Chapter 14

In Which Department(s) the Robots Might Be Employed: Evidence From Turkish University Students

Seden Doğan

https://orcid.org/0000-0001-8547-7702
Ondokuz Mayis University, Turkey

ABSTRACT

The development of service robotics comes along with the development of industrial robotics. Service robots are designed to perform professional job tasks as well as for service users in areas of everyday life. One of the fields for service robots’ application is medicine. This chapter determines the opinions of the university students who have tourism education towards tasks that may be performed by the robots. The research question was “in which hotel department the robots might be employed”. In total, 396 valid surveys were collected from the students, Mann Whitney U and Kruskal Wallis-H Tests were conducted to test the hypotheses. It was found that gender, department, and grade are significantly effective on the students’ opinions towards tasks that might be performed by service robots.

INTRODUCTION

Digital technologies are transforming many industries and creating new challenges that require understanding. These may be stated as speed of change, cultural transformation, defining the skills for the future, outdated regulations and financing of digital and physical systems. TÜBİTAK (The Scientific and Technological Research Council of Turkey) (2016) states that by year 2018 the number of robots to be used in the industry will be approximately 3 million and the number of interconnected devices will increase to 29 billion, by year 2025 economic impact created by industrial robots will be annually between 0.6 and 1.2 trillion USD and by year 2030 digital technologies will have strong effects on productivity, income distribution and environment. On the other hand, it is foreseen that only in Europe investments worth 140 billion Euros will be made until 2020 (Çelik, Güleryüz, & Özköse, 2018:87).

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The International Federation of Robotics (IFR) forecasts that sales of service robots will grow between 20 and 25 per cent by 2020 (Windsor, 2018).

Aim of this chapter to explore the opinions of the university students who have tourism education, towards tasks may be performed by the robots. The research question was “in which hotel department the robots might be employed”.

BACKGROUND

Robots

The term “robot” which was derived from “robota” that means “subordinate labor” in Slav languages, was mentioned for the first time by the Czech playwright Karel Capek in his play “Rossum’s Universal Robots (R.U.R.)” in 1920 (Siciliano & Khatib, 2019:4; Murphy, Gretzel, & Pesonen, 2019; Hambling, 2018:3; Murphy, Hofacker, & Gretzel, 2017:105). The term “robot” was used to describe its “artificial people”. These narratives link the creation of robots similar to humans in shape and size, able to communicate and be communicated with in familiar human ways, with the easy replacement of human workers in human-tailored working environments (Sandry, 2015:336). After that, in 1940 Isaac Asimov who is a Russian science-fiction writer refered the ethics of the interaction between robots and humans and the well-known three laws in his novel name I, Robot.

Developed in six months by the Hungarian noble Wolfgang von Kempelen upon the order of the Empress of Austria Maria Theresia in 1769, the chess instrument, which was exhibited for the empress for the first time in 1770 and destroyed by a fire in the Chinese Museum in 1854, was named as Mechanical Turk because of the robot-player sitting on and wearing Turkish clothes of the period. It consisted of a Turkish figure wearing a mustache and Ottoman clothes sitting in front of a wheeled cabin that is 120 cm long, 105 cm wide and 60 cm high maple tree and with a chessboard.

When the front cover was opened many large and small lifts, pulleys and other mechanical spaces could be seen in the cabinet of Mechanical Turk. When Mechanical Turk, that work by winding started

Figure 1. Mechanical Turk
Source: Şahin, 2016