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Analysis of the Relationship between Technology Awareness and Career Opportunities in Metland Tourism Vocational High School Students

Nurul Sukma Lestari[1], Dendy Rosman[2], Farah Levyta[3]
[1]Program Doktoral Pascasarjana Universitas Mercubuana, Jakarta, Indonesia
[2,3]Binus University, Jakarta, Indonesia
E-mail : nurul.lestari@binus.edu

ABSTRACT

With the industrial revolution 4.0, the use of advanced technology based on artificial intelligence has begun to be implemented by business people in the tourism industry, especially in the hotel sector. Although it has many advantages, the use of Robots, AI, Service Automation (RAISA) also impacts employees, one of which is the fear of losing opportunities and job opportunities. Therefore, this study examines the relationship between awareness of the use of RAISA and perceptions of future career opportunities. This research focuses on Vocational High School (SMK) students because they are potential workers in this industry in the future. This study uses quantitative methods. 247 SMK students participated in this research by filling out a survey questionnaire that was distributed to them. This study found a positive and significant relationship between awareness of RAISA and perceptions of future career opportunities. The study results are expected to contribute to the literature in the field of human resource management.

Keywords: Perception of career opportunities, use of technology, robots and artificial intelligence

INTRODUCTION

In the current era of globalization, there has been a rapid change in circumstances, especially in technology (AP, Yuliniar, & GA, 2019). This technological change started from the Industrial revolution 1.0 which started around 1800-1900 until the industrial revolution 4.0, brought many changes in human life. Things have evolved from steam-powered engines to electric and digital power; this changes the whole process to be more complicated but automated and can be one of the ways for the sustainability of a company(Qin, Liu, & Grosvenora, 2016)."Industry 4." is defined as a new level of organization and product lifecycle control focused on meeting customized client needs (Rüßmann, et al., 2015).

Artificial intelligence (AI) and the Internet of Things (IoT) are smart technologies brought about by the Industrial Revolution 4.0 (Schwab, 2017). Almost all companies have started applying technology in their operations to increase productivity and become a competitive advantage(Rozinah & Meiriki, 2020). Likewise, the use of robotics in the hotel business has increased significantly (Prentice, Dominique-Ferreira, & Wang, 2020).

In some developed countries, the hotel industry is starting to adopt service robots, which are considered the future workforce, to replace

human labor (Choi, Choi, Oh, & Kim, 2020). The rapid development of robotics, automation, and artificial intelligence (AI) is expected to influence and change various aspects of the hospitality and service industry (Tung & Law, 2017). In the hospitality industry, AI helps and simplifies certain tasks for employees; helps obtain, analyze and use statistical data for future predictions; predicts guests' wishes and preferences and makes guests stay more comfortable and enjoyable (Ananeva, 2019).

Using service robots allows hotel companies to create a more personalized experience for guests and reduce labor costs (Ivkov, Bleši´c, Dudi´c, Bartáková, & Dudi´c, 2020). In addition, there are several other benefits of using service robots in the hospitality industry, such as increasing operational efficiency, productivity and optimizing operational costs (Ivanov(a) & Webster, 2017). With many of these very promising benefits, many hotels have begun to adopt service robots in their organizations. However, behind the benefits that have been mentioned, several negative impacts must be considered, one of which is the impact on employees.

Human resource management is important for a company (Nurjaya, Affandi, Ilham, Jasmani, & Sunarsi, 2021) because human resources can play a dynamic role in achieving the goals of the company (Kencana, 2019). Therefore, a company must be able to treat its employees properly and fairly, which will impact the development of the company (Wahyani, 2020). However, the introduction of automation technology raises concerns that employees will lose their jobs and become unemployed due to the substitution of human employees by robots, AI, and other automation technologies. (Dengler & Mathes, 2018).

There have been several previous studies examining the impact of technological advances and their relationship to employees. For example, research conducted by(Frey & Osborne, 2017) and (Tuomi, Tussyadiah, & Stienmetz, 2020), which found that the introduction of Robots, AI, and Service Automation (RAISA) created fear of job loss among employees. Awareness of robots and automation services brings insecurity to employees because this can replace their jobs, and they become unmotivated to think about career advancement and feel dissatisfied with their careers. (Lingmont & Alexiou, 2020) Moreover, employees also feel stress (Kong, et al., 2021).

This research is important for several reasons. Several past studies have looked at the impact of robots, artificial intelligence, and service automation on hotel management and employees today. Hardly anyone has researched robot awareness, artificial intelligence, and service automation among vocational high school students(Wakelin-Theron, 2021). Meanwhile, these students are future employees in the hotel industry. If these students perceive that future hotel jobs will apply to RAISA, they are less likely to work in the hotel industry after graduating from school. As a result, the hotel business will increasingly face problems finding workers, which have become a big problem for the hotel world(Richardson, 2010). Many companies recognize that talent is one of the competitive advantages to achieve organizational sustainability.

Lack of skilled and talented workers will slow down the growth rate of a company. Therefore, this paper aims to examine the relationship between awareness of the existence of Robots, artificial intelligence, and service automation and future career opportunities for vocational high school students.

Literature review

RAISA Awareness or RAISA awareness is that robots, artificial intelligence, and service automation will affect employees' work and future career prospects (Berezina, Ciftci, & Cobanoglu, 2019). according to(Makridakis, 2017) in his research, the impact of the industrial and digital (information) revolution is very large and affects almost all aspects, including our society, life, company, and work. (Bowen & Morosan, 2018)estimates that around 25% of jobs in the hospitality world by 2030 will be automated. Predictions like these will potentially influence the

current tourism-majority high school students' perceptions of their future career opportunities.

Perception of future career opportunities is defined as an individual's perception of the extent to which job positions and job opportunities that match his career aspirations are available in the future (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011). Awareness of RAISA is one of the determinants of career opportunities perceived by students(Masayuki, 2017). One previous study showed that students who considered themselves well-informed about automation believed that machines would replace human labor, but they did not perceive their future jobs to be replaced by automation.(Mbilini, Roux, & Parry, 2019).

RAISA can change the nature of work in the service industry; therefore, hospitality employees who are fully aware of these risks will feel their future career opportunities are threatened and will decrease future career opportunities (Ivanov (b), 2019). Moreover, based on research from(Li, Bonn, & Ye, 2019) awareness of artificial intelligence and robotics was significantly associated with turnover intention. Furthermore, the rapid development of technology related to artificial intelligence and its acceptance in the hotel industry has exacerbated employee anxiety because this technology can replace human work and affect employee attitudes towards their work, such as depression, career satisfaction, and organizational commitment.(Brougham & Haar, 2018). Based on several previous studies, it can be concluded that the impact of RAISA awareness on perceived career opportunities argues that RAISA has the potential to disrupt a person's overall career development.

In the background of this research, it has been discussed that many hotel businesses today have started employing service robots in several job positions such as hotel receptionists, concierges, and room service officers. This position is an entry-level position usually filled by students from SMK and hotel graduates who have less experience in this industry. Therefore, this study aims to see whether awareness of robots, artificial intelligence, and service automation in the hospitality industry will affect the perception of future career opportunities for Metland Tourism high school students. Therefore, this leads to the following hypothesis:

H1: There is a significant relationship between the RAISA awareness of tourism vocational high school students and their perception of future career opportunities in the hospitality industry.

Based on the above discussion, this research develops a model as shown in Figure 1 below:

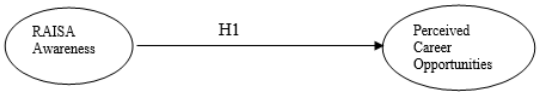

Figure1: Conceptual Framework

METHOD

This research was conducted at the Metland Tourism Vocational High School, and the population consisted of students from this school starting from grades X, XI, and XII from all majors. Tourism Vocational School has five (6) majors, namely: culinary, Hospitality, Accounting, Visual Communication Design, Multimedia, and IT, with a total of 636 students.

From 636 students, samples were taken based on Slovin's theory, namely 240 students. From the questionnaires that have been collected, 247 were obtained, and from these, results will be processed using SPSS.

Data collection will be carried out in July - August 2021. Due to the current situation of the COVID-19 pandemic where face-to-face interviews cannot be conducted, the researchers conducted/distributed online questionnaires. We consider this the most adequate and suitable for the respondents because they come from generation Z, who are attached to the internet. Questionnaires distributed online are more suitable than interview surveys by mail or telephone (Sills & Song, 2002). Respondents participated voluntarily without incentives and received explanations and consent from the respondents.

The questionnaire will use a Likert scale starting from 1 = strongly disagree to 5 = strongly agree. RAISA awareness will be measured through four questions adapted and translated from the scale developed by Brougham and Haar

(Brougham & Haar, 2018). As for the perceived future career opportunities, three questions have been modified and translated from Kraemer et al. (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011).

RESULT and DISCUSSION

1. Respondent profile

This study involved Metland Tourism Vocational High School (SMK) students from various majors, including Culinary, Hospitality, Accounting, Visual Communication Design, Multimedia, and IT. Of the 247 students who filled out the questionnaire, 60.7% were female, and 39.3% were male. Meanwhile, 42.1% of class X students, 33.6% of class XI students, and 24.3% of class XII students. As for the majors, 32% of students came from the culinary department, 12.6% of the students from the hospitality department, 20.6% from the accounting department, 6.5% from the Visual Communications Department, 11.7% from the multimedia department, and 16.6% of the students came from the IT department.

2. Data Quality

Before performing the regression test, the Kolmogorov-Smirnov test was carried out to test the normality of the data. The results of this test show that the Kolmogorov-Smirnov significance value is 0.807, with a significance value that shows a number greater than 0.05. Therefore, it can be concluded that the residual value is normally distributed. Then, it is continued by testing heteroscedasticity using a scatterplot. The results of this test indicate that the points appear to spread above and below the number 0 on the Y axis, which means that there is no heteroscedasticity in the regression model in this study.

Furthermore, reliability tests are carried out to test the accuracy or consistency of the results shown from a measurement. The results of this test are indicated by the value of Cronbach's Alpha which is shown in Table 1 below:

Table 1. Reliability test results

Variable	Cronbach's Alpha	Alpha Critical Standard	Information
RAISA Awareness (X1)	0.749	0.700	Reliable
Perception of future career opportunities (X2)	0.875	0.700	Reliable

Based on Table 2. below, the results of the simple regression analysis show that the constant value is 2.863. It means that if the variable of RAISA awareness among students is fixed, then the average value of perceptions of future career opportunities is 3,183. Furthermore, the coefficient for the perception of future career opportunities shows a value of 0.166 and is positive. It means that if the variable perception of future career opportunities has increased by 1%, then it will cause career perceptions to increase

the future among vocational students (RAISA awareness) will increase by 0.166. Furthermore, the t-count value on the perception of future career opportunities shows the number 2.669 with a significance value of less than 0.05 ($p < 0.05$). This result indicates a positive and significant influence between perceptions of future career opportunities and awareness of RAISA (RAISA awareness) among students of SMK Metland. Based on the results of the analysis, this study supports the hypothesis.

Table 2. Results of Simple Linear Regression

	Unstandardized Coefficients	**Standardized Coefficients**			
	B	Std. Error	Beta	*t*	Sig.
(Constant)	3.183	.224		14.195	.000
RAISA awareness	.166	.062	.168	2.669	.008

Discussion

This study examines the relationship between Robots, AI, Service Automation (RAISA) awareness, and perceptions of future career opportunities among Vocational High School (SMK) students. Based on the results of simple regression analysis, found a positive and significant relationship between RAISA awareness and perceptions of future careers. This result is in line with previous research from Tuomi et al., (2020), which also found a positive relationship between these variables (Tuomi, Tussyadiah, & Stienmetz, 2020).

What distinguishes this study from previous research is the target population used. Previous research has focused more on hotel employees who are currently still actively working in the industry.

This study also indicates that awareness of the use of advanced technology among students does not reduce their optimism about a career in the future, especially in the hospitality and tourism industry in general. One thing that can explain the results of this study is that the ability of these young people to adopt and use technology is quite adequate. So they do not have to worry if they have to compete with advanced technologies such as robots and artificial intelligence in the world of work in the future.

CONCLUSION

Awareness of the entry of advanced technology in the future which is believed to replace the role of hotel employees has become the center of attention of academics. This study examines the effect of awareness of RAISA (Robot, AI, Service Automation) on perceptions of future career opportunities among Vocational High School (SMK) students. The results of this study found a positive and significant relationship between the two variables tested. Furthermore, the results of this study are expected to contribute to the literature in the field of human resource management, especially in the management of human capital in the future.

This study has several limitations. First, this research only uses students from vocational schools. Future research can develop this research by using a wider population, such as high school students (non-vocational). Second, this study only uses SMK students from one school, so the number of students participating is not too many. Future research is expected to conduct studies involving various vocational schools in various regions so that research results can be more valid.

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