Acceptability of Artificial Intelligence-Based Customer Service Agents in the Service Industry

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An artificial intelligence-based customer service agent, commonly known as a chatbot, is gaining popularity in the service industry. A global survey of 3,525 respondents published by Statista (2020) revealed that most service organisations use chatbots to facilitate self-service (78%), collect information to solve service cases (77%), and for customer service guidance (71%). Although there is a trend of increased usage of artificial intelligence (AI) as a viable alternative to human-based customer service, its acceptance among customers remains relatively poor. In another report, Statista (2021) revealed that 80 percent of customers still prefer to engage with an actual or human-based customer service agent as opposed to a virtual or artificial intelligent-based customer service agent. A review of the relevant literature shows that limited research has been done to evaluate customer feedback on artificial intelligence-based customer service agents in the airline industry. In the South-East Asian region, AI research is still in its infancy. No study has investigated the sentiment of customer acceptance of artificial intelligence-based applications in the airline industry using data collected from customer feedback on social media, especially in Malaysia. Thus, this study would be among the few that employ sentiment analysis as a novel approach to investigate customers' acceptance of artificial intelligence-based applications as customer service assistants in the airline industry. The study's main objective is to evaluate customer acceptance of artificial intelligence-based applications as customer service agents in the Malaysian airline industry using sentiment analysis. Chatbots are commonly used to automatically respond to users' questions and requests via chat interfaces. It is reported that companies find it is difficult to evaluate and compare various chatbot systems on their interaction with users (Mou et al., 2019). The study employs a two-step qualitative design approach to produce more in-depth and rich data, essential to improve understanding of the topic. The two steps include a sentiment analysis of customer feedback posted on social media and a thematic analysis of a semi-structured focus group interview. Based on a purposive non-random sampling, customer feedbacks posted on the selected airline companies from March 2020-March 2021 will be collected and analysed, followed by a series of semi-structured focus group interviews to validate the findings from the sentiment analysis. The participants for the semi-structured focus group interview are recruited based on a snowball sampling technique. Only individuals with experience with the selected airline company's artificial intelligence-based customer service agents are chosen for the

study. The data is analysed using NVivo, a popular qualitative data analysis software. The study provides theoretical, methodological, and practical contributions to hospitality scholars and practitioners. The study would pave the way for a new and fertile area of research in artificial intelligence-based customer service agents, service management, and sentiment analysis of online customer feedback. The study's findings would assist service organisations in enhancing the performance of their artificial intelligence-based customer service agents. It is imperative since the increasing investment in artificial intelligence applications should benefit the service organisations and customer service experience.

Keywords**:** *Artificial Intelligence, Customer Service Agent, Sentiment Analysis, Service Industry*