Corporate Social Responsibility and Customer Satisfaction: Role of Artificial Intelligence

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Abstract

Every corporation for maintaining long- term customer relationships in terms of customer retention and loyalty, certainly considers customer satisfaction as one of its major objective as it not results into retaining the customers who generate the revenues but also supports the business firms to relieve their social obligations towards the customer segment of the society. To remain economically and socially viable, every firm is looking forward to incorporate the customer satisfaction in its Corporate Social Responsibility (CSR) agenda so as to achieve the objective of enhanced customer satisfaction. The rapid advancement in Artificial Intelligence (AI) has opened the new ways to perform CSR in times of competitive environment to bring increased customer satisfaction for several firms. Many companies are using AI strategically to enhance CSR efficiency to widen the scope for improved customer satisfaction. But the question arises here how companies can make use of AI techniques for increasing the customer satisfaction through CSR in this competitive environment? The objective of the present research paper is to address this question by proposing that applicability of AI techniques such as machine learning, neural networks, predictive analysis ,visual searching ,chatbots ,sentiment analysis etc., will help the corporations to deliver the abundant benefits to customers and target increased customer satisfaction. This research throws light on that how AI driven CSR will result into augmented customer satisfaction in this competitive environment. This study is carried out by with the help of secondary sources like conceptual and empirical papers, books and websites to explore the concept.

Keywords: Corporate Social Responsibility, Customer Satisfaction, Artificial Intelligence.

1. INTRODUCTION

Every corporation or business takes inputs from the society for performing its various functions so it has its responsibility towards society such as shareholders, consumers, employees, suppliers and other stakeholders [1]. Among the different stakeholders addressed by CSR, customer segment is considered to be the major contributor towards corporate performance due to its huge economic impact and as a result their satisfaction becomes the top most priority for every corporation. Consequently, corporations are required to focus on those CSR activities which bring customer satisfaction [2].

In this context, companies need to integrate CSR activities with their core business strategy and consider stakeholder focus initiatives as these can result into enhanced customer satisfaction which can increase corporate reputation. Therefore ,it is concluded that CSR strengthens the customer satisfaction and corporate reputation relationship [3].

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Many studies have examined the CSR from customer satisfaction viewpoint directly and many indirectly. Some studies have shown the mediating effect of customer satisfaction on CSR efforts and financial performance [4,5] while few studies have directly speak of the significant and positive relationship between CSR and customer satisfaction [6]. Global, economic and technological change in business environment in past decade, has necessitated the management to pay attention to corporate philosophy that is obsessed with customer value. In this direction, customer centric philosophy must consider the combination of strategic differentiation and technology adoption [7].

Emerging technologies such as Artificial Intelligence ,robotics and cloud computing are assisting companies in order to attain the goal of maximizing profits and minimizing risks by responding quickly in the direction of interacting   with customers without any limits, distribution channels, delivery hours and many more[8].

Therefore , this becomes very important to study the role of AI in achieving enhanced customer satisfaction through CSR activities or how AI driven CSR would achieve enhanced customer satisfaction.

The present research focuses on that how corporations perform social responsibility to achieve enhanced consumer satisfaction with the help of artificial intelligence.

2.   CONCEPTUAL BACKGROUND

2.1. Corporate Social Responsibility

Corporate Social Responsibility is an elusive concept. Towards this concept, one of the earliest definition comes from Bowen (1953) in which he stated that CSR means obligations of businessmen for taking actions ,making decisions and framing policies in such a manner that objectives are achieved and values of our society is given due consideration[9].

Several researchers and authors contributed towards CSR concept and there is no consensus on clear definition of CSR. It represents the actions of the firm that come under the umbrella of social good , beyond its own interest and also beyond what the law recommends [10]. CSR go beyond economic and legal responsibilities,it also includes ethical and discretionary responsibilities. This four part framework lists the various categories of responsibilities, which a society expects from the business and it also assists the management to pay attention not only to economic and legal concerns but also to ethical and discretionary concerns[11].

CSR investment always brings returns to the company as it has the potential to drive company favouring outcomes on the part of stakeholders [12]. Companies can increase competitiveness and gain competitive advantage if they adopt CSR strategically. Adopting CSR as strategic approach,companies can devote the funds allocated to CSR activities and by doing so, favourable outcomes are expected from the stakeholders[13]. Various authors and researchers worked in the direction of proving the relationship between CSR-CFP and many of them revealed that CSR implementation results in improved corporate financial position (CFP) [14,15]. Many authors concluded with their studies that customer related CSR is revealing significant impact on the financial performance as satisfied customers will ultimately result into better or increased financial performance of corporations [16,17]. CSR is recognized as one of the most important competitive strategy for the sustainable development of the company and it (CSR) cannot be denied in this artificial intelligence era. It is expected that companies need to rethink in terms of transition of its approach from 'product orientation ' to 'customer orientation' to finally 'value orientation'. It is necessary to understand that CSR is the key to respond completely and abundantly towards societal concerns and needs for the sustainable development achievement. Corporations along with performing the legal responsibilities , get

indulge in the activities for the upliftment of the society and also consider the due care for the future generation[1].

2.2. Corporate Social Responsibility and Customer Satisfaction

Corporations undertake social responsibility initiatives also due to increasing pressure of various stakeholders. Among these stakeholder groups, Customers appear to be particularly susceptible by the corporate responsibility initiatives . Therefore, customers represent the important part of this stakeholder group [10]. CSR programs, planned at most basic level, are found effective to make the customers ready for purchasing the products of company [18,19]. In reality, it is consumer's perception related to ethical behaviour, which, when surpass their expectations, positively drives the consumer purchase behavior[20]. The success of corporations such as Ben and Jerry's favours the advent of CSR as a new model for undertaking business [21,22].

Gustafsson et al.[23] define satisfaction as a customer's overall evaluation of the purchase and consumption experience with a product or service. Customer satisfaction is the result of the company's performance which has a positive effect on the profitability of the company and also results into increasing market share of the company [24].

This positive link between CSR and customer satisfaction has pushed many corporations to devote their resources towards CSR initiatives. Corporation's efforts and actions for improving customer satisfaction contribute towards its financial performance by yielding higher levels of loyalty. Economic relationship between companies and customer is one of the main motive behind adopting CSR practices [1]. It is also concluded that service firms can achieve the higher level of customer satisfaction by engaging themselves in socially responsible acts as this will result into increasing customer's psychological attachment to the firm [25].

Chernav & Blair [26], proposed a study which states that socially responsible behaviour of the company can lead to change in the perceptions of the consumers about company's products performance. Consumers consider the product quality better if these are produced or served by socially responsible companies. This effect is correlated with consumer's expertise such that the consumers who are not much familiar with the particular product category, their perceived performance is more likely to influence by CSR. As corporations responsibilities can be categorised into economic ,legal, ethical and philanthropic [11] therefore, beyond economic and legal responsibilities, a corporation needs to review or re-plan its ethical and philanthropic responsibilities. By doing so, CSR impact on customer satisfaction can be increased [27].

CSR initiatives by means of increasing customer satisfaction, benefit the companies in maintaining relationships and customer loyalty. It is important to note that even the successful CSR probably will not be able to generate the customer loyalty if the customers are not satisfied or they are dissatisfied. To conclude,CSR initiatives has a positive and direct impact on the overall customer satisfaction.Therefore CSR is considered as relationship marketing tool. This is in line with previous studies which explored CSR as marketing tool[28,29]. In this present competitive environment, corporate reputation is recognised as one of the source which affects customer satisfaction and in this context ,examined that a better CSR image of a corporation results into improving corporate reputation. Thus, CSR behaviour of a an organization is of high importance and it should be directed towards long-term brand reputation establishment [30].

Many companies and their managers frequently face the dilemma while making selection for the suitable CSR program in order to achieve business goals in short term such as creating demand for product and in the long-term, target for positive consumer attitude, improved brand

perception and no doubt moving towards enlarged customer loyalty. So, this provides a platform for artificial intelligence application scope.

2.3. Artificial Intelligence and Customer Satisfaction

Artificial Intelligence (AI) is a powerful technology which started more than 60 years ago, aimed at performing countless tasks that demand human intelligence. Many successful applications of AI has contributed towards its pervasiveness in our everyday life[31].

Artificial Intelligence refers to framework or system in which computers make a use of software and algorithm to perform tasks like humans. In other way Artificial Intelligence can be defined as a system's ability to analyse external data correctly, to learn from such data and then to use those learnings to achieve specific goals and tasks through flexible adaptation [32]. One subset of AI is Machine Learning (ML), where machines perform by learning from the data , study new patterns and finally predicting the accurate outcomes without being explicitly programmed [33].

Kaplan & Haenlein [34] presented the AI classification by analyzing how AI is different from Big Data and Internet of Things(IoT). The study concluded that based upon three competencies -cognitive intelligence,emotional intelligence and social intelligence, AI can be classified into three categories

1. Analytical AI: This category of AI takes its characteristics from the cognitive intelligence. With this, future course of an action is taken with the learning based on previous experience and the cognitive picture of the world can be developed. For example,self-driving cars or image recognition are using cognitive intelligence.

2. Human-Inspired AI: Considering the elements of cognitive along with emotional intelligence, Human-Inspired AI acknowledges human emotions such as happiness, anger and surprise for taking decisions. Online platforms such as Netflix, Pandora ,etc ., make a use of this kind of AI to deliver customized recommendations for movies and music. Several organizations are taking advantage of this version of intelligence to identify unhappy and unsatisfied customers and offering solutions to achive customer satisfaction.

3.Humanised AI: Characteristics of all three competencies(cognitive,emotional and social intelligence) constitute Humanised AI, which is not available yet but progress is on its way for building AI systems that truly understand the world in a fundamental manner.

Considering the characteristics or unique features of services , different intelligences are demanded. From the human intelligence and artificial intelligence literature, four different intelligences are derived on the basis of development stages in AI. These can be categorized as mechanical, analytical, intuitive and empathetic and these four set of intelligences may be ordinal as well as parallel. Some HIs such as intuitive and empathetic are not easily imitated by AI which takes a much time to become effective AI applications and therefore are put under ordinal domain. They may be at parallel level, as once AI has reached at particular stage, other lower AIs can work together to deliver service. For the sake of convenience, intelligences means which considers AI longer to match with greater level of intelligences. Literature on HI defines intelligence which includes the capability to pick up from experience and adjust with the environment[35,36,37,38]. Sternberg [38] states intelligence as the capacity " to achieve one's goals in life,within one's sociocultural context."

Gardner [36] describes intelligence as "a biopsychological potential to process information…to solve problems". Intelligences can be defined as the skills which humans acquire with the passage of time to become accustomed to their environment [39].

The AI literature paid attention towards the development from the machine intelligence to mimic HI which has covered the skills of problem-solving, ability of reasoning and knowledge, interacting , observing and also acting [40].

Carter [41] explored that artificial intelligence is impacting business organizations and information profession rapidly and how latter is responding to fast-paced, ever-changing economic ,technological ,political and cultural environment. For this, e-survey 2018 is conducted in UK ,through primary interviews over telephone along with 16-questions e-survey. This e-survey distributed among information and management leaders and the results made it crystal clear that how artificial intelligence is performing search ,retrieval of data ,information creation and then replacing human tasks rapidly. Interview conversations also support these results which clearly stated that artificial intelligence is going to bring change and innovation in future.

It has been further added that AI system implementation is usefulness only when customers give their accpetance to it. This specifically states that customers essentially shall have confidence towards recommendations generated by AI and their personal data usage. In addition to this , A theory given by Huang & Rust [42]explored set of four intelligences aimed at performing service tasks and also the way forward to make a consensus between human and machines for the execution of those tasks. These four set of intelligences are

- ➢ Mechanical intellogence deals with limited learning as it is related to performance of repeated tasks.
- ➢ Analytical intelligence is data based intelligence, deals with performing those tasks which are although complex but are systematic ,consistent and predictable in nature.
- ➢ Intuitive intelligence is understanding based ,has the ability to think in a creative way and adjust well as per the novel situations..
- ➢ Empathetic intelligence, which is based on experience, relates to the capability to recognize and understand people's emotions and then replying emotionally.

Artificial Intelligence delivers unexpected intelligence to companies through develop information of their customers and in this way , it can contribute towards improving customer interaction with the company[43]. Artificial Intelligence has helped the marketers to know about the consumer decision making journey which starts with knowing the needs and wants of consumers and ends with purchase and post purchase decisions. Advertisers can better serve the consumers with the help of machine learning. Sundar Pichai ,CEO of Google in 2018 presented Google Duplex project which allows the restaurant reservations over phone which proves that AI will take over the traditional advertising to actively respond to consumers[44].

Artificial Intelligence and Big Data nowadays, are contributing in the field of automation of consumer chores (for example in smart homes and self-driving cars) as well as automation of marketing by creating an environment for perceived autonomy in consumer choice. This is going to perform micro targeting which undoubtedly will empower customers through bundle of benefits such as lowering costs, satisfying preferences, security and ease [45].

Ballestar et al. [46] proposed a model for predicting the variations in the behaviour of customers over a period of time and reasons for those variations. In addition to traditional marketing methods adopted by corporations , cashback websites gained much attention. Multilayer perceptron (MLP) artificial neural network (ANN) based model offers the financial rewards to the users or referrers for taking the newer customers to the company cashback platform by means of word-of-mouth strategies in their social network and thus contributing towards more purchases. With the use of artificial intelligence, machine learning and big data techniques, this model maximises the returns on marketing investment.

Marketing activities of every company ,if they make a proper use of digital technology, will be able to convert therir audience into customers. AI can provide valuable contribution in this direction by converting consumers into customers. For this,marketers avail benefit of AI applications such as

➤ Visual searching
➤ Predictive Analysis
➤ Enhanced Personalization
➤ Audience Insight
➤ Customer Service Via Chatbots

In order to gain a competitive advantage , AI applications are increasingly becoming essential in every sphere of business. It is going to transform the marketing world which depends on the technology and also the people who create and operate it[47].

3. APPLICATION OF ARTIFICIAL INTELLIGENCE TOOLS TOWARDS CUSTOMER SATISFACTION

3.1. Sentiment Analysis

Sentiment analysis is also called 'Opinion Mining' , understands as well as processes the text given in the sentence, post, documents ,tweets ,etc. in order to gain insight into what customers are saying. Here, sentiment analysis, decodes the emotions , defines the tone and establishes the attitude or opinion of a person. Sentiment analysis with its diverse applications such as information mining, reaction of a customer towards company's campaign and establishing trends helps the organizations and marketers to analyze customer sentiments for improving the journey of customers. Sentiment analysis can provide lot of information related to brand awareness, brand advocacy, customer expectations and customer satisfaction. It can assist for various services related to collecting customer reviews and feedback in order to understand the customer better. This further results into measure and analyse the level of customer satisfaction[48].

In this technological era, customers are becoming more vocal and expressive for keeping their views or feedback regarding products and services rendered by the companies across the world. Customers are sharing such experiences through social media blogs, review sites ,ratings and many more. For this, management or company representatives need to understand the feedback or reviews shared by customers to increase the customer satisfaction To decrypt this feedback, "Sentiment Analytics" is adopted which is a Natural Language Processing(NLP) method banking on the power of Artificial Intelligence and Machine Learning. 'Sentiment Analysis' is utilised to extract meaningful insights into customer feelings and intents. This technique helps in investigates the tone of a piece of writing to be positive ,negative or neutral to know or understand the attitudes and opinions behind the words. Thus, Artificial Intelligence and Machine Learning assisting the companies with the means of knowing customer reviews and making changes according to the expectations of the customers which ultimately brings customer satisfaction[49,50].

3.2. Chatbots

AI assists marketing efforts through e-service agents to solve customer problems, to meet customer expectations and thereby satisfying the customers. A study by Chung et al. [51] revealed that AI enabled chatbot ,an e-service agent , help the luxury brands to create the positive customer relationships rather than face-to-face interactions. Chatbot brings customer satisafaction for various fashion brands by means of active interaction with them , responds timely for their queries, provide information to reduce the uncertainity. This study is carried out by testing a five dimension model which gauge chatbot for customer perceptions of interaction,

entertainment, trendiness, customization, and problem-solving. It has been concluded that e-service agents, in order to achieve the customer satisfaction agenda, necessitate the perception of receiving quality communication by customers.

Chatbots result into user's satisfaction if user's are availing benefits such as timely and reliable information, prompt result and customized treatment. Users derive more satisfaction if they find that chatbots usage is enjoyable and useful [52]. A study proposed by Sanny, et al.[53] with a sample of 119 Indonesian customers concludes that four factors such as usefulness, brand image, personality and ease of use satisfy the customers when chatbots are used.

Existence of business depends upon the sevices given to the customers as it continuously increases sales and revenues of the business. In order to deliver high customer service, businesses can now leverage AI chatbots to

➢ Provide consistent and effective customer experience according to needs of the customers
➢ Automate customer service with the help of messaging apps
➢ Enable customers to avail self-help services
➢ Personalize the customer service experience
➢ Respond towards customer questions quickly
➢ Improve business operations
➢ Reduce operating costs

Technological advancements has created a platform for several businesses to delight the customers via technology enabled quality services. This is the reason that many companies are investing a large chunk of their budget for the provision of quality services to customers with the help of AI,for example,Airbnb and Amazon [54].

3.3. Virtual Assistant

Where chatbot is considered a company oriented tool, virtual assistant tools are considered user-oriented tool because these tools help to understand the predictability about the behaviour of the users [55]. An increasing demand for virtual-cum-digital assistants has created the need to constantly innovate because these tools are catching popularity nowadays. Various companies such as Google, Microsoft, Amazon and Samsung are top players of this industry. This tool utilizes Natural Language Processing (NLP) in order to perform tasks for various users by converting it in natural language. Siri, Google Assistant and Cortana are some of the examples of virtual assistants[56]. Virtual Assistants are extensively used by various manufacturing and technology companies to take problems of their individual customers. Even with its some limitations, it is successful in bringing customer satisfaction, increasing customer loyalty and promoting brand [57].

3.4. Facial Recognition

Facial recognition is one of the AI based technology where current technology is working with action units (AUs) and helps is concluding whether the person is happy or not[58]. Facial recognition uses biometrics to recognize human face. With the help of biometrics, it extracts the facial features from any video or image and then it is compared with the data available in database. It helps to identify the personal identity Walmart, one of the retail giant of United States is taking an advantage of facial recognition system in its store checkout process so that dissatisfied customers are identified and also to gauge the various reasons for dissatisfaction among customers [59].

AI can be applied with good or ill intention. Thus, there should be system in place to minimize negative aspects associated with AI without having impact on technological

breakthroughs[60]. Automation and AI nodoubtedly increases production on one hand, results into paying costs in terms of joblessness on the other hand, which is always a matter of worry linked to automation and AI usage. In this context, Govt. Organizations and Govt. should consider the best practices so as to have the safety against the harmful effects of automation [61].

4. CONCEPTUAL GAP

Maximum studies done on CSR and customer satisfaction, either taking customer satisfaction as a mediating variable for exploring CSR relationship with corporate financial performance (CFP),corporate reputation (CR) and market value (MV),customer loyalty (CL) or very few studies are showing the direct and significant association between CSR and customer satisfaction. Most studies concluded have brought out significant importance of CSR such as strategic CSR, CSR and gaining competitive , CSR implementation and increased financial performance, CSR and sustainability and so on.

The current research work focuses on performing CSR with AI applications in order to bring enhanced or increased customer satisfaction. AI technology with its applications makes it easier for the organizations to work completely and abundantly for society particularly customers without restricting to its boundaries.

Lastly, there is no study which establish the role of Artificial Intelligence (AI) in enhancing customer satisfaction through CSR initiatives. In other words, this study contributes, by filling the gap that AI driven CSR i.e. performing CSR with AI technology enhances customer satisfaction. The same is shown in Figure 1.
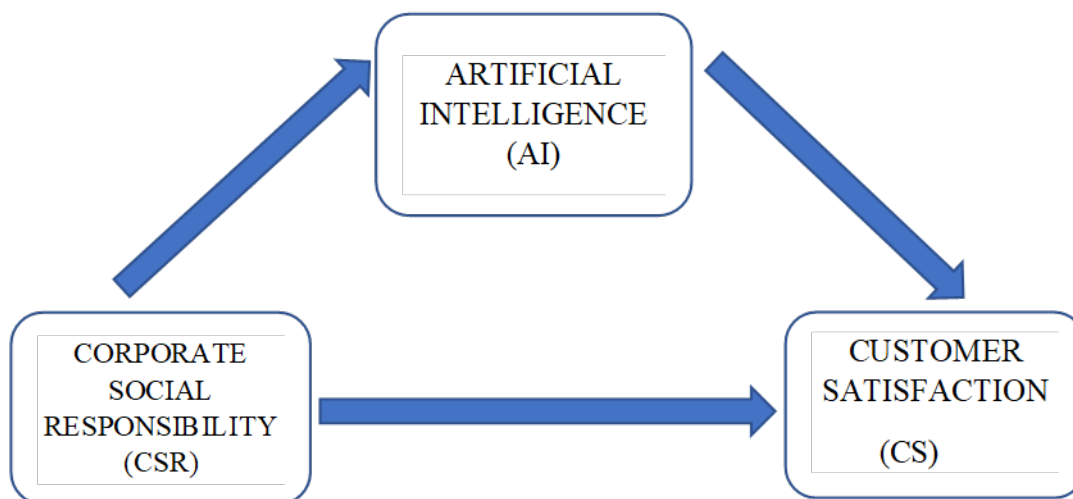

Fig. 1 Proposed Model

5. CONCLUSION

The present research work proposes a model which is depicted in Figure: 1 ,on the basis of the conceptual gap identified ,where artificial intelligence is applied for performing CSR activities and it is concluded that how these AI driven CSR activities provide the benefit of increased customer satisfaction to companies. Customer satisfaction results in maintaining the existing

customer base as well as adds new customers to the business houses. In order to attract and hold the customers ,artificial intelligence models support the marketing activities. In this competitive environment, corporations should appreciate the role of artificial intelligence by aligning it with CSR domain to perform its obligations towards the entire stakeholder group so that customers are satisfied in a great manner. It is also concluded that by making a use of AI advancements in CSR framework , corporations serve the customers in a best way and also receive the advantage of maintaining the social responsible behaviour which fulfils the enhanced customer satisfaction goal.

6. MANAGERIAL IMPLICATIONS

First, corporations need to develop CSR framework i.e. which CSR initiatives has to be performed and for this ,corporations are required to pay adequate attention to ethical and philanthropic responsibilities along with economic and legal, as this amounts to increased customer satisfaction[27]. It is also recommended that CSR activities when result into enhanced customer satisfaction would be a great advantage for corporations in terms of relationship marketing tool, customer loyalty and also financial performance [16,29].

A more contribution of this research is that managers and executives can make best use of the technology advancement in AI field in order to respond to the new challenges in the journey of customer satisfaction ,i.e. this study discussed the role of AI in CSR and customer satisfaction relationship. As has been pointed out that this study provides a new insight into AI driven CSR, where the use of AI applications is fitted into the framework of CSR for the accomplishment of improved customer satisfaction (Kietzmann et al.,2018 ; Agarwal, 2019) Companies need to remain "critical stakeholder focused" for making choice of CSR policies and it look forward to its embeddedness in corporate strategy [3].

Last but not the least, this study also creates an awareness among managerial staff to deal with challenges associated with the AI related to future of work or threat of joblessness. So it has to dealt in an intelligence manner [61].

7. LIMITATIONS AND FUTURE RESEARCH

There are some limitations of this work which gives us the direction for the future research. First ,here we present a conceptual framework without the support of data. Future work can be done in the direction of empirical testing of the proposed model. Secondly, the study is having its limitation because of capturing the effect of AI driven CSR on customer satisfaction i.e. only one stakeholder is targeted from the entire stakeholder group. We suggest that the other stakeholders such as employees, suppliers, community can be included for future work.

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