IS THERE ROOM FOR HIGH TECH IN A HIGH TOUCH INDUSTRY?

ADOPTION OF SOCIAL ROBOTS IN THE HOTEL INDUSTRY

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The hotel industry has, for a long time, had a reputation of lagging behind when it comes to digital and innovative solutions (Campo, Díaz & Yagüe 2014). Recent challenges such as the pandemic and rising inflation have put pressure on the industry, forcing it to adapt. At the same time, AI technology and robots are entering new markets. Among these technologies, social robots are on the rise. The question is therefore whether adoption of social robots can be a part of the solution to the challenges faced by hotels today?

Introduction & Background

During the past years, artificial intelligence, machine learning and robots have become a hot topic. Whether robots will take over our jobs or not remains to be seen. However, there are already social robots available on the market. Their purpose is to interact with humans the way we interact with each other, for instance by speaking, returning smiles and making facial expressions (Breazeal, Dautenhahn & Kanda 2016). Even though they have existed for a long time, they are not yet fully commercialized (Mahdi, Akgun, Saleh & Dautenhahn 2022). Today, they are used mainly in the academic sphere, while a minority is being sold on a commercial market. A few efforts to replace humans with social robots have so far been made. For instance, the robot Pepper was employed at a supermarket in Edinburgh (Froelich 2021). However, Pepper was fired after a short while in service due to the fact that he kept referring lost customers to the alcohol section. The same destiny was faced by a group of social robots who were put in front desk service at the Henn-na Hotel in Tokyo in 2015 (Cheng & Guo 2021).

The study

The purpose of this study is to explore how an innovator can facilitate adoption of social robots within the hotel industry. The study examines this in two ways, firstly by understanding what motivations and barriers there are for hotels to adopt social robots. Secondly, to explore ways for the innovator to overcome these barriers and hence facilitate adoption. The existing research on social robot adoption in specific markets is scarce. Hence, this study has academic contributions to the field of social robot commercialization. Furthermore, the study has practical contributions to social robot innovators who aim to find successful ways of offering their product to hotels.

This study has an exploratory, qualitative approach and uses semi-structured interviews as a method for data collection. 16 hotel representatives in Sweden were interviewed. During the interviews, they were introduced to an example of a social robot, produced by Furhat Robotics. The empirical findings were later analyzed with the literature review, where customer resistance frameworks (Claudy, Garcia & O'Driscoll 2015) from the field of Behavioral Reasoning Theory were mostly used.

Motivations for adoption

Three key motivations became apparent during the interviews; reducing personnel costs, increasing service and improving branding. Firstly, as hotel staff is difficult to hire and personnel is generally a large cost, they saw potential in replacing staff with robots. Secondly, the robot can increase service in multiple ways. It can be done both by placing it in areas of hotels where staff is not present as well as letting it relieve e.g receptionists in order for them to have more time for service. In addition, it speaks more languages and possesses more information than a human could possibly do. Lastly, social robots can help create a fun, unique and technology-friendly brand.

Barriers to adoption

Twelve barriers to adoption were found, some more salient than others. One notable barrier was that the interviewees thought that a social robot would remove the personal touch towards guests. Some hotel managers further believed that their guests were not ready to interact with such a radical innovation or that the social robot would not rhyme with the hotel brand. A functionality barrier also became apparent, where hotel managers were afraid that the robot would give weird answers, stop functioning or upset customers in interactions. A relative advantage barrier was further present, when comparing the social robot with cheaper, existing technologies. Other relevant barriers that were found were connected to cost, trialability and data & security.

Facilitating the adoption

In order to facilitate the adoption and overcome the previously mentioned barriers, a framework invented by Sánchez, Williams and García-Andreu (2019) was used. The framework consists of five resistance management strategies, all of which were applicable to the barriers. Through segmentation, two early adopter groups could be found for which the motivations outweigh many barriers. The two hotel segments consist of large, low to mid budget business hotels and luxurious, bold hotels. Together with the early adopter groups, two relevant use cases could be defined. For the business hotel, it is reasonable to use the robot as a receptionist or information station/concierge, while only the second use case is applicable for the luxurious hotels. After segmenting and defining use cases, five out of 12 barriers had been overcome as they simply were not applicable to the chosen target groups and use cases. All of the remaining barriers could be lowered by applying the remaining resistance management strategies.

Conclusion

Even though this study has shown that plenty of barriers exist for adoption of social robots, there is hope for innovators in the industry. The existing motivations are strong, and several of the barriers can be overcome by adapting the product offering and targeting the right hotels. However, the study has focused on adoption potential, and whether the product can be fully commercialized remains to be seen.

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