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Enhancing Customer Experience with AI Powered Analytics

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Abstract:

The paper deals with AI-powered analytic tools to enhance the customer experience, especially for service provider companies and digital companies who aim to enhance customer experiences through improved services and to build customer relationships in the long run. The paper also highlights the potential challenges and problems with human interaction with AI-powered analytics tools and aims to mitigate the potential challenges through personalized recommendations that help to promote customer satisfaction. The case also reinforces practical implications with organizations that monitor the impact of AI tools that aim to secure the data and personal information of customers while extracting through data analysis in the surveillance society.

Keywords - AI-Powered Analytics, Customer Experiences, Customer Expectation, Data Analysis, Technology, Monitoring Tools.

1 Introduction

In the recent past, there has been a significant upsurge in interest concerning the phenomenal revolutionary opportunity of artificial intelligence in social internet marketing [1]. This significance of AI-based chatbots has come to the foreground in the last several years when many B2B firms have embraced this technology to offer human-like service interaction across the customers' touchpoints. This technology's objective is among other things to offer more pass-through and lively channel Customer Experience (CX) 24/7 [2].

Consequently, several industries, that adopted the use of artificial intelligence, have been unfolded in various ways and digital marketing is undoubtedly one of the most impacted areas [3]. Thus, the applications of Artificial intelligence in digital marketing have brought new paradigms regarding what constitutes a strategy, how to implement it, and competent performance. Owing to AI and its features, the personalization of the offers and the advertisements became possible to increase the focal aspect concerning the data. Thus, the aim of the study. Therefore, to critically discuss how AI-powered analytics can augment Customer Experience (CX) in various business contexts.

2 Literature Review

Research on AI-Powered Analytics has incorporated AI technologies including machine learning such as processing the natural language (PNL) and the vision of computers being integrated into social earning platforms such as e-commerce that create more efficient, personalized, and enhance the shopping experience of customers and service provider companies integrated to making the decisions through data analysis [4]. Advanced technologies like internet-of-things (IoT), augmentative reality (AR), virtual reality (VR), mixed reality (MR), intelligent personal and virtual assistants, chatbots, and robots that are often AI-based are quickly and fundamentally disrupting the customer experience.

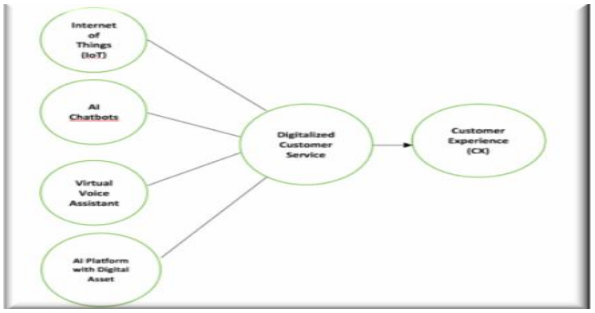

Fig 1. CX through AI-powered and loT
Source: Khan and Iqbal, (2020) [5]

The above figure shows that the AI approach of data-driven helps the marketers to assess the customer needs and this aims to deliver the effectiveness of expected services from the targeted audience by integrating the AI can help to enhance the customer experience [5].

However, according to various researches, it was revealed that most of the customers prefer the employee base services in comparison to chatbots and the customer experience has been noticed more in cases when the employees are dealing with customers [6].

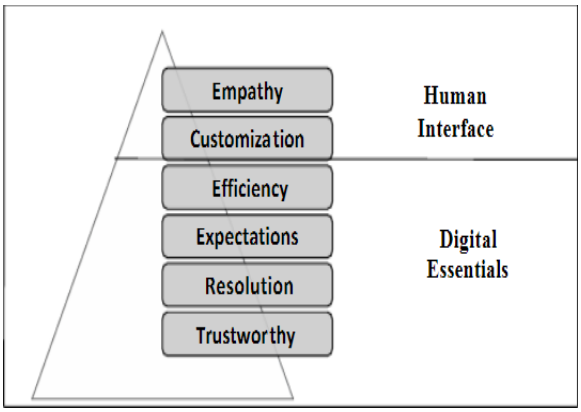

Fig 2. Digital Pyramid of CX
Source: Khan and Iqbal, (2020) [5]

The above figure shows that the essential of digital that AI includes with the fundamental advantages to meet customer expectations is the resolution and trustworthiness improves the level of efficiency [5]. On the other hand, studies have reported that AI-powered technologies can help digital retailers analyze and incorporate the needs of customers and tailor the offering with the recommendation of products, price comparison, and personalized messages of marketing.

In addition, the research studies have incorporated AI as a transformative tool that is capable of revolutionizing the experience of customers through its machine learning tools [7]. Additionally, it has for instance for quite some time now been considered as an essential element of the marketing communications mix. Thus, this transition from rules-based to data-based personalization has unlocked a whole lot more possibilities that can be effectively harnessed in terms of filtering the recommendations for advertising and communication initiatives.

Despite implementing the AI-powered analytical tools that are embraced by various companies, certain companies still face the challenges of meeting the expectations of customers in the changing market environment. Such as many complaints being lounged by frustrated customers that led to poor experiences with customers especially in technology-based delivering services in a surveillance society. This poor experience creates a profound impact on the loyalty of customers and lowers the image of the company [5].
On the other hand, several research studies have found that with the increased usage of complex algorithms, machine learning, and analytics, consumers are given better insights that result in improved experiences and enduring bonds. Visual search allows the consumer to search for products using an image rather than by typing in keywords. This technology applies deep learning to what is being presented in images and tries to find other images that are similar to the searched ones.

3 Monitoring Tools Impacted

To gauge the experience and level of excellence, researchers have incorporated the Theoretical framework of Nun wood's Six Pillar that encompasses the key elements that help to drive the customer experience such as time and effort, integrity, empathy, resolution, personalization, and expectation.

Fig 3. Attributes of Customer Experience to Build Excellence
Source: Khan and Iqbal, (2020) [5]

The above figure shows that companies have incorporated the framework of Nunwood's build upon the six pillars to enhance the customer experience through AI-powered analytics tools in the surveillance society [5].
Considering the attributes, there are certain challenges that have been identified in the implementation of AI tools that are regarded as effective and considered as friendliness for customers with some sort of confusion having little information about these attributes. Since AI is regarded as the main source for the CCM to maintain the expectations of customers it provides various options for responsiveness and mobility that enable communication in a personalized manner.

It lacks interaction with humans and it becomes challenging to assess the preference while interacting with humans with AI-driven tools and services that monitor the 'Virtual Assistance for Voice or the Chatbots'. This lack of monitoring tools can be regarded as the major failure in the AI-powered tool services while intervening with customers. As expectations of customers vary from time to time, failure to encounter them can result in frustration and dissatisfaction when personalized virtual assistance is unable to access or direct personalized solutions to customers.

Hence many customers prefer human interaction as a lack of personalized communication can lower the experience of customers with the company [5]. Despite challenges in monitoring tools that sometimes lead to poor experience, on the other hand, there are many advantages provided by AI-powered tools that companies today incorporate such as innovative design and solutions in minimum time with optimized services is essential in the direction of digital platforms.
Its ability of human interfaces such as empathy and the customization option with the digital essential powered tool that measures the efficiency, resolution, trustworthiness, and expectation can considered outstanding and time-saving for tech-savvy consumers [8]. On the other, the communication journey of customers through virtual assistance for voice and chatbots' monitor tools impact through amason's Alexa, Google Assistant, and Apple's Siri which can easily be accessed via smartphones, smart speakers, and every other communication device and platform [9].

Through communication, this technology can pose a significant impact on the ability to match the services and goods that customers want and make it convenient to make the purchase decision through the data analysis process that has encouraged the technology. Thoroughly, the companies today who have listed their company as a service provider, particularly have incorporated utilise AI-powered analytics tools to detect the customer experience while interacting through web browsing. This helps the companies to improve the insights and the behavior of customers that can measure the impact of AI monitoring tools through data analysis [10].

4 Task

To automate the routine process which requires daily interaction with humans through artificial intelligence dramatically can improve the experience of customers. Therefore, analyzing the task of AI in services-providing companies, where AI-powered Analytics can enhance the customer experience (CX) through scheduling the reservation, to respond to inquiries from the clients, and answering the response of questions prospective clients [10].

In addition, in other sectors, such as the healthcare sector by assessing the insightful feedback. After receiving the feedback, the patient can help them to decide in what manner, the patient wants the best treatment. On the other hand, the businesses who operate on a larger scale have implemented to enhance the support for customers through tailored product recommendations and enhancing the development of products.

The task of AI is effectively performed through technologies that are backed by data analytics, which are applied to businesses based on sustained margin pressures, shorter strategy cycles, and heightened customer expectations. This impacts how firms engage their customers with the possibility of a positive enhancement of the customer-brand relationship [11].

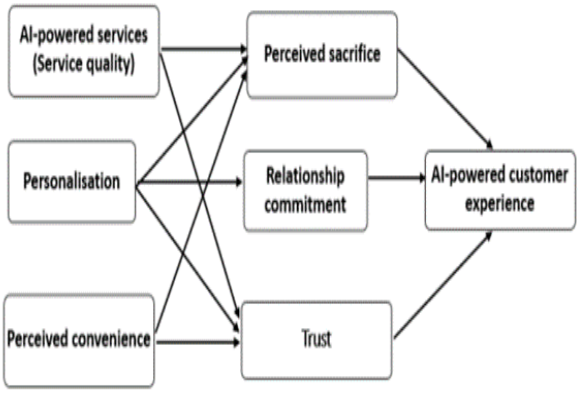

Fig 4. AI-Powered Customer Experience Proposed Model
Source: Trawnih et al., (2022) [12]

The above figure shows that Customer experience through AI is incorporated as an exogenous variable in the proposed model through the Trust-Commitment Theory in the surveillance society. Previous studies in this proposed model have explored that smart technology such as artificial intelligence, smart mobile phones tablets, and wearable-enabled services are different from traditional shopping modes.
Customer experience where AI is involved is hedonic and recognition and this hedonistic dimension includes the entertaining, fun, thrilling, comfort, information, and novelty factors in building relationships [12]. On the other hand, new trends for the development of AI can make it possible to enhance the customers' experience since companies are to

know more about their namesake consumers' propensity to buy and how they shop. It may therefore be strategic for companies to incorporate AI technologies at the various key customer touch point areas with an aim of possible improvement, thus accruing more benefits to the companies and possibly better customer satisfaction [13].

On the other hand, AI enhances the experience of customers through idealized images such as augmented and virtual reality images through matching tools that can enhance and make the emotional bond between the consumer and app creator. On the one hand, formulating a chatbot service that can ease the communication and interaction between the buyer and the seller.

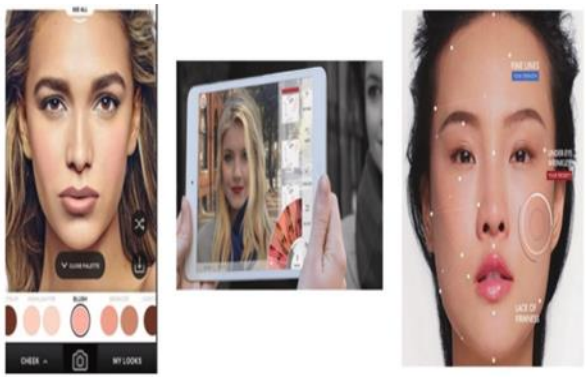

Fig 5. AI-Powered Virtual Artificial Intelligence
Source: Nisreen et al., (2021) [11]

The above figure shows that the apparel for finding the right shade includes shade-matching technology also known as AI-color matching technology assisting the consumers in selecting the best foundation that would suit their skin tone. Among additional features present in virtual artist apps, one of them used by the respondents is a color-matching feature [11]

This estimates the shade in the product displayed by the users' profile picture the case popularizes and offers its AI-based service primarily through the virtual artist app deployed with the help of AI. Target participation interaction and the sufficient amount of activity by customers respectively observed in the virtual artist app platform provided this proposal with better access to the target participants [11].

5 Solution and implementation

Considering the challenges with AI-powered tools to enhance the customer experience through sentimental analysis is the best practice that the company uses to determine the impact of monitoring tools. Sentiment analysis can generally be described as the process involving artificial intelligence, for instance, natural language processing and machine learning to retract emotion from text materials [14].

This technique allows one to assess the kind of attitude that the consumers have towards a particular product or service and the extent of emotional language used in the text whether it is positive, negative, or both [14]. The use of sentiment analysis is done in several ways and is constantly undergoing an evolution in terms of approaches, data, and models. It is amusing to understand that organizations have embarked on categorizing certain opinions such as the service of marketing into different classes [15].

Fig 6. Enhance Customer Experience with AI
Source: Puntoni et al., (2021) [8]

The above figure shows that the data capture experience can provide benefits to consumers because it can make them feel as if they are served by the AI and personal data provision enables consumers to get individualized services, information, and entertainment most of the time for free. For instance, people who sync their data to Google Photos allow Google to collect their memories but they get an intelligent assistant that suggests relevant actions when browsing photos.

Another implication of access to customized services is that consumers can be happy with the result of decisions made by the digital assistants which fit between what is available and what the consumer prefers without the stress involved in decision making and which can be both cognitive and affective [8]. Further, the implementation plan with AI sentimental analysis that is used in the area of customer experience requires several steps of data analysis and data collection process. Firstly, it asserts that "Customer data becomes alive with AI', the machine intelligence

capability makes it a powerful tool to sift through, learn from and interpret big data that otherwise regally defeat human intellect". Secondly, it points out that the customer data may be collected in one of the following three ways [16]

The buying process information of the customer is obtained for first-party data. Second-party data are derived from partner sites, that is, data that are mutually agreed upon by the partners involved in collecting them. Third-party data is also gathered securely by the use of cloud solutions without the identification of users. All these data are being processed "to create new valuable leads, business opportunities, and ultimately lead to building long-term customers [16].

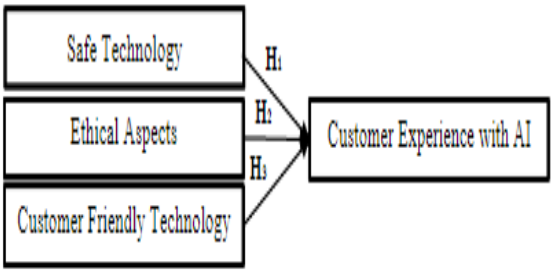

Fig 7. Customer Experience with AI
Tiutiu and Dabija, (2023) [17]

The above figure shows that the experience of customers with AI increased when the implementation plan considered the following aspects such as safe technology, ethical aspects, and customer-friendly technology. These three factors collectively improve the customer experience with AI. Because, when technology is presumed as safer, more and more customer footfall towards these AI would increase [17].

6 Results

Smart implementation of AI-powered tools for human-robot cooperation can enhance the customer experience and cause a shift in the service-based economy. With the help of AI, this change is being driven, encouraging businesses to provide new methods of engaging with their clients. Because customers become more demanding with time, it becomes very difficult for a business to offer better services to them all the time. Henceforth, companies who want to offer a competitive advantage concerning customer service should aim at something beyond just providing content in the right context through the proper channel. Instead, they should be exploring ways of making the entire process of purchasing redundant for the customers and providing satisfactory services. For example, providing scalable and real-time customized information and assistance for each customer increases customer satisfaction.

7 Conclusion

Both consumers and organizations need to have a better understanding of privacy and the current status of the imbalance of power when it comes to personal information. For instance, they should use ethnographic observation or sentiment analysis to engage in large-scale and empathetic passive and active consumer listening in cases where AI has exploited consumers in data capture or is dissatisfied with company tech-based services.

Furthermore, rather than presupposing that these kinds of tools continue the so-called surveillance society, firms are in a position to know when, how, and to what extent their own data collection experiences do or do not extend the so-called surveillance society. Likewise, companies have to rely on what is known by privacy scholars and activist movements to debunk the assumptions they make.

In this regard, for example, it could be established that by companies' procedures, their perception of default privacy settings might be significantly different from the potential customer who is a vulnerable consumer, and the procedures have to be amended.

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