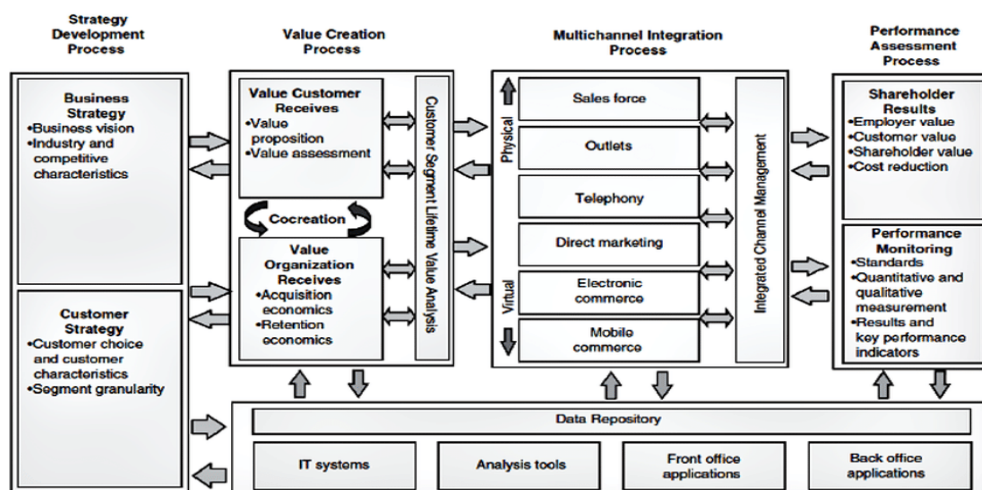


Figure 12: Five Process model

(Source: Rahimi, Nadda and Wang, 2018)

2.11 Summarisation of all the studies included in this literature review

Citation	Title	Methodology	Key Findings
(Alanazi, 2023)	“Clinicians’ Perspectives on Healthcare Cybersecurity and Cyber Threats”	Primary qualitative	To minimize dangers, protect patient trust and healthcare viability; thereby saving lives, cybersecurity should be the number one concern for the health sector. All efforts must be made to repel cyber-attacks; this calls for a united front through policy enforcement coupled with behavior change as well as adoption of new methods.
(Awasthi, Dubey and Sangle, 2015)	“Contemporary challenges in CRM technology adoption: A multichannel view”	Primary qualitative	Based on the study it is noted that two main types of problems that affect the adoption of multichannel CRM: traditional challenges and modern challenges.

(Baashar and Mahomood, 2019)	“Customer Relationship Management (CRM) in Healthcare Organization: a Review of Ten Years of Research	Secondary qualitative	Consumers are the vital component of any business, and these companies cannot operate without successfully managing their relationships with them. In recent times, many institutions have moved away from focusing on products and instead adopted a approach which is centered around the customer. This implies that they now offer services or goods based on what a buyer thinks or wants.
(Baashar et al., 2020)	“Customer relationship management systems (CRMS) in the healthcare environment: A systematic literature review”	Systematic literature review	The primary factors influencing patients’ choice of hospital, patient happiness, and service quality were found to be professional interaction, cleanliness, and nurses.

(Bin-Nashwan and Hassan, 2017)	“Impact of customer relationship management (CRM) on customer satisfaction and loyalty: A systematic review”	Systematic literature review	Review the research on customer relationship management (CRM) in this research, focusing particular attention to how CRM affects customer loyalty and satisfaction. CRM is a collection of procedures that businesses employ to develop and retain their customer base.
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(Chatterjee et al., 2020)	“ICT-enabled CRM system adoption: a dual Indian qualitative case study and conceptual framework development”	Primary qualitative	Evaluate how prepared organizations are in terms of infrastructure and resources for implementing innovative CRM systems enabled by ICT. Identify functional areas within organizations that should be given priority as well as differences of approach depending on industry or type of organization.
(Dameff et al., 2023)	“Ransomware Attack Associated With Disruptions at Adjacent Emergency Departments in the US”	Primary quantitative	The frequency and complexity of cyberattacks targeting organisations that provide healthcare are on increasing. Significant operational impact has been linked to ransomware infestations.

(Gandhi, 2022)	“A new era in healthcare marketing through digital transformation and CRM”	Secondary qualitative	The study addresses the advantages and aspects that lead to a rise in CRM usage in hospitals.
(Haleem et al., 2021)	“Telemedicine for healthcare: Capabilities, features, barriers, and applications”	Primary quantitative	During the pandemic, the Centers for Medicare and Medicaid Services have expanded access to telemedicine services. Other benefits of telemedicine include cheapness, ability to reach specialized areas without living there and providing a solution to the future labor force supply shortage problem.

(Jacob and Kamath, 2019)	“Introduction of a universal EMR integrated online healthcare management system mobile app in hospitals throughout India and its benefits to patients, hospitals and governments”	Systematic Literature review	Healthcare has remained, and continues to be an expanding sector with enormous potential for national advancement. It would be irresponsible to ignore the incorporation of mobile devices into the medical field especially in view of its recent development.
(Jalal, Bahari and Tarofder, 2021)	“Factors Influencing Social Customer Relationship Management Implementation and its Benefits in Healthcare Industry”	Primary quantitative	This study focuses on developing better communication processes in terms of better engagement of customers and to gain effective benefits from the healthcare sector.

(Javaid et al., 2022)	“Significance of machine learning in healthcare: Features, pillars and applications”	Primary research	Machine Learning a branch of an Artificial Intelligence technology trained to multiply productivity and accuracy in medical work. AI offers an abundance of optimism for countries who are experiencing issues with an overloaded healthcare system and a shortage of workforces.
(Jha, Dave and Madan, 2017)	“Big Data Security and Privacy: A Review on Issues, Challenges and Privacy Preserving Methods”	Primary quantitative	The exponential expansion of IOT and cloud computing in the decade has resulted in an abundance of data across nearly all industries, academic fields and business domains.

(Kichloo et al., 2020)	“Telemedicine, the current COVID-19 pandemic and the future: a narrative review and perspectives moving forward in the USA”	Secondary qualitative	In response to the pandemic, the Centers for Medicare and Medicaid Services have expanded access to telemedicine services. The coming benefits of telemedicine are that it can be cheap, can give access to specialized medical care and has the potential of mitigating the expected shortage of personnel.
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(Sanan, 2023)	“CRM Capability And Service Innovation In Healthcare: Evidence From India”	Primary qualitative	To investigate the flexibility and accessibility of using CRM that allows the effective innovation in the healthcare sectors and consideration of CRM as a mechanism that contributes on practical and theory-based knowledge on the significance of CRM practice in the healthcare sectors.
(Krist et al., 2017)	“Engaging patients in decision-making and behaviour change to promote prevention”	Primary quantitative	The significance of the patient engagement and consideration of patient relationship between the health professionals and patient engagement in terms of care expectations, reducing cost, improving customer satisfaction in the healthcare sectors.

(Kumar, Sharma and Dutot, 2023)	“Artificial intelligence (AI)-enabled CRM capability in healthcare: The impact on service innovation”	Mixed method	The importance of AI based CRM applications in the healthcare sectors with some proper clinical trials and skills for the primary basis of the customer relationship management and services toward the patients with improvement of AI related CRM.
(Labus and Stone, 2016)	“The CRM behaviour theory – Managing corporate customer relationships in service industries”	Primary Qualitative	Grounded theory-based approach to invent in order to maintain the CRM practices based on the behaviour theory which contains seven interrelated objectives of managing CRM in industries like telecommunication.

(Lambert, 2019)	“Customer relationship management as a business process”	Systematic literature review	Create a system for managing business relationships between two companies, looking at CRM from a macro-level perspective to improve stakeholder value.
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Table 2: Literature Matrix

2.12 Literature Gap

Based on the existing research studies it has been observed that they did not provide any specific information about the CRM practices in the healthcare sectors of India in order to maintain patient satisfaction and patient loyalty. The impact of CRM practices in the healthcare sectors has not been clearly described in the previous studies. In addition, the application of CRM practices with their key components and the relevant features has not been clearly described in the previous literature. The studies did not provide any concrete information about the different challenges that the healthcare sectors faced within the specific country India. On the other hand, the different strategies including digital literacy practices and data security to overcome the challenges by implementing CRM have not been justified properly in the existing study. As a result, this study has been conducted to discuss the relevant challenges, the new strategies with a proper justification and evidence including theoretical approach regarding the CRM practices within the Healthcare sector of a specific country like India.

2.13 Conceptual framework

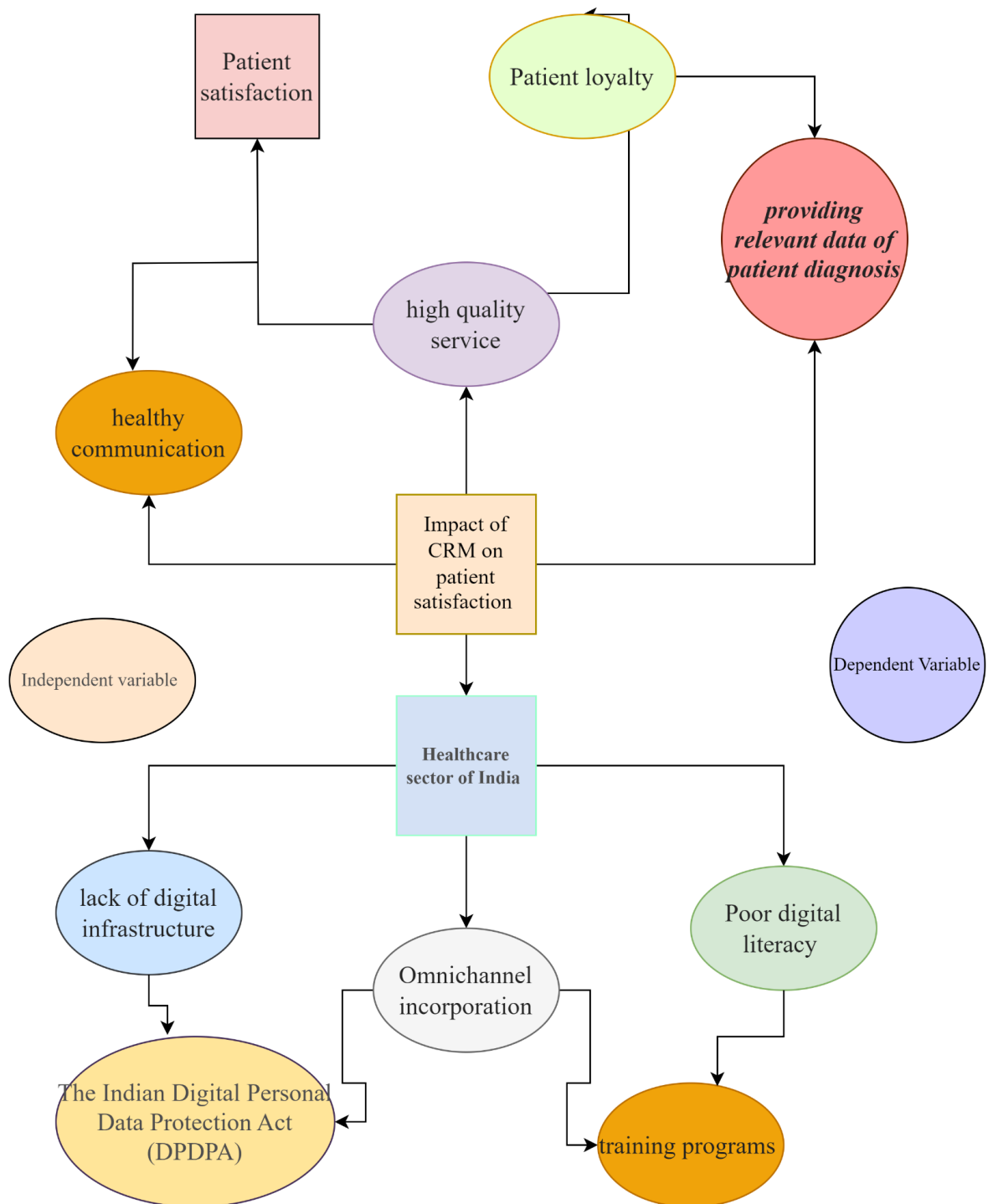


Figure 13: Conceptual framework

Analysis:

The diagram of the conceptual framework reveals the connection between customer relationship management (CRM) and patient satisfaction in the Indian healthcare system,

with CRM being viewed as an independent variable and health sector outcomes as dependent ones. The model indicates that good CRM can raise patient contentment as well as fidelity through provision of personalized high quality services and ensuring healthy communication. Moreover, it points out some obstacles including absence of digital infrastructure and low levels of digital literacy which may hinder implementation of CRM. In order for this to be achieved according Omnichannel Incorporation should be considered while complying with Indian Digital Personal Data Protection Act (DPDPA) coupled with specific trainings targeting at improving digital skills among healthcare providers so that they can become more effective in their service delivery based on these models.

2.14 Summary

Customer relationship management (CRM) is a concept of maintaining good relationships with the customers for proper growth and productivity. The healthcare sectors are the most growing industries within India and as the patients are the main stakeholders the implementation of CRM practices within the healthcare sector is very much required. In addition, CRM practices introduce many challenges including poor digital literacy and data insecurity. These challenges can be overcome by incorporation of different strategies like Data Protection Act and training of digital technological skill. The patient loyalty, patient satisfaction are the major key components of CRM in healthcare sectors. Thus, by implementing the CRM in the healthcare sector in India provides good quality services that can lead to higher productivity based on patient satisfaction and care.

Chapter 3: Methodology

3.1 Introduction

The methodology chapter illustrates the step-by-step process of the study such as the research design, data gathering technique, data analysis procedure, ethical considerations and recommendation. Saunders' research onion is used to determine the methodological approach to the study concerning the consecutive layers. As per the analysis of Saunders et al. (2019), a structural framework for constructing significant research design through the layers ensures a coherent and comprehensive approach to the research approach. A structured way of thinking about research methods makes sure that information is reliable and valid at the same time as findings are reached. Moreover, the chapter comprises an evaluation of the ethical considerations that are integrated concerning the data collection process, ethical measurement with the participants, and data analysis processes. To improve the research approach and design, an effective measurement is conducted prior to conducting the study which involves assessing time, adverse effects, feasibility, risk and cost. In this section, important suggestions and consequences are examined accurately on the basis of analysis of primary quantitative data.

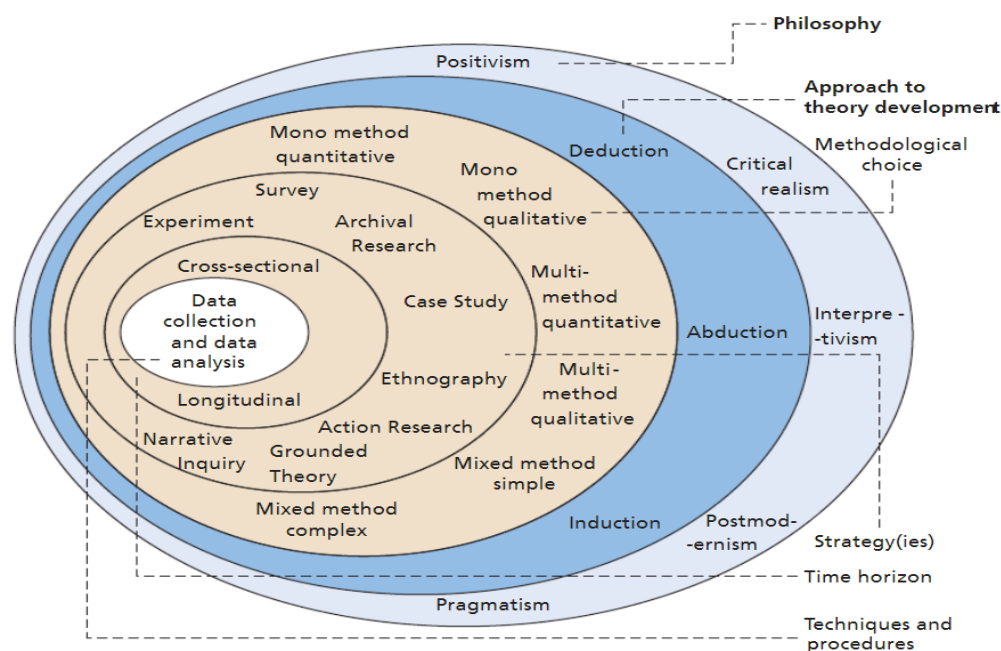


Figure 14: Saunders Research onion

(Source: Saunders et al., 2019)

3.2 Research Approach

This research is based on *deductive research approach* since it is essential for medical research and for real-world applications because it uses hypotheses to test theories in a systematic way. In the viewpoint of Kim (2021), deductive research approaches move from a broad theory or hypothesis to concrete data, allowing scholars to evaluate the viability of preexisting theories. Therefore, it can be analysed that accepting deductive research approaches for this research assists in understanding the impact of CRM strategy in enhancing patient satisfaction from a broader perspective and also evaluates the previous theories based on this research study. Moreover, identified by Casula, Rangarajan and Shields (2020), by emphasising on validating or invalidating preconceived ideas rather than establishing facts deductive research approach helps in minimising biases. Hence, accepting deductive research approaches assists in effectively understanding the role of CRM strategy for personalising care and to make effective treatment plans by decreasing the level of biases. It is identified that deductive research approach has some limitations as it might be excessively rigid, frequently concentrating only on supporting or contradicting established views (Woiceshyn and Daellenbach, 2018). Additionally, the the method of deductive inquiry depends largely on the availability and accuracy of existing data, which would not always reflect the complexities based on the real-world incidents (Bonner et al., 2021). Through the study conducted by Abri and Balushi (2019), it is identified that in the year of 2006 a survey was conducted in a tertiary teaching hospital in France in terms of assessing the opinions of healthcare providers in terms of effectively managing patient satisfaction level. From which it is noted 94% of the participants said that the quality of hospital service could be evaluated by patients, particularly in terms of their relationships, organisations and surroundings (Abri and Balushi, 2019). However, it also noted that in contrast to deductive research approach, inductive research approach lacks in generalisability since it usually concentrates on particular situations or settings, rendering it challenging to generalise results (Saint-Mont, 2020). Therefore, deductive research approach is beneficial for this research as it assists in identification of relationship about CRM strategy in case of developing patient satisfaction rate or the healthcare industry of India.

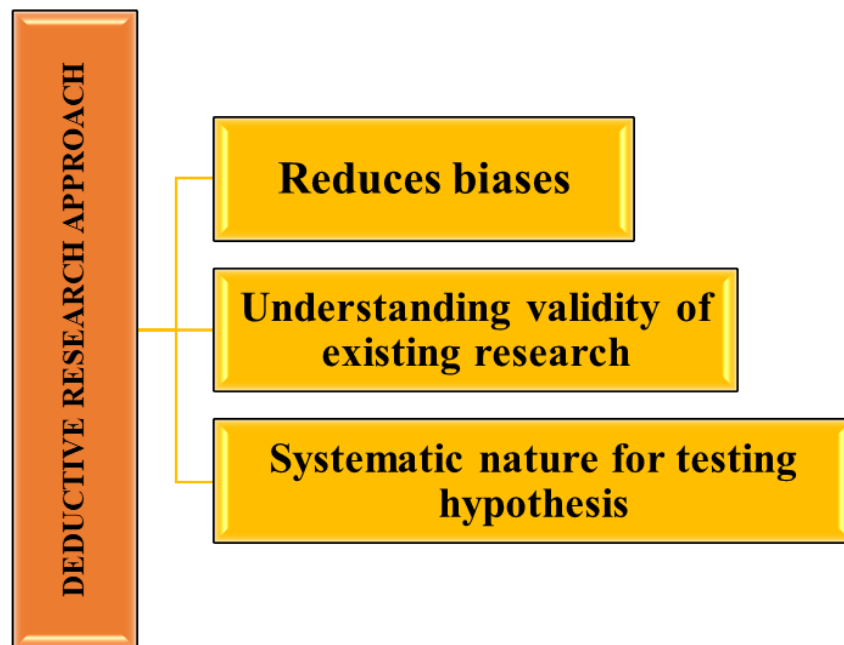


Figure 15: Research Approach

3.3 Research Philosophy

Positivism research philosophy is considered as the research philosophy as it involves measurements and observations and is not extensively associated with the extraction of personal beliefs. The objective data is focused on the observation of the circumstances and understandings based on the experiences of the patients in healthcare organisations in India. The positivism research philosophy focuses on the explanation of the relationship of the cause-effect between inanimate objects and circumstances (Atta-asiedu, 2022). In this aspect, the positivism research philosophy enabled an understanding of the relationship of healthcare services with patients' health outcomes which is effectively outlined. Such philosophy supports statistical analysis and objective measurement thereby generating more reliable insights with reduced biased outcomes.

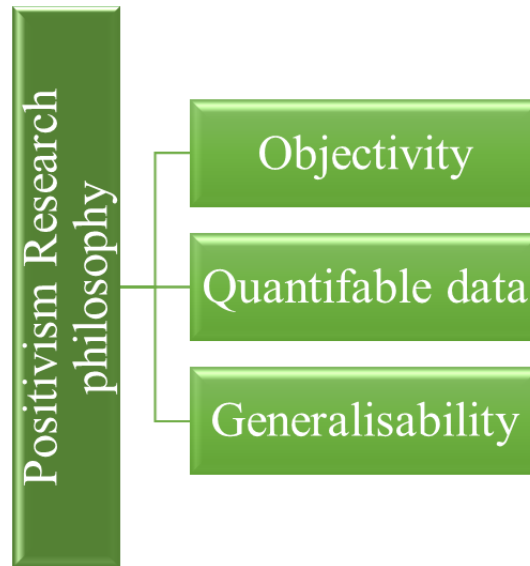


Figure 16: Research Philosophy

In this scenario, diversified responses and experiences of the patients are required to be analysed with objective measurements that involve positivism research philosophy. Utilisation of statistical analysis technique in positivism philosophy ensures generalisation about the satisfaction of the patients across the concerned population. However, the personal beliefs of the respondents and their experiences are not only signified in the study which is why the interpretivism philosophy is not considered for the research. The interpretivism philosophy diversifies the research view to obtain the facts of the respondents in different variables of the determined subject (Dudovskiy, 2019). In this aspect, the identification of the factors from the research is not significantly based on the understanding of personal beliefs but aligned with the experiences of the patients. Thus, the study is engaged with determination of the actual factors aligned with the healthcare services, facilities availability, and access to the resources for the patients. Moreover, extraction of the experiences from the patients on provided healthcare services to them is also a major concern of the research. Thus, it can be stated that the study is entirely focused on objective understanding over subjective definitions, hence the positivism research philosophy is utilised for the research.

3.4 Research Design

This research is based on *descriptive research design* in terms of effective understanding of the impact of the CRM in terms of improving the rate of patient satisfaction with the help of primary quantitative research approach. As analysed by Siedlecki, (2020), descriptive study

design describes and evaluates various events, conditions as well as people within their natural occurrence. Moreover, the descriptive design of research enables to investigate and report the distribution of one or more variables swiftly (Aggarwal & Ranganathan, 2019). Similarly, in this research study, In India's healthcare industry, the first-hand knowledge about why customers satisfaction can be improved using CRM software has been collected from patients themselves , who have been benefited through this tool. It has been possible to critically analyse the variables such as personalisation facilities, appointment scheduling process and other features that have benefitted the patients in the healthcare sector of India. Additionally, the frequency of getting proper responsiveness from the healthcare providers, and the satisfaction level of the patients in accessing the healthcare services have been understood by employing this research design to meet the research objectives. Conversely, Ntinda (2019) found that narrative research concentrates on telling the collected answers rather than interpreting them . Thus, it would have been inappropriate to rely on providing the amassed data in order to present the realisations about CRM's significance for enhancing patient care within Indian medical provision. Thus, the narrative research design has not been used in this study. Based on the study conducted by Archenaa and Anita (2015), it is identified that the survey was conducted among various classes of citizens who secured BDA (Big Data Analytics) and are able to implement Hadoop in healthcare operations. Most of the participants said that BDA helps in developing an effective healthcare environment by monitoring the quality of hospitals, improving treatment methods, providing patient centric services which automatically helps in enhancing the level of patient satisfaction rate (Archenaa and Anita, 2015). Along with that, as Rubin and Donkin (2022) said, exploratory research design possesses several drawbacks such as not having systematic procedures leading to biases and wrong results. Hence, the use of a descriptive research method for this research is not justified as it cannot be generalized with just a few samples .

3.5 Sampling

Purposive sampling methods were followed for this research as this study is based on primary quantitative research strategy through survey analysis. According to Campbell et al. (2020), purposive sampling refers to the method of selecting participants for a study based on pre-determined characteristics or criteria. Besides, the purposive sampling method is also called judgmental or selective sampling since researchers can decide on the sample size by

considering who should be included and who should not (Palinkas et al., 2018). Thus, implementations of purposive sampling techniques create scope for scholars to select the participants for survey based on which helps in effectively understanding the impact of CRM strategy for enhancing patient satisfaction rate for the healthcare sector in India. Moreover, it can be stated that purposive sampling technique is beneficial because it allows to deliberately select individuals with specific information, experiences or insights to the study area. In case of conducting a survey for this research 100-150 patients from India under treatment from a reputable healthcare organisation were selected. Patients who are not from India and do not receive treatment from the Indian healthcare organization are excluded. As this research is based on specific subsets of population, purposive sampling is able to impart a deeper information which are related with the objectives of the study. Though purposive sampling has various advantages it also has some limitations like the selection procedures mostly relies on subjective judgement, which increases the risk of scholar bias and could affect results and ultimately restrict the validity of the study (Andrade, 2021). Additionally, noted by Ames, Glenton and Lewin (2019), purposive sampling depends on pre-established criteria which result in the exclusion of pertinent participants who do not meet the requirements but could offer insightful information which would enhance the quality of study.

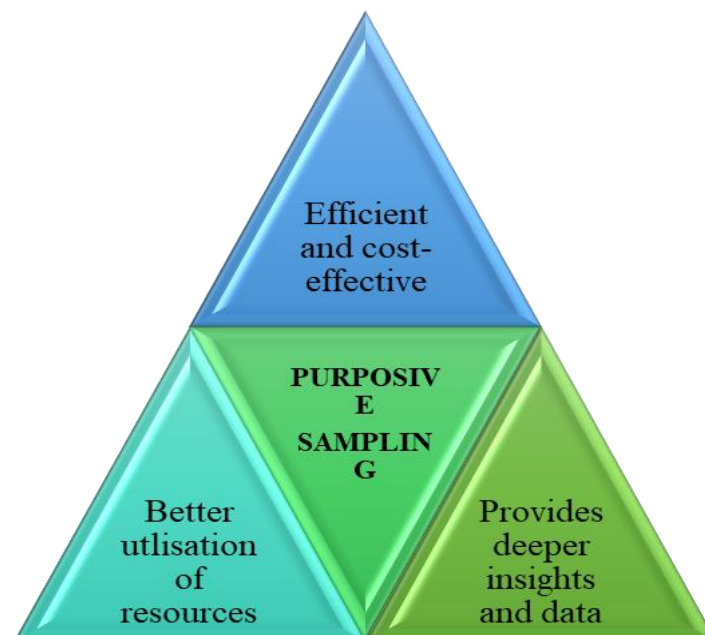


Figure 17: Purposive Sampling

Although purposive sampling has some limitations though it is acceptable for this research as it is more efficient in developing the research area and cost-effective as compared with other sampling methods like snowball sampling (Johnson, 2017). Furthermore, identified by

Kirchherr and Charles (2018), snowball sampling techniques often have sample bias because it mostly depends on social networks, the sample might not be indicative of the overall populations. Furthermore, Alshammari et al. (2019) conducted a study that involved surveying 255 healthcare professionals from four main hospitals in Hail Region (Kingdom of Saudi Arabia) so as to recognize various health workers' opinions on how patient safety improvements can be achieved. It is noted that among the factors of patient safety, the grade of patient safety receives higher mean values of (3.56 ± 0.72) which would assist in enhancing the level of patient satisfaction during taking treatment (Alshammari et al., 2019). Hence, it can be stated that for this research purposive sampling is much appropriate as it helped in effectively investigating the role of CRM for personalising patient care and to make effective treatment plans from a specific group of population through survey analysis.

3.6 Data Collection

Primary quantitative data is collected for the research through ***Surveys*** to extract specific tailored data for the research. The primary method for collection of data is significant in terms of real-time data collection, quality data with high relevance, and generating novel findings (Ajayi, 2023). In this aspect, the primary quantitative data is collected through a survey of 100-150 patients currently under intervention in different reputed healthcare organisations in India. The survey provides opportunities to identify trends, correlations, and patterns aligned with a large population group and to analyse the quantitative data statistically. As stated by Domede and Dinkelman (2022), the data collection process through surveys offers organisations or individuals to make informed decisions. A survey ensures wide engagement of respondents in a specific geographic area globally to collect diversified insights on a significant phenomenon. In the scenario of extracting data from the patients, the data is first collected from the respective personnel of the healthcare organisations to identify the patients who are under treatment in that healthcare organisation. After effective consideration of the patient data, they are contacted over call and text messages to acquire detailed information about their treatment and the facility access to the healthcare organisations.

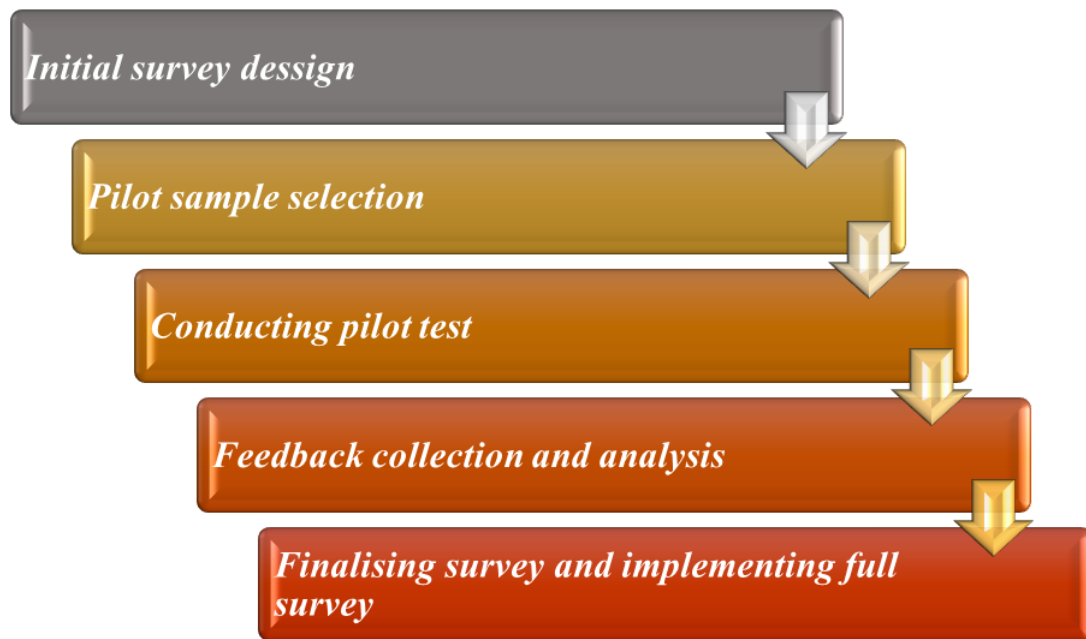


Figure 18: Data collection

Surveys ensure flexibility to the research to construct tailored questions and obtain specific insights from the respondents in detailed opinions or general understandings. In the research, the survey session is further executed based on the agreeableness of the respondents, and their anonymity is maintained properly. The anonymity offered through the survey ensures honest responses and an in-depth understanding of the feelings of the respondents (Kang and Hwang, 2023). In this aspect, the responses related to limitations of resource access and lack of treatment support are collected with proper pre-testing with a *pilot testing* process. Pilot testing is executed before the large-scale survey on a small and representative sample to identify potential issues, strengths, and ethical measurements in survey questions (Malmqvist et al., 2019). Such a method of pre-assessment ensures reliable and effective survey design thereby contributing to enhanced quality of data. The survey method is efficiently performed with reduced error generation and reliable and valid data collection. After pilot testing, the data is integrated through effective analysis of the feedback on refined survey questionnaires, issue identification, and improvement areas. Based on the pilot testing the required modification and development in the survey process is measured to execute the final survey and large-scale data collection. As stated by Friedel et al. (2023), the survey conducted on patients to extract information regarding their experience and satisfaction has proved to be efficient in optimising and eliminating their issues. In addition, a study conducted by Alshammari et al. (2019) showed that people have done 255 surveys because they can understand patients' standpoints better and know what they think about the existing

healthcare services in certain areas. However, the survey is associated with biased selection influenced by unrepresentative sampling or interviewer influences (Friedel et al., 2023). The study is significantly conducted with proper execution of the survey and mitigation of biased data collection of processing.

3.7 Data Analysis

The primary quantitative data collected through surveys is analysed through frequency analysis and statistical analysis with SPSS software. ***Frequency analysis*** is significant in understanding the occurrence of certain values of any phenomenon and in assessing prediction reliability in the research (Shreffler and Huecker, 2021). An effective frequency analysis on a dataset ensures an efficient visual representation of the distribution of observed factors in a test or to illustrate sampled data after analysis. In this aspect, the frequency analysis is significant to understand the distribution of patients without treatment in India concerning prospective healthcare organisations. Through the analysis, a quantified observation of the patients revealed the treatment opportunities in the healthcare organisation in India. Pattern and trend determination with the analysis ensures an effective understanding of the most affected demographics and populations in the concerned region. This information extracted from the analysis is important to optimise essential initiatives for resource allocation and develop policies for distributing equal resource access among the population.

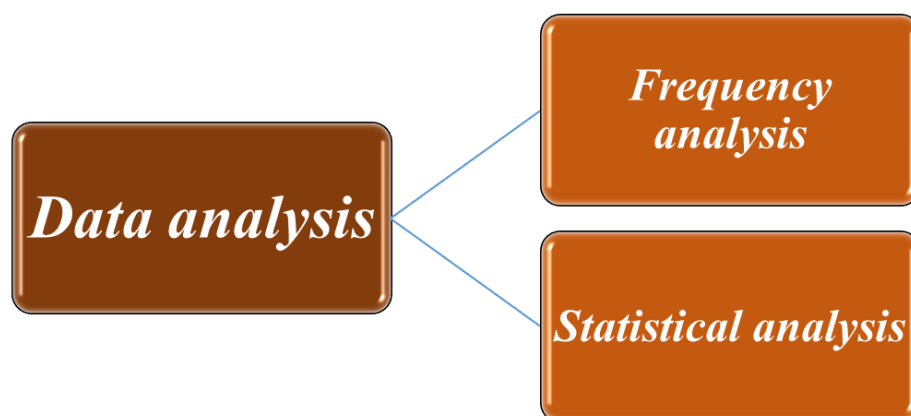


Figure 19: Data analysis

Moreover, the ***Statistical analysis*** with SPSS is executed for structuring efficient findings and developing action plans by interpreting complex data. Statistical analysis ensures important

factors of the research and concludes meaningful insights from the analysis of unstructured data collected through the survey (Rahman and Muktadir, 2021). Through statistical analysis, effective trend and pattern identification enables us to make evidence-based decisions and predict valuable factors. In this aspect, the statistical data analysis of the research offers a detailed descriptive understanding of the characteristics of the current patients under treatment in the healthcare institutions. The data helps to reflect the type of treatment, demographic details, and duration of treatments. Such analysis helps in understanding the outcomes of the healthcare sectors across different groups receiving treatment. Moreover, effective optimisation of the changes over time concerning treatment patterns and infrastructure availability is responsible for assessing the growth of treatment practices. The statistical data collected from different populations often lacks the reality of the analysis due to manipulation and apparatus usage risks (Cichoń, 2020). Effective optimisation of the processes and understanding of the quality of the data such issues are mitigated by the research. As stated by Marcikic et al. (2016), statistical analysis on patient data helps to extract patterns on a monthly and daily basis that delivers informative decision-makings to the research. However, Qualitative analysis is not included as it offers complexity to quantify the findings of processes and patterns extracted from certain datasets (Tenny, Brannan and Brannan, 2022). In this aspect qualitative data analysis is not effective as it lacks the ability to quantify the treatment patterns and behaviour of the organisational treatments and patients. Therefore, the research is performed with quantitative data analysis over qualitative data analysis with frequency and statistical data analysis process.

3.8 Ethical Considerations

In the instance of conducting research by means of the primary quantitative data collection method, participants were not compelled to participate in survey analysis. Firstly, we took consent from participants by getting them to sign a form known as a consent form and only after that did we carry out our data collection process . No forms of personal questions like address, phone number, or marital status have been asked of the participants. Additionally, it was ensured that the scholars would behave ethically based on the European Union Guidelines. Also, they did not ask anything to the healthcare providers and patients that could potentially hurt their feelings. Furthermore, the data gathered were put into a cloud device with a strong password which was not disclosed to any other person(s) . In the perception of

Hoofnagle, Sloat and Borgesius (2019), the General Data Protection Regulation is a thorough data protection regulation that commenced into effect by the European Union in the year of 2018. In order to ensure that businesses manage personal data securely and transparently, this particular law provides severe consequences, and penalties and specifies strict data handling procedures. The rules and regulations of the General Data Protection Act 2018 are followed in terms of collecting information from the participants. Moreover, the ethical guidelines of the university are maintained properly during collecting data from participants through survey analysis.

3.9 Summary

Based on the above context it can be stated that the research is designed with descriptive research design to identify the CRM approaches of the healthcare sectors on patient's satisfaction. The purposive sampling method is integrated in the study. The research involved in deductive research approach and positivism research philosophy that helps to outline the objective understanding of the experiences of the patients and structure comprehensive understandings. The primary quantitative data collected through surveys are analysed through frequency and statistical analysis. Moreover, ethical measurements such as regarding data collection are effectively measured and structured such as the General Data Protection Regulation act.

Chapter 4: Findings and Analysis chapter

4.1 Introduction

The data analysis chapter has performed primary quantitative data interpretation to divulge the effectiveness of customer relationship management in the business operation of the Indian healthcare sector. This chapter has outlined informative findings based on the frequency and statistical (SPSS) data analysis to comprehend the intended research objectives.

4.2 Data analysis

4.2.1 Frequency/Survey data analysis

Gender of respondents

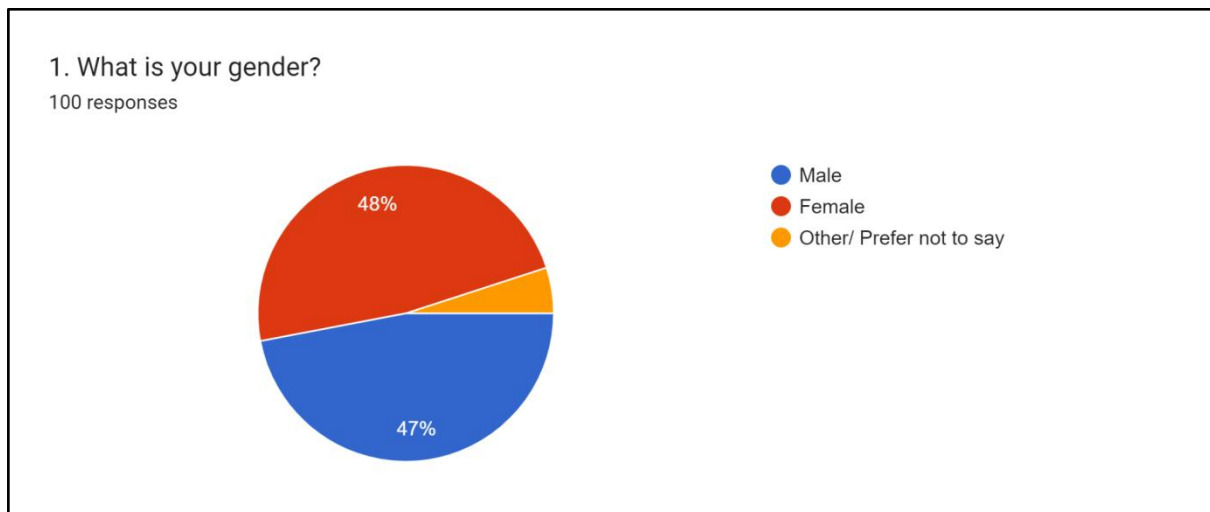


Figure 20: Gender of respondents

Based on the above analysis, it can be conveyed that the big chunk of the respondents were female, responding to the study of the impact of CRM in improving patient satisfaction in the healthcare sector of India. Those were provided valuable insights into ways CRM practices affect patient satisfaction, particularly among female patients and highest the significance of personalised healthcare services.

Age group of respondents

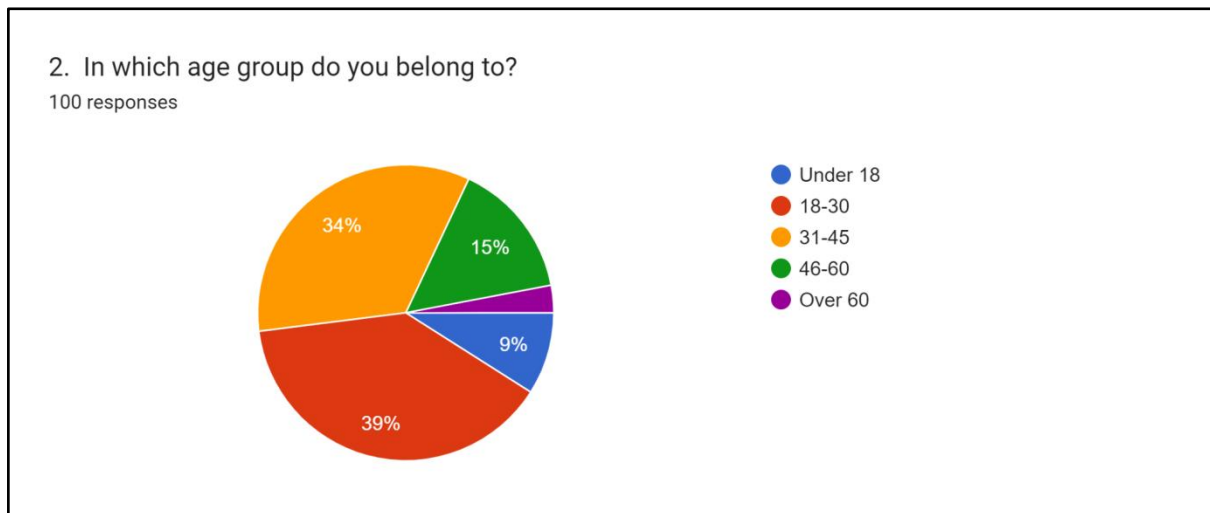


Figure 21: Age group of respondents

In the above **Figure 21**, it can be depicted that most of the people who participated were within the age range of 18 to 30. Those under treatment from a reputable healthcare organisation in India were selected for obtaining information regarding the efficacy of CRM in Indian healthcare, not about their medical conditions. This demographic focus shed light on ways CRM practices impact younger patients that highlight their preferences for efficient communication and personalised care.

Frequency of interaction with customer care service unit of healthcare

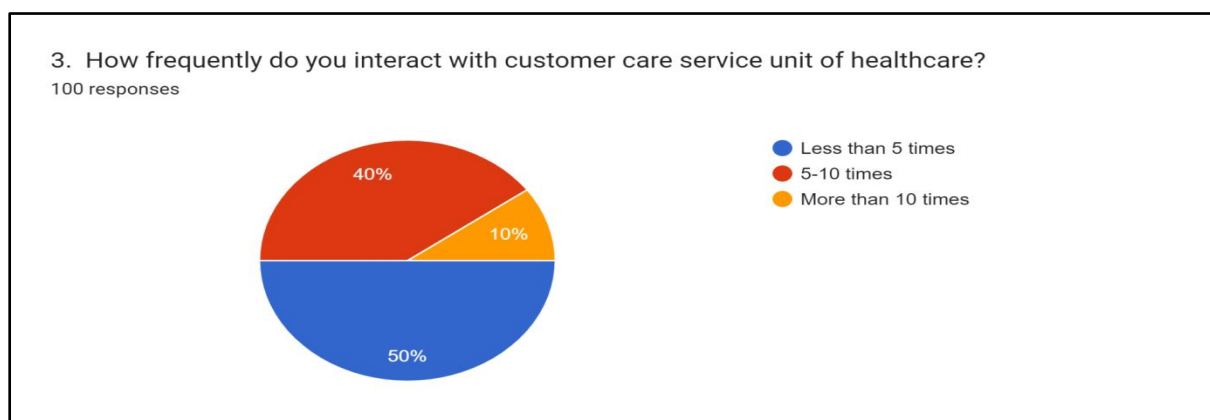


Figure 22: Frequency of interaction with customer care service unit of healthcare

From **Figure 22**, it can be mentioned that the majority of respondents reported interacting with the customer care service unit of healthcare less than 5 times. This signifies that most

patients have fewer interactions with customer care that represents the poor engagement of the customers/patients in the Indian healthcare system.

Awareness of the utility of CRM in healthcare

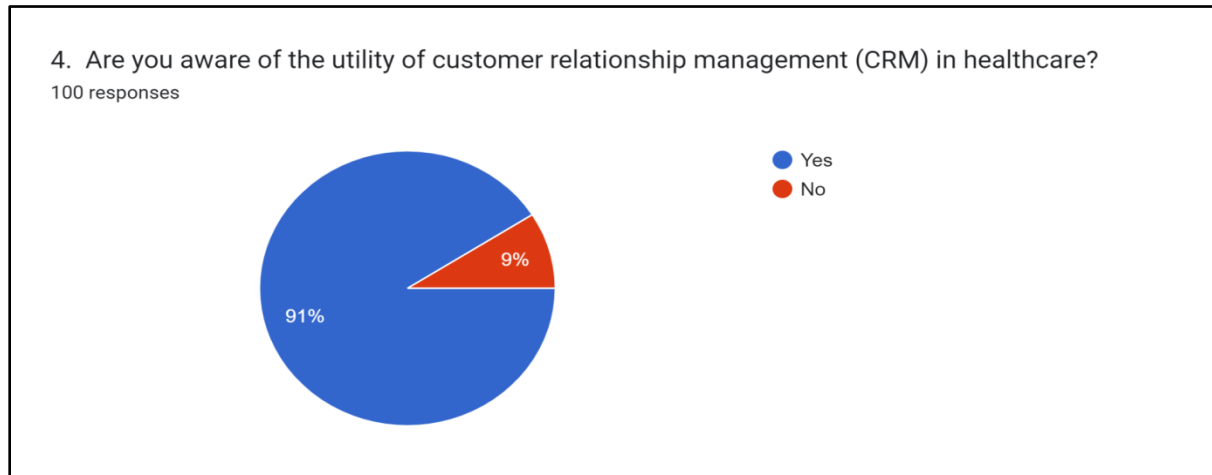


Figure 23: Awareness of the utility of CRM in healthcare

Based on the above analysis, it can be found that the majority of participants agreed with being aware of the utility of CRM in healthcare. This means that CRM is an innovative and known technology that is designed to enhance customer satisfaction, loyalty and overall quality of care in the Indian healthcare sector.

Importance of patient satisfaction for healthcare delivery

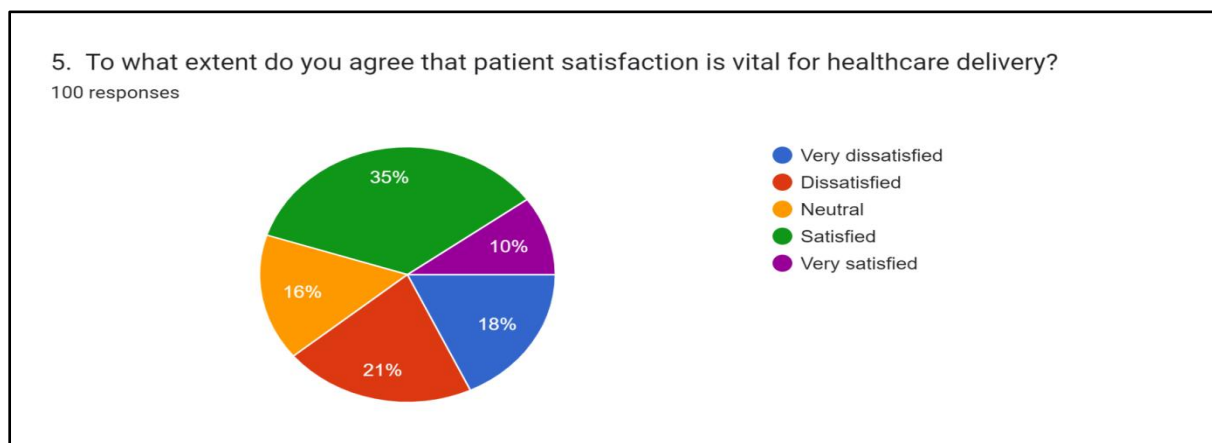


Figure 24: Importance of patient satisfaction for healthcare delivery

Figure 24 represents that the majority of respondents were satisfied with the importance of patient satisfaction for healthcare delivery. This indicated that they recognise patient

satisfaction as crucial for ensuring high-quality care that enhances treatment outcomes and foster positive patient experience.

Rating of healthcare service quality in India

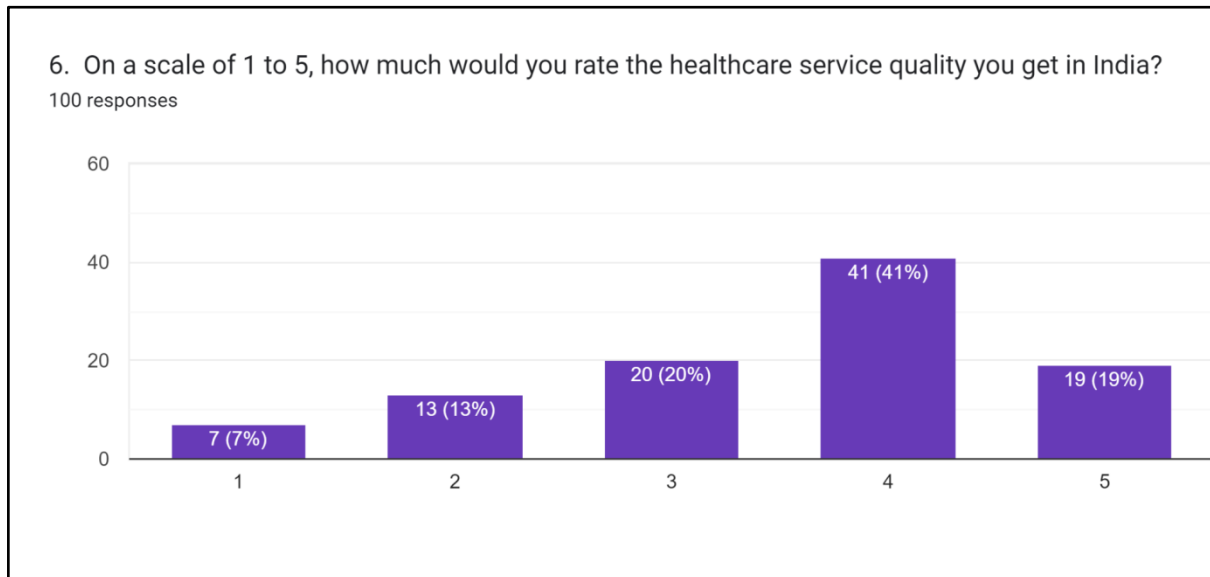


Figure 25: Rating of healthcare service quality in India

In this analysis, the majority rated healthcare service quality in India as 4 out of 5. This high rating reflects the proactive user perception in the diverse and innovative quality of healthcare services across India, highlighting advancements in CRM and leadership in healthcare innovation and quality.

Change in quality of healthcare provider since adoption of CRM practices

7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?

100 responses

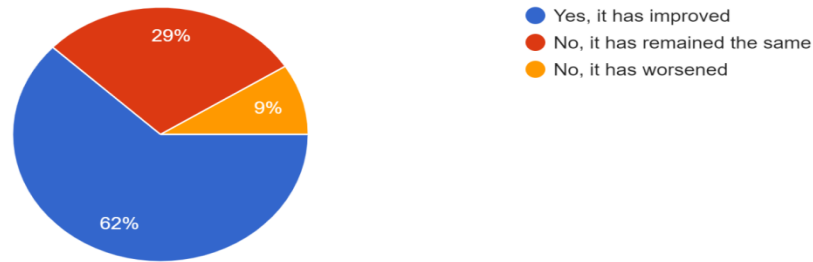


Figure 26: Change in quality of healthcare provider since adoption of CRM practices

The above *Figure 26*, it can be identified that the quality of healthcare providers has improved since adopting CRM practices. Thus, CRM systems enable hospitals to better meet patient needs, enhance service quality and improve loyalty through centralised, optimised communication and better understanding of patient needs.

Satisfaction with communication with healthcare staff

8. How much are you satisfied with the communication you hold with the healthcare staff?

100 responses

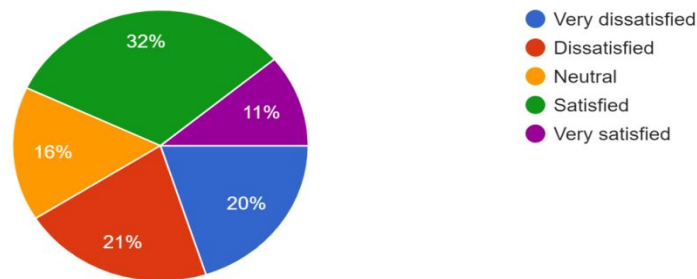


Figure 27: Satisfaction with communication with healthcare staff

Based on the prior *Figure 27*, most of the participants expressed satisfaction with communication with healthcare staff. Thus, effective team collaboration ensures care, accurate information exchange, minimising risks to patient safety and enhancing overall care quality by addressing miscommunications.

Healthcare providers remembering previous information during new conversations

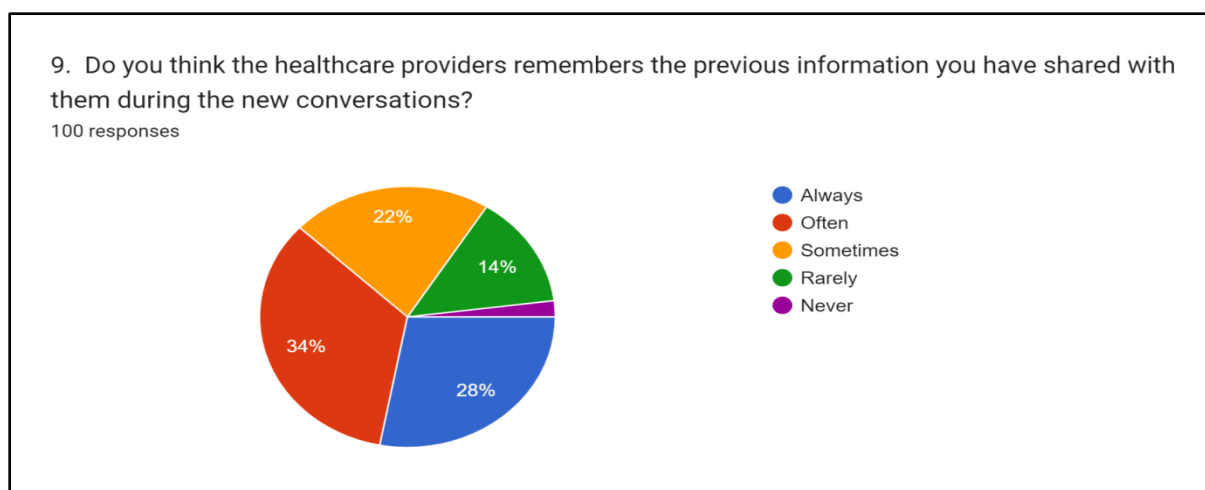


Figure 28: Healthcare providers remembering previous information during new conversations

From **Figure 28**, the majority of participants reported that healthcare providers often remember previous information during new conversations. This signifies that patients value continuity of care, as it fosters trust and enhances the therapeutic relationship by addressing ongoing concerns and building a more personalised care experience.

Rating of personalised options provided Indian healthcare

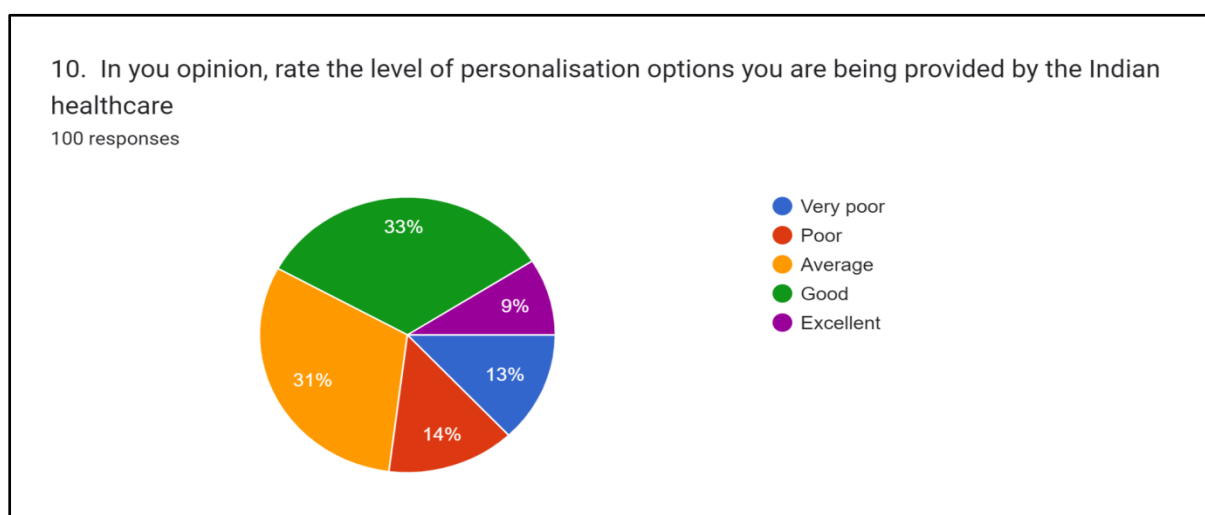


Figure 29: Rating of personalised options provided Indian healthcare

The respondents rated personalised options in Indian healthcare as “good”, indicating satisfaction with tailored care approaches and the effectiveness of customised services in meeting patient needs. This aligned with the effort of India to provide personalised health

services including specialised information on conditions such as multiple diseases, enhancing overall patient care.

Responsiveness of healthcare providers to queries and concerns

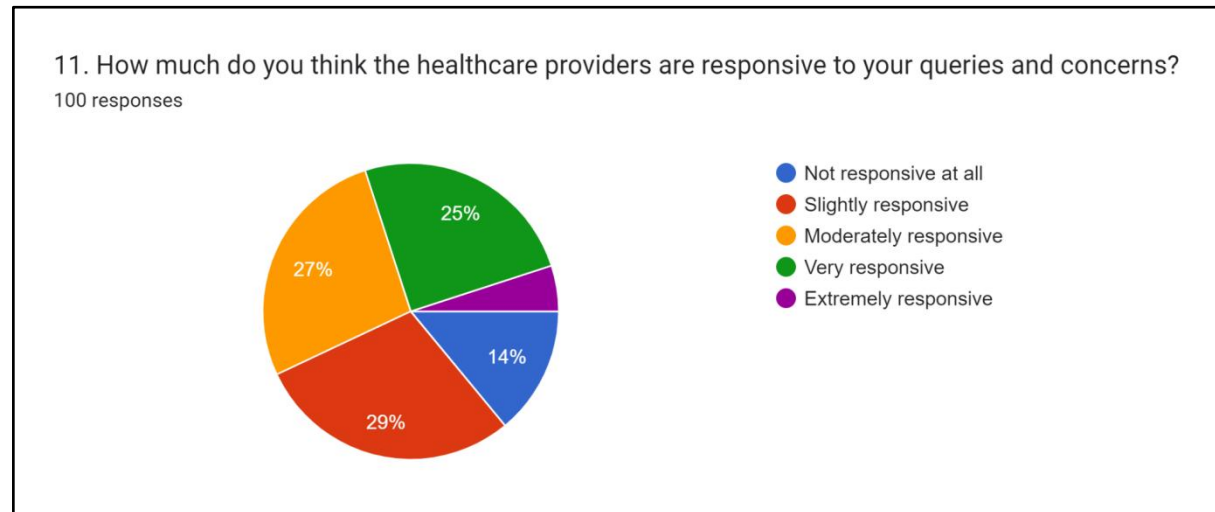


Figure 30: Responsiveness of healthcare providers to queries and concerns

The majority found healthcare providers to be slightly responsive to queries and concerns that signifies that the challenge in meeting patient expectations effectively. Moreover, responsiveness is a key goal of healthcare systems, focusing on addressing patient-care quality issues and improving overall patient satisfaction.

Improvement in CRM in healthcare services over the last 5 years

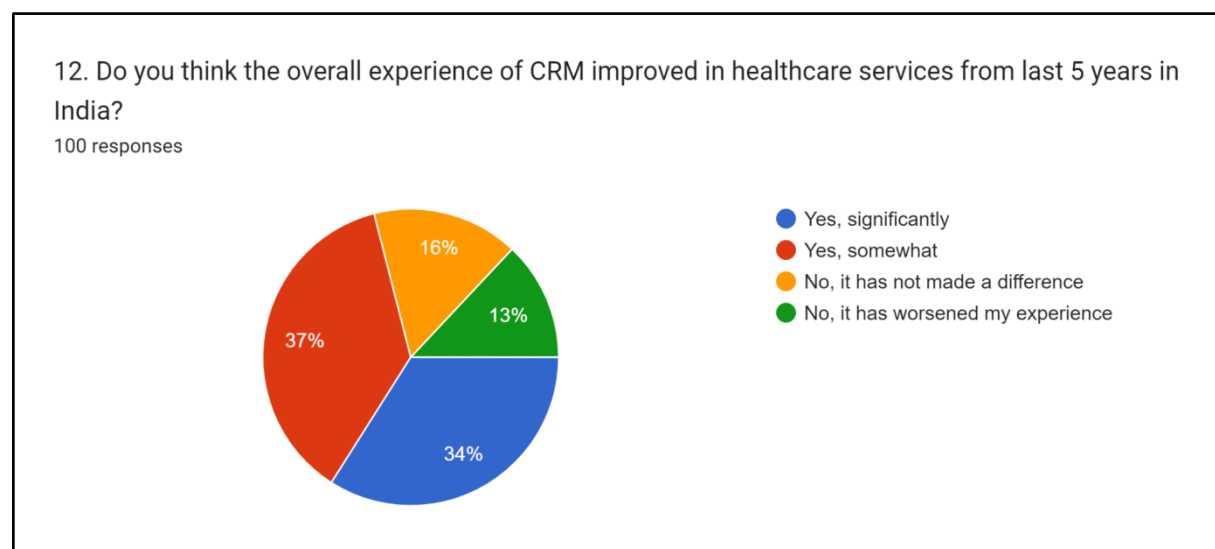


Figure 31: Improvement in CRM in healthcare services over the last 5 years

The above graph mentioned that the majority felt that CRM in healthcare services has improved somewhat over the last 5 years. This signifies that incremental progress in enhancing patient interactions and care quality through CRM systems in Indian healthcare.

Appointment scheduling process since implementation of CRM

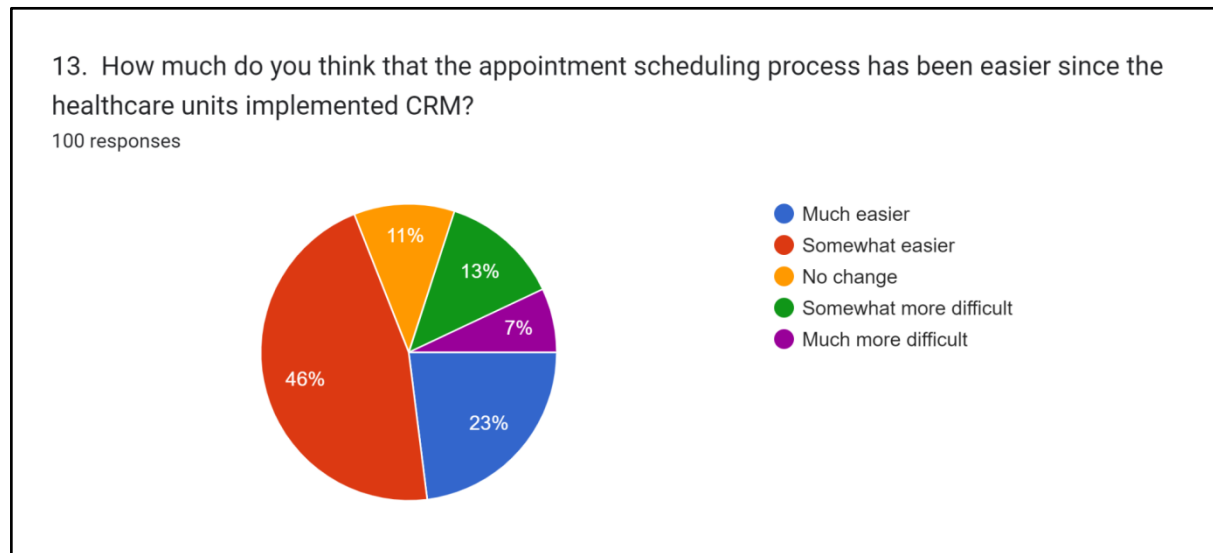


Figure 32: Appointment scheduling process since implementation of CRM

From **Figure 32**, it can be represented that most of the respondents found appointment scheduling somewhat easier since CRM implementation. This means that while CRM systems have improved scheduling efficiency, there are still areas for further enhancement to optimise the process fully.

Care of healthcare providers in India

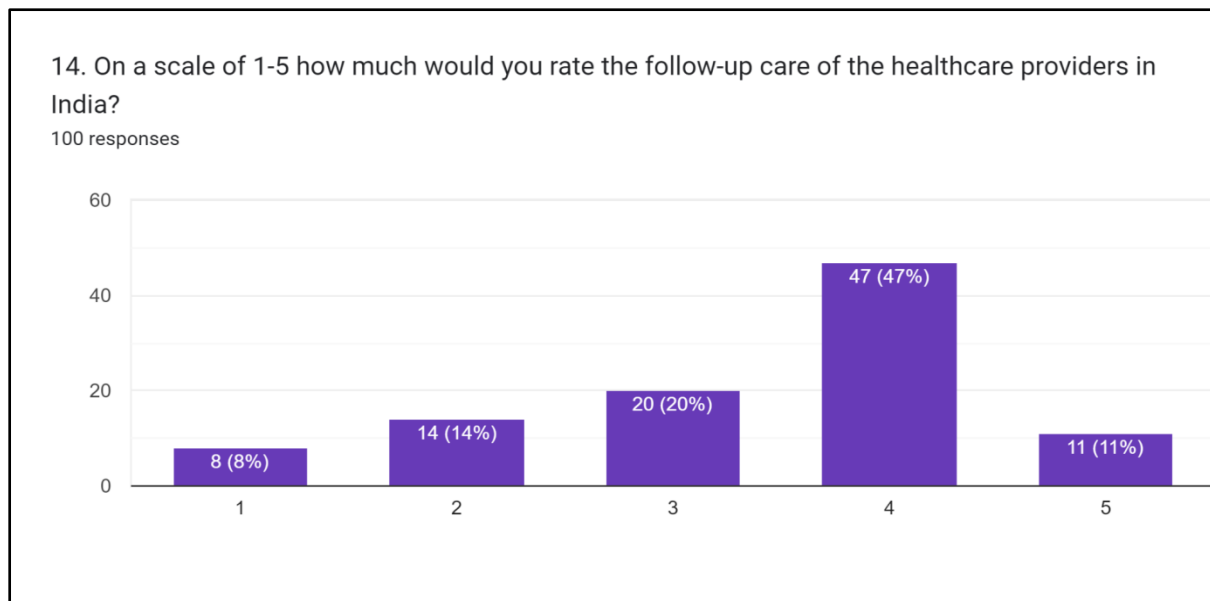


Figure 33: Care of healthcare providers in India

In above **Figure 33**, it can be stated that the majority rated the care of healthcare providers in India as 4. This rating reflected the broad spectrum of care quality in India that highlighted varied patient experiences.

Agreement on role of CRM in making healthcare services more accessible

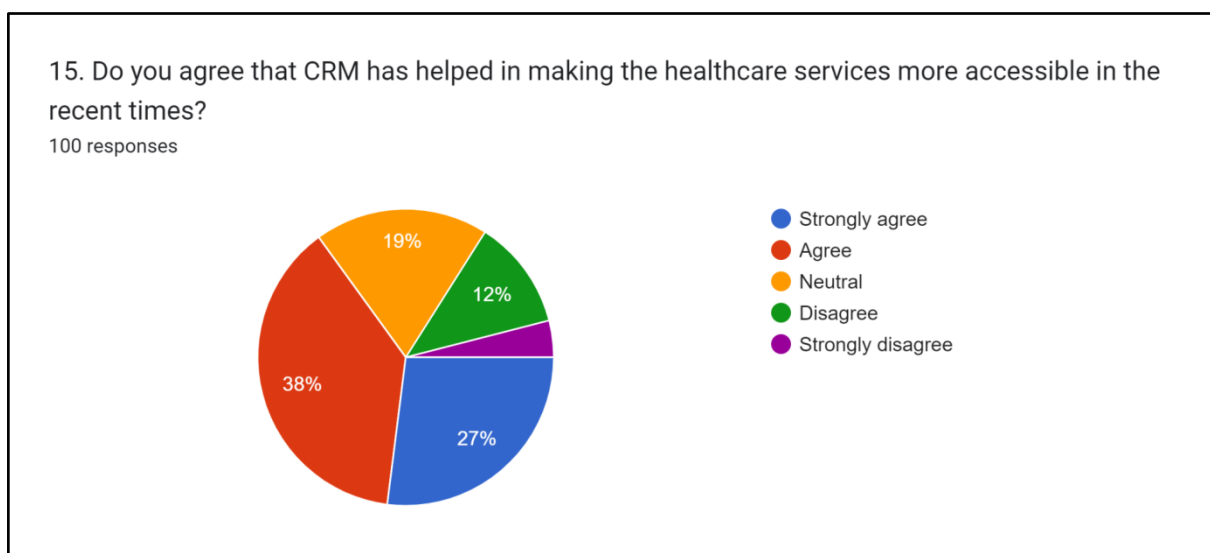


Figure 34: Agreement on role of CRM in making healthcare services more accessible

The above figure depicts that the majority of participants agreed that CRM plays a significant role in making healthcare services more accessible. CRM systems enhance performance by improving patient engagement, satisfaction and overall care accessibility.

Likelihood of recommending healthcare provider based on experience

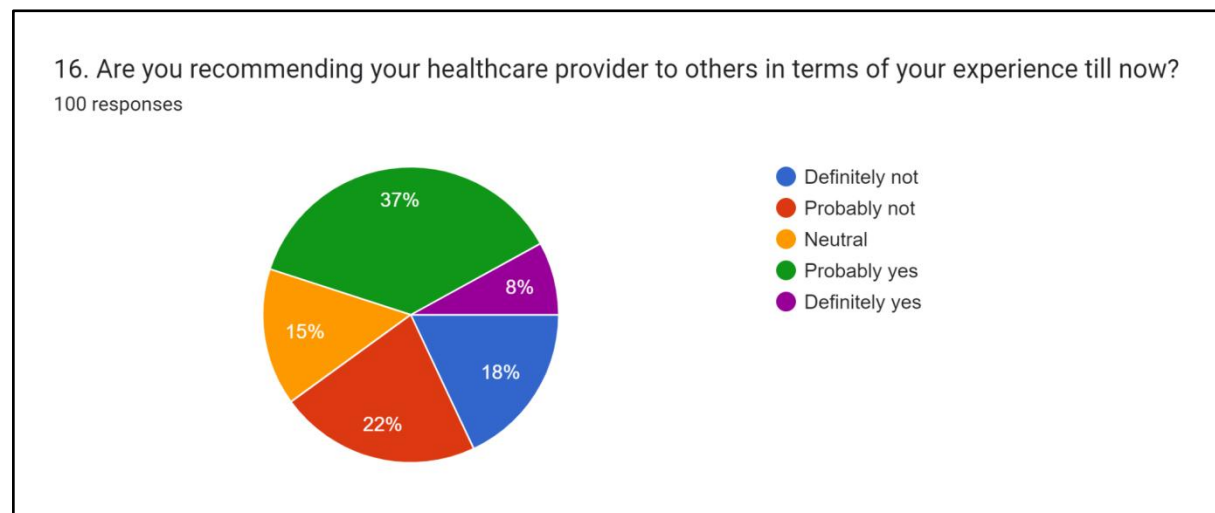


Figure 35: Likelihood of recommending healthcare provider based on experience

The prior *Figure 35* depicts that most of the respondents probably recommended their healthcare provider based on experience. This signifies that overall patient satisfactions, hospital reputation and physical experience significantly influence the likelihood of recommending a provider to others.

Satisfaction with transparency of health cost and billing prices review through CRM

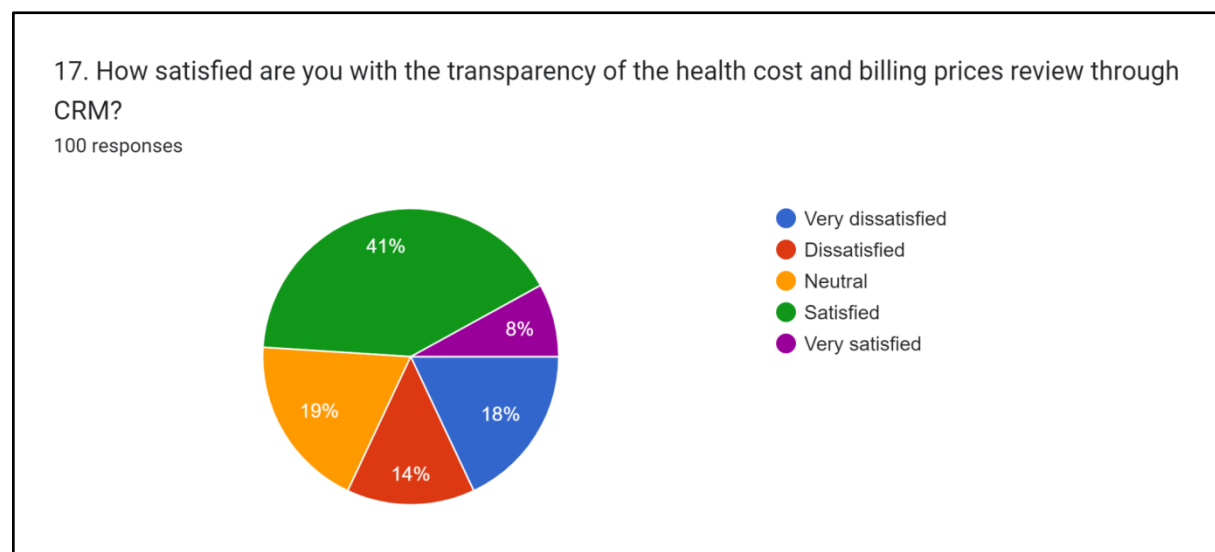


Figure 36: Satisfaction with transparency of health cost and billing prices review through CRM

Based on the above graph, the majority were satisfied with the transparency of health cost and billing reviews through CRM. This satisfaction highlighted ways CRM systems improve clarity in pricing, addressing common issues of cost transparency in healthcare.

Involvement in decision-making process for treatment plan post-CRM implementation

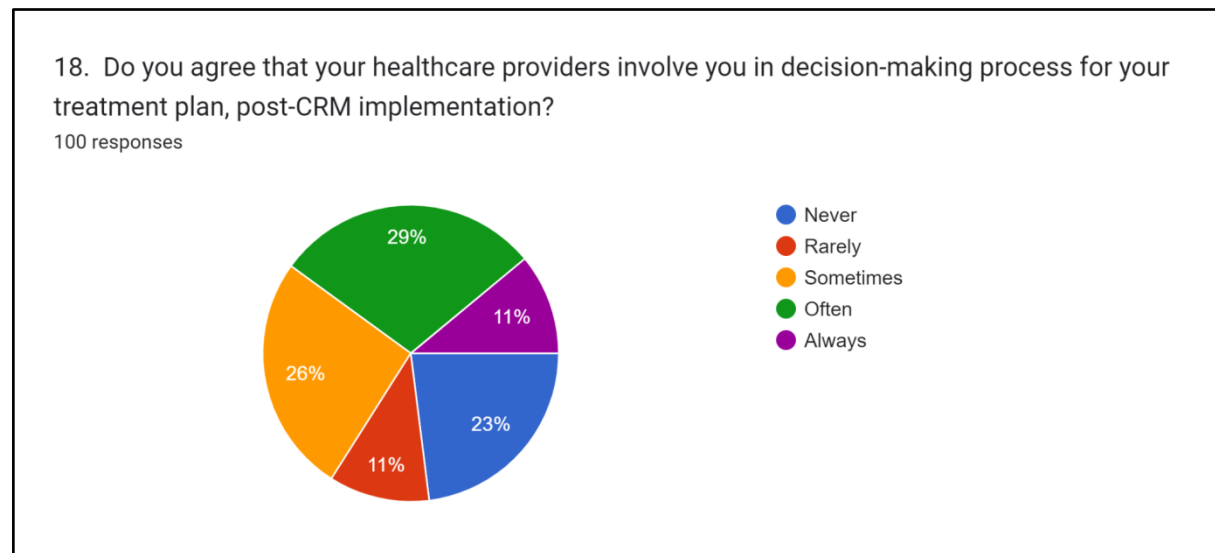


Figure 37: Involvement in decision-making process for treatment plan post-CRM implementation

From **Figure 37**, it can be depicted that the majority reported *often* being involved in decision-making for treatment plans post-CRM implementations. In this way, the CRM systems enhance decision support and clinical information along with border healthcare strategy improvement and patient engagement.

Challenges in accessing health records using CRM process of healthcare providers

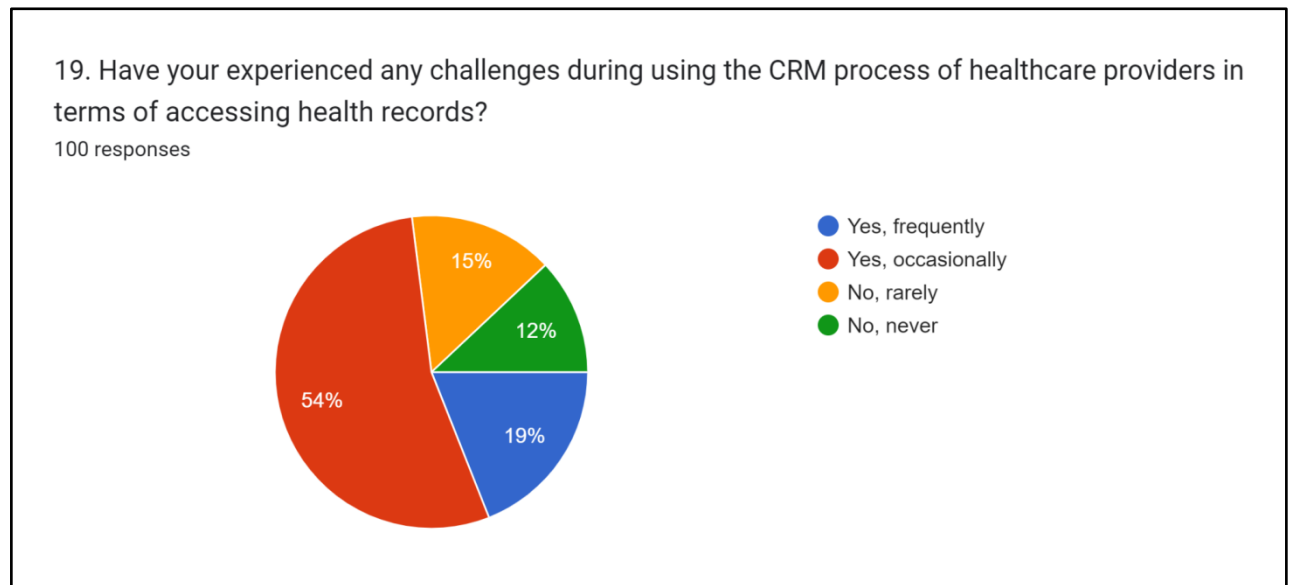


Figure 38: Challenges in accessing health records using CRM process of healthcare providers

The above graph depicts that the majority faced occasional challenges in accessing health records through CRM. Apart from this, the CRM issues impact the effectiveness of maintaining and accessing patient information.

Proactivity of healthcare providers in addressing needs and care since CRM implementation

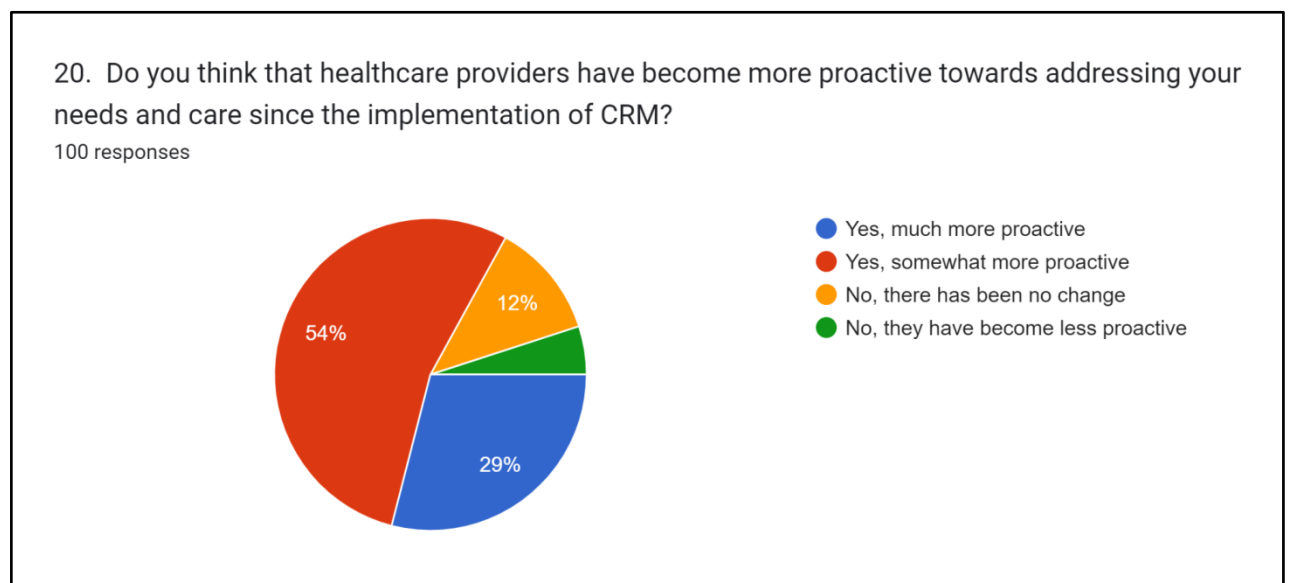


Figure 39: Proactivity of healthcare providers in addressing needs and care since CRM implementation

From *Figure 39*, the majority agreed healthcare providers were somewhat more proactive in addressing needs since CRM implementation. This signifies the trends of using advanced technologies to enhance patient care and satisfaction by improving responsiveness and coordination.

4.2.2 Statistical data analysis

Descriptive statistics

Analysis

The above descriptive statistics has provided important information relating to the effect of Customer Relationship Management (CRM) systems on the experience of patients in the Indian healthcare industry. The relatively high mean ratings for follow-up care (3.36) and healthcare service quality (3.49) suggest that people typically have a good opinion of these features (*Refer to Appendix 1*). The large standard deviations (1.176 and 1.115, respectively) however, point to a significant amount of diversity in outcomes for patients, indicating uneven subsequent care and quality of service. The substantial dispersion indicated by the large standard deviations (more than 1) for accessibility, customisation, and communication reflects uneven patient experiences. Patil and Rane (2023), explained that the client feedback is an important criterion for making any business operation successful. Therefore, from the above analysis it has been found that the comparatively low mean scores for convenience of appointment scheduling (2.35) and patient participation in decision-making (2.97) hint to potential areas for CRM system enhancement. Appointment scheduling and proactivity have lower standard deviations (less than 1), which indicates more grouped yet noticeably subpar performance in these domains. Therefore, it can be stated that, it is important to refine the CRM system for enhancing the engagement of the patient and improve the client satisfaction.

Correlation

In order to analyse the research context, correlation analysis has also been performed to get insights on the relation between variables. Significant correlations between a number of CRM-related factors and patient satisfaction as shown by the correlation study. Kruk et al.

(2018), commented that the quality of the healthcare sector has a significant contribution to its operation. Particularly, from the above analysis it is revealed that, there is a significant positive connection ($r = .735$, $p < .01$) between follow-up care and the quality of healthcare services provided, suggesting that increases in service quality are associated with improved follow-up care (*Refer to Appendix 2*). There is a positive correlation ($r = .763$, $p < .01$) between the customisation choices and the responsiveness of healthcare personnel, indicating that higher responsiveness is linked to more individualised treatment. The impact of CRM on appointment scheduling and general accessibility, however, has modest correlations ($r = -.424$, $p < .01$; $r = -.240$, $p < .05$), indicating persistent difficulties in both domains. These results highlight the necessity of targeted CRM system enhancements to resolve discrepancies and raise patient satisfaction.

Regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.774 ^a	.599	.573	.820
<p>a. Predictors: (Constant), <i>Ques 19</i>. Have your experienced any challenges during using the CRM process of healthcare providers in terms of accessing health records? , <i>Ques 11</i>. How much do you think the healthcare providers are responsive to your queries and concerns? , <i>Ques 7</i>. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted ? , <i>Ques 12</i>. Do you think the overall experience of CRM improved in healthcare services from last 5 years in India? , <i>Ques 18</i>. Do you agree that your healthcare providers involve you in decision-making process for your treatment plan, post-CRM implementation? , <i>Ques 15</i>. Do you agree that CRM has helped in making the healthcare services more accessible in the recent times?</p>				

Table 3: Model Summary

Analysis

In order to analyse acceptance of the alternative hypothesis, ANOVA analysis has been performed.

H0: CRM system does not enhance patient satisfaction by improving the quality of care in the Indian healthcare sector.

H1: CRM system significantly enhances patient satisfaction by improving the quality of care in the Indian healthcare sector.

Around 60% of the variance in patient satisfaction is likely to be quantified using the predictors such as *difficulties utilising health records*, *provider responsiveness*, *perceived improvements in healthcare quality as a result of CRM*, and others. The regression study demonstrates a substantial model fit, with $R^2 = 0.599$. The durability of the model is shown by the high coefficient of determination (0.774) and the adjusted coefficient of determination R^2 (0.573) (**Refer to Table 4**). From this, it can be inferred that these variables have a major impact on the ability of CRM to ameliorate the patient engagement and happiness. In order to amplify CRM advantages in the Indian healthcare industry, it is essential to address the essential areas that affect patient happiness, such as responsiveness and decision-making engagement.

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	93.371	6	15.562	23.167	.000 ^b
	Residual	62.469	93	.672		

	Total	155.840	99			
a. Dependent Variable: <i>Ques17</i> . How satisfied are you with the transparency of the health cost and billing prices review through CRM?						
b. Predictors: (Constant), <i>Ques 19</i> . Have you experienced any challenges during using the CRM process of healthcare providers in terms of accessing health records? , <i>Ques 11</i> . How much do you think the healthcare providers are responsive to your queries and concerns? , <i>Ques 7</i> . In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted? , <i>Ques 12</i> . Do you think the overall experience of CRM improved in healthcare services from last 5 years in India ? , <i>Ques 18</i> . Do you agree that your healthcare providers involve you in decision-making process for your treatment plan, post-CRM implementation?, <i>Ques 15</i> . Do you agree that CRM has helped in making the healthcare services more accessible in the recent times?						

Table 4: ANOVA

Analysis

The ANOVA analysis has revealed that, with $F(6,93) = 23.167$ and $p < 0.05$ show a substantial model fit and show that the predictors taken together have a significant impact on patient satisfaction with concerning the transparency of health expenditures and billing (*Refer to Table 5*). ***Ample proof is suggested to reject the null hypothesis***, which holds that CRM systems have little effect on improving patient satisfaction, by this substantial p-value. ***The alternative hypothesis is accepted by the data***, which show that CRM systems do, in fact, considerably raise patient satisfaction by raising the standard of care provided in the Indian healthcare system. The statistical importance and significant explanatory effectiveness of the model support the acceptance of the alternative hypothesis over the null hypothesis.

4.3 Findings

4.3.1 Frequency/Survey data findings

The data interpretation has revealed the way CRM solutions in the Indian healthcare industry significantly improve patient comfort and engagement. The opinion of the respondents regarding enhanced continuity of treatment and interaction demonstrates the way CRM systems help in better comprehending the patient requirements. It in turn builds patient satisfaction and confidence significantly. Based on the analysis, patients prefer personalised care and value customised treatment plans. The above analysis has also outlined that CRM has improved care quality and scheduling efficiency, however, there is still opportunity for improvement. CRM advantages may be maximised and obstacles can be removed by addressing these problems, resulting in an improvement in patient happiness and engagement in general. The results underscore the gradual advancements and continuous prospects for optimising the application of CRM. Thus, this evaluation has satisfied the research objectives by analysing numerous perspectives of the patients.

4.3.2 Statistical data

Based on the above statistical analysis it is found that CRM systems are highly effective in the improvement of patient comfort and satisfaction in the healthcare sector of India. It demonstrates that attitudes on the service and care quality is positive which validates the idea that CRM systems enhance patient experiences. Along with this, it underscores the critical role CRM plays in customising treatment by developing comprehensive patient management, improving communication. It enhances the strong correlation between responsiveness and customisation that leads to increasing the happiness of the patient. From the above analysis, it can be inferred that it draws attention to some areas for improvement in arranging appointments and involving patients in decision-making. Thus, this statistical analysis has satisfied the research objectives by analysing diverse aspects.

4.4 Conclusion

This chapter has unveiled the importance of CRM in Indian health care by analysing the quantitative data collected through surveys of patients. This evaluation has divulged that the

CRM systems improve the quality of care provided in the Indian healthcare industry, which greatly increases patient happiness. Based on the analysis the findings section has comprehended the research objectives.

Chapter 5: Discussion

5.1 Introduction

This chapter will discuss the effectiveness of Customer Relationship Management (CRM) software in the improvement of patient engagement in the Indian healthcare sector followed by its contribution towards increased patients' satisfaction by comparing the information discussed in the findings and literature review segment.

5.2 Effectiveness of customer relationship management system in order to improve patient engagement and comfort in the context of Indian Healthcare sector

From the findings, it can be stated that the integration of the Customer Relationship Management (CRM) system has effectively improved communication with the patients, resulting in an improved patient engagement. In this regard, Baashar et al. (2020), have mentioned that the integration of CRM technology has improved patient information management approaches, communication and personalised care approaches of the healthcare sector. This has further enabled the healthcare sector to obtain significant information regarding the patient's case history, resulting in an improved treatment planning and diagnosis precision. For instance, it has been found that Apollo Hospitals, one of the largest hospital chains of India is harnessing the power of CRM software to effectively design and develop personalised treatment plans for the patient, resulting in an improved patient satisfaction and engagement in the Indian healthcare sector premises (Roy, 2022). Comparably, reports in the Economic Times (2022) state that CRM has revolutionized the way the Indian healthcare industry improves patient experiences by utilizing cumulative data and regular feedback to improve services. Additionally, CRM has helped the Indian health care sector to improve the relationship with the patients, leading to an improved patient engagement and retention. Thus, it can be stated that the first objective has been met as it has been discussed that CRM software has improved the satisfaction of the patients by improving personalised care plan and services.

5.3 Role of customer relationship management system in terms of personalised care and treatment plan to increase patient satisfaction

Based on the findings, it can be stated that CRM technologies are effective for developing personalised care and treatment plans for the patients, improving customer satisfaction effectively. In this regard, Gandhi (2022), has mentioned that CRM software has enabled the healthcare practitioner to systematically collect and analyse the patient's data which eventually rested in the development of more personalised care approaches. This is also pivotal to meet the changing expectations of the patients after a certain interval, helping the healthcare sector to manage their operational process with the changing treatment demand of the customers. For instance, it has been found that Fortis healthcare sector is also leveraging the benefit of CRM software to track the case history of the patients to provide them a more personalised care plan, resulting in an elevated customer satisfaction level (Fortis, 2019). On a similar note, "All India Institute of Medical Sciences (AIIMS)" is harnessing the power of CRM software in order to keep the record of the patients in a suitable format, helping in monitoring and solving the queries of the patients within the determined time frame. This has further helped AIIMS to keep the disease type and treatment record of the patients which further helps in developing personalised care and treatment plan for the patients, resulting in an improved patient satisfaction (All India Institute of Medical Sciences, 2016). Thus, it can be stated that the second objective of this researcher has been effectively addressed as it has been discussed that CRM software has enabled the healthcare practitioner to keep record of patient's case history, resulting in the development of a personalised care plan.

5.4 Issues encountered while deploying Customer relationship management system in the healthcare sector

From the findings, it can be illustrated that lower rates of digital literacy and digital skill gap are the major challenges that have been witnessed by the healthcare sector while deploying the aspects of CRM software. Based on this aspect, Mumtaz et al. (2023) have mentioned that one of the major issues faced by the healthcare sector while leveraging the benefit of CRM software is the lower digital literacy rate of the healthcare staff, affecting the overall quality of the healthcare processes. Additionally, inadequate digital infrastructure is another issue that affects the aspects of CRM software as in the rural sector lack of adequate digital

infrastructure affects the service quality of the healthcare sector. On a similar note, Goyal (2017), has stated that persistent skill gaps in the healthcare industry of India have created inadequate exposure to technology, affecting the quality aspects of the healthcare sector. In addition to this, lack of appropriate IT infrastructure in the healthcare sector premises has also impacted the integration of new technologies which has further affected the personalised treatment facilities of the Indian healthcare sector. Based on this aspect, Fortis hospital, one of the leading hospital chains in India has put more emphasis on building a robust digital ecosystem to provide high-standard care facilities to the patients. To further equip its team members with the abilities to use various digital tools, such as CRM software, the company has also created a digital training plan (Fortis Healthcare Limited, 2023) . Therefore, the *third research objective has been addressed* as it has been found that the healthcare sector has faced challenges due to lack of inadequate infrastructure and skill gap while deploying the aspects of CRM software, however development of training schedule can be considered as effective for mitigating the challenge.

5.5 Summary

From the above discussion, it can be stated that integration of CRM software has improved the overall patient care plan and personalised treatment plan of the patients. This has further helped the healthcare sector to keep record of the patient case history, resulting in the development of personalised treatment approaches.

Chapter 6: Conclusion and Recommendation

6.1 Conclusion

The above research reveals that customer relationship management is crucial in the Indian healthcare sector because it receives a large number of customers for treatment. The current CRM practices which are utilised in the Indian healthcare sector are effective in terms of catering the patient needs and improving the patient care. Many of the patients have limited interactions with the customer care representative as their issues are resolved in a short time period due to effective CRM practices. The respondents revealed that personalisation and quality care are the most crucial factors behind their satisfaction with the healthcare service. Thus, it can be stated that customer relationship methods adopted by the Indian healthcare firms improves the customer satisfaction and loyalty levels.

Based on the above research, it has been observed that CRM practices in the Indian healthcare system influences the patient satisfaction levels. The female patients in the Indian healthcare system particularly take advantage of personalised services offered to them. This means that patient care can be improved through offering personalised patient services. In terms of age demographics, the young patients have shown higher preferences in the personalised healthcare services. Thus, customer relationship management is crucial for patient comfort in Indian healthcare.

The findings have revealed that quality of the services in Indian healthcare can be improved through personalisation in the CRM. Personalisation will improve the individual patient needs, improve the quality of the service which will benefit the customer satisfaction in the Indian health sector. The findings have revealed that customers in Indian healthcare are satisfied with transparency and the billing criteria offered to individual customers based on their needs. Thus, through findings it can be concluded that personalisation plays an important role in customer satisfaction and loyalty. The findings have analysed the challenges which are faced in customer relationship management systems by health workers. The findings revealed that the majority of the health workers face barriers in terms of managing the large customer data sets which creates data mismanagement. Therefore, it can be stated that barriers faced in the CRM limits its benefits in maintaining customer loyalty and satisfaction.

6.2 Contribution of the study in advancing theory within the subject area of research and discussion on surprising findings

The findings have revealed that women patients are highly influenced by the level of personalisation which is offered to them during their care treatment in the Indian healthcare sector. This can influence the decision of the policy makers in the Indian healthcare department to include more personalised treatment offers to female patients. The patient information collected by the healthcare departments can be secured to avoid data breach as it will improve the customer loyalty and satisfaction with added transparency in the healthcare sector of India. The policy makers can also make strict laws against data breach and transparency to improve customer satisfaction in the healthcare sector.

There were surprising research findings in terms of the challenges of data management which can limit the impact of CRM on customer loyalty and satisfaction. The topic requires further research in terms of selecting the right data management tools like big data to improve patient record management in the Indian healthcare sector. Further, the research can be extended to analyse the role of healthcare strategy improvements and patient engagement towards customer satisfaction. The surprising elements of the findings also included the role of customer loyalty towards improving the word-of-mouth marketing for the Indian healthcare sector.

6.3 Identification of flags in the data and critical evaluation of the research tool

The research was focused on the healthcare sector of India, the studies lacked evidence from rural healthcare systems and healthcare firms operating in the remote parts of India which can limit the credibility of the research. The research lacks other variables which can influence the patient loyalty and satisfaction levels such as preference of treatment, autonomy of the medical firm and health benefits provided by the government. This makes the scope of this research confined to a few variables . The research methods selected for the study were complex which increased the time for addressing the research objectives.

The research has been conducted using primary quantitative data through surveys. Undertaking surveys creates limitations such as time barriers for completion of study. It is challenging to gather the sample population which is relevant to the research topic. Lack of qualitative research data makes the research less informative; it also limits the depth of the

research for addressing the research objectives. The sample population gathered in the survey was less in number which limited the reliability of the research findings. Framing the survey questions was time consuming and presenting the survey findings using charts and graphs required time and detailed work.

6.4 Recommendations for further study

The further study can be improved using qualitative data instead of quantitative data to make the research more informative and in-depth findings can be generated. Thematic analysis can be followed instead of survey because it requires less time and energy due to availability of secondary data. The survey can be improved by using a large sample size population to make the survey results more accurate. The research variables can be increased to improve the scope and knowledge of the subject area. The information can be gathered from rural and remote parts of the chosen region to get more accurate findings.

6.5 Implications of the findings

The research is intended to be used by healthcare professionals like doctors and healthcare workers such as staff and nurses to understand the dynamics of patient satisfaction. The research can be utilised by scholars to understand the customer relationship management in the Indian healthcare sector. The research can be used to improve the policy framework surrounding storing of personal information of patients and laws against transparency and data breach. The research will create scope for future research on patient data management and privacy issues regarding customer data in the healthcare sector.

Glossary

Keywords	Definition
Customer Relationship management	Customer Relationship Management (CRM) is a strategy for managing a company's interactions with current and potential customers using data analysis to improve business relationships, particularly focusing on customer retention and driving sales growth (Chen & Popovich, 2003).
Patient satisfaction	Patient satisfaction refers to the degree to which patients are content with the healthcare they receive, particularly regarding their expectations and the quality of care provided (Pascoe, 1983).
Patient engagement	Patient engagement is the process by which patients actively participate in their healthcare to improve outcomes, often involving collaboration with healthcare providers (Barello et al., 2012).

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Appendices

Appendix 1 Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
1. What is your gender?	100	1	3	1.56	.592
2. In which age group do you belong to?	100	1	5	2.64	.948
3. How frequently do you interact with customer care service unit of healthcare?	100	1	3	1.62	.678
4. Are you aware of the utility of customer relationship management (CRM) in healthcare?	100	1	2	1.11	.314
5. To what extent do you agree that patient satisfaction is vital for healthcare delivery?	100	1	5	2.98	1.326
6. On a scale of 1 to 5, how much would you rate the healthcare service quality you get in India?	100	1	5	3.49	1.176

7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?	100	1	3	1.46	.642
8. How much are you 4 with the communication you hold with the healthcare staff?	100	1	5	2.90	1.345
9. Do you think the healthcare providers remembers the previous information you have shared with them during the new conversations?	100	1	5	2.25	1.067
10. In your opinion, rate the level of personalisation options you are being provided by the Indian healthcare	100	1	5	3.08	1.169
11. How much do you think the healthcare providers are responsive to your queries and concerns?	100	1	5	2.73	1.145

12. Do you think the overall experience of CRM improved in healthcare services from last 5 years in India?	100	1	4	2.08	1.012
13. How much do you think that the appointment scheduling process has been easier since the healthcare units implemented CRM?	100	1	5	2.35	1.158
14. On a scale of 1-5 how much would you rate the follow-up care of the healthcare providers in India?	100	1	5	3.36	1.115
15. Do you 2 that CRM has helped in making the healthcare services more accessible in the recent times?	100	1	5	2.31	1.116
16. Are you recommending your healthcare provider to others in terms of your experience till now?	100	1	5	2.94	1.293

17. How 4 are you with the transparency of the health cost and billing prices review through CRM?	100	1	5	3.04	1.255
18. Do you agree that your healthcare providers involve you in decision-making process for your treatment plan, post-CRM implementation?	100	1	5	2.97	1.344
19. Have your experienced any challenges during using the CRM process of healthcare providers in terms of accessing health records?	100	1	4	2.22	.905
20. Do you think that healthcare providers have become more proactive towards addressing your needs and care since the implementation of CRM?	100	1	4	1.94	.789
Valid N (listwise)	100				

Table 5: Descriptive statistics

Appendix 2: Correlation Table

		3. How frequently do you interact with customer care service unit of healthcare?	4. Are you aware of the utility of customer relationship management (CRM) in healthcare?	5. To what extent do you agree that patient satisfaction is vital for healthcare delivery?
3. How frequently do you interact with customer care service unit of healthcare?	Pearson Correlation	1	.151	.225 [*]
	Sig. (2-tailed)		.130	.023
	N	102	102	102
4. Are you aware of the utility of customer relationship management (CRM) in healthcare?	Pearson Correlation	.151	1	-.091
	Sig. (2-tailed)	.130		.363
	N	102	102	102
5. To what extent do you agree that patient satisfaction is vital for healthcare delivery?	Pearson Correlation	.225 [*]	-.091	1
	Sig. (2-tailed)	.023	.363	
	N	102	102	102
6. On a scale of 1 to 5, how much would you rate the healthcare service quality you get in India?	Pearson Correlation	-.057	-.068	.264 ^{**}
	Sig. (2-tailed)	.573	.497	.007
	N	102	102	102
7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?	Pearson Correlation	.030	-.009	-.115
	Sig. (2-tailed)	.763	.932	.249
	N	102	102	102
8. How much are you 4 with the communication you hold with the healthcare staff?	Pearson Correlation	.166	-.164	.470 ^{**}
	Sig. (2-tailed)	.095	.099	.000
	N	102	102	102
9. Do you think the healthcare providers remembers the previous information you have shared with them during the new conversations?	Pearson Correlation	.010	.088	.060
	Sig. (2-tailed)	.923	.378	.551
	N	102	102	102

		6. On a scale of 1 to 5, how much would you rate the healthcare service quality you get in India?	7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?	8. How much are you 4 with the communication you hold with the healthcare staff?
3. How frequently do you interact with customer care service unit of healthcare?	Pearson Correlation	-.057	.030	.166
	Sig. (2-tailed)	.573	.763	.095
	N	102	102	102
4. Are you aware of the utility of customer relationship management (CRM) in healthcare?	Pearson Correlation	-.068	-.009	-.164
	Sig. (2-tailed)	.497	.932	.099
	N	102	102	102
5. To what extent do you agree that patient satisfaction is vital for healthcare delivery?	Pearson Correlation	.264**	-.115	.470**
	Sig. (2-tailed)	.007	.249	.000
	N	102	102	102
6. On a scale of 1 to 5, how much would you rate the healthcare service quality you get in India?	Pearson Correlation	1	-.324**	.285**
	Sig. (2-tailed)		.001	.004
	N	102	102	102
7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?	Pearson Correlation	-.324**	1	-.105
	Sig. (2-tailed)	.001		.294
	N	102	102	102
8. How much are you 4 with the communication you hold with the healthcare staff?	Pearson Correlation	.285**	-.105	1
	Sig. (2-tailed)	.004	.294	
	N	102	102	102
9. Do you think the healthcare providers remember the previous information you have shared with them during the new conversations?	Pearson Correlation	-.095	.363**	.067
	Sig. (2-tailed)	.343	.000	.502
	N	102	102	102

		9. Do you think the healthcare providers remembers the previous information you have shared with them during the new conversations?	10. In your opinion, rate the level of personalisation options you are being provided by the Indian healthcare	11. How much do you think the healthcare providers are responsive to your queries and concerns?
3. How frequently do you interact with customer care service unit of healthcare?	Pearson Correlation	.010	.144	.104
	Sig. (2-tailed)	.923	.148	.300
	N	102	102	102
4. Are you aware of the utility of customer relationship management (CRM) in healthcare?	Pearson Correlation	.088	.028	-.089
	Sig. (2-tailed)	.378	.779	.374
	N	102	102	102
5. To what extent do you agree that patient satisfaction is vital for healthcare delivery?	Pearson Correlation	.060	.363**	.385**
	Sig. (2-tailed)	.551	.000	.000
	N	102	102	102
6. On a scale of 1 to 5, how much would you rate the healthcare service quality you get in India?	Pearson Correlation	-.095	.274**	.335**
	Sig. (2-tailed)	.343	.005	.001
	N	102	102	102
7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?	Pearson Correlation	.363**	-.003	-.116
	Sig. (2-tailed)	.000	.976	.245
	N	102	102	102
8. How much are you 4 with the communication you hold with the healthcare staff?	Pearson Correlation	.067	.636**	.690**
	Sig. (2-tailed)	.502	.000	.000
	N	102	102	102
9. Do you think the healthcare providers remembers the previous information you have shared with them during the new conversations?	Pearson Correlation	1	.084	-.007
	Sig. (2-tailed)		.403	.944
	N	102	102	102

		12. Do you think the overall experience of CRM improved in healthcare services from last 5 years in India?	13. How much do you think that the appointment scheduling process has been easier since the healthcare units implemented CRM?	14. On a scale of 1-5 how much would you rate the follow-up care of the healthcare providers in India?
3. How frequently do you interact with customer care service unit of healthcare?	Pearson Correlation	-.086	.022	.033
	Sig. (2-tailed)	.390	.825	.738
	N	102	102	102
4. Are you aware of the utility of customer relationship management (CRM) in healthcare?	Pearson Correlation	.287**	.385**	-.031
	Sig. (2-tailed)	.003	.000	.753
	N	102	102	102
5. To what extent do you agree that patient satisfaction is vital for healthcare delivery?	Pearson Correlation	.016	-.124	.168
	Sig. (2-tailed)	.873	.214	.092
	N	102	102	102
6. On a scale of 1 to 5, how much would you rate the healthcare service quality you get in India?	Pearson Correlation	-.336**	-.415**	.736**
	Sig. (2-tailed)	.001	.000	.000
	N	102	102	102
7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?	Pearson Correlation	.287**	.389**	-.121
	Sig. (2-tailed)	.003	.000	.225
	N	102	102	102
8. How much are you 4 with the communication you hold with the healthcare staff?	Pearson Correlation	-.148	-.124	.339**
	Sig. (2-tailed)	.138	.216	.000
	N	102	102	102
9. Do you think the healthcare providers remember the previous information you have shared with them during the new conversations?	Pearson Correlation	.317**	.381**	-.104
	Sig. (2-tailed)	.001	.000	.300
	N	102	102	102

		15. Do you 2 that CRM has helped in making the healthcare services more accessible in the recent times?	16. Are you recommending your healthcare provider to others in terms of your experience till now?	17. How 4 are you with the transparency of the health cost and billing prices review through CRM?
3. How frequently do you interact with customer care service unit of healthcare?	Pearson Correlation	-.117	.096	.024
	Sig. (2-tailed)	.243	.336	.813
	N	102	102	102
4. Are you aware of the utility of customer relationship management (CRM) in healthcare?	Pearson Correlation	.195 [*]	.085	.053
	Sig. (2-tailed)	.050	.398	.594
	N	102	102	102
5. To what extent do you agree that patient satisfaction is vital for healthcare delivery?	Pearson Correlation	-.070	.308 ^{**}	.402 ^{**}
	Sig. (2-tailed)	.485	.002	.000
	N	102	102	102
6. On a scale of 1 to 5, how much would you rate the healthcare service quality you get in India?	Pearson Correlation	-.246 [*]	.362 ^{**}	.287 ^{**}
	Sig. (2-tailed)	.013	.000	.003
	N	102	102	102
7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?	Pearson Correlation	.328 ^{**}	-.165	-.128
	Sig. (2-tailed)	.001	.097	.200
	N	102	102	102
8. How much are you 4 with the communication you hold with the healthcare staff?	Pearson Correlation	-.146	.594 ^{**}	.574 ^{**}
	Sig. (2-tailed)	.142	.000	.000
	N	102	102	102
9. Do you think the healthcare providers remember the previous information you have shared with them during the new conversations?	Pearson Correlation	.305 ^{**}	-.021	.180
	Sig. (2-tailed)	.002	.836	.070
	N	102	102	102

		18. Do you agree that your healthcare providers involve you in decision-making process for your treatment plan, post-CRM implementation ?	19. Have your experienced any challenges during using the CRM process of healthcare providers in terms of accessing health records?	20. Do you think that healthcare providers have become more proactive towards addressing your needs and care since the implementation of CRM?
3. How frequently do you interact with customer care service unit of healthcare?	Pearson Correlation	.020	-.075	-.073
	Sig. (2-tailed)	.840	.454	.468
	N	102	102	102
4. Are you aware of the utility of customer relationship management (CRM) in healthcare?	Pearson Correlation	.103	.199 [*]	.264 ^{**}
	Sig. (2-tailed)	.305	.045	.007
	N	102	102	102
5. To what extent do you agree that patient satisfaction is vital for healthcare delivery?	Pearson Correlation	.330 ^{**}	-.005	-.029
	Sig. (2-tailed)	.001	.962	.769
	N	102	102	102
6. On a scale of 1 to 5, how much would you rate the healthcare service quality you get in India?	Pearson Correlation	.257 ^{**}	-.208 [*]	-.296 ^{**}
	Sig. (2-tailed)	.009	.036	.003
	N	102	102	102
7. In your opinion, is there any change observed in the quality of healthcare provider since the CRM practices are adopted?	Pearson Correlation	-.040	.230 [*]	.409 ^{**}
	Sig. (2-tailed)	.686	.020	.000
	N	102	102	102
8. How much are you 4 with the communication you hold with the healthcare staff?	Pearson Correlation	.568 ^{**}	-.015	-.117
	Sig. (2-tailed)	.000	.879	.241
	N	102	102	102
9. Do you think the healthcare providers remembers the previous information you have shared with them during the new conversations?	Pearson Correlation	.116	.421 ^{**}	.215 [*]
	Sig. (2-tailed)	.246	.000	.030
	N	102	102	102

Table 6: Correlation table