Chapter 5
Beyond Traditional CRM: Enhancing Customer Guest Experience and Operational Efficiency With Deep Learning and Blockchain in the Hotel Industry

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ABSTRACT

Travellers of the current era are more technology savvy and they prefer all the services and information to be available online. Technology is used effectively by tourism industry participants to enhance the customer experience by meeting the needs of the new age travellers and this is one of the significant trends seen worldwide. Technology is used in various ways in online booking, self-service check-ins, contactless payments, mobile boarding, and resolving customer grievances. The industry is one of the most customer centric industry relying heavily on positive customer interactions and Customer Relationship Management (CRM) plays a critical part. With the exponential growth in the amount of customer related data available today as well as the advancements in data analytical methodologies, the importance of CRM has further strengthened.

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INTRODUCTION

Travel and tourism industry is seen as one of the most important sectors for economic growth. Travel and tourism sector contributed to 9.1% to the global GDP in 2023 and created 27 million new jobs in 2023 according to a report by World Travel & Tourism Council. With the growth in the industry reaching closer to the pre-pandemic levels, members of the hospitality sector is looking to embrace newer evolving technologies to enhance customer experience.

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The industry is one of the most customer centric industry relying heavily on positive customer interactions and Customer Relationship Management (CRM) plays a critical part. With the exponential growth in the amount of customer related data available today as well as the advancements in data analytical methodologies, the importance of CRM has further strengthened. The hospitality industry, especially the traditional participants of the industry seem to be slow to embrace the latest data analytical methods and employ them as part of CRM (Aluri et.al., 2019). With the help of AI enabled data analysis tools like machine learning, deep learning and natural language processing, new insights about customer trends and customer preferences can be generated that helps in enhancing customer experiences and improving the operational efficiency of the hotel. Today it is also possible to access real time data and the analysis can be used effectively to improve personalization and customization of offerings and services by improving the capabilities in customer interaction and customer responsiveness (Sota et.al., 2020).

The deep learning models can help the decision makers to predict the types of customers, their length of stay, food preferences, their activities of interests, seasonal trends etc. These models can be then used by the hotel managers to optimise their pricing, raise customer satisfaction levels, and increase overall operational efficiency. Apart from prediction, artificial intelligence-based technologies like image recognition, voice recognition and sensory data analysis can be employed in real time operations to enhance security and improve operational efficiency.

This industry is being restructured with new types of service providers entering the sector using latest technologies and traditional participants are also trying to remodel themselves by integrating technology. One of the disruptive technology is blockchain technology which provides a secure and transparent alternative to collect and store data and information. Blockchain technology can be efficiently utilized to