TOWARDS AN UNDERSTANDING OF EMPLOYEES' INTENTION TO USE ROBOTS

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ABSTRACT

The goal of this study is to investigate the underlying factors that influence an employees' decision to use robots at work. The Unified Theory of Acceptance and Use of Technology (UTAUT) was used in this study. This theory assumes that people's actual behaviour and willingness to utilise technology is influenced by four underlying elements, namely performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FC). Based on this assumption, the specific objective of this study is to investigate the relationship between these factors and a fast-food restaurants employees' intent to use robots at work. The role of gender as a moderator in each of these interactions was also considered in this study. Based on data acquired from an online survey, the stated hypotheses were tested using the Partial Least Square (PLS) approach. The findings revealed that performance expectancy and social influence enhances an employees' intention to use robots at work. It also showed that there was no moderation effect in the proposed model. This study presents empirical facts and direction to managers in the fast-food industry in Malaysia, researchers and practitioners regarding the adoption of robots or technology-based services at work. Theoretical advances as well as prospective research directions are also explored.

KEYWORDS: employees, Unified Theory of Acceptance and Use of Technology (UTAUT), robots, intention, gender

PURPOSE AND BACKGROUND

Artificial intelligence, robotics, and service automation have evolved significantly in recent years (Ivanov *et al.*, 2017; Samani, 2016). The travel, tourism and hospitality industries are among the areas where this technology-based service is making inroads and swiftly growing (Fusté-Forné, 2021; Ivanov *et al.*, 2019; Murphy *et al.*, 2017). This is due to the belief that the adoption of these tools offers the business many opportunities to improve its operations boost service productivity, cost efficiency and efficacy (Ostrom *et al.*, 2015; Mustak *et al.*, 2021; Wirtz *et al.*, 2018) as well as help the businesses gain competitive advantage, expand their business and markets and to become economically sustainable (Nam *et al.*, 2020).

From the customers' and employees' perspectives, adoption of this technology can create more innovative and memorable experience to the customers, while employees are happier at work by freeing them from boring, monotonous, and repetitive work (Zhou, 2019).

While there is a great potential for this technology to replace human-labour in the travel, tourism and hospitality industries, it is observed that the application of robots at work is still quite limited. In other words, it is still more theoretical than actual, and empirical findings on the drivers of employee's adoption and intention to use robots is still in its nascent stages (Murphy *et al.*, 2019; Ivanov *et al.*, 2019;

Vatan & Dogan, 2021) especially with regard to the fast-food restaurant industry in Malaysia. Therefore, it is important for other researchers, especially in the wake of this study to uncover more about this topic.

Specifically, the main objective of this study which is to investigate the relationship between performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FC), in relation to a fast-food restaurant employees' intention to use robots at work, and the results then tested using the theory of UTAUT (Venkatesh *et al.*, 2003). Additionally, based on the arguments concerning gender differences on the adoption of technology (i.e., Ye *et al.*, 2020; Ivanov *et al.*, 2018; Ivanov *et al.*, 2020; Hudson *et al.*, 2017; Loffredo & Tavakkoli, 2016), this study also predicts that males are more resistant to the use of robots at work compared to females.

METHODOLOGY

A quantitative research approach was used to gather insight and gain a deeper understanding into the willingness of fast-food restaurant employees in Malaysia to use robots at work. Using convenience sampling, questionnaires were collected via an online platform. Specifically, the data was collected by sending the questionnaire to employees' email addresses as provided by the company and as a link which was sent to the employees' WhatsApp accounts by managers of the restaurants or shared by their peers. All the items queried in the questionnaire were borrowed from past studies on the subject and then adapted to the work in context of this study. The respondents were asked to rate the items on a 5-point Likert scale ranging from "strongly disagree (1) to "strongly agree" (5). The data was then analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM).

FINDINGS

Based on the PLS-SEM analysis, it was found that both performance expectancy (PE) and social influence (SI) are two factors that have a beneficial impact on the intention to utilise robots. Meanwhile, the expectancy of effort (EE) and facilitating conditions (FC) were both found to have no favourable impact as factors influencing the decision to use robots at work. In addition, the link between PE, EE, SI and FC, and fast-food restaurant employees' propensity to use robots was found to be unaffected by the gender of the employee as a moderator.

CONCLUSIONS

Overall, it can be concluded that fast-food restaurant employees in Malaysia were more inclined to use robots if they perceived that the technologies were useful and beneficial to their performance as well as when they have strong social influence such as from their managers, supervisors and colleagues. The findings were consistent and supported past studies (Rabaa'i, 2017; Ye, Zheng & Yi, 2020; Bansal *et al.*, 2016).

Meanwhile, the insignificant moderation effect of gender in the relationship between PE, EE, SI and FC with intention to use robots implied that there was no difference between male and female towards their willingness to use robots at work. The findings contradicted and disputed prior studies on the impact of gender in affecting the intention to employ robots at work (Rabaa'i, 2017; Ivanov *et al.*, 2018; Hudson *et al.*, 2017).

CONTRIBUTION/PRACTICAL IMPLICATIONS

Due to the fact that the implementation and use of robots in workplace is still in its early stages especially in Malaysia, it is hoped that this study can provide insights to the management of fast-food restaurants in Malaysia to better implement technology in their business environment by focusing more on the performance expectancy and influence of others on the intentions of employees to use robots at work. It is also hoped that the willingness of employees to work with robots can meet or exceed customer requests, needs and requirements and create an excellent customer service experience.

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