IMPACT OF AI IN CUSTOMER SERVICES RETENTION: A BEHAVIORAL PERSPECTIVE OF INDIAN MOBILE MARKET

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Impact of AI in customer services retention: A behavioral perspective of Indian mobile market

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DECLARATION

I hereby declare that the thesis entitled **"IMPACT OF AI IN CUSTOMER SERVICES RETENTION: A BEHAVIORAL PERSPECTIVE OF INDIAN MOBILE MARKET"** submitted to SSBM, Geneva for the award of degree of Doctor of Business Administration, is my original research work. This thesis or any part thereof has not been submitted partially or fully for the fulfilment of any degree of discipline in any other University/Institution.

(**Dr. Kishore Kunal)**

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ABSTRACT

In this research, I have explored customer retention as one of the most significant advancements in membership-based business models. To obtain a competitive advantage, businesses use electronic commerce channels to engage with mobile users. For example, competition is severe in the market, where clients can explore a large selection of vendors, even within the same product category. After a few negative experiences, a customer may discontinue purchasing services or products from a specific company. According to this study, customers' perceptions of their interactions with firm staff may be influenced by negative emotions. Some clients may be dissatisfied, while others may sympathise with the personnel at issue. This reaction is represented in their emotional abilities, which the scientific world refers to as emotional intelligence. As a result, the title of this study paper includes several aspects that influence consumer behaviour and are influenced by Artificial Intelligence (AI).

A typical AI system operates by consuming huge volumes of labelled training data, analysing it for correlations and patterns, and then forecasting future states. Because AI programming focuses on obtaining data and generating rules to turn it into meaningful information, its learning processes are overly powerful. Artificial intelligence automates the data review process, providing previously unreachable insights that assist clients in better understanding their needs.

Consumer behaviour in the mobile industry, particularly consumer behaviour, has become a prominent marketing research topic. Every consumer has distinct life experiences that influence their shopping decisions. Age, employment, lifestyle, personality, and self-concept are social and personal elements that can affect a buyer's final selection. The Indian mobile market is still in its early stages, and several smartphone manufacturers see it as a potential market. "Some major international companies are Samsung, Apple, Sony, Nokia, Motorola, LG, and so on. However, the market share of international brands is decreasing as local brands such as Micromax and Karbonn launch smartphones with Android operating systems and large screens at much lower prices than international brands."

The rapid developments in practically every business type underline the importance of relationships and the need to build networks of ties. Mobile commerce has become indispensable in all parts of life, including education, health, business, and

entertainment. Mobile phones are "telephones that are portable and not coupled to a base unit that operates on specialised mobile phone networks and generates income from all speech and data transfers emanating from such mobile phones."

Based on tests performed on data collected, several outcomes were discovered. In this research, the participants were chosen using the technique described, and their data were analysed using descriptive and inferential statistics. The Chi-Square test was used to investigate the relationship between the individual domain of AI and the age of the consumer who considers it important, as well as the relationship between companies and their usage of optimal service techniques.

According to the study's findings, a customer-journey analytics solution records each customer's moves across its ecosystem in the telecom business. The service creates maps of each journey and records visitor interactions. Comcast quickly resolves customer experience issues using AI to collect data and detect where trips fail, such as with its mobile app. Businesses are integrating different AI, Martech, and back-office technologies with standard application programming interfaces to generate and use customised data more effectively. Users can interact with businesses in innovative ways thanks to new digital media. Users may give these individualised client experiences while alleviating the pressure on your support staff by utilising AI and cognitive search. For instance, the performance of content in your self-service community determines the content ranking agents see in the CRM. Within your customer community, the content that agents utilise to resolve situations is pushed to the top of search results. This closes the loop between self-service and assistance, allowing you to provide seamless experiences for your customers. AI-powered solutions may aid organisations in encouraging customers to take action at each stage of the user life cycle.

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CHAPTER 1:

INTRODUCTION

Digital advertising and artificial intelligence (AI) have had a significant impact on the whole economic landscape in recent decades. AI is already a part of our lives, whether we realize it or not. AI is also expected to play a significant role in marketing and advertising. It can be used to forecast user behavior and recommend new goods accordingly. It can also easily evaluate massive amounts of data; something that was previously impossible to do manually. It can also assess how customers view a brand and their overall feelings toward a new brand or product. This research tries to provide a complete framework to steer mobile media research efforts in order to assist practitioners in their quest for successful mobile marketing. Hence, this chapter introduces the background and motivation behind the title of the research. This chapter also focuses on the aim of the research with that I defined the operational definition terms of research. This chapter is divided into five sections. Section 1.1 introduces the background and motivation of the research. Section 1.2 explores the aim of the research that helps in identifying the significance of the research, which has been defined in section 1.3. The operational definition terms of the research have been defined in section 1.4 and thesis structure has been defined in section 1.5.

1.1. Background and Motivation

Mobile technology is influencing the next generation (Erickson, 2012). The rise of the Internet since the mid-1990s has impacted education, knowledge, communication, and commerce, among other things. Success in business is dependent on clear thinking on the fundamental conceptual issues. Over the last few years, academics and industry professionals have become increasingly interested in mobile marketing. Despite the fact that several studies have provided critical insights into mobile marketing, our understanding of the subject remains limited, despite its growing importance and degree of interest.

India has the highest number of publicly traded enterprises in the world. Because of the Indian government's “Make in India” digital technology push, the country offers considerable growth opportunities to domestic and foreign businesses in terms of investment prospects and growth opportunities. Rural and urban areas now have more significant potential to enhance per capita household income due to this, which is good

news. Lower prices, unlimited phone and Internet, and more value-added services are sought by the bulk of clients, who are likely to be from rural or metropolitan areas with poor basic infrastructure or no access at all. Telecommunications networks serve as the backbone that connects all of these digital technologies. As a result, telecommunications is playing an increasingly important role in advancing the country's economic development. Customers in metropolitan areas, cities and metro areas want high-speed internet access for a variety of reasons, including "audio-video streaming, navigation, music downloads, gaming, e-commerce, postal solutions, video chat boxes, and social networking." Therefore, demand for 4G/5G technology to power these applications continues to grow incessantly. People who live in rural areas, as opposed to those who live in urban areas, require low-cost technology to use these applications. The government is carrying out various programs to make digital technology available, especially in rural and urban areas. In addition, various programs, including digital technology, "a 100 percent foreign direct investment policy, the introduction of VNO licenses, mobile number portability, special number service 112, Aadhar-based e KYC, GPS-enabled handsets, spectrum sharing, spectrum management, and spectrum auction, have all contributed to the improvement of the health of the telecom sectors in the country." The efforts taken by Bharat Net to connect 2.5 million communities utilizing optical fiber connectivity to boost internet penetration have resulted in a successful outcome. Several private telecommunications companies have expressed an interest in establishing a connection between the villages. Among the companies that have indicated an interest in connecting 10,000 villages is Airtel, which has stated an interest in connecting 30,000 villages, while Vodafone and Reliance JIO have expressed an interest in connecting 3000 and 1000 villages, respectively. Because of Reliance JIO's complimentary services, including unlimited phone and data usage, there has been heated competition among Indian telecommunications companies. Additionally, Airtel, Vodafone Idea, and BSNL are being pressed to lower their prices for acquiring and maintaining new and existing customers. Following Reliance JIO's entry into the telecom business, at the very least, Airtel, Vodafone Idea, and BSNL have gained a foothold in what has become a fiercely competitive market.

The broad term artificial intelligence (AI) refers to machines that exhibit human intelligence. It refers to technologies inspired by biological systems of the human body. Under this umbrella are a variety of software- and algorithm-driven (combined with

data) approaches to simulate human cognitive functions. In recent years, artificial intelligence (AI) has been utilized in customer service to promote self-service and increase internal efficiencies. By adopting AI's newer capabilities, ranging from video processing to machine learning, businesses can reduce costs while providing integrated, enhanced, and comprehensive customer experiences.

AI is used in conjunction with automated marketing chores to uncover the data required to create extraordinary experiences for both prospects and customers. Automated jobs are accomplished more quickly with AI. As its name suggests, artificial intelligence is the replication of human intelligence. The learning process is iterative and requires the processing of thousands or millions of examples of something (such as photos, music, words in a dictionary, etc.) in order to become competent at a task. The amount of available data has a significant impact on the rate of AI learning and its ultimate level of competence. Consequently, AI technology utilising intelligent data sources can assist in determining where each customer is in their unique journey and tailoring to their specific needs.

AI has a wide variety of applications in business. Artificial intelligence is already transforming virtually every business process across all industries from conventional to modern. As artificial intelligence technologies proliferate, they are becoming a necessity for businesses seeking a market advantage. According to Syam and Sharma (2018), experts believe that the upcoming years will be a glimpse of the fourth industrial revolution, which will be fueled by digitization, information technology, machine learning, and artificial intelligence, and will result in the gradual transfer of human decision-making to machines. In addition, the resulting societal changes will have a substantial effect on both personal selling and sales management research and practices.

AI and digital advertising both collect data (e.g., user data). Users are frequently ignorant of when or why their data is collected and shared, and such technologies can jeopardise users' digital privacy rights. The framework provides a detailed description of how mobile marketing should be integrated into the company's entire marketing communications strategy, drawing on research from mobile commerce and integrated marketing communications (IMC). Furthermore, it discusses mobile marketing in terms of the marketing communications mix (also known as the promotion mix) and provides a comprehensive overview of numerous mobile marketing activities.

Customer retention is one of the most important breakthroughs in membership-based company strategies. For example, competition is fierce in the market, where clients can browse a wide range of suppliers, even within the same product category. After a few bad experiences, a customer may cease purchasing services or products from a particular brand. Customers' opinions of their experiences with the company's employees may be influenced by their negative emotions, according to research. Some customers may be dissatisfied, whilst others may be sympathetic to the employees in question. This reaction is reflected in their emotional talents, which are referred to as emotional intelligence in the scientific community. Hence, this research studies the factors that affects consumer behaviour which is affected by Artificial Intelligence (AI).

1.1.1 Research Background

AI is a computing concept that helps a machine think and solve complex problems as humans do with their intelligence (Warwick, 2016). A typical AI system works by ingesting large amounts of labelled training data, analyzing it for correlations and patterns, and then predicting future states. Its learning processes are too strong due to this AI programming focuses on acquiring data and creating rules for how to turn the data into actionable information. Artificial intelligence automates the process of reviewing the data, giving previously unattainable insights that help clients better understand their requirements.

In order to avoid wasting time on ineffective leads, marketing managers can employ Machine Learning algorithms to target their audiences. The use of mobile apps is extremely important for businesses since they enhance "customer engagement, conversions, and sales." Furthermore, artificial intelligence (AI) tools make promotions easier and more effective than traditional tactics that need everything to be done manually, such as launching marketing campaigns and sending out email messages. The application of artificial intelligence technology allows marketers to serve up more targeted advertisements to consumers without having to bombard them with unwanted and invasive banners, which results in a negative user experience and poorer client loyalty. Hence, nowadays, AI is being used in several fields, especially in marketing enhancing the performance of the company and customer retention of products. Mobile marketing, also known as wireless marketing, offers companies a significant marketing opportunity by enabling direct engagement with customers at any time and from any

location. This type of marketing is known as mobile marketing (Dickinger and Murphy, 2004). The distinctive characteristics of the mobile channel, which include a high response rate, availability at any time and from any location, and a relatively low price, as well as the technologically savvy generation, encourage marketers to include mobile alongside other possibilities in the process of selecting the marketing communication mix. In addition, the mobile channel shouldn't be seen as a replacement for pre-existing communication channels; rather, it should be seen as an addition to those channels (Mirbagheri and Hejazinia, 2010)

The use of mobile devices is required of marketers in order to deliver timely, relevant content to their target customers at the appropriate moment. Before deciding how and where modern advertisers can most effectively engage with customers using mobile platforms, it is essential for them to have a solid understanding of their customers' intentions and the factors that drive them. The potential for mobile targeted marketing is enormous, and the power of artificial intelligence (AI) and mobile analytics has the potential to improve mobile engagement even further. Once the marketer has an understanding of the client's preferences and details, such as location, they may send a push notification via an app to keep the consumer up to date on the status of an order or send a promotional offer when the customer is near a favourite brand's brick-and-mortar location. Both of these examples are possible once the marketer has an understanding of the client's preferences and details. Communicating with customers in their immediate surroundings through the use of mobile devices is an essential part of proximity marketing, also known as location-based marketing. A few examples of this include QR codes, blue casting, and social interactions through Foursquare, Gowalla, Facebook locations, and Google hotspots. The immediacy and timely delivery are two benefits that mobile marketing channels offer to advertisers. There are times when it is acceptable to direct one's marketing efforts toward a specific subset of the population. People who use their phones to look up restaurants, for instance, frequently make snap judgments about where to eat. Intelligent Customer Engagement calls for a variety of skills, including design thinking, dialogue design, and knowledge engineering, among others. Companies can anticipate having a meaningful impact on the metrics that measure the customer experience while also reducing costs by as much as 30 per cent if they approach change in a way that is both systemic and strategic. They will develop a powerful, enterprise-wide capability to empower employees, satisfy their customers,

differentiate themselves in a competitive environment, and drive new growth in their business.

Customer retention is a hot topic in today's hyper-competitive business world. This is particularly relevant to sales and service industries. Because customers can leave without warning if they are dissatisfied with the services or if better offers come along, many organisations are powerless to address the “customer retention" issue. Thankfully, this is not the case in relaying.

Consumer behaviour in the mobile market has become a major focus of marketing research. Every consumer has unique life characteristics that influence their purchasing decisions. Social and personal factors (age, occupation, lifestyle, personality, and self-concept) can influence a buyer's final decision. Indian mobile market is an emerging market; there are many smartphone companies that are targeting India as their market. “Some of the major international companies are Samsung, Apple, Sony, Nokia, Motorola, LG etc. the market share of the international brand are decreasing as local brands like Micromax and Karbonn are launching a smartphone with android operating systems and large screen at very low price compare to the international brands”. The sales of local brands are increasing Micromax’s market share was 5.6% in 2012 and in 2013 it was 22.7% (Times, 2014).

Winning clients is only a tiny part of the battle for any advanced or internet firm. It is also about attracting and retaining clients in order to make long-term progress. Artificial Intelligence (AI) is an intriguing topic in marketing right now. According to Teradata's research, 80 per cent of businesses report that their organization is currently utilizing some form of AI. Throughout 2017 and 2018, AI has had a constant impact on many ventures, changing how firms finish particular cycles. Regardless, research has shown that its most significant impact has been on the shopper. Aside from providing a consistent omnichannel experience and improving personalization, AI gives up many new possibilities. AI can improve the overall consumer experience by using the intensity of information far faster and more effectively than people could.

1.1.1(a) What is AI-based Marketing?

Artificial intelligence in marketing enables automated decisions to be made based on data collection, analysis, and observations of economic trends that may impact marketing initiatives. Predictive analysis may be used by AI to determine the next best

action to deliver to customers in real-time. This can be accomplished by collecting customer data from all of a brand's channels, analysing it, and using machine learning to improve continuously. Sending a targeted email with personalised product recommendations, displaying a web page with products that the customer is likely to be interested in based on previous purchases and browsing history, having a chat conversation that includes shipping information for a product the customer has purchased or engaging in other types of personalised interactions with the customer are examples of these actions. Marketers are realising that their ability to accurately predict the behaviour of their target customers is directly related to the success of their marketing campaigns. By analysing historical data from social media, news, purchase history, feedback, searches, and reviews, AI and machine learning technologies can more accurately forecast customer purchasing trends and behaviors. These data sources can be obtained through AI and machine learning technologies.

1.1.1(b) Customer Retention – Problem

Relationship marketing has emerged as a critical strategic tool for businesses in the face of rapidly changing customer needs and preferences. The importance of relationships and the need to build networks of relationships is highlighted by the rapid changes in almost every business type. Mobile commerce is now essential in all aspects of life, including education, health, business, and entertainment. Mobile phones are described as "those telephones that are fully portable and not attached to a base unit operating on dedicated mobile phone networks, where revenue is generated by all voice and data transmissions originating from such mobile phones" (Mintel Report, 1998, cited in Turnbull and Leek, 2000:148).

The wireless communication sector is not excluded from this phenomenon, being one of the fastest-growing service segments in telecommunications (Kim and Yoon, 2004), and has both "high customer turnover and high customer acquisition cost" (Bolton, 1998:52). The recent increase in competition in the wireless telecommunications sector emphasises the significance of retaining current customers (Seo et al., 2008).

Despite using various relationship marketing strategies to retain existing customers (Grönroos, 1995; Ravald and Grönroos, 1997; Ranaweera and Prabhu, 2003), many mobile phone companies are losing existing customers at rates exceeding 30%. Also, according to Andic (2006), the UK's major mobile network operators, Orange, T-

Mobile, O2 and Vodafone, lose over a third of their youth subscribers to competitors. Despite their efforts to understand the causes of the loss, many managers are unable to address this fact directly (Reichheld, 1996). Loss of current and prospective customers means a loss of sales and profits, and ultimately, business failure (Reichheld and Sasser, 1990; Reichheld and Kenny, 1990). A lost customer means a potential loss of cash flow (Alshurideh, 2014b). Many wireless telecommunications and relationship marketing studies show that most businesses, particularly mobile service providers, continue to lose customers at an alarming rate. Many aspects of this paper have emphasised the significance of studying CR. Some of the factors cited include changes in consumer purchasing patterns, more demanding and sophisticated customers, shifting business themes, and the rapid pace of innovation (Alshurideh, 2009; Alshurideh, 2014a: Alshurideh et al., 2014; Altamony et al., 2012). Accordingly, this study of CR has focused on the mobile-phone sector, as about 50% of mobile-phone contracts are renewed (Dalen et al., 2006).

Customers want to get the most out of a relationship. Customers form and maintain business relationships when they believe the relationship will be profitable. (Bhattacharya &Bolton, 2000). Exemplifying exceptional customer service raises the perceived value of the relationship. Companies that prioritise customer service, for example, can earn 60% more profit than their competitors. Positive customer experience increases customer retention and revenue by up to 25% more than sales or marketing initiatives (Murphy& Murphy, 2002).

1.1.1(c) Consumer Decision-making

One of the fundamental issues in consumer behavior is the way consumers develop, adapt and use decision-making strategies (Moon, 2004). Consumer decision-making could be defined as the "behavior patterns of consumers, which precede, determine and follow the decision process for the acquisition of need-satisfying products, ideas or services" (Du Plessis et al., 1991). Researchers have long been fascinated by consumer choice. Early decision-making research focused on purchases (Loudon and Bitta, 1993). Consumer decision-making studies began to include a wider range of activities after the 1950s. (Engel, Blackwell, and Miniard, 1995).

The contemporary research models aim to depict the purchase decision-making process and its influential factors. According to Kotler (2010), "Consumer behavior is the study

of how individuals or groups buy, use and dispose of goods, services, ideas or experience to satisfy their needs or wants". Today's marketers, on the other hand, recognise that consumer behaviour is a continuous process, not just something that occurs when the consumer gives money and receives goods or services. (Solomon, 2006).

In the eye of marketers, a consumer is known as "a man with a problem". A consumer purchase solves the issue. Most large corporations are intrigued by the consumer's decision-making process. The reason is that "the answers are often locked within the consumer's head" (Kotler and Keller, 2009).

The buyer evaluates the alternative brands in the choice set after gathering sufficient data. Finally, he purchases the product he believes is best for him. The buyer will contact the marketer after purchasing the product to express his or her satisfaction. (Kotler, 2010).

1.1.1(d) Artificial Intelligence and Marketing Strategies

The application of technology to its fullest potential in order to provide superior service to customers is the goal of artificial intelligence marketing. In most recent years, it has become increasingly important for companies to identify and comprehend the requirements and anticipations of their customers in terms of the products and services they provide. Artificial intelligence enables marketers to process massive amounts of data, carry out individualized sales, and meet the expectations of customers. Additionally, the perception they gain about the customer and their requirements in a shorter amount of time enables them to rapidly improve campaign performance and return on investment (ROI).

AI marketing uses technology to improve the customer experience. It can also be used to increase marketing campaign ROI. To do so, you can use big data analytics, machine learning, and other methods. These insights can help you improve customer service. When it comes to email marketing or customer service, AI eliminates much of the guesswork. Thus, AI has improved a company's digital marketing strategies. In digital marketing, AI can automate and optimise campaigns. It can also reduce human error. While much of digital marketing still relies on human creativity, an AI programme could generate a report solely from data. You need the human touch to truly connect with your customers. (Hall, 2019).

1.1.1(e) Artificial Intelligence and Mobile Market

AI-created machines and people can collaborate to solve business problems in their respective capacities by providing distinct contributions to tasks. While AI is a promising technology that will open up new opportunities in the future, it has the potential to erode consumers' feeling of autonomy, the absence of which can be detrimental to consumer health (Elish & Boyd, 2018; Brynjolfsson et al., 2017). Businesses can collect more accurate consumer data by using AI as a mobile marketing tool. This allows for a more personal connection with customers. Consumers today prefer to interact with brands both offline and online, rather than just one. AI can recognise key customer characteristics to help personalise shopping experiences. Iterative improvement is used by many AI algorithms. As a result, AI-powered software becomes more efficient and reliable over time. AI learns more about user preferences over time, personalising the user experience. According to a 2016 Adlucent study, 71% of customers want more personalised advertisements. Personalised mobile content is less likely to be blocked or ignored by customers (Llanas, 2019).

A number of analytics tools can assist marketers in keeping a personal connection with customers as well as developing a strategic outreach plan for a variety of audiences. In addition, other technologies supply marketers with information about the activity of their competitors. This type of interactive dashboard allows marketers to examine the effectiveness of their campaign's performance and determine which techniques are the most effective.

1.1.1(f) Artificial Intelligence and Content Generation for Marketing

AI can curate and create content, and then deliver it to the appropriate people and platforms. This technology currently automates the basic content generation, but it has the potential to generate ideas for writers or even develop content draughts based on parameters. On the strategy front, AI can assist marketers in creating a comprehensive content strategy.

Current digital marketing strategies would be impossible without AI. AI can be used in digital billboards. Using complex algorithms and big data, these systems automatically target the right people. This is called "targeted advertising." Advertisements bombard consumers and B2B buyers daily. They either close the ad or move on to the next task. (Hall, 2019).

1.1.1(g) AI Impacts Consumer Behavior

A company planning to implement AI in its system is on the right track, both today and tomorrow. Brands that prioritize the shopper will undoubtedly be more successful in the long run. Sorting through all the data and creating suitable adjustments in the system will help companies and advertisers stay ahead of the competition. The more customers' perception depends on how they behave; this may help change business and marketing processes of what they require. The (Chuprina, 2020) titled, Artificial Intelligence for customer behavior analysis: A practical use case tells how artificial intelligence will influence consumers' behavior.

1.1.1(g)(i) The customer spends more money

Sites that are entirely psychological in nature will significantly affect consumer behavior and selection. There has been considerable increase in the average expenditure per meeting for buyers using these channels. Psychological destinations guide consumers through a lot more intelligent pipeline, allowing them to make a purchase before customer fatigue sets in or the customer become distracted by anything else.

The idea here is that AI uses AI algorithms to examine the shopper's thinking and predict what they would like to buy. AI will drive people to spend more in a variety of ways. For example, Fluid AI employs AI algorithms that describe consumer behavior; for example, when a customer's behavior appears to be altered, AI algorithms can be used to pre-inform. As a result, it can send limited-time communications to customers at optimum times, perhaps causing a spike in sales.

1.1.1(g)(ii) The customer become more loyal

Customer loyalty is something that all businesses should strive towards. According to research titled by Harvard Business Review (2014) on the value of keeping the right customers, it is 25 times more expensive to acquire a new customer than keep an existing one. Most of the buyers would return to an online store if AI was available.

AI can use sophisticated algorithms to reveal bits of information about the client that assists dependability. A never-ending flood of inadmissible product judgments has drained computerized purchasers. If they can find an internet arrangement that can recommend products they will enjoy, they are bound to stick with that arrangement. Such customers' needs can be met by artificial intelligence.

However, AI has the potential to go even further in terms of improving the consumer experience. Airbnb's AI-controlled hunt analyses a massive amount of data in order to provide customers with personalized postings. With this kind of assistance, the consumer has little incentive to shop somewhere else the next time they need a break.

Customers and businesses now have an alternative to traditional markets thanks to the Internet. This new market is adaptable, instructive, and easily extendable in a short period. Consumers and company providers can use Internet organizations, web pages, and mobile apps to find information about products and services and comments, ratings, and booking orders. The newly discovered communication and information technologies have created a new marketing reality for all Internet users (Xavier & Pereira, 2017). The twenty-first century, the age of Internet technology, has had an immediate impact on people's lives. The world of information and communication has altered dramatically due to rapid technological growth in all areas.

1.1.1(g)(iii) Instruments to provide Customer Services with AI

When Artificial Intelligence (AI) first appeared on the scene, it quickly became a popular topic. Businesses are widely using AI technologies such as Machine Learning, which streamlines the workflow for marketers in various ways and provides a plethora of benefits. Many hotel chains, e-commerce enterprises, airlines, and brick-and-mortar stores did not hesitate to apply AI to improve the customer experience while growing income. Face recognition, voice assistants such as Siri, Alexa, and Cortana, bright selfies, and augmented reality - how AI is employed to provide novel features and simple solutions for everyday activities have changed the digital world and shaped web and mobile marketplaces. Amazon and Netflix are already using machine Learning to promote to individual customers. Manufacturers of smartphones are actively improving their devices with dedicated AI processors. The most recent Samsung Galaxy, Google Pixel, and Apple iOS devices include specific hardware designed to handle AI-based activities more efficiently. This capacity seems to be present in around most of the smartphones in the near future.

Virtual assistants are used in customer service. They provide direct assistance to customers in the form of information, support requests, and simple problems. Virtual assistants can be as simple as scripted interactions or as sophisticated as advanced NLP and NLU techniques. Even the most sophisticated bots on the market are incapable of

handling complex customer requests. In order to build the virtual workforce that your contact centre solution requires, chatbots are an essential component. They give customers the ability to serve themselves. Chatbots can now, thanks to intelligent automation, make decisions based on the context of a conversation and suggest next steps for a human agent or customer. This technology also enables communication and integration between a chatbot and a back-end system, which means that, for instance, a customer on a website who is asking the chatbot questions can see recommended product options, and purchase a product with the IT and CRM systems operating seamlessly behind the scenes. Chatbots are already on numerous websites, as they excel at answering customers' frequently asked questions. The key fascination with chatbots is the impact they can have on the customer experience. For some businesses, there aren't enough employees or hours in the day to answer customer queries quickly. Chatbots allow customers to help themselves. This technology should never have the final say regarding a customer complaint. It should also be easy for a lead or customer to speak with a human if they prefer (Hall, 2019).

Hence, virtual agents are also useful in sales and marketing to convert casual browsers into paying customers. Though sentiment analysis has been used for decades, AI-powered methods can now accurately predict a customer's feelings, needs, and wants (Yao, 2018).

A virtual companion for Android, iOS, and Windows handsets is being given by the same company that built Assistant. It makes use of Machine Learning to learn from visitors and reply to their enquiries with conversation that is tailored to their needs.

AI is increasingly encroaching on the mobile market and altering how people engage with their phones. Marketers, on the other hand, will benefit the most from AI technology. Every Marketing Manager's responsibility is to determine the needs of their customers and deliver a product that meets those needs. Mobile devices – primarily mobile phones – capture data on people's activities. AI automates examining that data, delivering previously unavailable insights that help customers better understand their needs.

Marketing Managers may appropriately target their audiences with the help of Machine Learning algorithms, rather than wasting time on useless leads. Mobile apps are highly crucial for organizations since they increase engagement, conversions, and sales.

Moreover, AI tools make promotions easier and more effective than traditional approaches that require everything to be done manually, such as starting marketing campaigns and sending emails. Thanks to AI techniques, marketers may now provide users with more tailored adverts without annoying them with unnecessary and invasive banners, resulting in a terrible user experience and lower client loyalty.

1.1.1(g)(iv) Email Marketing Software

When it comes to dealing with overloaded email inboxes, these tools are equivalent to magic wands. Automation and control of email campaigns are made possible with the use of machine learning systems, which prevent inboxes from becoming overloaded with messages that have been ignored. Email marketing solutions can help you discover the most important contacts and send them personalized follow-up emails to them. Moreover, they assist marketers in tailoring communications to specific target groupings. As they continuously alter and learn from client responses, artificial intelligence-powered technologies help to raise the awareness of individual audience members and may even enable one-on-one engagements. eSputnik.com, a leading provider of email management solutions, is an excellent example. This tool makes use of twelve different artificial intelligence models to personalise suggestions, establish persona-based segmentation, enhance email send speeds, and generate content for the website. A large portion of marketing work is handled by "eSputnik, which also automates processes such as campaign launches and mailouts."

1.1.1(g)(v) Ad Optimization Tools are available online.

A significant advantage of ad optimization solutions is the ability to manage all of the data associated with ad campaigns in a centralized location. Additionally, they have the ability to design custom workflows and give Machine Learning recommendations across several platforms. Another type of ad optimization technology is one which automates the creation of highly targeted adverts. Artificial intelligence (AI) is employed in these technologies to generate relevant ideas for fresh content.

In order to minimise plagiarism, search engine optimization software can also check to see whether comparable content already exists on the internet. Take, for instance, "the Scoop." Using the app, professionals can "organize and manage all of the material they create for a variety of different clients in one easy-to-use platform. With this grammar tools also powered by artificial intelligence can save advertising from embarrassment.

Such solutions are often multi-platform in nature, delivering content ideas via email, social media, and text editors, among other places, for example. Because of Machine Learning, they are able to provide appropriate suggestions based on the situation. One such tool is Grammarly, which serves as an excellent example. With its complicated grammar and contextual spelling checkers, this program assists users in writing more effective documents. Grammarly also checks for errors in punctuation and provides brief explanations for each of the suggested corrections.

1.1.1(g)(vi) Importance of Artificial Intelligence for Customer Experience Improvement

Increasing customer expectations have made it difficult for businesses to improve the customer experience. Companies looking for a competitive advantage in customer service should think about more than just delivering content on time through appropriate channels. They should be looking for new ways to alleviate customer pain points during the purchasing process, as well as providing excellent customer service. More researchers are now investigating the impact of AI on marketing. Market researchers are investigating how artificial intelligence (AI) can improve customer purchasing experiences and thus increase profit. Personalized customer service and on-demand customer support enhance the customer experience while decreasing process time and costs.

AI has a direct relationship with personalized customer service and after-sales customer support. As shown in Figure 1.1, providing personalized customer service throughout the customer's purchasing journey has a significant impact on the customer experience. The use of AI in call centers and other post-sale services will also reduce customer wait time and improve customer experience. AI is a fast-moving train that is taking shape in our homes and workplaces. It will eventually take over all of our devices and integrate itself into our daily lives. Humans should be aided by technology rather than replaced by it (Mohannad et al., 2019).

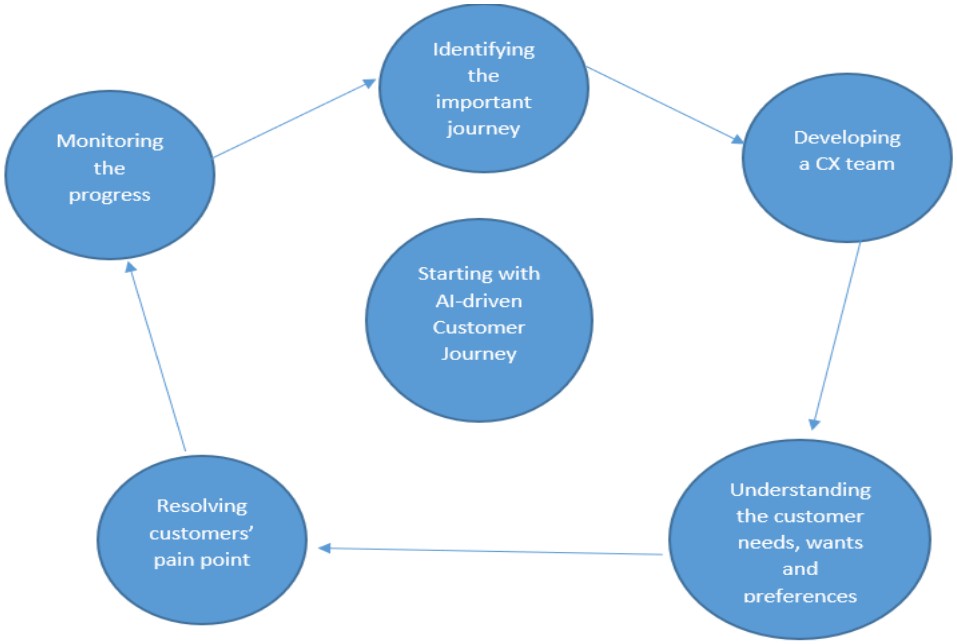


Figure 1.1: Customer Journey (Source: Mohammed, 2018; Chung, 2020)

Customer satisfaction ratings can be very high for a specific touch point while being quite low for the entire journey because the journey is what ultimately constitutes the customer experience. Businesses must make significant financial investments and implement change management strategies in order to design AI-driven processes. The primary factor that contributes to satisfaction can be identified by analysing the customer journey. The ability for customers to place orders via mobile devices contributes more to overall customer satisfaction than any other change implemented throughout the customer's journey (Mohammed, 2018). It is the CX team's responsibility to understand customer behaviour in real-time and to take appropriate action to make the process more adaptable, robust, and personalised. Monitoring each individual customer's path can help create a more seamless experience for those customers. If a customer encounters any difficulty along the way, they should be compensated in some way so that they have a positive overall experience. Personalization across the entire customer journey is possible by adopting a customer-centric perspective and gaining a deeper understanding of consumer actions (Chung et al., 2020). A company's customer journey typically consists of multiple touchpoints, and the customer may have a negative experience with the service at any point along the journey, from start to finish. At each subsequent touchpoint, the continuous

feedback system will send an alert to the staff, notifying them to provide some form of compensation to the specific customer. Businesses today are automating the controls and monitoring process with the help of artificial intelligence and machine learning. Real-time monitoring of operations can help to improve customer journeys, allowing businesses to provide more seamless and satisfying customer experiences.

The implementation of AI-enabled technologies can improve the customer experience across a wide range of service industries. Big data analytics, recommendation systems, conversational agents, service robots/delivery bots, the internet of things, extended reality, and other technologies are examples of these technologies. Despite the fact that implementing AI helps to achieve a high competitive advantage, there are obstacles to overcome. The implementation of AI across the entire system necessitates a transformation, which in turn necessitates a significant financial investment as well as careful change management. The first thing you must do is identify the critical journey. The second step is to put together a customer experience team. The third step is to determine what the customer requires. The fourth step is to resolve the issues that the customer is experiencing. The fifth step is to keep track of how far you've come. Personalization is an advantage of AI, but it comes at the expense of users' privacy rights. A solution matrix has been proposed to resolve the conflict between personalization and privacy. However, due to the intense level of competition in the market, customers may choose to purchase products from competing brands even after making significant financial investments to implement such cutting-edge technologies. As a result, the article also presented a strategy for reducing customer churn through the use of AI analytics. As a result, consumers and businesses alike anticipate that AI-based technologies will improve their overall quality of life. One of the most beneficial outcomes of implementing AI will be the identification of customer motivations and behaviour in order to develop a customer map across the buyer's journey. Data analysis becomes more in-depth and robust over time, and improved data analysis can help marketers engage specific consumer segments with tailored messaging.

Customer fatigue analysis aids in reducing the amount of disengagement experienced by customers. Marketers can use fatigue analysis analytics to take actionable steps to reduce the number of opt-outs of individual contacts as a result of excessive communication. AI is intended to provide continuous results, evolving and adapting through the machine learning process to ensure that customer efforts remain aligned

with changing goals. Artificial intelligence is informing marketing plans at every stage, from conception to implementation, with chatbots and curated customer journeys. The first step is to find an AI solution that works for you, and then gradually integrate it into your system over time.

Connecting all of your company's data across advertising, marketing, sales, and commerce, as well as service, will increase the importance of each customer interaction. Oracle Advertising and Customer Experience (CX) is a linked suite of applications that goes beyond traditional CRM to help you develop and maintain long-term relationships with your customers. Create a comprehensive view of every interaction and customer, no matter how or when they interact with your company. Empower your entire organisation to provide exceptional customer experiences, from initial customer acquisition to long-term customer loyalty and everything in between.

1.1.1(h) Challenges for AI Marketing

A solid IT infrastructure is required for a successful AI-driven marketing strategy. AI technology processes massive amounts of data. This necessitates the use of high-performance hardware. These computer systems can be very costly to set up and maintain. Modern marketing necessitates a thorough understanding of the customer's needs and preferences, followed by prompt and effective action. The ability to make data-driven decisions in real-time has elevated AI in the marketing world. The marketing teams, on the other hand, must exercise caution when incorporating AI into campaigns and operations.

The widespread impact of AI in digital marketing in 2020 demonstrates the importance of this innovation in the modern marketing world. The application of AI tools is still in its infancy. When using AI in marketing, there are a few issues to consider. Marketing goals cannot be met solely through the use of AI tools. AI tools are incapable of determining which steps must be taken to achieve marketing objectives. They need time and training to learn the organization's goals, customer preferences, historical trends, and the overall context and to develop expertise. This not only takes time, but also necessitates data quality assurance. If AI tools are not trained with high-quality data that is accurate, timely, and representative, the tools will make suboptimal decisions that do not reflect consumer preferences, lowering the tools' value.

Consumers and regulatory bodies are both putting pressure on businesses to change how they use personal information about their customers. If marketing teams want to avoid harsh penalties and damage to their reputations, they must use customer data ethically and in accordance with regulations such as GDPR. This presents a problem in terms of artificial intelligence. When it comes to the use of consumer data for personalization, the tools may go beyond what is acceptable unless they are specifically programmed to follow specific legal guidelines. Unless the tools have been specifically programmed to adhere to specific legal guidelines. It is possible that marketing teams will struggle to demonstrate the value of AI investments to business stakeholders. When compared to the ease with which ROI and efficiency can be measured, demonstrating how AI has improved customer experience or a brand's reputation is more difficult. With this in mind, marketing teams must ensure that they have the measurement skills required to attribute qualitative gains to AI investments.

Expertise necessitates the investment of time and training to learn organisational goals, customer preferences, and historical trends. This is time-consuming and necessitates data quality assurance. AI tools will make suboptimal decisions that do not reflect consumer desires if they do not have access to high-quality data that is accurate, timely, and representative. Artificial intelligence (AI) is used in marketing to improve process efficiency. AI can assist with the automation of tactical processes such as marketing data sorting, customer service, and security authorizations. This gives marketing teams more time to focus on strategy and analytics (Marketing Evolution, 2021). Along with, the marketing strategies with AI can have below issues also:

- The majority of business leaders believe that maximising the use of AI to advance business is a wise way to conduct marketing. They are exerting all of their potential efforts in order to incorporate such systems and achieve their ultimate goals. Their progress toward success with the assistance of AI is occasionally hampered by the dynamic nature of the AI environment.
- Understanding the importance of high-quality data in terms of improving marketing strategies and increasing overall sales is critical if you want to grow your business in the digital age. However, one of the most significant barriers to artificial intelligence reaching its maximum production levels is a lack of data. Many artificial intelligence projects are rendered impractical due to inconsistency, siloing, and poor data quality. People in the modern world have

greater access to information than at any other time in history. In practice, however, datasets suitable for AI applications are extremely rare. Nonetheless, business owners believe that success awaits them at the end of the road. Despite a lack of training data, organisations are utilising the promising resources at their disposal to structure the competent method and teach AI models how to learn.

- Another important factor to consider before incorporating AI into your company's operations strategy is the cost of doing so. Companies are making significant investments in this industry to add an AI platform that will automate existing processes and improve user experience. The world's most successful companies, including Google, Facebook, Apple, Microsoft, and Amazon, have already invested in artificial intelligence in order to accelerate their future growth.
- Some find artificial intelligence unsettling, while others find it a fascinating phenomenon. AI is already a part of our world, whether I like it or not. Digital marketers believe that artificial intelligence (AI) can help businesses grow and are making every effort to use the technology effectively. However, as AI has advanced rapidly, a number of ethical concerns have emerged.
- Artificial intelligence requires more market use cases in order to gain widespread support from the business sector. These include job losses, potential AI risks, invasions of privacy, and other similar concerns. No company or organisation would be interested in investing in AI-based projects unless they saw its practical applications in the market first. Furthermore, there are only a few people and businesses on the planet who can comprehend the vision of machine-controlled technological advancement.

1.1.1(i) AI and Future Marketing Strategies

The advent of AI will bring about a shakeup in the routine marketing activities that are currently being carried out. Marketers have the responsibility of determining which jobs will be eliminated and which will be created. Marketing technology will likely to take over nearly six out of every ten existing specialist and analyst jobs in the marketing industry. AI may influence marketing strategies, business models, sales processes, customer service options, and customer behavior in the future. Using artificial intelligence to assist salespeople may have unintended consequences, especially if

customers are concerned about AI listening in on their conversations. Online retailers may be able to predict what customers want using AI, resulting in a shipping-then-shopping business model (Agrawal et al. 2018; Gans et al. 2017).

In this day and age of digital commerce, an ever-increasing number of marketers are depending on AI technologies to win the loyalty of their customers. AI functions through the process of feeding data into embedded systems, which, when combined with iterative processing and intelligent algorithms, enables software to function in accordance with the patterns that have been assigned to it. It gives managers the ability to make decisions based on the data, which in turn boosts the overall revenue of the company.

In the realm of digital marketing, there are numerous applications of AI that have been developed. It helps businesses increase their customer pool and also makes it easier for them to automate the client engagement models they already have in place. In the not-too-distant future, I will see a lot of businesses using chatbots to handle the questions and concerns of their customers.

AI-enabled analytics can help businesses predict customer purchases, credit fraud, and real-time digital advertising. Stitch Fix stylists, for example, use AI to determine which clothing styles best suit different customers. Aside from customer preferences, the AI considers Pinterest boards, handwritten notes, similar customers, and general fashion trends. AI can also engage customers after they have made a purchase. The first involves standardized or rule-based AI applications that require consistency and logic (Huang and Rust, 2018).

Understanding the roots of this excessive caution is important. A preliminary hypothesis suggests that customers trust AI less, and so hold AI to a higher standard because they believe that AI cannot “feel” (Gray, 2017).

Finally, the characteristics of the client may have an impact on AI adoption. Two assumptions can be made: (1) when outcomes are consequential, perceptions of risk increase (Bettman,1973), and (2) women perceive more risk in general (Gustafsod, 1998) and take on less risk (Byrnes et al., 1999). As a result, preliminary research has discovered that women (vs. men) are less inclined to accept AI, particularly when the effects are substantial (Castelo and Ward, 2016). Moving beyond demographics, other

factors also impact the extent of AI adoption, e.g., to the extent a task is salient to a customer's identity, the customer may be less likely to adopt AI (Castelo, 2019).

In today's business scenario, artificial intelligence finds applications in a variety of contexts. Artificial intelligence, according to practitioners and academics, is the future of our society. The world has become a web of interconnected networks as technology has advanced. The implementation of technology resulted in investments in Artificial Intelligence (AI) for big data analytics to generate market intelligence. Artificial intelligence applications are not limited to marketing; they are also widely used in medical, e-commerce, education, law, and manufacturing. AI is constantly being used to benefit a wide range of industries. As organisations progress toward Industry 4.0, Artificial Intelligence and other emerging technologies evolve in tandem. However, due to numerous constraints, the implementation of AI in all sectors has not been possible; however, scientists are working on systems that cater to the theory of mind and self-awareness of artificially intelligent systems. People nowadays interact with some form of AI in their daily activities. The user, for example, appreciates the automatic e-mail filtering feature. The user will most likely use Siri, Cortana, or Bixby on their smartphone to create a calendar. While driving, the user of the new vehicle is assisted. Through a program-based algorithm, artificial intelligence can automate business processes, learn insights from past data, and generate consumer and market insights (Davenport et al., 2020). Machine Learning (ML), Deep Learning, and Natural Language Processing (NLP) technologies train machines to handle large amounts of data in order to generate market intelligence (Davenport et al., 2020).

1.1.1(j) Customer Service Instruments

AI-powered customer support platforms use intelligent chatbots to handle all consumer contacts. Chatbots greet website or social media page visitors and encourage them to take action. In this manner, visitors will stay to learn more about the product or service they are promoting rather than merely skimming the text. Client care tools give a plethora of templates for various business needs, and AI assists them in creating a variety of chat scenarios based on customer wants. Dialogflow is the name of one of these assistants. It is provided by the same company that developed Assistant, a virtual companion for smartphones running Android, iOS, and Windows. Dialogflow's parent business is well-versed in human/computer interaction technology. It uses Machine

Learning to learn from visitors and respond to their inquiries with customized dialogues.

1.1.1(k) Analytics Tools

As the name implies, this group of equipment is capable of doing all types of analytical activities. They analyse massive amounts of data and make predictions about consumers' future actions based on their previous judgments and decisions. It enables marketers to generate customized campaigns depending on the current needs of their customers without having to manually process gigabytes of data themselves. A number of analytics tools can assist marketers in keeping a personal connection with customers as well as developing a strategic outreach plan for a variety of audiences. In addition, other technologies supply marketers with information about the activity of their competitors. This type of interactive dashboard allows marketers to examine the effectiveness of their campaign's performance and determine which techniques are the most effective. There are additional platforms available that provide Social Marketing insights and data-driven recommendation. Sensai, a platform that works on popular social media sites such as Instagram and Twitter, enables businesses to develop more effective social media campaigns by leveraging artificial intelligence.

1.1.1(l) Content Management

The term "Artificial Intelligence Marketing" (AIM) refers to a strategy that makes the most of available technology and data on customers in order to improve their overall experience. Big Data Analytics, machine learning, and gaining insights into our targeted sector of customers are the various methods that are utilised in order to successfully complete such a task. In the field of marketing, it has turned into standard practice to conduct data analysis on a massive scale. Elements such as artificial intelligence and machine learning are starting to leave their mark on the operations of businesses. After the widespread adoption of these ground-breaking strategies, marketing teams have a broad range of options at their disposal to communicate massive value to AI's potential data. The ability of machines to execute intellectual tasks that one can relate to human minds such as problem-solving, learning, exercising creativity, reasoning, perceiving, and interacting with the environment is what is called as artificial intelligence (AI for short). The marketing was improved thanks to the enhancement of the contents. These contents are mostly concerned with grammar and

spelling. Grammar tools powered by artificial intelligence can save advertising from embarrassment. Such solutions are often multi-platform in nature, delivering content ideas via email, social media, and text editors, among other places, for example. Because of machine learning, they are able to provide appropriate suggestions based on the situation. One such tool is Grammarly, which serves as an excellent example. With its complicated grammar and contextual spelling checkers, this program assists users in writing more effective documents. Grammarly also checks for errors in punctuation and provides brief explanations for each of the suggested corrections.

1.1.1(m) Instruments for providing customer service

The intelligent chatbots that are used by AI-powered customer care platforms handle all of the consumer contacts. Visitors to a website or social media page are greeted by chatbots, who then persuade them to take action. Visitors will remain longer to learn more about the product or service they are promoting as a result of this, rather than simply skimming the material. A myriad of templates for varied company purposes are provided by client care solutions, and artificial intelligence (AI) supports them in producing a range of chat scenarios based on customer desires. One of these aides goes by the name of Dialogflow, which means "dialogue flow." A virtual companion for Android, iOS and Windows handsets is being given by the same company that built Assistant. The parent company of Dialogflow is well-versed in the field of human-computer interface technologies. It makes use of Machine Learning to learn from visitors and reply to their enquiries with a conversation that is tailored to their needs.

1.1.2. Motivation behind the Research

Artificial intelligence (AI) is gradually infiltrating the mobile market and changing the way people interact with their phones. Marketers, on the other hand, stand to gain the most from artificial intelligence technology. Internet, these days, has become an important aspect of a person’s life. It has acquired a different level of space in their life. It has been used in several kinds of advertising as it has become an important marketing platform. For helping the marketers, an important part of technology has been added like Artificial Intelligence (AI). AI can assist marketers in data collection, identifying new customer segments, and developing a more unified marketing and analytics system. The primary role of every marketing manager is to ascertain the demands of their clients and to provide them with a product that fits those needs. Mobile gadgets,

especially mobile phones, are used to collect information about people's movements. Artificial intelligence automates the process of reviewing the data, giving previously unattainable insights that help clients better understand their requirements.

The concept behind artificial intelligence is that it is possible to transfer human intelligence to machines so that they can carry out tasks ranging from the simplest to the most complex. The goals of artificial intelligence include knowledge acquisition, the ability to reason, and the ability to carry out activities. The artificial intelligence explanations that were used in the past are becoming increasingly inadequate as technology advances. There are three primary ideas that form the foundation of artificial intelligence. Machine learning, deep learning, and neural networks are the three fundamental ideas in this field. These ideas are contributing to the expansion of research into data mining, natural language processing, and software for vehicles. Although artificial intelligence (AI) and machine learning (ML) may appear to be synonymous, AI is typically regarded as the more general term, and ML, along with the other two AI concepts, is considered to be a subset of AI.

Companies can better target marketing messages to consumers' current needs by combining data from websites and social media. AI has the potential to deliver more personalized ads, shape the customer journey, influence purchases, and foster brand loyalty. Customers can also use artificial intelligence to find the best prices based on predictive intelligence about price fluctuations. Artificial intelligence-powered search improves user experience by eliminating the need to scroll through multiple pages to find a few products. Consumers are becoming dissatisfied with impersonal shopping experiences, and AI-powered personalized searches will become more common (Morgan, 2021). Most processes can be automated with AI, allowing businesses to grow. AI assists in the analysis and recommendation of customer purchases. These suggestions aid in the development of targeted marketing campaigns that attract customers (Sadhik, 2021).

As a result, AI is quickly becoming a must-have tool for brands looking to provide a hyper-personalized, exceptional customer experience. Enterprises can now use AI without the high costs associated with it thanks to AI-enhanced customer relationship management (CRM) and customer data platform (CDP) software (Clark, 2020).

Therefore, AI has affected a lot of customer retention and their behavior towards product purchasing.

The majority of clients, who are likely to come from rural or urban areas with limited or no basic infrastructure, want reduced prices, unlimited phone and Internet service, and more value-added services. The digital revolution gave birth to artificial intelligence, machine learning, deep learning, chat boxes, online shopping, online education, online games, and a slew of other innovations. Telecommunications networks serve as the backbone that connects all of these digital technologies. As a result, telecommunications is playing an increasingly important role in advancing the country's economic development.

Customers in metropolitan areas, cities and metro areas want high-speed internet access for a variety of reasons, including "audio-video streaming, navigation, music downloads, gaming, e-commerce, postal solutions, video chat boxes, and social networking. Throughout 2017 and 2018, artificial intelligence (AI) has had a consistent impact on various enterprises, affecting how organisations complete specific cycles. Regardless, research has indicated that it has had the greatest impact on shoppers as a result of the programme.

Aside from providing a consistent omnichannel experience and improving personalization, AI gives up many new possibilities. AI can improve the overall consumer experience by using the intensity of information far faster and more effectively than people could. So, the researcher was motivated to research on assessing the impacts of AI on customer service retention.

1.1.2(a) Social Media Management Software (also known as SMM)

Social media management tools enabled by artificial intelligence (AI) provide insights into how businesses or commodities perform across the most popular social media networks. Machine Learning algorithms can predict their clients' needs by tracking their social media activity and interactions. As a result of these discoveries, artificial intelligence may be used to identify the most viable marketing strategies and to assist in the creation of advertising campaigns. Another feature of social media management tools is the ability for marketers to track requests, reposts, and likes across a wide range of social media platforms. In the case of Cortex, which provides advice to marketing

teams based on the social media behavior of their clients, this tool may be used to create a social publishing calendar, which might include specific hashtags and keywords that are relevant to the user's interests. It is also possible to obtain information on a competitor's social media activities using Cortex. Artificial intelligence-powered solutions can aid in the simplification and acceleration of the Marketing department's operations. Artificial intelligence (AI) transforms enormous amounts of data into meaningful insights and assists marketers in their marketing efforts. Apart from that, artificial intelligence (AI) allows marketing professionals to bridge the gap between their organization and their target audience. Because artificial intelligence technologies have progressed so far, customers may not even be aware that they are conversing with a machine. That is an example of how human-like and customized artificial intelligence is capable of becoming.

1.2 Market Overview – Mobile Marketing with AI

AI marketing employs artificial intelligence-based technologies to make automated decisions based on data collection, data analysis, and additional observations of audience or economic trends that may impact marketing efforts. These decisions are based on data collection and analysis, as well as additional observations of audience or economic trends that may influence marketing efforts. Artificial intelligence is frequently used in marketing efforts where speed is critical. AI tools learn how to best communicate with customers by analysing data and profiles of those customers, and then serve those customers tailored messages at the right time without human intervention. As a result, maximum efficiency is achieved. A significant portion of today's marketing professionals is now using AI to supplement marketing teams or to perform more tactical tasks that require less human nuance.

Mobile marketing is a type of marketing that allows businesses to communicate with their customers more personally (Gana and Koce, 2016). This category includes the mobile web, mobile applications, mobile advertising, short message service (SMS), and multimedia messaging service (MMS) (multimedia message services). In today's world, a mobile phone is an example of cutting-edge technology. In addition to their other functions, mobile phones can now function as clocks, alarm clocks, MP3 players, cameras, video recorders, calendars, notebooks, messaging devices, and voice calling devices. The mobile phone is a small piece of technology that has had a large impact

on our daily lives. Despite having had a significant impact on how I interact with one another and conduct ourselves on a daily basis, it is no longer just a tool for communicating with others.

The number of people using mobile phones has increased dramatically in recent years. One of the reasons for this is that phone manufacturers and telecom carriers are constantly developing new services and features to offer customers in order to encourage greater mobile adoption (Bauer et al., 2005). According to the International Telecommunications Union, mobile broadband networks currently cover 84 per cent of the world's population. The mobile artificial intelligence market was valued at USD 2.14 billion in 2020 and is predicted to reach USD 9.68 billion by 2026, growing at a CAGR of 28.65% between 2021 and 2026. Marketers have access to a centralised platform, which allows them to manage massive amounts of data, thanks to AI-powered solutions that are effective. These platforms are able to generate insightful marketing intelligence about your target audience, allowing you to make decisions based on the data regarding the most effective way to communicate with them. Frameworks such as Bayesian Learning and Forgetting, for instance, can help marketers gain a better understanding of the degree to which a customer is receptive to a particular marketing effort by providing examples of customer responses.

Virtual assistants and bots will become increasingly common and intelligent in the near future, freeing people from mundane chores such as answering simple questions or doing routine activities. In terms of virtual assistants, Amazon has already released Alexa Shopping and other such virtual aides, each built to perform a certain set of chores to make life easier.

- Rising demand for AI-Capable Processors in mobile devices is propelling the market, as there are numerous applications that assist users in their daily activities, such as camera picture advantages, language translators, voice assistants, and user behaviors. For its Face ID device unlocking feature, Apple iPhone X employs an AI-based algorithm. When combined with Apple's sophisticated hardware, the AI system works to recognise the user's face for security purposes.
- The market is being driven by the rise of cognitive computing and the expanding number of AI applications. AI and ML technologies enable cognitive computing

systems to analyse massive amounts of data, derive insights, and use them as a learning experience to produce optimised results. More and more sectors and organisations are embracing cognitive solutions to improve their operations such as data volume, insight generation, action planning and management, and so on, resulting in increased efficiency.

- AI processor premium pricing is stifling the market. With the high cost of the AI chip, which increases the cost of processors, AI platforms charge for training models and obtaining forecasts.

1.2.1. Increasing Demand for Enterprise Applications is Driving the Market

With the introduction of new technologies such as smartphones, mobile apps, and IoT devices, organisational operational activities have become faster, easier, and more efficient than ever before, thanks to the impact of AI. AI solutions like Apple's Siri, Amazon's Echo, and Microsoft's Cortana provide human assistance while also providing users with flexibility and increased productivity.

- One of the most popular mobile activities is already messaging. In the United States, the average mobile user spends approximately 10% of their device time communicating. A nice example is the travel app Mezi. This app employs machine learning and natural language processing to determine user interests and provide recommendations for vacation, fashion, and gift ideas.
- Advances in NLG and cloud solutions are assisting the journalism business. Leading media businesses, such as Urbs Media, are adopting NLG robojournalism algorithms that use AI to generate stories or articles based on data. This improves the overall effectiveness of the app's features, driving the market.

- Walmart has been experimenting with the use of drones in its warehouses to look for and flag missing items. According to the startup, drones flying through the warehouse can perform a comprehensive inventory check in a day using AI, which now takes employees a month.

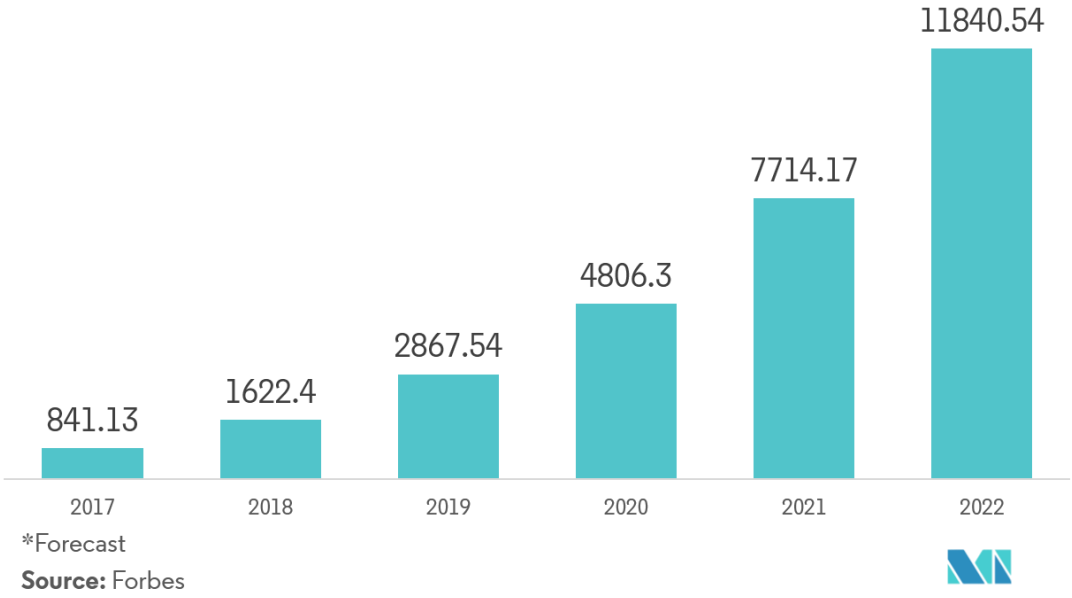


Figure 1.2: Revenue from AI for Enterprise Application; Source: (Forbes, 2022)

- North America is expected to see the greatest increase in demand, owing to its conducive environment for startups and SMEs in terms of government regulations and compliance. Mobile is the ideal platform for implementing AI applications.
- Furthermore, in the United States, organisations with more than 100 employees are embracing cloud-based apps. It is anticipated that roughly 35% of the country's SMBs have already deployed cloud solutions. As a result, the number of organisations in the North American region is increasing, resulting in a strong demand for the mobile artificial intelligence market.

- In a new AI research centre in Canada, LG Electronics Inc. (LG) is set to define the future of artificial intelligence (AI) for consumers and enterprises. LG's five-year, multi-million-dollar research agreement with the University of Toronto will grow the AI ecosystem by leveraging its Open Platform-Open Partnership-Open Connectivity strategy.

1.3 Aim and Objectives Of The Research

AI is significant because it can provide businesses with new insights into their operations and marketing, as well as perform tasks better than humans because it

understands human needs. To reach smart devices and influence customer behavior, mobile marketing employs a variety of delivery channels. The application of artificial intelligence technology allows marketers to serve up more targeted advertisements to consumers without having to bombard them with unwanted and invasive banners, which results in a negative user experience and poorer client loyalty. Customer retention is the important thing that can decide the company's growth and downfall which is critically affected by new technologies like AI. AI has a critical impact on customer retention that helps them to make a decision on product purchasing. Hence, this research aims at finding the impact of AI on customer retention. Therefore, this research has the below objectives following with aim:

- To understand the perception of customers towards AI enabled telecom services
- To identify the level of customer experience of AI enabled telecom services
- To analyse the impact of AI enabled service experience on customer commitment towards the Telecomm brand

1.4 Significance of the Research

This research follows the objectives that have been defined in the last section. This research signifies this kind of research is critically needed because customer behaviour has been affected by many factors. Due to this, customer retention is tough for the company. The application of AI in advertising has affected companies' retention strategies and customer perceptions. This research aims to find the impacts of AI-enabled techniques for advertising on customer perception and behavior towards mobile marketing which are being enabled with AI these days.

1.5 Operational Definition Terms

The Internet and mobile telephony have impacted people of the twenty-first generation all over the world and in all demographics. The rise of the Internet since the mid-1990s has impacted education, knowledge, communication, and commerce, among other things. Businesses employ electronic commerce channels to communicate with mobile users and gain a competitive advantage. Customer retention is one of the most important breakthroughs in membership-based company strategies. The majority of customers,

who are likely to be from "rural or urban regions with weak basic infrastructure or no access at all, are looking for lower costs, limitless phone and Internet service, and more value-added services." "Artificial intelligence, machine learning, deep learning, chat boxes, online shopping, online education, online games, and several more" advances were brought about by the digital revolution. When Artificial Intelligence (AI) first debuted on the scene, it swiftly gained popularity as a topic of conversation. Businesses are increasingly relying on artificial intelligence (AI) technology such as Machine Learning, which improves the workflow for marketers in a variety of ways and gives a slew of advantages. Hence, there are many key terms that are used for operational terms in the research. For this research below definition terms are explored as given below:

1.5.1. Artificial Intelligence: AI assists marketers in analysing consumer data by automating time-consuming mathematical tasks. It can also assist in the discovery and extraction of data from a set of data. Experts predicted the rise of mobile as a marketing channel, but few predicted how quickly it would occur (Llanas, 2019). It enhances the customer experience by partnering with banks and telecommunications companies.

1.5.2. Indian Mobile Market/Marketing: Today's consumers increasingly becoming mobile-first, and there is great scope to enhance the advancements in the mobile industry. Indian mobile market and their marketing strategies have been changed. They have opted for AI-enabled techniques for advertising and Artificial intelligence is all-encompassing, it's growing and it is also having profound repercussions in our own field, mobile marketing (MOBVISTA, 2018).

1.5.3. Customer Retention: Customer retention is the ability of an organization to withhold its customers for a long time. As a result, AI is quickly becoming a must-have tool for brands looking to provide a hyper-personalized, exceptional customer experience. Enterprises can now use AI without the high costs associated with it thanks to AI-enhanced customer relationship management (CRM) and customer data platform (CDP) software. The customer acquisition strategy of the company focuses on attracting profitable prospective customers (Nasir, 2017).

1.5.4. Customer Behaviour: Customer behaviour, these days, are critical for every product whether they purchase online or offline. AI-enabled support with mobile advertising also alerts customers about the product which in turn affects their behaviour.

It has been found that there is an association between the importance of different factors such as price, brand, quality and features and satisfaction with the mobile phone (Rout, 2020).

1.6 Thesis Structure

This research thesis has been divided into five chapters. The structure of the thesis is as follows:

Chapter 1-Introduction: This chapter provided the general introduction of the thesis that explores the background of the research like customer retention and its problem, customer decision making, artificial intelligence and the mobile market. This chapter will reflect the main aim of the thesis along with the objectives and significance of the research. Thereafter, this research also explores the operational definition terms that have been used in this research.

Chapter 2-Literature Review: This chapter explored the literature relevant to the supportive research related to variables of the research based on objectives and operational definition terms.

Chapter 3-Research Methodology: This chapter explained the methodology and put on the analysis strategies through which the data would be analyzed and conclusion would be reached.

Chapter 4- Data Analysis and Interpretation: This chapter analyses the collected data from the survey and discuss the result to reach to conclusion.

Chapter 5- Findings, Conclusion and Recommendations: This chapter put on the conclusion after the literature reviews, data results analysis and future recommendations for the research.

CHAPTER 2:
LITERATURE REVIEW

2.1 Importance of Artificial Intelligence

Artificial intelligence (AI) systems are a collection of software and hardware components that may be used to continuously assess and analyze data in order to characterize environmental elements and make judgments and take actions (European Commission, 2018). Prior research has concentrated on the benefits of using AI in online settings but has neglected to examine how consumers accept AI in online shopping. According to utility theory, this new technology enables consumers to discover and select the best product alternatives while lowering the cost and duration of the search. The field of artificial intelligence (AI) has a much longer history than is commonly recognised, spanning fields as diverse as science and philosophy all the way back to ancient Greece (Collins, et al., 2021). However, its modern iteration owes a great deal to Alan Turing and a conference held at Dartmouth College in 1956 (McCorduck, 2004), where the term "Artificial Intelligence" was officially coined and defined by John McCarthy at the time the term "the birth of artificial intelligence" was used by Russell and Norvig (2020) to describe this event.

According to existing research, technological advancements in apps such as Artificial Intelligence (AI), Augmented Reality (AR), and Virtual Reality (VR) provide highly personalised experiences that influence consumer preferences and behaviours (Huang and Rust, 2017; Pantano and Pizzi, 2020). AR-enabled apps, for example, increase consumers' perceptions of utilitarian and hedonic benefits (Nikhashemi et al., 2021), promote positive attitudes (Yaoyuneyong et al., 2016; Wedel et al., 2020), and increase purchase intentions and word-of-mouth (Yaoyuneyong et al., 2016). Two separate studies published these findings (Rauschnabel et al., 2019). Similarly, virtual reality (VR) apps elicit a positive emotional response to the brand by eliciting powerful sensory responses, such as perceptions of tangibility through haptic vibrations (Wedel et al., 2020). Apps improve user interactions by providing a humanised customer experience, which influences how consumers perceive the brand associated with the app (Esch et al., 2019; Olson and Mourey, 2019), and increases trust regardless of privacy concerns (Alnawas and Aburub, 2016). This is accomplished by employing

anthropomorphic cues, which are defined as human characteristics assigned to computers (Nass & Moon, 2000; Ha et al., 2020; and Esch et al., 2019). The global VR/AR app market is one of the fastest growing domains of software development (Unity Apps, 2021), but this line of research has not thoroughly evaluated the effects of app technological advancements on consumer experiences. Despite the fact that it is in line with current industry trends (the global VR/AR app market is one of the fastest growing domains of software development), it is possible that this knowledge gap is caused by outmoded theoretical foundations such as the diffusion of innovation (Rogers, 1995), the Uses and Gratification (U&G) theory (Mcguire, 1974; Eighmey and McCord, 1998), and the Technology Continuance Theory (TCT) (Liao, Palvia and Chen, 2009). As a result, future research may include new theoretical approaches such as the physical and psychological continuity theory (Lacewing, 2010), the teletransportation theory (Langford and Ramachandran, 2013), and the service prototyping theory (Razek et al., 2018).

Vada et al. (2019) explored that some experiences are pleasant and unforgettable, whilst others are not so pleasant and memorable. Automatic messaging services (a type of artificial intelligence) used by service organizations such as hotels and airlines, for example, provide ease to customers who need assistance after business hours. However, this artificial intelligence tool allows for only a limited amount of customization of communications for unique clients, which may result in dissatisfaction with the service. Customers that have a high level of emotional intelligence may be more accepting of the services provided by artificial intelligence systems. Employee service, on the other hand, is not always a pleasant experience for the employees. Joshi, Chirputkar, & Jog (2015), believed that brand-oriented behavioural features and brand-focused attitudinal elements are particularly important in persuading buyers to stick with a particular brand. There are no prepaid mobile connections included in the study, therefore this is the only option. Customer happiness is one of the most essential factors in boosting the acquisition and retention of new consumers and is one of the most difficult to measure. Aside from that, the survey reveals that consumer satisfaction levels are influenced by a variety of factors such as brand choice, customer perception, distributor perception, marketing strategy, service quality, and delivery.

Balakrishnan et al. (2009) proposed using 'address mapping' to geo-locate IP addresses in order to find mobile phones. Address mapping can be used anywhere and is simple for business owners to implement at a low cost. Foursquare encountered some cases of the basic cheating method that worked in its early days as a real example of location cheating. Foursquare has adopted the cheater code as a solution to defend against location cheating attacks, which verifies a device's location by using the GPS function of that device (Balakrishnan et al., 2009). Mobile device management (MDM) solutions (such as SOTI or Airwatch) are critical in the "bring your own device" (BYOD) model. These solutions create a sandbox in which enterprise apps can be stored and run. These solutions enable administrators to define compliance requirements, remotely wipe data, and manage the overall operation of the devices. Administrators can disable native apps, allow only trusted apps, implement remote device locking, and use other techniques. In general, all MDM solutions include data encryption, certificate support, and strong authentication measures as part of their mobile security strategy.

In today's competitive consumer market, it is critical for all service companies to maintain a high level of customer retention, and this topic will receive a lot of attention over the next few years (Appiah-Adu, 1999). This is because businesses regard consumers as a true asset, and the vast majority of them are experiencing significant losses in their consumer base (Swanson and Hsu, 2009). Because of the significant expansion, change, and increase in competition that has occurred in the mobile phone market on both a global and domestic scale, CR has emerged as a critical phenomenon in this industry. Despite using a variety of relationship marketing strategies (Gronroos, 1995; Ravald and Gronroos, 1996; Ranaweera and Prabhu, 2003), a sizable number of mobile phone companies are losing their current customer bases at rates greater than thirty per cent (Gronroos, 1995; Ravald and Gronroos, 1996; Ranaweera and Prabhu, 2003). Furthermore, Andic (2006) discovered that the major UK mobile network operators, such as Orange, T-Mobile, O2, and Vodafone, lose more than a third of their young customers to competitors. Customers under the age of 25 are included. While this is occurring, many managers are unable to confront that fact in the majority of situations, despite the fact that they are attempting to determine why they are experiencing such a loss (Reichheld, 1996). As a result, these mobile operators cannot afford to lose current and potential customers; a loss of this magnitude would result in lower sales and profits, which would eventually lead to business failure (Reichheld and

Sasser, 1990; Reichheld and Kenny, 1990). In the cellular industry, there is a significant disparity between the rates of customer acquisition and customer retention. As a result of this disparity, the issue of customer retention has been approached from a variety of perspectives, including economic, behavioural, and psychological perspectives. The vast majority of previous studies were unsuccessful in providing a strong theoretical justification and practical explanation for the customer's repeat purchase from the standpoint of their behaviour.

According to Hall (2019), artificial intelligence marketing is the use of technology to improve the customer experience. Similarly, the intervention of information technology, particularly AI, has had an impact on the role of marketing managers. This is because it is now more important to better understand the customers or risk losing them to competitors who respond to their needs and desires. AI enables commercial enterprises to gain a better understanding of their customers and evaluate how those customers interact with the products and services they buy. When you have access to all of the necessary data about your intended customers, you can make more informed decisions about the company's direction.

Schrage and Kiron (2018) conducted a global executive study of strategic measurement and discovered that 79 per cent of CEOs who responded to their survey believe in investing in the skills and training of their marketing professionals to increase the effectiveness of machine learning (ML) in marketing. It is widely assumed that the rise of artificial intelligence in marketing, specifically CRM, will result in massive layoffs across the economy. This is due to the automation of tasks that were previously performed by humans but have since been replaced by machines (Schrage & Kiron, 2018). However, according to the United States Bureau of Labor Statistics (2020), the overall employment of advertising, promotions, and marketing managers is expected to grow by 6% from 2019 to 2029. Managers with digital marketing skills will have the best job prospects during this time period (US Bureau of Labor Statistics, 2020). It is also important to remember that artificial intelligence is a machine-based process, and it is widely assumed that AI is incapable of replicating human intuition and creative abilities (Jarrahi, 2018). However, it is more important to understand how marketing managers' roles are changing as the number of tools that automate and support marketing decisions grows (Dawar, 2020).

In the early days of artificial intelligence, one of the dominant hypotheses was that it centred on high-level cognition. What distinguishes humans from most other animals is not the ability to recognise concepts or perceive objects to perform complex motor skills, but the ability to engage in multi-step reasoning, understand the meaning of natural language, design innovative artefacts, generate novel plans that achieve goals, and even the ability to reason about their own reasoning (Langley, 2011). Strong AI was the term used to describe this broad human-like intellect (Kurzweil, 2005). The fundamental approach to strong artificial intelligence has been centred on symbolic thinking, the idea being that computers are not only numeric calculators but rather generic symbol manipulators. As emphasised by Newell and Simon (1976) in their physical symbol system theory, the capacity to read and alter symbolic structures seems to be required for intelligent behaviour, according to their findings. While this technique first seemed promising (Newell and Simon, 1963), several disciplines of artificial intelligence have withdrawn from it as a result of its difficulties and lack of development as I enter the twenty-first century. It is still unclear when and whether powerful artificial intelligence will become a reality.

Kaka et al. (2019) express that India is home to the greatest number of publicly traded companies in the whole world. Because of the Indian Government's Make in India digital technology drive, the country now provides significant growth chances to both domestic and foreign enterprises in terms of investment prospects and growth opportunities, both domestic and international. Rural and urban areas now have a more significant opportunity to increase per capita household income as a result of this, which is encouraging news. The majority of customers, who are likely to be from "rural or urban regions with weak basic infrastructure or no access at all, are looking for lower costs, limitless phone and Internet service, and more value-added services." "Artificial intelligence, machine learning, deep learning, chat boxes, online shopping, online education, online games, and several more" advances were brought about by the digital revolution. Telecommunications networks serve as the backbone that connects all of these digital technologies. As a result, telecommunications is playing an increasingly important role in advancing the country's economic development. Customers in metropolitan, city and metro areas want high-speed internet access for a variety of reasons, including "audio-video streaming, navigation, music downloads, gaming, e-commerce, postal solutions, video chat boxes, and social networking." Therefore,

demand for 4G/5G technology to power these applications continues to grow incessantly. People who live in rural areas, as opposed to those who live in urban areas, require low-cost technology to use these applications. The government is carrying out various programs to make digital technology available, especially in rural and urban areas. In addition, various programs, including digital technology," a 100 per cent foreign direct investment policy, the introduction of VNO licenses, mobile number portability, special number service 112, Aadhar-based e KYC, GPS-enabled handsets, spectrum sharing, spectrum management, and spectrum auction, have all contributed to the improvement of the health of the telecom sectors in the country." Airlines like Airtel and Reliance JIO have expressed an interest in connecting 10,000 villages, respectively, while Vodafone and Reliance JIO have expressed an interest in connecting 3000 and 1000 villages, respectively, among the companies that have expressed an interest in connecting 10,000 villages. There has been fierce competition among Indian telecommunications companies as a result of Reliance JIO's complementary offerings, which include limitless phone and data usage. Additional pressure is being exerted on telecom service providers such as Airtel, Vodafone Idea, and BSNL to cut their prices for acquiring and sustaining new and existing users. At the very least, Airtel, Vodafone Idea, and BSNL have acquired a foothold in what has become a fiercely competitive market as a result of Reliance JIO's entry into the telecom business.

Bedi and Surbhi (2017) pointed out that there are major obstacles, uncertainties, and a slew of concerns that must be addressed during the pre-merger and post-merger phases of a company's life cycle. Customers have become hesitant to purchase new services from the merged company as a result of the merger and acquisition, hence supporting the competition's competitor in growing its client base. It looks into the dynamics of trust following mergers and acquisitions, as well as integration planning in the Indian telecom sector, as aspects that are responsible for a successful merger and its positive impact on customers, the market, and the company. Moreover, these variables are to blame for the negative outcomes of the business's unfortunate merger with another organisation. According to Azam, Qiang, and Abdullah (2012), "consumer happiness is not only a critical performance outcome in internet retail purchasing, but it is also a significant predictor of customer online shopping and purchase intention. Among the criteria identified by the authors as having an impact on customers' willingness to make online purchases are customer happiness with the system, service interfaces, security,

currency relevancy, consistency, understandability, navigability, and telepresence. Mobile number portability, according to Premkumar and Rajan (2012), are one of the most critical factors in customer retention in the Indian mobile telecommunications market, and it is a significant setback for mobile telecommunications service providers in the country. Further, the results of the study showed customer satisfaction is extremely important in terms of client retention. Customer retention in the Indian mobile telecommunications market is inversely proportional to the level of customer satisfaction. Consumer happiness, on the other hand, is influenced by two characteristics: consumer trust and service excellence.

Artificial intelligence has the potential to impact revenue by a trillion dollars or more in the coming decade. It is having a significant impact on a wide range of business processes across multiple industries, causing widespread disruption. Never before have so many businesses invested in or planned to invest in artificial intelligence technology. There has also been a lot of interest from regular investors and venture capitalists. However, artificial intelligence remains a complex technology involving numerous sub-concepts and intricate algorithms. There are also serious ethical concerns about the use of AI. On the market today, there are numerous perspectives on artificial intelligence (AI). Makridakis (2017) classified these points of view into four groups: optimists, pessimists, pragmatists, and sceptics. If managers and stakeholders know little about this new phenomenon but are forced to make a decision due to market buzz and competitive pressures, then confused signals may trigger herding behaviour. Herding behaviour becomes especially intense when there is no obvious path into the future and a general level of uncertainty in the market. Companies that are still evaluating the situation and unsure of what course of action to take in this scenario typically receive information from early adopters and use it in their decision-making processes (Khanna & Mathews, 2011). Herding is especially common in the information technology sector, where managers are known to blindly follow one another in making IT investment decisions (Kauffman & Li, 2003). Even if not all herding has a negative impact on the industry as a whole, it may have an impact on the expectations of a potentially useful technology within a single company. A substantial amount of research has been conducted on both manager herding and investor herding, particularly in the field of finance. Despite the fact that fewer studies have investigated IT adoption herding, which results from corporate decision makers' investment

decisions (Duan et al., 2005), many studies have investigated the perspectives of digital marketing and other online solutions. For example, it was discovered that if there was a general trend of people in the digital world leaving negative comments, the effects of herding could be reduced (Huang & Chen, 2006). There is also a herding behaviour among lenders (investors) in the online loan market (Herzenstein et al., 2011).

Ding and Li (2019) discovered that both the consumption of digital books and the making of website purchases displayed significant signs of herding behaviour. Similarly, new bidders on eBay typically flock to existing bids (Simonsohn & Ariely, 2008). To the best of the author's knowledge, no studies have been conducted that combine AI and herding behaviour. In order to promote the effective use of AI, it was necessary to measure the impact of any herding phenomenon on AI technology, analyse what factors triggered the herding, and determine the effects on the overall AI industry. This was done to determine what factors caused the herding.

The difficulties that must be overcome in order to implement autonomous customer experience management were outlined by Gacanin and Wagner (2019). (CEM). The paper also included a narrative describing how AI and machine learning were used to create a critical business value driver as well as an intelligence network. A chatbot powered by artificial intelligence (AI) and equipped with natural language processing (NLP) aided in improving the overall customer experience (Nguyen and Sidorova, 2018). The efficient data processing made possible by AI and ML algorithms allows us to make the best decision (Maxwell et al., 2011). The use of AI is required in order to analyse customer routines, purchases, preferences, and the like (Chatterjee et al., 2019). Customer Relationship Management (CRM) functions have been shown to benefit from Artificial Intelligence User Interface (AIUI) functions (Seranmadevi & Kumar, 2019). Conventional retail establishments were transformed into smart retail establishments through the use of AI and IoT. The smart retail stores improved the customer experience, as well as the convenience of shopping, and strengthened the supply chain. The authors Sha and Rajeswari (2019) discussed recent advances in artificial intelligence and demonstrated a machine powered by AI that can monitor all five of a human's senses: sight, hearing, taste, smell, and touch. In the e-commerce sector, the findings indicated a stronger association between consumers and brands, as well as between products and brands.

Promotion management includes media planning, media scheduling, advertising campaign management, search engine optimization management, and other tasks. Traditional methods of promotion are giving way to digital and physical ones. Digital marketing and social media campaigns made significant progress as a result of the global digital transformation. The consumer dictates the content, location, and timing of an event in today's rapidly evolving technological landscape. AI enables message personalization and customization based on individual customers' preferences and profiles (Huang & Rust, 2020). Using content analytics can assist in increasing the value and effectiveness of messages. Emotional AI algorithms enable real-time monitoring of individual customers' likes and dislikes. The use of netnography to analyse the content of social media platforms offers marketers new opportunities to align their marketing strategies with their customers' preferences (Tripathi & Verma, 2018).

Gray (2018) explored the other side of the AI system and wrote an article entitled “AI can be a troublesome teammate”. He talks about an incident in his college time when he worked for an environmental surveying company, according to him it’s the inability to feel of AI system that makes him untrustworthy. He believes that to trust their team members there are three things that are required first is mutual concern second is a shared sense of vulnerability and faith in competence. The third element that makes AI untrustworthy is its biggest power that is its strength its superhuman ability to predict or calculate it become against AI when it is forced to work outside its limits but he does not totally deny the use of AI he says in some ways it has proven to be useful also lie in weather forecasting he too believes the AI function (Wirtz et al., 2018).

Whang, Ren, and Lu (2018) explored the use of AI in telecommunication and led research entitled Key technologies of AI in customer service systems, Telecommunication Science they believed they artificial intelligence systems have some factors like very high efficiency and low expense when it is compared to traditional customer service operated by a human in the area of customer service in the business field. But it was told that current AI technology has some weaknesses too. For example, it was not flexible and its tone was very rigid and they too lack caring eventually there is a high amount of automation on the organisation side, but there has been no increase in the rate of succession and an exponential decrease in user

experience was recorded on the side of customers. Client satisfaction, according to Ra'ed (2012), has a positive impact on long-term customer retention. Further, Ra'ed (2012) found that there is a direct correlation between customer pleasure and the length of the supplier-customer relationship, that mobile services provided by call centres have an impact on customer satisfaction and retention. As a result of the study, it was discovered that there is fierce competition among Indian telecom providers, with all of them offering a variety of deals and programmes to maximize user base dependent on market conditions. Because of the competition, the author also encourages telecom players to match their operations with a new and dynamic business environment.

In e-commerce contexts, interacting with clients using live chat interfaces has grown in popularity as a way to offer real-time customer assistance. Customers utilise these chat services to get assistance or information (such as product specifications) (e.g., solving technical problems). With the real-time nature of chat services, customer support has become a two-way conversation with major effects on WOM intentions, trust, satisfaction, and repurchase (Mero, 2018). Chat services have evolved into the main method for obtaining customer help during the past ten years (Charlton, 2013). Human chat service representatives have increasingly been supplanted by conversational software agents (CAs), such as chatbots, in recent years, thanks to advancements in artificial intelligence (AI) technology (Gnewuch et al., 2017; Pavlikova et al., 2003; Pfeuffer et al., 2019a). Although primitive CAs first appeared in the 1960s (Weizenbaum, 1966), the "second wave of artificial intelligence" (Launchbury, 2018) has reignited interest in and enhanced the dedication to this technology since it has opened the door for systems that can interact with humans more like humans (Gnewuch et al., 2017; Maedche et al., 2019; Pfeuffer et al., 2019b). Customers continue to have unpleasant experiences with AI-based CAs, despite technical advancements. For instance, CAs could respond to user requests inappropriately, causing a discrepancy. between what the user expects and how well the system performs (Luger and Sellen, 2016; Orlowski, 2017). Live chat services are being replaced by AI-based CAs, raising the question of whether they will remain useful given that scepticism and resistance to the technology may prevent task completion and hinder positive customer experiences. As a result, using these systems could push customers to engage in undesirable behaviours like noncompliance, which could be detrimental to both users and service providers (Bowman et al., 2004). However, the purpose of this self-service

technology is called into question if users decide not to follow or adapt to the recommendations and requests made by the CAs (Cialdini and Goldstein, 2004).

According to earlier research, CAs should be anthropomorphically (i.e., human-like) built in order to foster a sense of social presence (Rafaeli and Noy, 2005; Derrick et al., 2011; Zhang et al., 2012; and Elkins et al. 2012). The majority of this research concentrated on the effects of anthropomorphic design signals on human perceptions and adoptions (Hess et al., 2009; Qiu and Benbasat, 2009; and Adam et al., 2019). This study offers important contributions to research and practice, but it has mostly concentrated on embodied CAs, which can apply nonverbal anthropomorphic design cues since they have a virtual body or face (i.e., facial expressions or physical appearance). However, chatbots are disembodied CAs that engage with users primarily through linguistic signals (Araujo, 2018; Feine et al., 2019). Although there has been some prior research on vocal anthropomorphic design signals, such as self-disclosure, excuse, and thanks (Feine et al., 2019), these cues have frequently been very static and insensitive to the user's input due to the older generations of CAs' poor capabilities. Users may grow resistant to such a system as a result since it cannot accurately simulate human-human conversation. Today, advanced chatbot solutions that carefully understand user input based on limited AI are made possible by conversational computing platforms (like IBM Watson Assistant). In comparison to the somewhat static responses of their rule-based predecessors, chatbots built on these systems are more flexible and compassionate and have comprehension that is closer to that of humans (Reeves and Nass, 1996). Thus, these platforms provide new anthropomorphic design cues like showing empathy through conversation. With a few notable exceptions (Araujo, 2018 and Derrick et al., 2011), the ramifications of more sophisticated anthropomorphic design cues have not been thoroughly investigated.

The question of whether compliance and persuasion techniques—which aim to persuade users to comply with or adapt to a certain request—are equally valid in these new technology-based self-service contexts also emerges as chatbots continue to replace human customer support representatives. The continued-question method is a type of foot-in-the-door compliance technique that is particularly pertinent since it is not just widely employed in practice but also because it has been demonstrated that the type of requester has a significant impact on the procedure's success (Burger, 1999).

Finding a balance between service efficiency and service quality is a major difficulty for customer service providers: The potential benefits of consumer self-service, including increased time efficiency, decreased costs, and improved customer experience, are emphasised by both researchers and practitioners (Meuter et al., 2005; Scherer et al., 2015). As a self-service technology, CAs promise to boost service quality and enhance provider-customer interactions while also providing a number of cost-saving opportunities (Gnewuch et al., 2017; Pavlikova et al., 2003). According to studies, CAs can cut down on response times, free up agents for other tasks, and handle up to 80% of routine enquiries, resulting in a 30% reduction in the $1.3 trillion in annual global company expenditures associated with 265 billion customer support requests (Reddy, 2017b; Techlabs, 2017). By 2022, businesses alone plan to save more than $8 billion annually on customer-supporting expenses, a significant rise from the $20 million in estimated savings for 2017. (Reddy, 2017a). Thus, CAs offer to be quick, easy, and affordable customer support options via electronic channels available around-the-clock (e.g., Hopkins and Silverman, 2016; Meuter et al., 2005).

Customers typically value individualised attention in addition to easily available and adaptable self-service channels. As a result, businesses shouldn't totally switch to consumer self-service channels, especially at the start of a relationship with a client (Scherer et al., 2015), as the lack of a social intermediary in online transactions may result in a loss of sales (Raymond, 2001). However, by imitating social actors, CAs have the ability to actively shape service encounters and to stand in for service workers by carrying out tasks that were previously handled by human service staff (e.g., Larivière et al., 2017; Verhagen et al., 2014). Customers can resort to CAs that are available 24/7 as an alternative to phoning a call centre or sending an email to ask a question or make a complaint. As the interface between businesses and customers "gradually evolves to become technology dominant (i.e., intelligent assistants acting as a service interface) rather than human-driven (i.e., service employee acting as service interface)" (Larivière et al., 2017:239), this self-service channel will become more and more important. Recent AI-based CAs also include the option to flag human traits like friendliness, which are important for handling service interactions (Verhagen et al., 2014). Therefore, by invoking notions of social presence and personalization in contrast to prior online service interactions, CAs can lessen the prior absence of interpersonal engagement.

CAs, and chatbots in particular, are becoming a common sight in online commerce and customer support on numerous websites, social media networks, and messaging apps. For instance, between June 2016 and April 2019, the number of chatbots on Facebook Messenger increased from 11,000 to 300,000. (Facebook, 2019). Although these technological artefacts are becoming more prevalent, earlier research suggested that chatbots still have issues related to their infancy, leading to significant failure rates and user distrust when it comes to the employment of AI-based chatbots (Orlowski, 2017). Furthermore, prior studies have shown that while human language abilities easily translate to human-chatbot communication, there are noticeable disparities in the nature and calibre of such exchanges. For instance, people use more profanity and lengthier conversations with chatbots than they do with humans (Hill et al., 2015). As a result, if users treat chatbots differently, their cooperation in response to the chatbot's suggestions and requests may suffer. Thus, the merits of the self-service technology may be called into doubt. Therefore, it's critical to comprehend how chatbot design affects user compliance.

The well-known social response theory (Nass et al., 1994) set the path for several research showing how people use anthropomorphically constructed computers to impose social standards. We define anthropomorphism, which is consistent with prior research in digital contexts, as the imputing of human-like traits, behaviours, and emotions to nonhuman actors (Epley et al., 2007). The phenomena can be explained as a natural human desire to apply anthropocentric information to make it easier to understand unknown actors (e.g., Epley et al., 2007; Pfeuffer et al., 2019a).

Human-computer interactions (HCIs) are fundamentally social, according to the social response theory (Nass and Moon, 2000; Nass et al., 1994). People are predisposed to automatically as well as unconsciously perceiving computers as social actors, even when they are aware that machines do not have feelings or intentions. The evolutionary-biased social orientation of humans is the identified psychological effect behind the "computers as social actors" (CASA) hypothesis (Nass and Moon, 2000; Reeves and Nass, 1996). The degree of salience of the other person in the interaction, which was originally a concept to gauge users' perceptions of human contact (i.e., warmth, empathy, and sociability) in technology-mediated interactions with other users, may therefore be perceived by a user through interacting with an anthropomorphized computer system (Qiu and Benbasat, 2009). Consequently, the term "agent," for

instance, which originally denoted a human being who provides direction, has come to be used to refer to anthropomorphically constructed computer-based interfaces (Benlian et al., 2019; Qiu and Benbasat, 2009).

In HCI environments, people react by engaging in social behaviour and attributing anthropomorphic qualities to technology that contains signs that are typically associated with human behaviour (e.g., language, turn-taking, and interactivity) (Epley et al., 2007; Moon and Nass, 1996; Nass et al., 1995). Individuals therefore treat computers and people according to the same social norms: Even a small number of anthropomorphic design cues (ADCs) can cause social orientation and a sense of social presence in a user during computer interactions, leading to reactions that are in accordance with socially desirable conduct. HCI follows the same social dynamics and principles that govern human-human interaction. Nass et al. (1999), gender and racial stereotypes (Nass and Moon, 2000) personality response (Nass et al., 995), and flattery effects (Fogg and Nass, 1997) are just a few examples of stereotypes that have been found in HCI through CASA studies.

Verbal ADCs, like the ability to talk, try to create the impression of intelligence in a non-human technological agent as opposed to nonverbal ADCs, such physical appearance or embodiment, which strengthen social connection by adopting motoric and static human traits (Eyssel et al., 2010; Araujo, 2018). As a result, static and motoric anthropomorphic embodiments through avatars have been discovered to be primarily useful in marketing contexts to influence trust and social bonding with virtual agents (Qiu and Benbasat, 2009), and particularly important for service encounters and online sales, for example on company websites (Etemad-Sajadi, 2016; Holzwarth et al., 2006), in virtual worlds (Jin, 2009; Bertacchini et al., 2017). Although chatbots allow for real-time dialogue through primarily text input, they lack physical and dynamic representations, with the exception of the typically static profile picture. Instead, they interact with customers via messaging-based interfaces using verbal (e.g., language style) and nonverbal cues (e.g., blinking dots). As a result, chatbots are essentially disembodied CAs. To the best of our knowledge, no other studies have specifically addressed verbal ADCs to further the body of information on embodied agents, with the exception of two outliers that focused on verbal ADCs (Araujo, 2018; Go and Sundar, 2019).

The definition of compliance is "a certain form of response, or acquiescence, to a specific kind of message, such as a request" (Cialdini and Goldstein, 2004:592). A door-to-door campaign asking for donations is an example of an explicit request. Alternatively, an implicit request can appear in a political advertisement endorsing a candidate without specifically urging voters to cast a ballot. However, in every instance, the targeted person is aware that they are being spoken to and asked to act in a particular way. Numerous compliance techniques, including the that's-not-all technique (Burger, 1986), the disrupt-then-reframe technique (Davis and Knowles, 1999; Knowles and Linn, 2004), the door-in-the-face technique (Cialdini et al., 1975), and the foot-in-the-door (FITD), have been the focus of compliance research (Burger, 1999).

In order to persuade people to comply, the FITD compliance strategy (Burger, 1999; Freedman and Fraser, 1966) builds on the impact of tiny promises. In Freedman and Fraser's (1966) experiment, the FITD was first empirically tested by calling housewives and asking them to answer a few questions about the home products they used. Three days later, the psychologists contacted once more and requested permission to send researchers to the home to go through cabinets as part of a 2-hour inventory of household items. When compared to a group of housewives who simply received the large request, the researchers discovered that these ladies were twice as likely to comply. This compliance strategy is often used in modern online marketing and sales to get customers to make bigger commitments. For instance, websites frequently require visitors to make minor commitments (such as submitting an email address, clicking a link, or sharing on social media), only to follow up with a larger request that is geared toward increasing conversions (e.g., asking for sale, software download, or credit-card information).

Individuals in compliance circumstances must quickly comprehend, assess, and reply to a request (Cialdini, 2009). As a result, they don't have time to completely consider all of their options and instead rely on heuristics, or "rules of thumb," to assess their options (Simon, 1990). Small requests, as opposed to large ones, are more effective at persuading subjects to agree with the requester because they require less mental work on the part of the subject. When people accept a commitment, they are more likely to accept a bigger commitment in the future to maintain their original behaviour. The FITD technique thus takes advantage of people's inclination to defend their initial acceptance of a tiny request to others and themselves.

The demand for consistency in conduct among people is based on a number of underlying psychological processes, the majority of which are based on self-perception theory (Bem, 1972) and commitment-consistency theory (Burger, 1999). (Cialdini, 2001). These views suggest that people only have mediocre attitudes at birth and instead develop their attitudes through self-observation. Therefore, if people agree to an initial request, a bias develops and they believe they must have found the request acceptable. As a result, they are more likely to agree to an associated future request of the same kind or for the same reason (Kressmann et al., 2006). Indeed, prior marketing research has actually shown that consumer need for self-consistency promotes purchasing behaviour (e.g., Ericksen and Sirgy, 1989).

Consistency has been shown to be a key element in social exchange in earlier studies. People tend to respond positively to requests in order to build relationships, and the stronger the relationship becomes, the more likely they are to comply (Cialdini and Trost, 1998). In fact, even brief exposure to a person without any contact greatly boosts adherence to the person's request; this effect is even more pronounced when the request is delivered in person and without warning (Burger et al., 2001). In private contexts, people may even choose to comply with a request only to lessen feelings of guilt and sympathy and to win others' favour in order to boost their self-esteem (Whatley et al., 1999). (Deutsch and Gerard, 1955).

Hao (2020) explored the side of call centres and led research which was entitled “the pandemic is emptying call centres. AI chatbots are swooping in “According to Hao, the world is currently facing an unprecedented COVID-19 pandemic, in which government entities and business organisations have reduced significantly staffing levels, while a significant chunk of the population locked up at home has significantly increased the number of voices calls for various online counselling sessions. As the epidemic spreads, understaffed government organisations, grocery shops, and financial institutions scramble to create artificially intelligent customer service systems to manage the increased volume of calls. The number of visitors to IBM's Watson Assistant jumped by 40% from February to April 2020. Despite the fact that contact centres have always been at the vanguard of workplace automation, the epidemic has significantly hastened the process. Organizations that are under stress are more inclined to test new tools and solutions to aid in the relevant business. According to Mehta (2013), the socioeconomic ramifications of mobile phone use in rural India are being investigated. Users' ability to

obtain information for agricultural and non-agricultural purposes, as well as communicate with family members and migrant workers, was also revealed by the survey, which was conducted in late 2012. In rural India, the demographic characteristics of mobile phone users (ownership and access), their usage (social and economic), their activity (education, entertainment, and inventive use), and their impact (satisfaction, safety, skills, and income) are all important considerations to consider.

Schrotenboer (2019) reviewed the topic entitled “the impact of artificial intelligence along the customer journey” he said Online businesses may employ artificial intelligence to improve client experience and help them adapt to socialisation.' However, artificial intelligence has an impact on how people purchase in physical shops, and as a result, the gap between offline (brick-and-mortar) and online shopping is narrowing (e-commerce). AI technology can improve this user experience, therefore marketers need to understand how well these advancements affect the consumer experiences in an ever world. This thesis presents a framework for businesses and other scholars to understand how recommendation systems and conversational interfaces may help firms improve the customer experience across the customer journey while emphasising the significance of fully understanding consumer behaviour.

Bowen and Morsan (2018) in their research which was entitled “Beware hospitality industry: the robots are coming. Worldwide Hospitality and Tourism Themes” provide an outline of how artificial intelligence and robotics are used in the service industry According to their research, AI can extract the actual value of the massive amounts of consumer data accessible, which can then be leveraged to enhance customer experience by providing more personalised services. Auto-cars (a sort of AI) may, for example, pick up clients from the airport, assist them in checking into a hotel, and set up a customer's smartphone to serve as a key. The AI-driven automobiles can recommend eateries near hotels and make reservations for customers based on their preferences.

Salovey and Mayer (1990) explored emotional intelligence in a paper entitled as “emotional intelligence”. Individuals' emotional talents to recognise, comprehend, use, and control their own and others' emotions are referred to as emotional intelligence is divided into four categories: emotional observation, emotional absorption, emotional comprehension, and emotion management. Each brand stands for a particular set of emotional capabilities (Prentice, 2019). These qualities allow someone who is

emotionally intelligent to comprehend and empathise with others. Consumers' emotional maturity may assist them to connect with workers on an emotional level to improve their experience with employee service in the event of a service contact.

Prentice, Chen, & King (2013) studied how emotional intelligence and occupational commitment have a moderating effect on the relationship between labour's emotion and their potential outcome in research entitled "Employee performance outcomes and burnout following the presentation-of-self in customer-service contexts" Customers' engagement and loyalty are highly influenced by their total experience with both workers and AI, according to the research. None of the AI dimensions is substantially connected to customer engagement when all sub-dimensions of staff and AI service are regressed. Employee responsiveness, empathy, and assurance, on the other hand, have a considerable impact on the outcome variable. Employee responsiveness refers to the speed with which services are delivered, as well as the desire of workers to assist clients and their availability to answer to their demands. In the context of AI services, responsiveness refers to how quickly the AI technologies respond. Although AI-powered technologies may answer quickly, in most circumstances, the solutions provided by robots are standardised. Customers, on the other hand, enjoy dealing with staff and report having a better experience as a consequence of employee answers. Finally, they present a planned model that helps institutes think about the internal and external implications of AI, which they label the Three C Model of Confidence, Change, and Control.

Pavaloiu (2016) wrote a paper entitled "The Impact of Artificial Intelligence on Global Trends. Journal of Multidisciplinary Developments" in which she investigates how artificial intelligence influences worldwide trends and how it provides a viewpoint on how to change the external stimuli, marketing techniques and management which is affecting the consumers and altering their attitude towards business.

Smidt and Power (2020) asserted that internet product research has expanded dramatically in recent years. Amazon, the largest online retailer in the United States, is a shining example of how to integrate AI efficiently into online retail. Apart from the extensive selection, quick delivery, and low pricing, a more tailored shopping journey may be developed. Thus, Amazon may offer location-specific pricing and communicate with customers in their native currency (Barmada, 2020).

Novel marketing strategies, aided by new technology, such as the usage of artificial intelligence (AI) systems, stimulate the development of new marketing methods for effectively reaching target consumers and providing superior consumer experiences (Pusztahelyi, 2020). AI enables customer-centric search and a new level of personalization in online purchasing, resulting in a more efficient sales process. The nature of business-customer connections has shifted as a result of information technology (IT) (Rust and Huang, 2014). However, every transformation powered by technology is predicated on trust (Pricewaterhouse, 2018).

The chatbot begins by analyzing the primary fundamental concepts and then delves further into the subject. If the user initiates the discussion with a query, the chatbot attempts to evaluate the primary subject first and then uses the funnel concept to further reduce the subject (Dempt, 2016). By using regular and data-driven semantic methods, the software attempts to interpret the user's content. Automatic recognition of data expressions is the goal of rule-based approaches. Data-driven methodologies operate similarly to qualitative social research's content analysis. Deductive categories are constructed in advance, and then use words are coded using these categories to swiftly assign them to related topics (Trendone, 2016).

Humans have a greater level of trust in a chatbot when it is viewed as a team member rather than a technological gadget. When bots appear in a partnership-oriented manner and communicate in a manner similar to that of their users, information is deemed more reliable (Reeves & Nass, 1996).

People have certain expectations of computers and software such as chatbots. That is, consumers do not expect their responses to be bullet-pointed and do not wish to be overburdened with information. Ideally, the chatbot should reflect the essential information precisely and politely. To accomplish this, it is critical that the chatbot recognizes and learns about the returning user over time, based on previous discussions and search requests (Reeves & Nass, 1996). To improve customer service efficiency and to meet customers where they are, service providers offer customer care via a variety of online channels, including company websites, social media, email, and chat. Customer support via chat is becoming increasingly important. Chat is a more resource-efficient method for the service provider than email or telephone help, as customer

service representatives may handle several queries concurrently (Tezcan & Zhang, 2014).

2.2 Customer Experience with Artificial Intelligence

Pretince and Nguyen (2020) explored the distinct method for engaging customers by using artificial intelligence in a paper which was entitled “engaging and retaining customers with AI and employee service”. The method used by them for carrying out this research was by a poll performed with customers who have used AI products and services in Australia, with an emphasis on hotels. Chatbots, conversational robots, virtual help, voice-activated services, and enhancers of travel experiences are among the AI tools used by the selected hotels in order to provide services to customers. Qualtrics was used to recruit the target respondents since it has user-friendly facilities for participants. Potential participants must be over 18 for this study they should also have stayed at one of the Australian hotels that have used artificial intelligence tools within the last three months of the study. These requirements were addressed by screening queries. For this investigation, digital snowball sampling was used. Artificial intelligence (AI) is increasingly being used in service companies to operate effectively and efficiently and client experience. The findings of this research concluded and showed how customers’ engagement and loyalty are highly influenced by their total experience with both employees and AI, according to the findings. Neither of the intelligence dimensions is significantly connected to customer engagement when all sub-dimensions of staff and AI service are regressed.

Customers who are informed about the advantages of doing business with a particular company are more likely to do so. It is not always a pleasant experience to interact with the service staff of the company and the AI services because employees may be affected by moods and emotions, which influence their attitudes and behaviors when interacting with customers. This can make dealing with the service staff and AI services of the company difficult (Prentice, 2013). Employees in service roles interact with both internal coworkers and management as well as external customers on a regular basis because of the boundary roles they play in the organisation. As a result of role conflicts and a lack of support from management, employee service performance and, as a direct consequence of this, customer experience and perception can be negatively impacted (Neves and Eisenberger, 2012). From the point of view of the customer, on the other

hand, the potential costs of switching and the perceived benefits may be enough to motivate them to look for ways to improve their experience and engagement with the organisation. They may be able to expand the tolerance zones of customers and empathise with personnel in order to convince them to accept a lower level of service because of their high level of emotional intelligence.

Consumer loyalty indicates that a customer will continue to use a product or products offered by the same company, make referrals to other businesses, and either intentionally or unintentionally provide strong word-of-mouth references and publicity (Bowen and Shoemaker, 1998). Oliver (1999) defines loyalty as "a deeply held psychological commitment to consistently repurchase or re-patronize a preferred product/service in the future, resulting in the repetitive same brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior." In other words, loyalty is "a deeply held psychological commitment to consistently repurchase or repatronize a preferred product/service in the future, resulting in repetitive same brand or same brand-set purchasing." The authors Javalgi and Moberg (1997) defined loyalty from three different perspectives: behavioural, attitudinal, and decision-making. The attitudinal perspective takes into account a customer's preferences in addition to their feelings about a particular brand, in contrast to the behavioural perspective, which is based on the number of times a specific brand was purchased.

Mobile marketing is viewed as a potential investment area as well as a way to improve the level of satisfaction experienced by customers. It also helps to strengthen the relationship between the parties and contributes to an increase in consumer communication and interaction between customers and businesses, which ultimately results in an increase in customer satisfaction and loyalty (Anjorin and Amarsana, 2012). Mobile marketing is one of the active forces that can have an effect on a company's brand awareness, composition, and loyalty (Galeano et al., 2016). The internal promotion has a direct impact on impulsive purchases made online, whereas external promotion has an indirect impact through its ability to elicit positive responses to online in-store promotion (Bucht and Gillberg, 2015).

Mohannad, Daqar, & Smoudy (2019) conducted research entitled “The Role of Artificial Intelligence on Enhancing Customer Experience”, which aims to look into

the function of artificial intelligence (AI) in enhancing the customer experience in several businesses in Palestine, such as banks and telecommunication providers. The primary data for this study came from interviews and a standardised questionnaire. The study's findings demonstrated that AI and customer experience had a good and significant association. AI accounted for 26.4 per cent of the variance in customer satisfaction ($R2=0.264$, $F(1.89)=28.634$, $P<0.05$). Customer experience has two dimensions: customer service and after-sale support. According to the study, AI predicted 22.9 per cent of customer service variance, but only 7% of after-sale support variance. Furthermore, delivering Personalized Customer Service throughout a customer's purchasing journey has a significant impact on customer satisfaction. According to the report, businesses should provide more individualized services to clients, since this has an impact on their overall experience with the company. Similarly, using AI in call centres and other after-sales support services to reduce client wait times is highly encouraged. In order to explore how organizations gain from deploying AI, a sample of two companies was selected and interviewed for the qualitative method. Because the quantitative approach's population comprises all Internet users in Palestine, a random sample of this large population was chosen. The questionnaire was then filled out by a random sample of 80-90 users in order to examine their attitudes regarding AI. The authors find that the research hypotheses fit their results after comparing the outcomes of the executed analysis. First, the regression and correlation studies show that there is still a favorable association between AI and user experience, as well as a direct link between AI and offering tailored customer care including after-customer assistance. Authors demonstrate that delivering individualised customer care throughout the client's purchase journey has a significant influence on the customer experience by combining descriptive analysis with the previous findings. Additionally, using AI in contact centres and other after-sales support services would reduce client wait times, hence improving the customer experience.

Yau, Saad and Chong (2021) led a research entitled “Artificial Intelligence Marketing (AIM) for Enhancing Customer Relationships they presented an artificial intelligence marketing (AIM) framework based on the literature that allows automated systems to obtain big information and data, utilise AI technology to generate knowledge, and afterwards distribute and implement that knowledge and improve relationships with customers in an experience and understanding environment. They pulled together and

curate a broad variety of relevant literature, including real-life instances and cases, to construct the AIM framework, and then they analyse how these literature contribute to the framework in the study subject. They discussed the AIM framework from an interdisciplinary standpoint, emphasising the importance of artificial intelligence and marketing research in academia. Pre-processor, main processor, and memory storage are the three essential components of the AIM framework. The essential component, the main processor, employs artificial intelligence to interpret structured data processed by the pre-processor in order to make real-time judgments and reasonings. The artificial intelligence method is distinguished by its hypothetical powers, learning paradigms, and human-like operating modes. The strategic use of the literature-based AIM framework to improve customer relationships is discussed, including customer trust, satisfaction, commitment, engagement, and loyalty. Finally, prospective research avenues are discussed in order to further this multidisciplinary study area. The conclusion that they derived was based on the aim framework they considered that this provided them four considerable advantages including increasing the efficiency of activities in the marketing sector also increasing the accuracy of decisions made in solving problems and predictions that are made in reasoning based on big data. They finally concluded that Artificial intelligence marketing (AIM), an interdisciplinary study area, is a disruptive technology that allows computers to automate the process of gathering and analyzing large amounts of data and information in order to develop marketing mix expertise. This skill is required to provide scaled personalisation, which has hitherto proven difficult to do with human effort alone. This study reviews the research and proposes an AIM framework for improving customer relationships, encompassing consumer trust, contentment, dedication, involvement, and commitment. The strategic framework is made up of three primary components: a pre-processor, the main processor, and memory storage, and it was created using a variety of relevant literature. The primary processor's putative powers, learning paradigms, and human operating modes may all be used to describe it. Despite the proposed AIM framework's completeness, there are various research possibilities, such as (a) learning sentimentality or mindset; (b) removing discrimination and prejudice; (c) improving interpretability and understandability; (d) having to learn tacit and explicit knowledge; and (e) explore different ability to obtain and harness consumer, user, and outer market information.

Berry et al. (2006) discovered that AI-powered services are classified as functional experiences in their study of service experience typology. Nanji (2019) states that the vast majority of users are unhappy or disappointed with the AI-powered services they use and would prefer to interact with human support. This study provides a fresh look at how customers' interactions with AI and employee-provided services affect their relationship with the service organisation. Given the importance of staff service in customer reactions and the pervasiveness of AI-powered services within enterprises, this study provides a fresh look at how customers interact with AI and employee-provided services. Customer's participation in the organisation as well as their loyalty behaviours demonstrate customer relationships (Lemon and Verhoef, 2010). This investigation would supplement the previous research on customer engagement by providing additional strategies to encourage customer interaction with the organisation.

Følstad. Nordheim and Bjørkli (2018) led a research entitled "What Makes Users Trust a Chatbot for Customer Service? An Exploratory Interview Study". In their study they explained Chatbots are becoming more popular as a client service option. Users must have faith in chatbots to give the necessary help before they employ them for this purpose. However, there is presently a scarcity of information on the aspects that influence users' confidence in chatbots. They accomplished their aim by presenting an interview study that fills in the gaps in people's expertise. There are thirteen users of Customer service chatbots who were questioned about their experiences with them. The chatbots and the elements that influence their faith in them Users' faith in chatbots Customer service was shown to be influenced by (a) elements related to the individual product. The quality of the chatbot's understanding of requests and advice, in particular, not just in terms of human-likeness, self-presentation, and professional look, but also in terms of (b) as a result of service-related considerations. In response to the question of research, they preferred to choose and definable design of research. Precisely, to accumulate insights that are rich in depth they carried out a semi-planned interview study. They start with a summary of the participants' replies to the subjects of perceived advantages and limitations of chatbots for customer support in the findings section. Then they go on to the area that corresponds to the study question – variables impacting confidence. Some of the benefits of chatbots as described by them in this study were help and information was fast and easily accessible and the response was also rapid another benefit waste also worked perfect for simple and some common questions and

provide answers to those questions who have passed by the substantial quality control. According to them, there were some limitations of this research as well. They explained as the goal of this research was to provide a foundation for understanding customer service chatbot trust. This goal was pursued via exploratory interview research, which resulted in several significant limitations. Three of these restrictions will be addressed in this section. First, the survey is tiny in scope, with just 13 people using chatbots for customer assistance. Due to this constraint, they were able to investigate a variety of characteristics that may influence chatbot trust. Simultaneously, the generality of the discovered criteria may be questioned. Future research is required to confirm and expand on the results of this study, which will need the participation of a greater number of users. Second, the research is carried out in a particular setting: four Norwegian customer service chatbots. Because of this constraint, they were able to conduct a thorough investigation of the user experience and trustworthiness of these chatbots. Furthermore, the environment they chose enabled them to conduct the research in a market where digital technology adoption is strong, which is favourable to the results' relevancy. Simultaneously, comparable data sets in other marketplaces should be added to the research. Third, since the study's goal was exploratory, the data collection and analysis were not directed by particular theoretical conceptions of chatbot trust. This constraint arises from the study's status as a first step toward gaining a better understanding of the subject. The use of a theoretical framework to guide future research will be beneficial. Hopefully, the findings of this research will serve as a foundation for developing such a framework. They've provided experimental interview research that sheds insight on the aspects that influence chatbot users' trust. Not only do the identified variables apply to chatbots, but also to the service context in which they are used. The outcomes of the research are presented as a first step in developing a framework for consumer service chatbot confidence. The results also have a variety of ramifications for chatbot designers and developers. Chatbots must be trusted by users in order to fully achieve their potential for customer service. They believe that such a discovery will spur more study in this crucial sector.

Ameen et al. (2021) led research entitled “Customer experiences in the age of artificial intelligence.” The way people engage with companies is changing because of artificial intelligence (AI). There is a scarcity of empirical research on AI-assisted consumer interactions. As a result, the goal of this research is to see how integrating AI into

shopping might lead to a better AI-enabled consumer experience. The confidence theory and the quality of service concept are used to develop a theoretical model. Consumers who utilised a beauty product's AI-enabled application were asked to complete an online survey. Partial least structural model was used to analyse a total of 434 answers. The results show that perceived sacrifice and trust play an important role in moderating the impacts of perceived convenience, personalization, and AI-enabled service excellence. The results also show that relationship commitment has a major impact on AI-enabled customer experience. This research adds to the previous literature by highlighting the mediating impacts of trust and perceived sacrifice on AI-enabled customer experience, as well as the direct influence of relationship commitment. Furthermore, the research has practical consequences for merchants that use AI in their client services. All of the components' assessment items were taken from past research: AI-enabled consumer experience, AI-enabled quality of service, relationship quality, trustworthiness, perceived ease, personalization, and perceived compromise. Each aspect was assessed using a variety of items. A seven-point Likert scale with anchors ranging from "strongly disagree" to "strongly agree" was used for each topic. They concluded finally that there study was a huge contribution towards understanding of AI technology. Their research is a pioneering attempt to examine how a cutting-edge technology, artificial intelligence, might enhance the purchasing experience for customers by stressing the hedonic and recognition components of AI-enabled customer encounters. In AI-enabled customer experience, their research also reveals the beneficial function of relationship commitment, as well as the major mediating effects of trust and perceived sacrifice.

2.3 Customer Engagement with AI Features

Customer engagement is a sort of co-creation between service providers and their consumers that has been identified as a marketing approach to increase customer purchase and loyalty (Brodie et al., 2011; Hoyer et al., 2010; Nambisan and Nambisan, 2008). Because the amount of involvement with a service organisation and its linked enterprises has financial ramifications for the organisation as well as for clients, this notion has gained widespread acceptance in marketing literature (Doorn et al., 2010). Customer engagement has been conceptualised in a variety of ways due to the fact that it is a relatively new idea. As a result, there is variability in both the drivers and the

results of the literature. In accordance with the relevant literature, customer engagement is defined as the sum of a customer's behavioural, cognitive, and emotional involvement with a company (Hollebeek, 2011b; Prentice et al., 2018, 2019b). They also examined consumer engagement from the viewpoints of emotive, cognitive, and psychological factors. Customer identification, which indicates their perceived oneness with or belongingness to the brand or organisation; attention, which indicates their attention, focus, and connection with the brand or organisation; enthusiasm, which indicates customers' exuberance and interest; absorption, which indicates customers' pleasant state of mind; and interaction, which indicates customers' participation with the brand or organisation were included in this assessment. Each dimension has its own set of antecedents and consequences (Hollebeek, 2011a).

Customers' negative emotions may colour their perceptions of the company and interactions with employees. While some customers may be unhappy with the service they received, others may sympathise with the employees. This response is reflected in their emotional talents, which combine to form their emotional intelligence. The concept of emotional intelligence in the context of an organisational setting has received a lot of attention over the last three decades as a critical component of individual and organisational results. Emotional intelligence is regarded as a type of human intelligence. There has been no research to date into how customers' emotional intelligence affects the quality of service they receive and their relationship with the company that provides that service. More specifically, how such human and machine intelligences (AI) might be combined to improve an organization's performance (Prentice et al., 2013).

An artificial intelligence-based marketing analytics tool can determine whether or not a product design is suitable for meeting the needs of customers and, as a result, whether or not customers are satisfied (Dekimpe, 2020). Topic modelling improves the system's capabilities in terms of service innovation and design (Antons & Breidbach, 2018). The preference weight assigned to product attributes during product search helps marketers understand the product recommender system and align marketing strategies for meaningful product management (Dzyabura & Hauser, 2019). Deep learning allows for the personalization of point of interest recommendations, which also aids in the exploration of new locations (Guo et al., 2018). Artificial intelligence's capabilities

enable services and products to be tailored to the specific needs of individual customers (Kumar et al., 2019).

AI can better understand consumers' online information search and product selection habits in order to provide a more personalised shopping experience (Rust and Huang, 2014). It's an excellent opportunity for online merchants to analyse the profiles of existing and prospective customers and so recommend tailored marketing offerings (Onete, Constantinescu and Filip, 2008). Additionally, AI enables constant and interactive engagement with both customers and employees. A chatbot can automate frequently asked questions (FAQs) about products, their use, and the purchase procedure. Automated algorithms are used in new sales models to promote unique, personalised marketing products, enhancing consumer happiness and engagement. The most up-to-date methods for enhancing the overall quality of the customer experience are those that are powered by AI and include data science and emerging technologies such as extended reality, robots, recommender systems, the internet of things, and conversational agents, amongst others. A survey conducted by Bain & Company found that the majority of companies already use AI-based customer experience tools in order to maintain a sustainable competitive advantage (Toit, 2020).

Consumer confidence, according to Kim, Ferrin, and Rao (2008), has a favourable effect on a consumer's propensity to purchase. The more trust a consumer has in an online store, the more likely the consumer will complete the purchase process. When a customer senses a financial risk, trust is critical. Hoy, (2018) in the work on, “Alexa, Siri, Cortana, and more: An introduction to voice assistants” tells that using artificial intelligence to provide novel features and simple solutions for everyday activities has transformed the digital world and shaped the web and mobile marketplaces. Examples include face recognition, voice assistants like "Siri, Alexa, and Cortana, bright selfies, and augmented reality, among other things." Amazon and Netflix are already utilizing machine learning to target specific customers with advertisements. Smartphone manufacturers are actively enhancing their gadgets by including dedicated artificial intelligence processors. Specialized hardware is built into the latest "Samsung Galaxy, Google Pixel, and Apple iOS smartphones" with the goal of increasing the efficiency with which AI-based operations can be handled. Despite the fact that this capability

was present in only 3 percent of phones in 2017, it is expected to be present in approximately 35 percent of all mobile devices sold in 2018.

Thatcher et al. (2013) classified trust into two categories: general and particular trust. The term "general trust" refers to the e-commerce environment, as well as customer perceptions and attitudes regarding it. Specific trust is associated with a certain virtual store shopping experience. Confidence can be increased by interactive communication between the store and the buyer, which includes the use of appropriate product descriptions and visuals that minimise perceived risk. As Cătoiu et al. (2014) point out, there is a substantial inverse relationship between perceived risks and trust.

Lee et al. (2008) examined the effect of negative online customer reviews on consumer product attitudes and discovered that a large proportion of unfavourable online consumer reviews leads in a conformity effect. It is possible that bad online reviews have an effect on real purchasing behaviour or at the very least purchase intention. Gacanin and Wagner (2019) explained the difficulties associated with implementing autonomous customer experience management (CEM). The report also described how artificial intelligence and machine learning were employed to build an intelligence network that was a substantial economic value generator. An artificial intelligence-powered chatbot that makes use of Natural Language Processing has improved the client experience (NLP). Artificial intelligence and machine learning algorithms aided in the efficient processing of data, allowing us to reach the most appropriate conclusion. Customer service is crucial in distinguishing between customers' perceptions of the organization's service excellence and the perceptions of other employees. Customer service experiences are being influenced by artificial intelligence (AI), according to recent research (Xiang et al., 2015). Artificial intelligence-powered services are becoming increasingly prevalent in business processes as a cost-effective solution to improve organizational efficiency and service delivery (e.g. providing convenience to customers by using 24-h auto-messaging services).

Doorn et al. (2010) explored the other side of this area and led a research entitled “Customer engagement behaviour: theoretical foundations and research directions”. they provided a different point of view from a consumer, company, and context-based viewpoint, presented a complete conceptual framework to identify its components, antecedents, and repercussions Consumer determinants (such as contentment, trust, and

commitment) might be the consequence of the firm's activities. Governmental, financial, societal, and technical context-based elements may be opportunist and uncontrolled. According to this research, organization-based motivations are more appealing when it comes to attracting consumer participation through providing a pleasant customer experience. Even though each interaction with the organisation contributes to the overall customer experience, in people-intensive industries, the moment of truth is the service encounter with an employee service representative, which is critical to the customer's perception of a company's service quality and their willingness to engage with the firm's products and services (Prentice, 2016). Employee service is the first and most important point of contact for the client before, during, and after the service process is completed. This interaction has a significant impact on consumers' impressions of any service encounter and is critical in determining the amount of perceived service quality a customer perceives (Prentice, 2013a, 2013b, 2019). Customers often rely their opinion of an organisation mainly on the service they get from customer contact staff, and communication between an employee and a client is a mutually participatory process that requires both parties to participate (Prentice, 2019).

Ojapuska (2018) whose research was entitled as “the impacts of chatbots in customer engagement” states that in today’s world’s consumer a rapid and personalized service that may or might not involve interactions with human beings. It also states that businesses are quickly using chatbots to increase customer connection, customer engagement, the purchasing process, and the automated resolution of recurrent enquiries, all of which lead to a pleasant customer experience.

Brandtzaeg And Følstad (2017) explored about uses of chatbots in their paper entitled as “why people use chatbots, conference paper, internet sciences” People are interested in using chatbots because they are productive in that they make it easier to access information, speed up operations, and are available 24 hours a day, seven days a week. It goes on to say that consumers find interacting with chatbots fun and that it is a standard customer service, which sums up the main motivations pushing organisations to employ chatbots to improve customer experience. Personalized marketing is a kind of target marketing that makes use of pieces of data and automated to deliver tailored

content to consumers in order to increase engagement and improve the customer experience.

André et al. (2017) entitled “Consumer Choice and Autonomy in the Age of Artificial Intelligence and Big Data” discusses how current innovations in artificial intelligence-driven marketplaces and micro-targeting of consumers have assisted in individualising content suggestion for customers, hence making the options more customised and easier to pick from.

Personalization in marketing, according to a report by James (2018) which was given the title “Artificial Intelligence in Marketing”, aids in addressing specific consumer wants throughout the customer journey while without breaching the client's privacy. The notion of hyper-personalization is explained in detail in order for marketers to better grasp their customers' viewpoints and optimise their marketing methods. According to the study by Zumstein and Hundertmark (2017) entitled as “Chatbots – An interactive technology for personalized communication, transactions and services” and “Using Learning Analytics to Understand the Design of an Intelligent Language Tutor” respectively., chatbots aid in the provision of individualised connection with clients, allowing them to reach out to the company at any time and from any location. It also discusses how chatbots assist in the collecting of consumer data regarding product, service, and content preferences, use patterns, and the creation of additional user contact points to increase convenience, as well as the provision of tailored service using deep learning.

Many studies have revealed that the vast majority of users are unsatisfied or frustrated with AI-powered services and prefer personal interactions with human customer service representatives (Nanji, 2019). As a result of the importance of staff service in determining customer reaction and the widespread use of artificial intelligence-powered services within enterprises, this study provides a fresh perspective on how customers' experiences with artificial intelligence and employee-provided services affect their relationship with the service organization. Participants in an organization's activities and loyalty behaviors are examples of how customers demonstrate their relationships with the organization. This analysis would be a significant contribution to the study of customer engagement and the development of additional measures to stimulate consumer involvement with an organization.

Hancock et al. (2011) found a number of factors that contribute to such trust, categorising them as human-related, robot-related, and environmental. Corritore et al. (2003) established a widely acknowledged theory of trust in interactive systems, focusing on users' trust in websites. Credibility, ease-of-use, and risk were identified as critical determinants of trust in this paradigm. While the concept of trust in technology is controversial (Fryer and Carpenter, 2006), there is a growing amount of study on the subject. For instance, in a review paper on robot trust. Trust has been studied historically in relation to interpersonal relationships, organisations, and society (Rousseau, et al., 1998), and is frequently described as inducing a sense of belonging (Schoorman, et al., 2007) and facilitating frictionless interaction and collaboration between humans (Botsman, 2017). Mayer et al. (1995), in one of the most widely used models of organisational trust, identified three critical drivers of trust, namely the trustee's opinions of the trustor's expertise, compassion, and integrity.

When developing strategies and planning marketing activities, marketers can benefit from using artificial intelligence to help with segmentation, targeting, and positioning (STP). In addition to STP, artificial intelligence can assist marketers in visualising the strategic orientation of the company (Huang & Rust, 2017). Text mining and machine learning algorithms have the potential to be utilised in a wide range of industries, including banking and finance, art marketing, retail, and tourism, in order to locate customer segments that are most likely to generate a profit (Dekimpe, 2020; Netzer et al., 2019; Pitt et al., 2020; Valls et al., 2018). The pool of customers that are targeted can be narrowed down even further by using a combination of data optimization techniques, machine learning, and causal forests (Chen et al., 2020; Simester et al., 2020).

Bloom's taxonomy of educational learning objectives was revised by Anderson and Krathwohl (2001) to place creation at the top of the hierarchy as the most important learning objective (Bloom et al., 1956). This was achieved through the revised version of Bloom's taxonomy that they created. They explain it as "putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure." "Putting elements together to form a coherent or functional whole." Bringing together disparate elements to form a whole that is either coherent or functional will demonstrate that the most significant factor that differentiates AI algorithms from

conventional statistical methods is the idea of knowledge creation as it relates to Anderson's taxonomy. The authors argue that making such a distinction has significant implications for the likelihood of adopting AI technologies in aspects of marketing that require knowledge transfer or stand to benefit from it. Deep artificial neural networks are the primary focus of the vast majority of artificial intelligence applications in the business world. These networks are utilised to solve challenging predictive problems that were thought to be unsolvable in the past. Marketers can use predictive analytics to forecast future marketing actions and how those actions will impact behavior, generate insights to improve leads, acquire new customers, and achieve pricing optimization, among other things. They can also use predictive analytics to forecast how those actions will impact pricing (Murray & Wardley, 2014; Power, 2016). Researchers and managers in the field of marketing frequently establish objectives such as the maximisation of profit and market share, product cannibalization, customer retention, and utility maximisation (for examples, see Gonül and Hofstede, 2006; and Natter et al., 2007). Defining a holistic objective function is essential, however, because an AI algorithm is not restricted by common sense and does not have to operate within the confines of a predefined set of features or model specifications. This makes it possible for the algorithm to operate more freely.

The term "hassle-free service" refers to a service that is trouble-free, methodical, and problem-free, and in which the customers' demands are met without the presence of obstacles or confusion. Using blended artificial intelligence (AI), which is a combination of artificial intelligence and human intelligence, as well as data analytics, the articles by Görgens (2019) entitled “How can Artificial Intelligence use big data to form a better customer experience” and “Artificial Intelligence – Creating automated insights for customer relationship management.” AI (artificial intelligence) enables data analysis and individualised consumer experiences that would not be possible without machine learning's efficiency and efficacy. However, several earlier authors have noted a perceived lack of human touch, and additional investigation has revealed that data privacy is a big worry for customers. Clients are aware that businesses utilise their information to target them with customised advertisements. They do not, however, like to share their data with third parties and have little faith in organisations with regard to their information. As a result, Blended AI has been promoted as a panacea for all issues. Blended artificial intelligence is a synthesis of machine and human intellect. In the

finalisation stage, an agent is utilised to conduct the final analysis of the data for clients. That way, organisations regain their human touch, communication is more transparent, and data is obtained with permission. As a result, data privacy could be restored. Consumer relationship management is critical for businesses, as the customer adds value to the corporation, whether economically or emotionally.

2.4 AI Uses for Digital Marketing Enhancement

Adam et al. (2021) whose research entitled "AI based chatbots in customer service and their effects on user compliance. Electron Markets" discusses how consumers perceive their engagement with chatbots to be more accessible and flexible since they do not have to wait for a response to their calls and messages for extended periods of time, therefore making the processes easy and hassle-free. It is discussed in the paper by Bertacchini et al. (2017) entitled as "Shopping with a robotic companion. Computers in Human Behaviour" that bringing robotic and chatbot technology from the back end of shops to the front end is improving customer experience by reducing the time spent on cumbersome processes such as billing, searching for required items in the store, and acting as a shopping companion to the customers. In addition, it describes how these artificial intelligence-powered robots are capable of recognising consumer preferences by linking to the store's database and are therefore able to give customers with a hassle-free service.

To maintain their position as market competitors, it is becoming increasingly important for all businesses to implement modern marketing strategies. Marketers cannot make sound decisions or rely on those decisions for success unless they have a thorough understanding of their target audience's preferences and needs (Marketing Evolution, 2020). As a result, they must act quickly to gather the necessary information about the customers and then act effectively on that information (Marketing Evolution, 2020). This is where artificial intelligence comes into play. AI-enabled marketing techniques allow marketing stakeholders to make data-driven decisions in real time; however, it is also critical to understand how to integrate AI into marketing campaigns in the most effective way possible (Marketing Evolution, 2020).

According to Hall (2019), artificial intelligence marketing is the use of technology to improve the customer experience. He goes on to say that an effective implementation

of AI marketing can also significantly improve the return on investment (ROI) of promotional campaigns. This is possible because AI marketing employs processes such as big data analytics and machine learning to gain insights from target audiences, which are then used to develop a more effective marketing campaign. He continues, "This is possible because AI marketing uses processes like these to gain insights from target audiences, which are then used to develop a more effective marketing campaign" (Hall, 2019). Furthermore, AI eliminates almost all assumptions made during customer interactions, regardless of whether a company uses email marketing or customer support. Another significant impact of artificial intelligence on marketing is the automation of tasks that were previously entirely performed by human labour in traditional marketing methods. As a result, tasks such as content creation, website design, and the execution of the most accurate pay-per-click (PPC) advertisements can now be completed using AI marketing (Hall, 2019). Further, he emphasises the benefits of AI on digital marketing in the same article, stating that AI can modernise and improve the outcomes of a company's digital marketing campaign while also reducing the risk of human error to a large extent. This is one of the ways AI can aid in the advancement of digital marketing. Human interaction, on the other hand, is required to truly connect with customers and understand their needs. This is because nothing can replace qualities like empathy and compassion, which are unique to humans but cannot be replicated by machines.

Because AI is already transforming industries such as finance, e-commerce, logistics, and many others, corporations can benefit greatly from a thorough understanding of what artificial intelligence is and how its implementation can benefit the overall business strategy. This is due to the fact that artificial intelligence is already transforming the world. When it comes to the specifics of AI's future marketing implications, it is expected that AI will have an impact on marketing strategies, as well as business models, customer service, sales options, and customer behaviors (Davenport et al., 2019). According to the findings of some studies, artificial intelligence is also regarded as a valuable tool with the potential to increase the effectiveness and output of marketing managers and marketers through predictive analytics, automated email conversations, lead scoring, customer insights, and other similar methods.

2.5 AI Uses for Strategy And Planning

The application of artificial intelligence in strategic and operational planning Artificial intelligence can assist marketers in developing marketing strategies and organising marketing activities by assisting them with categorization, focusing, and placing. Aside from STP, artificial intelligence (AI) may assist marketers in visioning and strategic orientation of a company (Huang & Rust, 2017). Text analytics and machine learning algorithms have applications in a variety of industries, including banking and finance. Art marketing, retail, and tourism are all used to identify lucrative client categories (Dekimpe, 2020; Netzer et al., 2019; Pitt et al., 2020; Valls et al., 2018). Combining data optimization approaches with machine learning and causal forests may also help to narrow down the list of potential clients to target (Chen et al., 2020; Simester et al., 2020).

Norbert (2018) wrote a paper entitled as "Hello marketing, what can artificial intelligence help you with?" in this paper he provided the explanation of artificial intelligence and different forms or artificial intelligence including narrow AI, Hybrid AI and Strong AI. According to him the industry conducting researches on marketing seems to be hesitated and at the same time very desperate to embrace the new technology.

Caldarini, Jaf, and McGarry (2022) explored the advances in chatbots in a research paper entitled "a literature survey of recent advances in chatbots". In this study they analyse current breakthroughs on chatbots, where Artificial Intelligence and Natural Language processing are applied. They outline the key issues and limits of current\work and give suggestions for further study exploration. Chatbots are artificially intelligent conversational computer systems that are meant to replicate human communication in order to provide automatic online advice and assistance. Because of the enhanced advantages of chatbots, they have been widely adopted by a broad range of businesses in order to give virtual support to consumers and clients. Chatbots make use of techniques and algorithms from two different areas of Artificial Intelligence: Natural Language Processing and Machine Learning, to name a few. However, there are several difficulties and limits associated with their use. Throughout this study, they have conducted a review of significant works of literature on the issue, and they have also examined the current state-of-the-art in terms of language models,

applications, datasets, and assessment frameworks, among other aspects. They've also highlighted some of the present difficulties and restrictions, as well as some of the gaps in the literature. Despite technical breakthroughs, artificial intelligence (AI) chatbots are still unable to accurately mimic human speech. This is owing to a flawed approach to conversation modelling, as well as a scarcity of domain-specific data that is freely available. The absence of learned artificial intelligence models for Information Retrieval chatbots is another issue. A concept like this might be used in a number of different industries. Despite recent developments in the field, there is still a gap in terms of applicability between industrial models and current breakthroughs in the sector. Large models demand a significant amount of computer resources as well as a substantial amount of training data. When it comes to analysing chatbots, there is no consistent approach. However, human review is costly, time-consuming and difficult to scale. It is also biased and lacks consistency, which is why some models rely on human evaluation. The development of a novel and trustworthy automated assessment technique is required in order to overcome these limitations. Furthermore, recent research have found a paucity of data on the most current breakthroughs in language models, which may be used to chatbots such as Transformers in the near future. This makes it imperative that you thoroughly evaluate and analyse the data that was used to train the different models. This form of research allows for a more realistic comparison of various models and their outcomes. In reality, it seems that the line between chatbot apps and social or companion chatbots is becoming more blurred. Chatbot modelling is a fascinating topic that combines Deep Learning and Natural Language Processing in an interesting way. The field has continued to flourish and bring new and intriguing difficulties despite the fact that the first chatbots were developed more than sixty years ago. Models that are smaller, more flexible, and less domain dependant might be advantageous in bridging these gaps. Enhanced, scalable, and flexible language models for industry-specific applications, more human-like model structures, and improved assessment frameworks would all be significant advancements in the area of artificial intelligence.

Adam, Wessel, & Benlian (2021) in many e-commerce situations, communicating with clients using live chat interfaces has become an increasingly popular method of providing real-time customer care. Human chat service agents are increasingly being replaced by conversational software agents, sometimes known as chatbots, which are

systems meant to engage with human users via the use of natural language and are typically based on artificial intelligence technology (AI) in their research entitled “AI-based chatbots in customer service and their effects on user compliance” they experimentally investigate, using social response and commitment-consistency theory, how vocal anthropomorphic design cues and the foot-in-the-door approach effect user request compliance via a randomised online experiment. The results are published in the journal Psychological Science. Both anthropomorphism and the desire to maintain consistency, according to the findings, considerably boost the chance that consumers would cooperate with a chatbot's request for service feedback. Furthermore, the findings demonstrate that social presence has a mediating influence on the effect of anthropomorphic design signals on users' compliance.

A blog by Rafia (2020) explored about how artificial intelligence can help to predic behaviour of customers in her blog entitled as predicting customer behaviours with artificial intelligence she explored many aspects where AI is used lie content marketing, assisting in marketing campaigns she also tells how AI can reshape customer experience through enhanced communication she states In this period, Artificial Intelligence (AI) has firmly established itself as the dominant force in practically every business. In addition to streamlining corporate operations by removing duplicate work, artificial intelligence is enabling organisations to more correctly forecast client behaviour. In order to remain ahead of the competition, it is critical to fully understand the wants and expectations of your consumers. In contrast to the widely held idea that artificial intelligence will have the greatest effect on the manufacturing business, recent study indicates that it will also have a significant impact on consumers' purchasing choices in the retail industry. Business owners and marketers will benefit from the findings of this investigation. Businesses must make data-driven choices or risk being left behind in the business world, while marketers must recognise that the success of their marketing initiatives will be significantly reliant on properly anticipating client behaviour in the future. Many marketers are already using deep learning, which is a subfunction of artificial intelligence, to analyse customer sentiments and identify patterns. Deep learning is a technique that mimics the human brain and employs deep neural networks to analyse data and solve complex problems more effectively than humans can.

According to Reinartz et al. (2005), "a modelling framework for allocating resources between client acquisition and customer retention activities exists and should be examined". In order to allocate resources between client acquisition and customer retention activities, a modelling framework has been developed and should be examined further. Most of the efforts of this group have been directed on developing a model for allocating resources to customers that addresses the issues of how much money should be invested in customer connections and how to participate in the customer-firm relationship at different points during the year.

The great majority of clients, according to a study done by Yamuna and Shiji (2017), are those who utilise 4G services provided by businesses like as Vodafone, Airtel, and JIO. Customers' understanding of 4G services supplied by different telecom service providers differs based on their gender, age, educational level, qualification, employment, and marital status, among other things, according to the research.

Following the findings of Yu and Kuan (2012), it has been determined that consumers' perceptions of the perceived worth of a product, as well as each cost component such as information searching costs, moral hazard costs, and special asset investment prices, are all positively associated with their intention to purchase the product again. According to the results of the research, supplying consumers with adequate signs to restrict their information seeking is a critical component of generating repurchase intentions in the first place. Whether or if Airtel's outsourcing approach for network and information technology management to a third-party has resulted in cost savings and increased revenues is investigated by Damodaran (2013). In accordance with the findings of this study, telecommunications businesses can offer their clients lower-cost tariff options by outsourcing their network operations. "Brand image," "service delivery experience," "network experience," "customer care experience," "store and gallery experiences," "billing experiences," and "online experiences" are all factors that influence client acquisition and retention, as discovered by the author.

Qi et al. (2007) explored how artificial intelligence can be useful in field of telecommunication industry they published a research which was entitled as artificial intelligence applications in the telecommunication industry the purpose of their paper was to examine that how artificial intelligence can be applied in the sector of telecommunication industry. Their method to find this application includes different

steps in which first step was using IEEE Xplore using AI AND Telecommunication as keywords their searched matched a good amount of papers out of total number of papers published. Another methods was using ACM library and last but not the least was using Elsevier SDOS/SDOL Kluwer online and ABI database. According to their findings, the first major use of artificial intelligence in telecommunications is in the field of network management. Artificial intelligence approaches that have been extensively employed in telecommunications include expert systems and machine learning, while machine learning and distributed artificial intelligence are the AI techniques that seem to have the most potential for growth in the future. The study also discovered that distinct artificial intelligence approaches each have their own set of applications in different fields.

Joshi, Chirputkar, and Jog (2015), feel that brand oriented behavioural characteristics and brand focused attitudinal factors are especially significant in influencing shoppers to remain with a certain brand. As there are no prepaid mobile connections included in the research, this is the sole alternative available to participants. According to Kujur, Jena, and Jena (2015), customer satisfaction is one of the most important variables in increasing the acquisition and retention of new customers, but it is also one of the most difficult to quantify. Furthermore, the poll demonstrates that consumer satisfaction levels are impacted by a range of variables, including brand selection, customer perceptions, distributor perceptions, marketing strategy, service quality, and delivery.

Ramamoorthy (2009) highlighted how to stay in contact with family, friends, and co-workers via cell phones, which has now become a key communication tool. There are a variety of variables that have contributed to the rapid increase in the use of cell phones in recent years. In the study, customers from both the United States of America and Korea were found to be most satisfied when purchasing products from the fashion category from a newly launched e-commerce website. The ease and standard of the e-commerce website's convenience were recognised as the most important factors in consumer satisfaction and the reason for accessing the e-commerce website, the study discovered. The research emphasised the importance of MDS in the establishment of a client base for an e-commerce business.

Automated advertising refers to the automated process of buying and selling advertisements. Marketers approach advertisers and publishers, which ultimately leads

to a connection to available ad space. Marketers are expected to compensate advertisers in exchange for ad space. Algorithms developed for the purpose of analysing customer behaviour are used in artificial intelligence technologies. Customer cookie data is also collected so that marketers can make more informed decisions and optimise campaigns in real time. Certain advertisements are only shown to specific customers or audiences at specific times, and these customers or audiences are targeted based on their likelihood of converting. Customers will see different advertisements on their screens based on previous activities and searches. Marketers can now process a massive amount of marketing data from various platforms, such as the web, social media, and emails, in a relatively short period of time. Furthermore, the perception that they gain about the customer and the requirements that they have in a shorter period of time allows them to quickly boost campaign performance and Return on Investment (ROI). As a result, marketers can redirect their time and attention to other activities that are just as important, if not more important. Another reason why artificial intelligence should be integrated into marketing strategies is that it has become increasingly important for businesses in recent years to identify and comprehend their customers' needs as well as the standards they have set for both the products and services they provide. This allows marketers to better understand their customers' behaviours, generate customer insights, and improve the "four C's": customer targeting and lifetime value, customer engagement and experience, customer loyalty, and customer loyalty (Avinaash, and Jayam, 2018).

2.6 Research Gap

From the literature, the major gap found that their lacking behaviour in handling consumer experiences, what in turn affect the management of the company. Through a literature, it was found that the customer retention is affected by customer satisfaction if product purchased by customers and perform well as per their desires then their satisfaction will improve and hence, their perspectives will change. Hence, it was also, found that the consumer perspectives were not matching with the support given the company management. Customer services are always found special for the companies to improve their business perspectives and earlier management can’t reach to the customer in that way. Now through Artificial Intelligence, they can reach out to the customer’s perception what in turn improved the organizational efficiency but the major

gap was found in, was majority of users gets frustrated with it. Although with AI some experiences are pleasant and unforgettable as used by hotels and airlines but AI allows only limited amount of customized communication hence its results into service dissatisfaction, hence their performance may have negative influences on them. With this the major gap was found lacks in employees' services. Also, form the literature, it was found that customers' opinion based on experiences influences organizational success with customers' emotional intelligence.

CHAPTER 3:

RESEARCH METHODOLOGY

In the last chapter, the existing literature on the number of factors impacting consumer behavior has been reviewed. This research aims to identify how artificial intelligence impacts the customer's experience and retention in India's telecom sector. For this research, some papers were reviewed to study customer experiences, the importance of artificial intelligence, and how artificial intelligence impacts customers' experiences. The literature review is the central part of this research. It explains the theories and hypotheses of some known researchers who gave their opinion on this topic. Nowadays, with the rapid advancement of technology and knowledge, the Internet, computer, and artificial intelligence mobile phones have become indispensable for our day-to-day operations. Personalization, prediction, and automation are the three megatrends that artificial intelligence is driving in the marketing industry. Marketing leaders must concentrate on the three areas mentioned above to develop beneficial capabilities. Automation is making decisions using machines or providing recommendations to human decision-makers to assist them. Examples of automated processes are product recommendations and dynamic pricing structures. Forecasting is the process of developing models for potential future events by identifying recurring patterns in historical (or previously recorded) data. The fact that these forecasting systems are continually learning and assimilating new information indicates that they are not static. The term "personalization" refers to adapting developed results or outcomes to various customer segments. These systems use extensive customer data to analyse each potential customer and then group them based on shared characteristics.

This technology has begun showing people to look for everything they desire using this new technical medium the Internet. These technologies have a significant impact on the mobile marketing of business lives. The expanding tendency necessitates an in-depth study into customer loyalty, retention, and satisfaction with mobile marketing through artificial intelligence. This artificial intelligence has impacted the mobile service industry's migratory usage patterns and reliance on everyday life. Aside from regular voice calls and SMS services, the success of mobile service providers influenced mobile operators' data services performance. Based on these studies aim, this research is titled

impact of AI in customer service retention: a behavioral viewpoint of the Indian mobile market.

3.1 Research Design

This study, which intends to investigate the impact of artificial intelligence in India's mobile sector and how customers are receptive, was examined using quantitative analysis, which is the process of gathering and interpreting numerical data. It is based on a logical approach emphasizing a testing hypothesis developed by persistent and positivist philosophers. Some advantages of quantitative research include including additional people and the ability to generalize results. Another advantage is objectivity and accuracy, which implies there are few variables involved because the data comes from a closed-ended questionnaire. Data collection can be automated through digital or mobile questionnaires, making it faster and more accessible, allowing thousands of interviews to take place simultaneously across multiple nations. Still not least, it is more cost-effective, which means that the cost of some participants in the quant survey is typically far less than the cost of some participants in the qual interview.

The methodology employed in this study is exploratory research. Because of its flexibility and open-ended character, it is frequently qualitative, also known as interpretive research or a grounded theory method. The purpose of exploratory analysis, like qualitative research, is to formulate questions, clarify concepts, and create hypotheses. Exploration can begin with a review of the literature, a focus group discussion, or case studies. As suggested by the title, the primary goal of this study is to identify, investigate, and describe the impact of artificial intelligence on customer service retention in the Indian mobile market. Hence, the data collection for this research would be done from the questionnaire and online sources. The research was divided into stages. How artificial technology is used in mobile services across the country. This system in mobile marketing in India has impacted customer retention and satisfaction performance. What are the elements influencing users? Furthermore, how do these elements affect client retention, loyalty, and satisfaction? Following that, identifying the measuring methods used to measure the variables, analyzing data collected from numerous sources, attaining the study's objectives, and reporting the results were all part of this phase.

3.2 Selection of Subject

The study aims to know what consumer think AI technology what are the problems they're facing while using artificial intelligence systems and what are benefits they are getting by using the system it gives us a brief about how artificial intelligence it's affecting the customer's review and their retention in the telecom industry. The mobile industry is itself full of customers, and the industry is not made by higher officials. Still, it is made by the customers who use it who make it part of their daily lives and study about their reviews helps us in identifying the customer satisfaction two different mediums like online service, polls and questionnaires are the data collection tools that were used in this research. Customer data is statistically, mathematically, and numerically examined to better understand consumer preferences.

3.3 Selection of Variable

A literature review is integral to every research, as done in the last chapter. It is carried out by selecting some factors on which research is framed upon those factors which decide the framework of carrying out that research work and also decides how the conclusion will be determined or rather the basis on which decision will be determined those are called variables of research. They are of two types of variables: the dependent and independent variables. The significant difference between these two types is in their explanation.

Dependent variables depend on other variables, and independent variables can be manipulated or altered, affecting their impact on other variables. In this research, I have chosen multiple variables that help us to prepare a questionnaire for our subject. These variables will be the basis on which questions will be asked, and the result will be concluded. Variables for this research are as follows:

1. Importance of artificial intelligence.
2. Customer experience with artificial intelligence.
3. Customer engagement with artificial intelligence features.
4. Artificial intelligence uses for digital marketing enhancement.
5. Artificial intelligence uses for strategy and planning.

The relation between the customer experience and artificial intelligence is highlighted to test the hypothesis (as given in Chapter 4). The author used the variables associated

with this study. AI is considered the independent variable, while Customer Experience is the dependent variable.

3.4. Research Hypothesis

A hypothesis can be described as a statement or predictive statement that introduces a research question & proposes a possible outcome of a scientific research study based on the particular psychology of the tested population. Previous researchers also proposed different hypotheses as mentioned in the literature review; I also have stated some hypotheses. The hypotheses in the present section have been stated as follows:

3.4.1. Relationship Between Components of AI And Age Of The Customer

H_{01}: There is significant relationship between customer's age and their consideration to importance of product quality as component of AI for customer retention.

H_{02}: There is significant relationship between customer's age and their consideration to importance of effortless experience as component of AI for customer retention.

H_{03}: There is significant relationship between customer's age and their consideration to importance of valuable feeling as component of AI for customer retention.

H_{04}: There is significant relationship between customer's age and their consideration to importance of personal human interaction as component of AI for customer retention.

H_{05}: There is significant relationship between customer's age and their consideration to importance of self-service as component of AI to make customers' experience effortless.

H_{06}: There is significant relationship between customer's age and their consideration of human interaction to increase valuable feeling of customer.

3.4.2. Relationship Between Optimization Methods of AI And Telecom Companies

H_{01}: There is significant difference in the utilization of predictive maintenance by telecom companies.

H_{02}: There is significant difference in the utilization of network optimization by telecom companies.

H_{03}: There is significant difference in the utilization of virtual assistants and chatbots by telecom companies.

H_{04}: There is significant difference in the utilization of fraud detection and prevention system by telecom companies.

H_{05}: There is significant difference in the utilization of robotic process automation system by telecom companies.

3.5 Sampling Techniques

It is extremely rare to be able to collect data or information from every person, I instead choose a sample. The sample is the group of people that will take part in the study. Sampling is the process of identifying the group from which you will gather data. Researcher used a simple random sample to statistically measure a selection of individuals chosen from a larger group or population in order to approximate a response from the complete group. In contrast to other surveying procedures, simple random sampling is an unbiased strategy of gathering responses from a big group, and it has both advantages and disadvantages. I used this sampling strategy because it produces a balanced subset with the greatest potential for representing the broader group as a whole. Furthermore, the individuals in the subgroup are chosen at random, and no additional measures are taken.

3.5.1. Sample size

The smartphone user's population of India is estimated at 50 crores[1]. The sample size calculator[2] estimated a minimum sample size of 167 at 99% confidence level and 10% margin of error. Based on this estimate, I fixed the sample size at 300 (nearly twice the minimum sample size). Hence, the data for research was collected from 300 customers as sample has been selected who were using mobile and asking for several services. The customers will be selected randomly from market of Delhi-NCR. A questionnaire was also prepared, containing different questions that will help conclude. These samples were selected based on a random sampling technique.

[1] TechArch Market Research Firm. https://gadgets360.com/
[2] https://www.calculator.net/sample-size-calculator.html?

3.6. Data Collection and Analysis

Collecting data is the process of gathering and measuring information on variables of interest. It enables researcher for stating the research questions, tests hypotheses and evaluates outcomes. There are many methods of data collection, for example. It is conducting interviews, questionnaires with surveys' tool, documents and records, etc. the major types of data. That is used for research are primary, secondary and tertiary data.

3.6.1. Primary data refers to the first-hand data gathered by the researcher himself. Primary data was collected for the study on retention of customers by artificial intelligence in the telecom industry was done in distinct phases using the following sources of preliminary data. It has been investigated through a self-prepared questionnaire.

3.6.2. Secondary data means data collected by someone else in earlier researches, published papers, book, book chapters etc. References were made to research papers published in reputable journals and databases, as well as to published articles, reviews and websites about the hospitality industry, as well as to books, manuals, library resources, newspapers, business magazines and textbooks etc.

3.7. Data Analysis

After collecting the data through survey tool, it will be analyzed by various techniques as listed below using SPSS V. 24 using ANOVA, ANCOVA, T-test, P-test, Correlation Analysis test etc.

3.8. Scope

This study gives a solid basis and a wealth of data to expand this research into additional demographic areas. It will also aid in understanding distinct trends, patterns, and comparisons, particularly in the context of recently announced technology such as AI (artificial intelligence). The following are some prospective areas for further research. Research can be conducted in Indian rural areas better to understand the impact and needs of mobile data services. In rural locations, cost and performance might be important factors to consider. This research might be expanded to include students, homemakers, and wage earners to understand better the influence of mobile data services in their lives.

CHAPTER 4:

DATA ANALYSIS AND INTERPRETATION

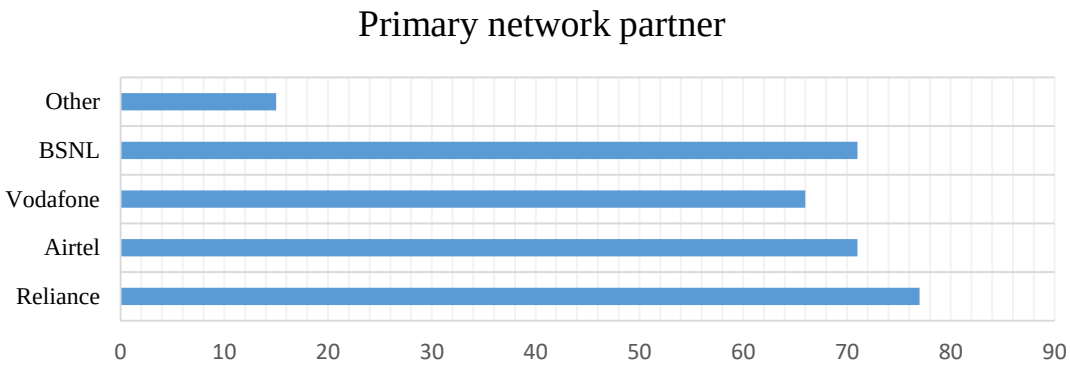
The data was collected from 300 mobile phone users across Delhi and national capital region to assess the impact of AI on their service retention with the telecom company. The participants were selected as per the methodology described in the last chapter and then their data was analysed using descriptive and inferential statistics. The Chi-Square test was used to check the relationship between the individual domain of AI & the age of the customer who understands it as an important one and between the companies and their utilization of optimal service methods.

4.1 Components of AI, Their Importance and Utilization by Telecom Companies

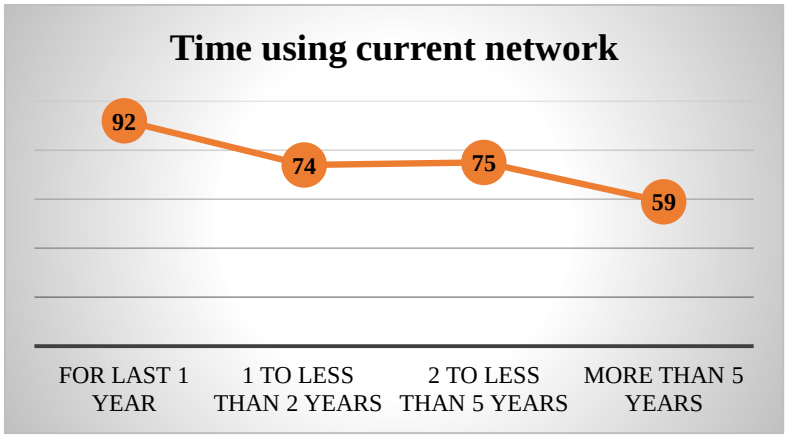
There were 52% female and 48% male participants out of the 300 interviewed having their mean age of 36 years (approx.). The big three companies were Reliance, Airtel, and BSNL having 25.67%, 23.67%, and 23.67% customers in the sample followed by Vodafone (22%). More than half of the customers were using their current network for less than 2 years, of which 30.67% were using it from last 1 year (Table 4.1.1).

	Category	N	n	%	Confidence Interval	
					Lower	Upper
Primary network Partner	Reliance	300	77	25.67	20.7	30.64
	Airtel	300	71	23.67	18.83	28.5
	Vodafone	300	66	22	17.29	26.71
	BSNL	300	71	23.67	18.83	28.5
	Other	300	15	5	2.52	7.48
Time using current network	For last 1 year	300	92	30.67	25.42	35.91
	1 to less than 2 years	300	74	24.67	19.76	29.57
	2 to less than 5 years	300	75	25	20.07	29.93
	More than 5 years	300	59	19.67	15.14	24.19
Gender	Male	300	144	48	42.31	53.69
	Female	300	156	52	46.31	57.69

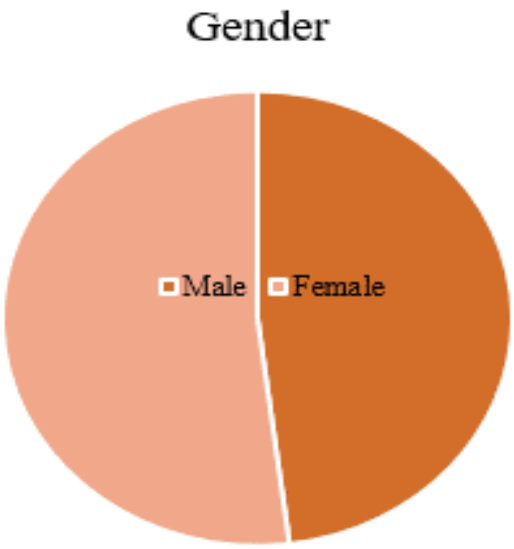
Table 4.1.1: Gender of customers and their telecom partner (Source: Primary Data)



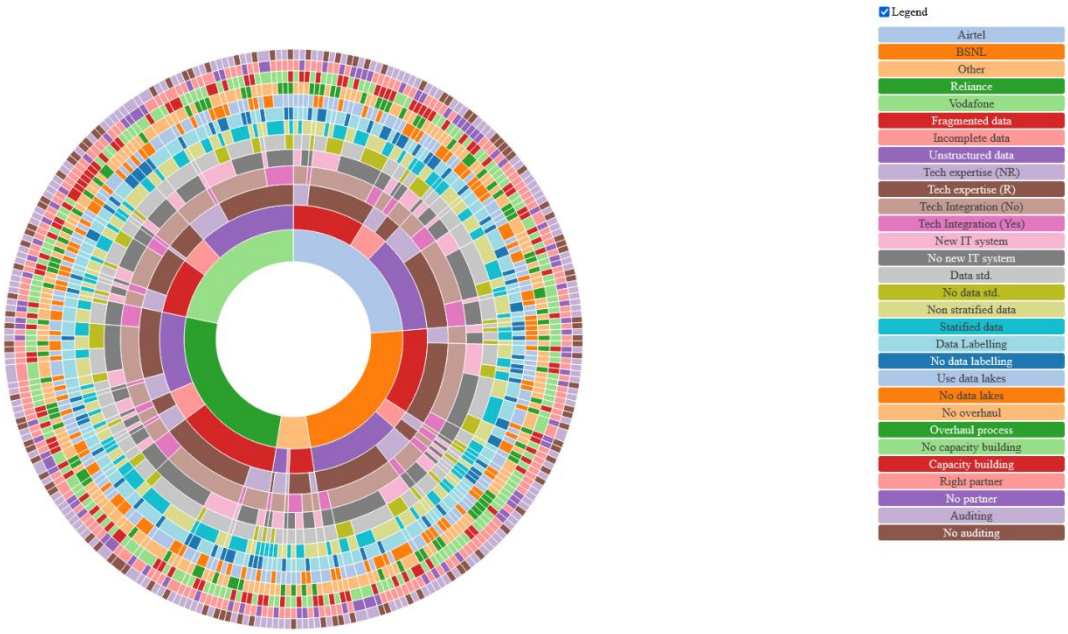
Graph 4.1 Primary Network Partner (Source: Primary Data)



Graph 4.2: Time using current Network (Source: Primary Data)



Graph 4.3: Gender of Respondents (Source: Primary Data)



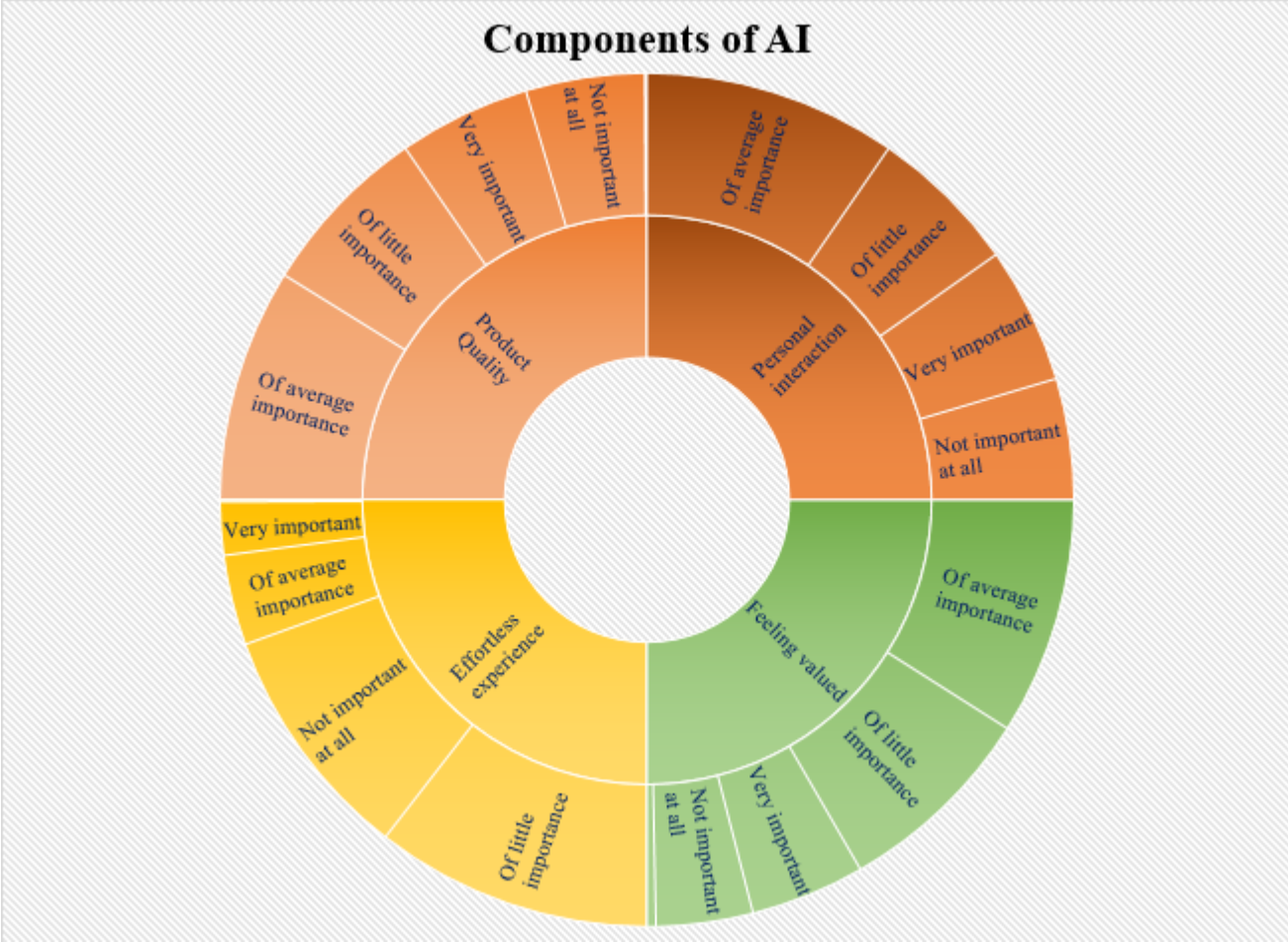
Graph 4.4: Network being used by the Respondents (Source: Primary Data)

Table 4.1.2 and 4.1.3 doles out the importance of AI components as understood by the customers in improving retention by the telecom companies namely product quality, effortless experience, value feeling and personal interaction. More than half (55.66%) of the customers considered product quality as an important part for retention and in that 2/3rd of the total chose product availability, 72% chose replenishment, 54.66% chose quality maintenance and ~78% chose the speed of the product for delivery as important parameters. Whereas 78% of the total (300) participants considered effortless experience as not so important or of little importance. There were 54.66% of customers said that feeling valued is an important component while building an AI driven customer retention scheme and 59% of customers chose personal interaction as having average importance or more. Although 54.33% of the customers asked for a partial static system and 51% of customers want human interaction for all queries.

	Category	**N**	**N**	**%**	**Confidence Interval**	
					Lower	**Upper**
Product Quality	Not important at all	300	54	18	13.63	22.37
	Of little importance	300	79	26.33	21.32	31.35

	Of average importance	300	106	35.33	29.89	40.77
	Very important	300	60	20	15.45	24.55
	Absolutely Essential	300	1	0.33	0	0.99
Effortless experience	Not important at all	300	108	36	30.54	41.46
	Of little importance	300	126	42	36.38	47.62
	Of average importance	300	41	13.67	9.76	17.58
	Very important	300	24	8	4.91	11.09
	Absolutely Essential	300	1	0.33	0	0.99
Feeling valued	Not important at all	300	44	14.67	10.64	18.69
	Of little importance	300	92	30.67	25.42	35.91
	Of average importance	300	108	36	30.54	41.46
	Very important	300	52	17.33	13.03	21.64
	Absolutely Essential	300	4	1.33	0.03	2.64
Personal interaction	Not important at all	300	55	18.33	13.93	22.74
	Of little importance	300	68	22.67	17.9	27.43
	Of average importance	300	115	38.33	32.8	43.87
	Very important	300	62	20.67	16.06	25.27
	Absolutely Essential	300	0	0	0	0

Table 4.1.2: Components of customer retention (Source: Primary Data)

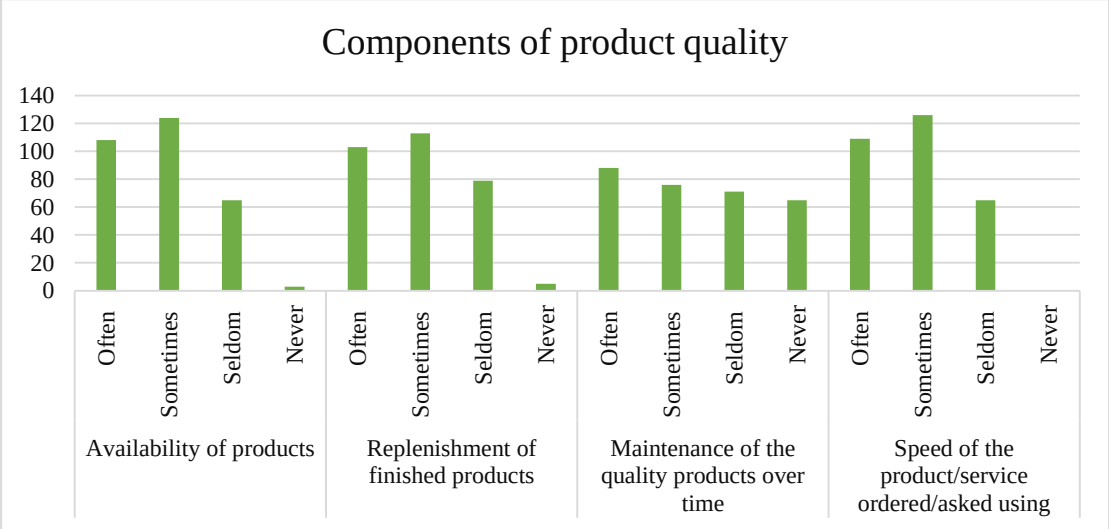


Graph 4.5: Components of AI (Source: Primary Data)

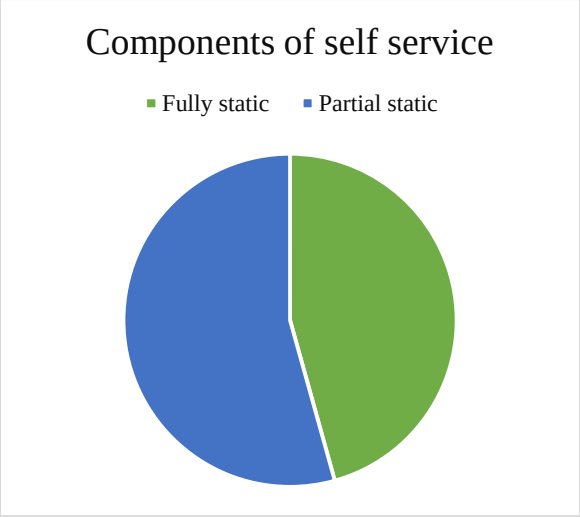
	Category	N	N	%	Confidence Interval	
					Lower	Upper
Availability of products	Often	300	108	36	30.54	41.46
	Sometimes	300	124	41.33	35.73	46.94
	Seldom	300	65	21.67	16.98	26.36
	Never	300	3	1	0	2.13
Replenishment of finished products	Often	300	103	34.33	28.93	39.74
	Sometimes	300	113	37.67	32.15	43.18
	Seldom	300	79	26.33	21.32	31.35
	Never	300	5	1.67	0.21	3.12
	Often	300	88	29.33	24.15	34.51

Maintenance of the quality products over time	Sometimes	300	76	25.33	20.38	30.28
	Seldom	300	71	23.67	18.83	28.5
	Never	300	65	21.67	16.98	26.36
Speed of the product/service ordered/asked using	Often	300	109	36.33	30.86	41.81
	Sometimes	300	126	42	36.38	47.62
	Seldom	300	65	21.67	16.98	26.36
	Never	300	0	0	0	0
Components of self-service	Fully static	300	137	45.67	40	51.34
	Partial static	300	163	54.33	48.66	60
Valued feeling	Human interaction for selected queries	300	147	49	43.31	54.69
	Human interaction for all queries	300	153	51	45.31	56.69

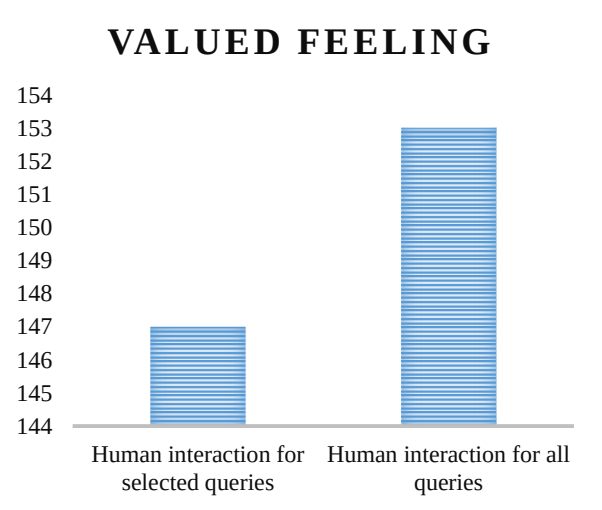
Table 4.1.3: Underlying components of customer retention (Source: Primary Data)



Graph 4.6: Components of Product Quality (Source: Primary Data)



Graph 4.7: Components of Self-Service (Source: Primary Data)



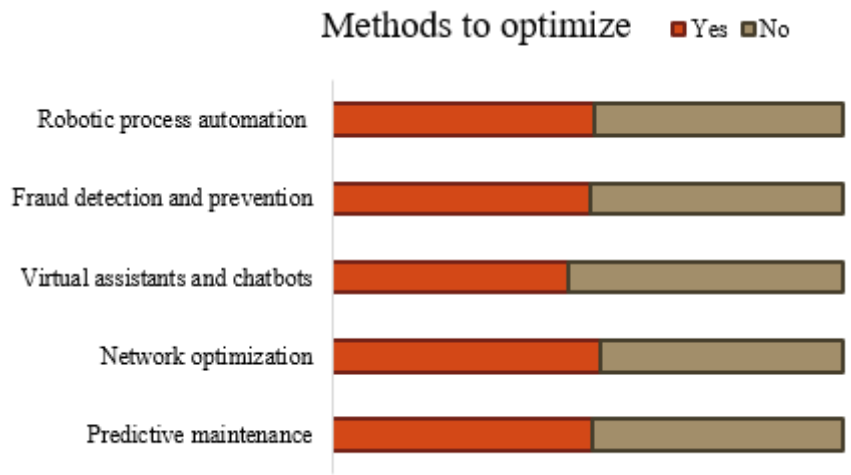
Graph 4.8: Components of Valued Feeling (Source: Primary Data)

Application of AI can make a big difference with predictive maintenance, network optimization, chatbots, fraud detection, and process automation. More than half of the customers said that their telecom company is using predictive maintenance to accurately anticipate and warn about possible hardware failures and out of them ~30% said that its very good and 8% (approx.) put it in poor or very poor category. Network optimization to detect and accurately predict network anomalies, optimize and reconfigure network to ensure stable performance was the second parameter assessed if used by the companies and 52.33% customers said that their company is using it as well and ~59% found it to be good or very good at their end. Fraud detection and protection was agreed by only half of the customers and out of them 43.71% said that it was in good condition. Robotic process automation for data entry, order processing,

billing and other back-office processes that require lots of manual work, were agreed by more than half of the customers as being utilized by their telecom partners but only 40% (approx) of them considered it good. The utilization and optimization of virtual assistants and chatbots to avoid long waiting periods for good customer service look under process as 54% of customers said that their company is not using it (Table 4.1.4 & 4.1.5).

	Category	N	N	%	Confidence Interval	
					Lower	Upper
Predictive maintenance	Yes	300	153	51	45.31	56.69
	No	300	147	49	43.31	54.69
Network optimization	Yes	300	157	52.33	46.65	58.02
	No	300	143	47.67	41.98	53.35
Virtual assistants and chatbots	Yes	300	138	46	40.33	51.67
	No	300	162	54	48.33	59.67
Fraud detection and prevention	Yes	300	151	50.33	44.64	56.02
	No	300	149	49.67	43.98	55.36
Robotic process automation	Yes	300	154	51.33	45.64	57.02
	No	300	146	48.67	42.98	54.36

Table 4.1.4: Methods to optimize customer service by telecom companies (Source: Primary Data)



Graph 4.9: Methods to Optimize (Source: Primary Data)

	Category	N	n	%	Confidence Interval	
					Lower	Upper
Predictive maintenance	Very good	153	46	30.07	22.72	37.41
	Good	153	59	38.56	30.76	46.36
	Acceptable	153	36	23.53	16.73	30.33
	Poor	153	6	3.92	0.81	7.03
	Very poor	153	6	3.92	0.81	7.03
Network optimization	Very good	157	50	31.85	24.48	39.22
	Good	157	41	26.11	19.17	33.06
	Acceptable	157	47	29.94	22.69	37.18
	Poor	157	8	5.1	1.62	8.57
	Very poor	157	11	7.01	2.97	11.04
Virtual assistants and chatbots	Very good	138	39	28.26	20.65	35.87
	Good	138	40	28.99	21.32	36.65
	Acceptable	138	40	28.99	21.32	36.65
	Poor	138	10	7.25	2.87	11.63
	Very poor	138	9	6.52	2.35	10.69
Fraud detection and prevention	Very good	151	32	21.19	14.6	27.79
	Good	151	34	22.52	15.78	29.26
	Acceptable	151	32	21.19	14.6	27.79
	Poor	151	21	13.91	8.32	19.49
	Very poor	151	32	21.19	14.6	27.79
Robotic process automation	Very good	154	31	20.13	13.73	26.53
	Good	154	30	19.48	13.15	25.81
	Acceptable	154	28	18.18	12.02	24.34
	Poor	154	32	20.78	14.3	27.26
	Very poor	154	33	21.43	14.88	27.98

Table 4.1.5: Quality of methods for optimizing customer service by telecom companies (Source: Primary Data)

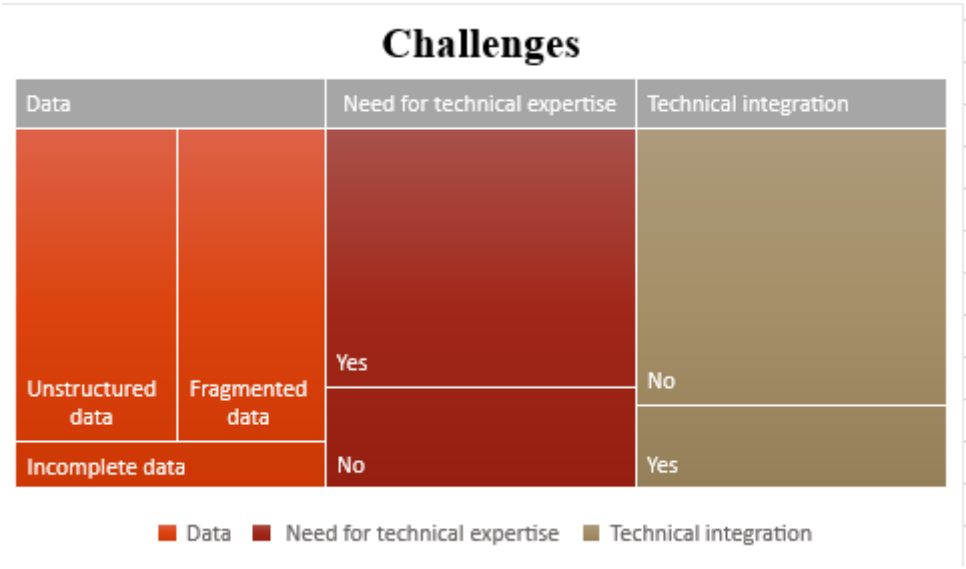
Graph 4.10: Quality of Methods (Source: Primary Data)

The results above show that the companies are applying AI to make their customer service experience better but they are facing problems for now. These problems are compiled in the table given below. The problem related to data quality seem to be a big one as 41.33% of the customers said that the data is fragmented, which means that the its not centralized but stored in different systems and 45.67% said that its unstructured which is not very useful to any AI algorithm. There were 72% and 77% of the customers agreed that the companies are lacking technical expertise to this kind of job and IT infrastructure for integration too. There can be multiple solutions to these problems out of which few are given as 67.33% disagree for making a new IT system from scratch but 75.33% agreed for maintaining a standard for data collection. Stratification, data labelling and data lakes were three more solutions provided by 47%, ~71% and 57% of the customers as well, respectively. Apart from these, identification of right partner and

audit of the system by technology partner to validate ideas were also suggested by 67.67% and 65.33% of the customers (Table 4.1.6 & 4.1.7).

	Category	N	n	%	Confidence Interval	
					Lower	Upper
Data Quality	Fragmented data	300	124	41.33	35.73	46.94
	Unstructured data	300	137	45.67	40	51.34
	Incomplete data	300	39	13	9.17	16.83
Need for technical expertise	Yes	300	216	72	66.89	77.11
	No	300	84	28	22.89	33.11
Technical integration	Yes	300	69	23	18.21	27.79
	No	300	231	77	72.21	81.79

Table 4.1.6: Problems faced by telecom companies in applying AI (Source: Primary Data)



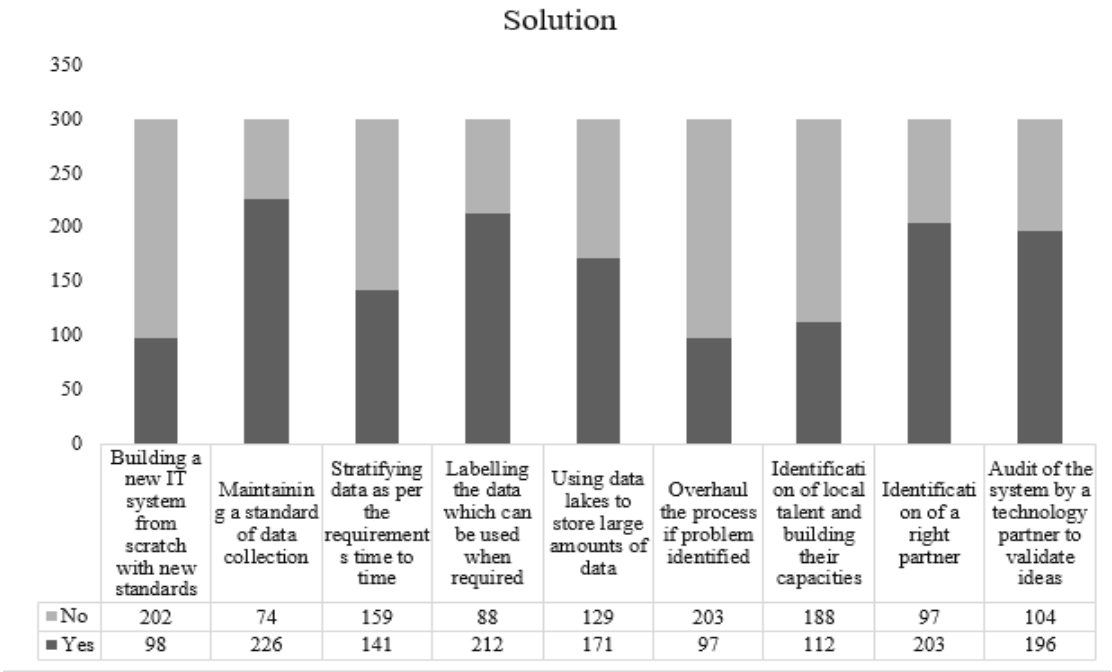
Graph 4.11: Challenges faced by Telecom Companies (Source: Primary Data)

	Category	N	N	%	Confidence Interval	
					Lower	Upper
Building a new IT system from scratch with new standards	Yes	300	98	32.67	27.33	38
	No	300	202	67.33	62	72.67

Maintaining a standard of data collection	Yes	300	226	75.33	70.43	80.24
	No	300	74	24.67	19.76	29.57
Stratifying data as per the requirements time to time	Yes	300	141	47	41.32	52.68
	No	300	159	53	47.32	58.68
Labelling the data which can be used when required	Yes	300	212	70.67	65.49	75.85
	No	300	88	29.33	24.15	34.51
Using data lakes to store large amounts of data	Yes	300	171	57	51.37	62.63
	No	300	129	43	37.37	48.63
Overhaul the process if problem identified	Yes	300	97	32.33	27.01	37.66
	No	300	203	67.67	62.34	72.99
Identification of local talent and building their capacities	Yes	300	112	37.33	31.83	42.84
	No	300	188	62.67	57.16	68.17
Identification of a right partner	Yes	300	203	67.67	62.34	72.99
	No	300	97	32.33	27.01	37.66
Audit of the system by a technology partner to validate ideas	Yes	300	196	65.33	59.92	70.75
	No	300	104	34.67	29.25	40.08

Table 4.1.7: Solution of problems faced by telecom companies in applying AI

(Source: Primary Data)



Graph 4.12: Solution of the problem (Source: Primary Data)

4.2 Relationship Between Components of AI and Age of the Customer

This section shows the result of the tested relationship between the considered important components of AI and age of customers. Below given hypotheses were formed and tested and none of the relationships was found to be significant resulting in the failure to the rejection of H_{01}, H_{02}, H_{03}, H_{04}, H_{05} and H_{06} (Table 4.2).

H_{01}: There is no significant relationship between customer's age and their consideration to importance of product quality as component of AI for customer retention.

H_{a1}: There is significant relationship between customer's age and their consideration to importance of product quality as component of AI for customer retention

H_{02}: There is no significant relationship between customer's age and their consideration to importance of effortless experience as component of AI for customer retention.

H_{a2}: There is significant relationship between customer's age and their consideration to importance of effortless experience as component of AI for customer retention.

H_{03}: There is no significant relationship between customer's age and their consideration to importance of valuable feeling as component of AI for customer retention.

H_{a3}: There is significant relationship between customer's age and their consideration to importance of valuable feeling as component of AI for customer retention.

H_{04}: There is no significant relationship between customer's age and their consideration to importance of personal human interaction as component of AI for customer retention.

H_{a4}: There is significant relationship between customer's age and their consideration to importance of personal human interaction as component of AI for customer retention.

H_{05}: There is no significant relationship between customer's age and their consideration to importance of self-service as component of AI to make customers' experience effortless.

H_{a5}: There is significant relationship between customer's age and their consideration to importance of self-service as component of AI to make customers' experience effortless.

H_{06}: There is no significant relationship between customer's age and their consideration of human interaction to increase valuable feeling of customer.

H_{a6}: There is significant relationship between customer's age and their consideration of human interaction to increase valuable feeling of customer.

	Category	Age			Total	Chi-Sq test
		< 28	>= 28 & < 36	>= 36		P value
Product Quality	**Not important at all**	16 (30%)	13 (24%)	25 (46%)	54	0.4899
	Of little importance	16 (20%)	20 (25%)	43 (54%)	79	
	Of average importance	25 (24%)	33 (31%)	48 (45%)	106	
	Very important	14 (23%)	12 (20%)	34 (57%)	60	
	Absolutely Essential	0 (0%)	1 (100%)	0 (0%)	1	
Effortless experience	**Not important at all**	27 (25%)	28 (26%)	53 (49%)	108	0.4688
	Of little importance	28 (22%)	34 (27%)	64 (51%)	126	
	Of average importance	13 (32%)	11 (27%)	17 (41%)	41	
	Very important	3 (12%)	5 (21%)	16 (67%)	24	
	Absolutely Essential	0 (0%)	1 (100%)	0 (0%)	1	
Feeling valued	**Not important at all**	10 (23%)	9 (20%)	25 (57%)	44	0.3729
	Of little importance	17 (18%)	30 (33%)	45 (49%)	92	
	Of average importance	25 (23%)	26 (24%)	57 (53%)	108	
	Very important	18 (35%)	12 (23%)	22 (42%)	52	
	Absolutely Essential	1 (25%)	2 (50%)	1 (25%)	4	
Personal interaction	**Not important at all**	10 (18%)	17 (31%)	28 (51%)	55	0.9229
	Of little importance	18 (26%)	15 (22%)	35 (51%)	68	
	Of average importance	28 (24%)	31 (27%)	56 (49%)	115	
	Very important	15 (24%)	16 (26%)	31 (50%)	62	
	Absolutely Essential	0 (0%)	0 (0%)	0 (0%)	0	

Components of self service	**Fully static**	31 (23%)	35 (26%)	71 (52%)	137	0.8428
	Partial static	40 (25%)	44 (27%)	79 (48%)	163	
Valued feeling	**Human interaction for selected queries**	35 (24%)	45 (31%)	67 (46%)	147	0.2087
	Human interaction for all queries	36 (24%)	34 (22%)	83 (54%)	153	
Total		71 (24%)	79 (26%)	150 (50%)	300	

Table 4.2: Relationship between components of AI and age of the customer

(Source: Primary Data)

4.3 Relationship Between Optimization Methods of AI and Telecom Companies

The relationship between the optimization methods and the telecom partners were assessed and the relationship between fraud detection and prevention & companies was found to be statistically significant resulting in the rejection of H_{04}. Other than this, none of the hypotheses was found significant resulting in the failure to the rejection of H_{01}, H_{02}, $H_{03,}$ H_{04} and H_{05}. (Table 4.3)

H_{01}: There is no significant difference in the utilization of predictive maintenance by telecom companies.

H_{a1}: There is significant difference in the utilization of predictive maintenance by telecom companies.

H_{02}: There is no significant difference in the utilization of network optimization by telecom companies.

H_{a2}: There is significant difference in the utilization of network optimization by telecom companies.

H_{03}: There is no significant difference in the utilization of virtual assistants and chatbots by telecom companies.

H_{a3}: There is significant difference in the utilization of virtual assistants and chatbots by telecom companies.

H_{04}: There is no significant difference in the utilization of fraud detection and prevention system by telecom companies.

H_{a4}: There is significant difference in the utilization of fraud detection and prevention system by telecom companies.

H_{05}: There is no significant difference in the utilization of robotic process automation system by telecom companies.

H_{a5}: There is significant difference in the utilization of robotic process automation system by telecom companies.

	Category	Primary network Partner					Total	Chi sq test
		Reliance	Airtel	Vodafone	BSNL	Other		P value
Predictive maintenance	**Yes**	46 (30%)	37 (24%)	28 (18%)	36 (24%)	6 (4%)	153	0.2812
	No	31 (21%)	34 (23%)	38 (26%)	35 (24%)	9 (6%)	147	
Network optimization	**Yes**	39 (25%)	37 (24%)	37 (24%)	34 (22%)	10 (6%)	157	0.6891
	No	38 (27%)	34 (24%)	29 (20%)	37 (26%)	5 (3%)	143	
Virtual assistants and chatbots	**Yes**	35 (25%)	30 (22%)	26 (19%)	36 (26%)	11 (8%)	138	0.1518
	No	42 (26%)	41 (25%)	40 (25%)	35 (22%)	4 (2%)	162	
Fraud detection and prevention	**Yes**	30 (20%)	45 (30%)	28 (19%)	39 (26%)	9 (6%)	151	**0.0203**
	No	47 (32%)	26 (17%)	38 (26%)	32 (21%)	6 (4%)	149	
Robotic process automation	**Yes**	39 (25%)	30 (19%)	38 (25%)	39 (25%)	8 (5%)	154	0.4368
	No	38 (26%)	41 (28%)	28 (19%)	32 (22%)	7 (5%)	146	
Total		77 (26%)	71 (24%)	66 (22%)	71 (24%)	15 (5%)	300	

Table 4.3: Relationship between Optimization Methods of AI and Telecom Companies (Source: Primary Data)

Relationships between components of AI including quality of the products, effortless experience, valuable feeling, personal interaction, self-service, and respondent's age was tested using Chi-Square test and none of the results were found to be significant. Along with them, optimization methods were tested with current telecom companies. These methods included predictive maintenance, network optimization, virtual assistants & chatbots, fraud detection, and robotic process automation. No relationship here was statistically significant too. Considering these results, no further impact measurement was done using regression, concluding failure to the rejection of null hypotheses with the present evidence.

CHAPTER 5:

FINDINGS, SUGGESTIONS, AND CONCLUSION

In the last chapter, the data has been analyzed. From the analysis, several findings have been observed. In this chapter, the findings have been explored in section 5.1. Whatever the limitation found in this research and the suggestion for future research are given in section 5.2. After that, conclusion has been drawn in section 5.3.

5.1 Findings

300 mobile phone users were surveyed to determine the influence of AI on their service retention with the telecom provider. The participants were chosen according to the technique outlined in the previous chapter, and their data was subsequently analyzed using descriptive and inferential statistics. The Chi-Square test was used to examine the relationship between the individual domain of AI and the age of the consumer who views it as necessary, as well as the relationship between the companies and their use of optimal service methods. Based on tests applied on data collected and found some results. After analysis, from section 4.1, it has been observed how AI components are essential based on their utilization by the telecom industry, and the findings have been listed below:

- From table 4.1.1, it is found that most of the respondents were using reliance (25.67%). Out of 300 respondents, 30.67% of people have been using the same network for the last 1 year, while others have been using the same network for more than 1 year. It is surprising that 19.67% of people didn't change their network and used the same for more than 5 years.
- From tables 4.1.2 and 4.1.3, it was observed how AI is important where a number of its components have been explored. 55.66% of respondents considered product quality is an important factor for retention. Out of 300 respondents, 2/3rd respondents chose product availability and chosen replenishment. 54.66% of respondents have selected quality maintenance, and around 78% of respondents considered a product for delivery an essential parameter for the AI Component. 54.66% of respondents were feeling valued is an essential component of AI.
- Table 4.1.4 and 4.1.5 shows that the application of AI can make a big difference with network optimization, predictive maintenance, fraud detection, chatbots, and process automation. From the illustrated tables, it can be explored that more

than half of the telecom industry informed that they use predictive maintenance to anticipate accurately. 52.33% of respondents suggested the network parameter opted to predict network anomalies. Chatbots (robotic process automation) for order processing has been found good, 40% of respondents considered it good.

- From tables 4.1.6 and 4.1.7, 77% of respondents have informed that the company was lacing with technical expertise. 75.33% of respondents agreed to maintain a data standard for data collection.

From section 4.2, it has been observed the relationships between AI components and the age of the customer, and hence I have illustrated the findings below:

- Table 4.2 shows that 46% of respondents (above 36 age) do not consider product quality as important. In the age group (<28), 30% of respondents also didn't care about quality products. Only 1 respondent considered product quality as an essential parameter.
- From the same table, it was found that AI supports an effortless experience. 1 respondents found it very essential. But 49% of respondents (>=36) did not consider it important. 25% under the age of 28 were also not thinking it important.
- From the same table, 57% of respondents (>=36 age) valued the feeling valued. Only 2 respondents valued it very essential.
- Personal interaction with AI-enabled systems has been very interactive for the respondents while this research explores different as, from table 4.2, the respondents above 36 of age found it not important at all. Also, nobody wants it essential component of AI.
- From the same table, 48% of respondents (>=36 age) were giving importance to partial static for self-service components, while in the same age group, 52% believed in fully static. Only 23% and 25% of respondents (<=28) believed in fully and partially static.

From section 4.3, i observed the relationships between Optimization methods of AI and telecom companies, and hence I have illustrated the findings below:

- From the table 4.3, it can be observed as per respondents feedback, most of the telecom companies use predictive maintenance (30% reliance, 24% Airtel, 18% Vodafone, 24% BSNL), network optimization (25% reliance, 24% Airtel, 24% Vodafone, 24% BSNL), chatbots (25% reliance, 22% Airtel, 19% Vodafone,

26% BSNL), fraud detection (20% reliance, 19% Airtel, 25% Vodafone, 26% BSNL), robotic process automation (25% reliance, 30% Airtel, 19% Vodafone, 25% BSNL).

5.2. Suggestions, Limitations and Future Directions

In this research, I have found below things to suggest for the upgradation of system:

- Personalization features can be upgraded and make it much more interactive.
- The AI-powered system should establish an effective relationship between customers and telecom companies.
- Chatbots should be more effective and interactive with the customer as most respondents felt human interaction is the best, which can enhance customer retention.
- Telecom companies need a technical expert that can resolve issues of customers technically.
- AI should be enhanced so that self-service can be improved.

This study's findings give several theoretical and practical contributions and indicate avenues for further investigation. Specific conclusions of the study affect consumer happiness, loyalty, and retention in the Indian market. Based on this study, managerial relevance and suggestions are provided.

1. According to the study's findings, improved customer services contribute to customer happiness, loyalty, and retention in the Indian market. Therefore, it is recommended that managers focus on customer service to increase client retention, loyalty, and satisfaction in the Indian market. It may be accomplished by offering customer assistance by email and text messaging 24 hours a day, seven days a week.
2. The study's findings indicate that loyalty programmes and rewards contribute to consumer happiness, loyalty, and retention in the Indian market. Therefore, it is suggested that managers regularly update their loyalty programmes and rewards to increase client retention, loyalty, and happiness in the Indian market. The plan should be created so the client's needs are met more effectively than the competition.
3. According to this study, the stability of a network affects customer satisfaction, customer loyalty, and customer retention in the Indian market. To increase customer retention, commitment, and happiness in the Indian market, it is recommended that cellular data service providers enhance their network's

stability. The stability of a network may be achieved by utilizing superior technology, upgrading it periodically, and investing more in the company's research and development efforts.

In addition to the above, the following suggestions would aid mobile data service providers in India regarding client pleasure, loyalty, and retention:

- It is advised that managers study the consumption patterns of clients so that data plans may be appropriately tailored, increasing customer retention.
- It is essential that managers maintain track of the data needs of consumers so that fresh and creative offerings may be suggested, resulting in customer happiness.
- It is suggested that managers invest more in advertising and social media to make customers aware of the company's products.
- It is advised that managers give long-term clients customized programmes to turn them into loyal customers.

Research has identified a few restrictions and limitations in the investigation. First, the sample size used in the study represents just a small proportion of consumers in the major cities; therefore, the population's view as a whole may be prejudiced. In addition, the study was limited to metropolitan areas. In addition, the investigation was time-bound, as customers' perceptions continue to evolve owing to firms' aggressive marketing techniques. Therefore, the research must pinpoint the precise scenario after a particular time. The present study's suggestions can be considered a benchmark for future research:

1. The same analysis might be undertaken in rural India to compare the satisfaction levels of mobile data users in both urban and rural areas.
2. More data service providers might be included in the survey to provide a clearer image of the consumers' perspective.
3. The same study may be conducted on different age groups of consumers to understand customer retention, loyalty, and happiness based on age.

5.3. Conclusion

Telecommunications is one of the fastest-growing businesses and uses artificial intelligence and machine learning in many facets of their business, including boosting the customer experience, predictive maintenance, and network reliability. The world's top telecommunications rely on artificial intelligence and machine learning in various

ways. Artificial Intelligence (AI) continues to rise in popularity among marketers and sales professionals and has become an indispensable tool for organizations seeking to deliver a hyper-personalized, extraordinary client experience. AI continuously learns and improves from the data it examines and can predict consumer behaviour. The emergence of AI-enhanced customer relationship management (CRM) and customer data platform (CDP) software has introduced AI to the enterprise at a lower price than was previously possible.

AI marketing can be used to increase the effectiveness of marketing initiatives and improve the mobile consumer journey. AI in digital marketing applications is gaining traction by utilizing big data analytics, machine learning, and other techniques to acquire audience insights. Adopting AI technology enables marketers to launch dynamic campaigns based on real-time data at all customer lifecycle stages. By automating data-driven tasks that customize the customer journey and enhance revenue, AI marketing decreases expenses and increases marketing team efficiency.

Based on findings, it can be concluded that most of the users were relying on Airtel, BSNL and Vodafone and were using it more efficiently for more than a year. As seen by customers, AI components enhance customer retention by telecommunications firms, precisely product quality, effortless experience, value perception, and human engagement. Most users consider product quality the critical factor for AI components.

Also, most users want human interaction for all queries as chatbot doesn't interact much with them. Using AI for predictive maintenance, network optimization, chatbots, fraud detection, and process automation can make a significant difference. Chatbots powered by artificial intelligence are a great tool that can save organizations money while allowing customers to handle minor concerns on their own time. However, it is essential to remember that chatbots will not function as effectively if they attempt to comprehend everything; instead, they should be utilized to address a limited number of topics, such as invoice management, order monitoring, and account administration. Chatbots and truly autonomous customer experience 'robots' can handle various transactional issues, frequently including information discovery. Chatbots are not limited to customer support interactions. By evaluating client history, for instance, a chatbot can produce a proactive, personalized offer for a consumer and, depending on the channel, can also include product images, rich visuals, or a link. Chatbots can be used to anticipate when a consumer may require a new service and offer it to them proactively.

More than half of the consumers said that their telecom carrier effectively used predictive maintenance to identify and warn about potential hardware breakdowns. The usage and optimization of virtual assistants and chatbots to minimize lengthy wait times for effective customer service are being implemented, as many users (more than 50%) say their organization does not use them. The statistics above indicate that firms are utilizing AI to improve their customer service yet are experiencing difficulties. The difficulties have been explored in the findings.

The consumers reported that the data is fragmented, indicating that it is not centralized but instead stored in numerous systems. Many said the data is unstructured, which is not particularly beneficial to any AI algorithm. Additionally, most customers offered solutions for data stratification, data labelling, and data lakes for better relationships among customer service and telecom companies. In addition, several consumers suggested identifying the correct partner and having the system audited by the technology partner to validate concepts—the relationship between the considered essential components of AI and the age of customers. As an AI start-up, the telecom industry examined hundreds of combinations of messages and offers, adjusting the creative content, delivery channel, and delivery times. It rebuilt its structure around customer acquisition, service, and renewal. It began utilizing AI to enhance service-call scheduling, assist call centre representatives with cross-selling advice, and undertake consumer outreach for wireless system upgrades.

It can also be concluded that AI helps enhance mobile phone users' personalization features. Personalization is an integral part of contemporary marketing strategy. Not only are guests matched with hosts and listings that may be compatible, but also with neighborhoods and activities that will make their stay more enjoyable. Personalization extends beyond using customers' correct names in advertisements, having comprehensive data available when a client phones customer support, or customizing a landing page with customer-specific offers. It is the design objective for all physical and virtual touch-points and is increasingly powered by artificial intelligence. Seamlessness and personalization are two of the critical competencies for mobile phone users. The ability to acquire, analyze, and apply personalized customer data at scale and the application of AI to comprehend, shape, personalize, and optimize the customer journey will now provide a competitive advantage. Digital advantage dominance has transcended the confines of traditional marketing to become a much more significant

C-suite concern. The clear beneficiaries have been the large technology corporations that have incorporated these skills into their business strategies for telecom.

From the study, it can be concluded that a customer-journey analytics solution tracks each customer's movements across its ecosystem in the telecom industry. The service builds maps of each travel and timestamps visitor interactions. Comcast swiftly resolves experience issues by utilizing AI to collect data and pinpoint where journeys fail, such as with its mobile application. Businesses are integrating numerous AI, Martech, and back-office technologies with standard application programming interfaces to generate and utilize personalized data more effectively. New digital media enable users to interact with companies in novel ways. The optimal strategy for challenger brands is to establish a data and technology road map with precise, customer-driven use cases and granular requirements in the telecom industry. The Telecom industry must define, for instance, which client data pieces must be used in real-time to fuel app recommendations, or which systems must communicate with one another after a booking is completed to promote relevant add-on services. Then, it must unite the business and technology teams to create the foundation while focused on delivering value iteratively.

The more advanced AI becomes, the more individualized marketing will become. Using machine learning and pattern recognition, marketers can build more effective advertisements and target user needs. With the ability to deliver precise solutions based on a huge array of data, virtual assistants will become the norm and transform customer service systems. Improving self-service is one of the most effective methods to promote consumer engagement and agent efficiency. It supports the self-service system. Self-service also allows your agents to spend more time with consumers requiring special attention instead of frequently answering simple questions. With AI and cognitive search, you can provide these individualized customer experiences while relieving the strain on your support employees. For instance, the content performance in your self-service community influences the content ranking agents to see in the CRM. The content agents use to settle situations is pushed to the top of search results within your customer community. This closes the loop between self-service and assistance, allowing you to give your consumers frictionless experiences. At each point of the user life cycle, AI-powered solutions may assist businesses in persuading customers to take action.

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APPENDIX

Questionnaire:

Q1. Which company's network do you use in your primary phone?

1. Reliance
2. Airtel
3. Vodafone
4. BSNL
5. Other

Q2. For how long are you using the current telecom network?

1. For last 1 year
2. 1 to less than 2 years
3. 2 to less than 5 years
4. More than 5 years

Q3. What is your gender?

1. Male
2. Female

Q4. What is your age?

_____

Q5. Which of the following mentioned domains do you consider as an important component of the AI which can be used by companies in telecom industry to improve customer retention?

1. Product Quality
    a. Not important at all
    b. Of little importance
    c. Of average importance
    d. Very important
    e. Absolutely Essential
2. Effortless experience
    a. Not important at all
    b. Of little importance
    c. Of average importance
    d. Very important
    e. Absolutely Essential
3. Feeling valued
    a. Not important at all
    b. Of little importance
    c. Of average importance
    d. Very important
    e. Absolutely Essential
4. Personal interaction
    a. Not important at all
    b. Of little importance
    c. Of average importance
    d. Very important
    e. Essential

Q6. What are the important components of product quality, if you consider it as an important part of implementing AI in the system?

1. Availability of products
    a. Often
    b. Sometimes
    c. Seldom
    d. Never
2. Replenishment of finished products

   a. Often
   b. Sometimes
   c. Seldom
   d. Never
3. Maintenance of the quality products over time
   a. Often
   b. Sometimes
   c. Seldom
   d. Never
4. Speed of the product/service ordered/asked using
   a. Often
   b. Sometimes
   c. Seldom
   d. Never

Q7. What components of self service should be integrated into an AI system to make customer's experience effortless?

1. Fully static system without human interaction
2. Partial static system with some human interaction

Q8. What can be done to make a customer feeling valued for each interaction using AI in telecom sector?

1. Predicting customer needs using AI for personalized service with human interaction for selected queries
2. Include human interaction for all queries

Q9. What are the methods currently being used by your telecom partner to optimize the services provided by the company?

1. Predictive maintenance
2. Network optimization
3. Virtual assistants and chatbots
4. Fraud detection and prevention
5. Robotic process automation

Q10. What is the quality of methods being used by your telecom partner?

1. Predictive maintenance
    a. Very good
    b. Good
    c. Acceptable
    d. Poor
    e. Very poor
2. Network optimization
    a. Very good
    b. Good
    c. Acceptable
    d. Poor
    e. Very poor

3. Virtual assistants and chatbots
    a. Very good
    b. Good
    c. Acceptable
    d. Poor
    e. Very poor
4. Fraud detection and prevention
    a. Very good
    b. Good
    c. Acceptable
    d. Poor
    e. Very poor
5. Robotic process automation
    a. Very good
    b. Good
    c. Acceptable
    d. Poor
    e. Very poor

Q11. What are the challenges faced by the company in applying AI in their system to identify the customer needs and satisfy their needs?

1. Unstructured data
    - **a.** Fragmented data
    - **b.** Unstructured data
    - **c.** Incomplete data
2. Need for technical expertise
3. Technical integration

Q12. How a company can solve their problems occurring during the implementation of AI in their customer experience?

1. Building a new IT system from scratch with new standards
2. Maintaining a standard of data collection
3. Stratifying data as per the requirements time to time
4. Labelling the data which can be used when required
5. Using data lakes to store large amounts of data
6. Overhaul the process if problem identified
7. Identification of local talent and building their capacities
8. Identification of a right partner
9. Audit of the system by a technology partner to validate ideas