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Research Article

Leveraging AI to Optimize Customer Experience

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ABSTRACT

Introduction: To act towards the sole objective of attracting customers, a firm must enhance customer service, customer immersive experience, and personalization. In the era of AI and algorithms, customer relationship and communication management have become increasingly interesting and important.

Objectives: The present study aims to explore the impact of AI integration on customer experience. Artificial intelligence's impact on enhancing customer service is brought about by the use of chatbots and virtual agents, creating immersive experiences with the help of AR and VR, and improving personalization with AI and machine learning algorithms. To optimize customer experience, the study broadly focuses on three areas of customer service improvement: customer immersive experience and personalization enhancement.

Methods: The methodology used is conducting semi-structured interviews of people from academia and industry, and also viewing relevant literature in the area of AI-driven customer experience, customer service enhancement, and immersive experience.

Results: As the study also considered several case examples both from global as well as Indian perspectives and brought out the challenges and benefits of using different tools of AI to enhance customer experience, the conclusion drawn from this study is that utilization of AI in the field of marketing is impacting the customer experience but at the same time organizations should strike a balance between the use of technology and maintaining the human contact with the customers.

Conclusions: The study provided insights for future researchers and companies to understand the pros and cons of AI applications in enhancing customer experience.

Keywords: Artificial Intelligence, Customer Experience, Personalization Enhancement, Virtual Reality, Chatbots

INTRODUCTION

As per (Peter Drucker, 1993), the sole purpose of business is to attract customers by providing them with a great customer experience. To act towards this strategic axiom, customer service enhancement, customer immersive experience enhancement, and personalization enhancement are the keys. In the era of AI and algorithms, customer relationship and communication management have become increasingly interesting and important. In the age of millennials and Gen Z, digital technology has provided abundant choices to customers, with different levels of customer experience (Madara, S.R, et al., 2018). Due to the high dependency on customers' digital preferences, marketers face a challenging situation in balancing the niche and convenience for the customers. Mobile applications, chatbots, and virtual platforms are major game changers in the field of enhanced customer experience (Kaur, M.J. and Maheshwari, P. 2016). The AI revolution in Industry 4.0 has made the customer experience fast, smooth, and customer-driven (BI Intelligence 2017). The involvement of AI is expected to enhance customer experience by facilitating customer service enhancement and immersive experience (Kumar, V. et al., 2016). The

application of AI and algorithms has resulted in higher expectations of customers, and because of this, customer relationship management and customer experience have become key to successful customer engagement. Finally, the concepts of CRM 1.0, CRM 2.0, and CRM 3.0 have drawn the attention of researchers (Shrish, H. L and Feaster, M. 2017). Moreover, AI integration has made the customer experience more hassle-free (Van, D. et al., 2017). However, the application of AI and algorithms has made markets very competitive and demanding. Customer perception and experience now propel complete customer engagement in the present AI-driven marketing scenario (Chase, R. and Dasu, S. 2013). But, despite all efforts, integration of AI into customer experience backfires and results in poor reviews, feedback, and ratings (Gregory, J. 2015). In the present study, the researchers have compiled relevant Indian and global examples of corporations that resonate with the success and failure stories in Indian and Global perspectives on the three important fronts of customer experience: customer service enhancement, customer immersive experience, and personalization enhancement by leveraging AI. These case studies are carefully compiled to complement the detailed study of the existing literature.

OBJECTIVES

The present study aims to explore the impact of AI integration on customer experience. The impact of artificial intelligence on enhancing customer service is brought about by the use of chatbots and virtual agents, creating immersive experiences with the help of AR and VR, and also improving personalization with AI and machine learning algorithms. To optimize customer experience, the study broadly focuses on three areas of customer service improvement, customer immersive experience, and personalization enhancement.

LITERATURE REVIEW

This segment of the chapter covers the existing studies in the area of AI-driven customer experience, customer service enhancement, and immersive experience. Many studies in the area of consumer experience have extended the impact to customer loyalty, delight, empathy, and personalization (KPMG 2019). Studies have also explored that with the greater intervention of AI, highly automated, highly personalized, and uninterrupted services are expected by customers (Brynjolfsson, E., and McAfee, A. 2017). Studies have shown that by involving AI, the steps of service delivery can be reduced, and the efficiency can be increased, which creates better opportunities for time utilization while service delivery and spares more time for new customer acquisition. Some studies have proved that AI integration also improves service agility.

METHODOLOGY

The present study carefully examines and analyses the existing literature by using the secondary data available. The systematic review of existing literature follows the experiential approach by including relevant industry examples in the areas of customer service enhancement, customer immersive experience, and personalization enhancement. The findings of this qualitative study can further be extended through the empirical study around the considered variables for customer experience in an AI leveraged environment.

DISCUSSION

Though the review literature has presented the positive impact of AI integration on customer experience, it brings some unavoidable challenges. Cost efficiency, user-friendliness, and adaptability are some major challenges faced by marketers. Some case studies are carefully mentioned in the discussion section to reflect the positive as well as negative impacts of AI integration with customer service approaches. Some users get confused and misunderstand the steps and guidelines provided by AI-enabled tools like chatbots and mobile assistance. Personalization of the IVR and chatbots is also expected to improve customer experience quality. AT times, repetitive information provided by AI-enabled tools bothers the customer and creates a negative customer service experience.

4.1 AI APPLICATIONS IN CUSTOMER EXPERIENCE

The studies conducted by researchers and interviews with practitioners have revealed that there is a major impact of AI intervention in Industry 4.0. The impact of artificial intelligence on enhancing customer service through chatbots and virtual agents, creating immersive experiences with the help of AR and VR, and improving personalization with AI algorithms with the help of current applications is divided into three broad categories, which reflect the overall impact of AI applications on customer experience. These categories are divided into three broad subheads as below:

4.1.1. CUSTOMER SERVICE ENHANCEMENT: CHATBOTS AND VIRTUAL AGENTS

It is observed that AI tools like chatbots, virtual agents, and IVRs have optimized an organization's capacities towards customer service in a big way. It has not only driven self-sufficiency and self-reliance but also resulted in service efficiency in many organizations. Significant cost reduction by adopting digital services, digital offices, online deliveries, and reliance on cloud-based services has reduced the cost of organizations in a big way. Chatbots and virtual agents are AI-powered tools that interact with customers to provide support and information in real time and help to enhance customer service. ChatGPT's generative AI capability is being used by several companies, particularly in customer service applications. Boston Consulting Group estimates that fully implemented large language models (LLMs) powered customer service solutions boost the efficiency of the organization by almost 30 to 50%. Generative AI-assisted customer service is being used by several organizations such as JetBlue Airlines, Delta Airlines, H&M Swedish fashion retailer, Wealth Simple, a Canadian fintech company, and Smile Direct Club, an oral care innovator, to name a few. In the Indian context, several companies started using AI-powered chatbots such as Myntra, Kotak Life Insurance, Max Life Insurance, Mahindra Tractors, LIC, and many more.

Virtual agents use AI to enhance a conversation and make it more natural. A high-quality virtual agent provides customers with a seamless experience. Virtual agents use Natural Language Processing (NLP) and Natural Language Understanding (NLU) to find out users' intentions and communication patterns, and they can engage, adapt, and process human dialogue.

BENEFITS OF USING CHATBOTS AND VIRTUAL AGENTS

The foremost benefit of using chatbots and virtual agents is that they offer round-the-clock, 24/7 support and ensure customer help regardless of business hours. This feature becomes more important when the business has global operations, and its customers are present in different time zones. There is a significant reduction in wait time for customers, thus enhancing the customer satisfaction, multiple queries can be handled simultaneously so there is the reduction in operational cost, several routine tasks are automated and involvement of human element is reduced and the human resource can focus on more complex and technical issues thus leading to efficient and effective resource utilisation. The AI-driven chatbots and virtual agents reduce the risk of human error and deliver accurate and consistent information, thereby increasing the reliability of customer support and helping to build trust in the brand.

CHALLENGES OF USING CHATBOTS AND VIRTUAL AGENTS

Nonetheless, there are certain implementational challenges also, as seamless integration of chatbots and virtual agents with the existing systems of customer service can be challenging for organisations, requiring careful planning and meticulous execution.

Despite all the efficiency that these chatbots and virtual agents may offer, organisations still need to provide a balance between automation and maintaining a human touch with the customers.

4.1.2. CUSTOMER IMMERSIVE EXPERIENCE: AR AND VR

Augmented Reality (AR) is a new technology that, along with Virtual Reality (VR), is changing the way the world is, in various areas like learning, entertainment, product presentation, and Customer engagement. AR and VR fall under the umbrella of Extended Reality (XR).

Augmented reality overlays information in digital formats such as videos, images, and text on to the real world. It enhances the user's ability to perceive their environment. AR provides an immersive experience, allowing the customers to bring the products into their world and experience them through sight, touch, sound, and even smell.

Whereas virtual reality engages the users in a completely virtual environment, and it uses a headset or some other device to create an interactive and immersive experience for the user. Virtual reality can be visual or multisensory, depending upon the medium that one uses for marketing. a VR headset offers an immersive experience while an Instagram filter only overlays objects on the screen of the device.

BENEFITS OF USING AR AND VR

AR and VR provide an interactive and engaging experience for the customers by capturing their attention and keeping them involved in the brand, thereby engaging them with the products in a meaningful way.

AR and VR also enable the customer to make informed purchasing decisions, and this technology is also helpful in customisation of the customer experience based on the customer's preferences and requirements. AR and VR also

help in the creation of memorable brand experiences and leaving a lasting impact on customers and thereby helping in generating brand recall and customer loyalty.

CHALLENGES OF USING AR AND VR

The major implementational challenge of AR and VR is the cost of development and technological expertise because ensuring a seamless customer experience requires the installation of advanced technological devices and robust backend software. Adoption of AR and VR depends upon users' comfort with the technology, and therefore, business needs to spend on educating and encouraging customers to use these technologies.

3. PERSONALIZATION ENHANCEMENT: AI AND ALGORITHMS

The use of AI and machine learning algorithms analyzes the customer's data and delivers personalized experiences and recommendations to the customers.

Artificial intelligence and machine learning algorithms revolutionize personalization, keeping track of individual customers' preferences, purchase patterns, and behaviours. AI and algorithms analyse large volumes of customer data to predict and understand customers' requirements and provide highly personalized experiences.

BENEFITS OF USING AI AND MACHINE LEARNING ALGORITHMS

To enhance customer satisfaction, personalized experiences are very important for customers as they make customers feel important, and such customers develop a high level of loyalty towards the brand. Personalized recommendations also catch the customer's interest and keep them engaged with the brand in a more meaningful way, which ensures higher conversion rates as such customers are more likely to purchase, resulting in increased revenue and long-term loyalty of customer loyalty.

CHALLENGES OF USING AI AND MACHINE LEARNING ALGORITHMS

The major challenge in providing personalization is data privacy and data security. To provide personalization, the organisation needs to collect and analyse customer data, and therefore, the business must comply with the regulations of the land for data protection and ensure the data privacy of the customers. The effectiveness also depends upon the accuracy of the AI algorithm; therefore, continuous optimisation is needed to ensure that algorithms serve the purpose with accurate recommendations. Integrating the AI-driven systems with the existing infrastructure of the company can be challenging and expensive for the organization.

CASE STUDIES

GLOBAL EXAMPLES

'Ask Delta', a generative AI chatbot, is used by Delta Airlines, which helps customers with tasks related to flight booking, flight cancellations, ticket prices, check-in, baggage tracking, promotional offers, and searching the flights. With the use of this chatbot, the call centre service volume has been reduced by 20%, and it also provides quick and efficient service to the passengers.

With the implementation of generative AI at Heathrow Airport, there is a 70% reduction in response time compared to the response time of the human agents, thereby enhancing operational productivity and improving the overall customer experience. Heathrow Airport uses AI to handle customer service inquiries and summarize cases automatically.

Bank of America's virtual agent, Erica, offers personalized financial insights and transaction support to users and ensures secure and 24/7 financial assistance, boosting customer trust and engagement with the bank.

E-commerce giants like Amazon use virtual agents globally for order tracking and account assistance tasks; they ensure instant, accurate responses, enhancing the customer experience significantly.

Adidas uses a virtual agent 'trying on shoes', Adidas released the app during the pandemic, allowing the customers to virtually try on their shoes, to see and appreciate the look, and view them while walking or running. To use this feature, the customer had to point the smartphone towards the feet and view through the screen to see any shoes they wish to try on.

IKEA, the Swedish firm, uses AR 'try on feature' to permit customers to visualize the look of the furniture in their homes before making a final purchase. this immersive experience reduces the returns and enhances the shopping experience for the customers.

GSK uses a virtual reality simulator called the 'Exedrin' to recreate the suffering of a person having a migraine. Experience includes visual symptoms that come with migraine, such as light sensitivity. The company uses VR to educate its audience about migraine and also tries to induce empathy in society for individuals who suffer from this medical condition.

Adidas uses VR to give its audience the experience of climbing a mountain to promote Terrex, the brand's outdoor gear line. It utilizes VR to simulate one of the toughest climbs on the Delicatessen route in Punta du Corbi, Corsica.

Globally, Amazon uses its Recommendation Systems by leveraging AI and machine learning algorithms to provide personalized product recommendations to its worldwide customers. Amazon's recommendation system analyses user behaviour, purchase history, and browsing patterns and then suggests products that are most likely to interest and attract these customers.

PayPal's advanced offer platform uses AI to provide its customers with personalized recommendations that are based on user behaviour. This helps the customers to find relevant offers and enhance their shopping experience.

INDIAN EXAMPLES

Myntra, an Indian fashion E-Commerce platform, uses a chatbot named 'Maya' to provide a better shopping experience to customers. It is a conversational AI-powered chatbot that makes customers' shopping experience more seamless and customized. The chatbot is available on the Myntra app and assists users in navigating through Myntra's wide assortment of styles It also answers specific and relatively intricate queries of the customers.

Kotak Mahindra Life Insurance Company or Kotak Life uses a chatbot named 'Kaya' to provide customer support, Kaya is available 24/7 to provide solutions to the customers and it helps with policy information, premium payments, policy renewals, policy statements, and bonus and fund values. It reduces waiting time and the need for human intervention to answer routine queries of the customers.

Air India's virtual agent 'Maharaja' answers queries from the flyers in four different languages Hindi, English, French, and German it can manage over 6000 queries in a day.

Borosil, India has implemented an intelligent virtual assistant that assists its visitors to get what they are looking for in minimum steps and reduces the hassle of going through several web pages while buying cookware and serve ware. The assistant also helps in warranty registrations and provides after-sales support.

Lenskart, an Indian eyewear retailer uses AR to enhance the customer experience. Its AR 'try on feature' permits customers to virtually try on the glasses using their smartphones or computers. With the immersive experience, customers can visualize different frames and the looks on their faces making the online shopping experience more interactive and hassle-free thus, reducing the possibility of returns too.

South Indian Bank uses AR 'Mirror' with a very simple but very useful feature, an ATM and branch finder. It shows a list view with locations and distances and tapping the AR button switches to a camera overlay showing exactly the position and direction of the ATM or branch.

Asian paints use virtual reality 'the color visualizer' app. The customers can choose the best color combination for their walls and the customer can try out different combinations to decide which one looks the best then they can purchase the same color in any store using the color codes.

Lakme the Indian makeup company released the virtual try-on feature for their customers. The virtual app helps the customer to try out different makeup and hair colors virtually without the hassle of visiting a store or sharing the testing makeup with other customers.

Flipkart uses AI and machine learning algorithms to provide personalized recommendations to its customers. Flipkart uses analysis of user behaviour, purchase history, and browsing patterns to recommend products that are most likely to enhance the shopping experience and enhance sales.

Zomato India's leading food delivery app uses personalization to enhance user experience. The platform provides personalized food recommendations based on the purchasing and browsing history of the customers, it also sends push notifications with a personalized communication strategy.

ETHICAL CONSIDERATIONS

AI has the potential to enhance customer service by creating immersive experience and personalization, but any organisation must ensure ethical practices while using AI. The most important is protecting the customer data and ensuring data privacy and security and compliance with regulations related with data protection. Ensuring fair and unbiased customer experiences by addressing bias if any in the AI algorithms and ensuring transparency and maintaining trust through fair AI practices.

FUTURE TRENDS

The future trends indicate that advancements in AI and NLP will enhance the capabilities of both chatbots and virtual agents to understand and respond more efficiently even to complex queries of the customers. Customer service enhancement would have new opportunities by the development of voice activated virtual assistant and proactive chatbots which would be able to anticipate customer need. Further research and development in the AR and VR technology would provide realistic and immersive experiences with improved hardware. Combination of AR, VR and AI would enable more realistic personalized, and intelligent experiences for the customers, and the innovative solutions would be applied to more areas such as education, real estate, healthcare, tourism, and travel. Entertainment and much more.

Further research and development in AI and machine learning would provide more accurate personalization algorithms, which would provide deeper insights into customer behaviour and buying patterns. The future personalization may involve real-time interactions, and AI may enable Omnichannel personalization. Across multiple channels, customers would get seamless experiences.

The future research should also focus on the role of AI in promoting sustainability and reducing environmental impact.

CONCLUSION

Considering the above discussions, study of existing literature and cases, we can conclude that in today's competitive world, providing the customers with an exceptional experience is becoming difficult day by day for the business, and in such a scenario, AI has emerged as a powerful tool, and AI can be effectively utilised to optimise customer experiences.

Businesses can easily enhance customer satisfaction, reduce operational cost, and stay competitive in a digitally driven world by using AI, as it helps in transforming customer service by providing real-time, personalized, and efficient support. The business must address crucial implementation challenges related to data privacy, transparency, and AI bias.

The organisations must strive to strike a perfect balance between human interactions and AI to deliver the most memorable customer experiences.

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