



## Effectiveness of Human Capital on Employee Performance in the Era of Disruption in the Health Sector

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### Abstract

The era of disruption has affected the mentality and human resources way of working in public health. In this era, human resources in the health sector play a crucial role in public health digitalization. It aims to determine the effectiveness of human capital on employee performance in the era of disruption in the health sector. The research method applied in this study is quantitative with a cross-sectional approach. This research was conducted at the Tawangrejo Health Center from January to March 2022. The population of this study is the entire employee, with the amount of 70 people. To determine the sample, the researcher used Slovin Formula with an accuracy of 0,1. As result, 42 respondents were obtained. Data collection was carried out using a questionnaire distributed to all respondents. Furthermore, data analysis in this research is applying ordinal regression tests. The result of the study shows that there is no effect of human capital on employee performance, where the value of  $\text{sig} \geq 0,720$  provides the meaning of no influence for two variables. Moreover, the discovered value of Nagelkerke in this research is 0,025 showing between the two variables have no effect by 2,5%. Based on that finding, the public health should about its employees' performance by optimizing the existing human capital, so this will not affect the organization's sustainability in the future.

### Introduction

Industry 4.0 Revolution has encouraged Public Health Centers to enter and follow the digital era, such as the development of telemedicine distributed in several public health in Indonesia. Recorded in 2013 until 2018, at least there are 35 public health with served Teleradiology, Teleekg, Teleusg, also Telecommunication (Rahim, 2019). The entries of digitalization within health services in Indonesia have assisted and reached all over the country, which alleviates people, especially those who live in remote spots, to able to use health services easily. According to (Newmann, 2019), recorded in 2015, there are more than 1 million inhabitants have used telemedicine services. It keeps increasing until reaching 7 million cellular clients in 2018.

Furthermore, the development of arti-

cial intelligence also helps to diagnose patients, treatment decision making, and development of medicine. Based on Economic Cooperation and Development Organization (OECD), about 20% of world health outcome has come to waste for the reason of unneeded treatment to the inaccurate system. The existence of artificial intelligence can minimalize the reasons by maximizing existing data (Mammadov et al., 2020). The disruption era is an abrupt complex changing process marked by digitalization, internet to Artificial Intelligence (Sujudi & Komariah, 2020). In the era of all sudden changes in the field of public health digitalization, public health organizations must keep innovating, increasing their role, creativity, and performance towards human resources for better advancement. As a form of participation to face the era of disruption, public health has to

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build and increase its employees' performance to compete and not affect the organization's achievement of objectives.

Service Technical Implementation Unit of Tawangrejo Public Health is one of 6 public health centers spread in Madiun City, recorded. Until 2021 the number of people living in the working area of the health center reached 53.698 people. Based on the data of SKP from 2016-2020 experiencing instability from year to year. For instance, from 2016 to 2017, have decreased by an average of 83.8 and became 83.0. In 2018 it increased to 85.3, while in 2019, it became 82.9, with a percentage reaching 2.68%. There are several reasons for the decline in the value of SKP; one of them is that the UKP target is not achieved. Viewing from that problem, efforts to improve employee performance in the Tawangrejo Health Center environment are needed.

As a form to increase the credibility of the organization, we need to increase employee performance by giving training to improve competence and expertise in the use of technology in the health sector. Other than training, public health centers are expected to be able to manage existing human capital optimally. Human Capital is one of the predominances in an organization to compete in the disruption era. If utilized optimally, it will affect individuals and the organization.

Based on the report released by the World Economic Forum (WEF) related to the competitiveness ranking of 141 countries in the world, Indonesia is on rank 50, dropping 5 ranks from last year. One of the causes of the decline is Indonesia has lack of staff capacity (human resources). The case can be seen in the indicators in the health sector, the number of human resources also the ability to employ workers in the industry (Abdurochim et al., 2019). According to Abazeed (2017), in the research (Renggani & Kasmir, 2020), human capital is a set of employee characterization and capabilities embodied in knowledge, experience, skill, and motivation until innovation.

Human capital is a substantial element to create competitiveness in an organization or company. Consequently, human capital is vital in influencing the high and low performance

of employees in an organization. Based on the explanation of the problems above, the researcher is interested to conduct research with the title "Effectiveness of Human Capital on Employee Performance in the Era of Disruption in the Health Sector". The purpose is to determine the effectiveness of human capital on employee performance in the era of disruption in the health sector.

### Method

The research method conducted in this study is qualitative with a cross-sectional research design. Quantitative research was applied to find the relation between variables and then drew a causal conclusion. The population in this study is the entire employee of Tawangrejo Public Health Center, as many as 73 people. For determining a sample, the researcher used the Slovin formula with a trust rate of 0.1 and gained a total of respondents 42 people.

The sampling technique applied in this study is simple random sampling, taken from population members randomly. In this research, variable measurement was done by distributing the questionnaire to respondents, employees of Tawangrejo Public Health Madiun. Meanwhile, the human capital and performance variable questionnaire was conducted with the Likert Scale. The study took time from March to April 2022. Data sources were obtained in two ways. Primary and secondary. Primary data was gained by distributing the questionnaire to 42 respondents. On the other side, secondary data was obtained from the report related to the number of employees and the objective of employee performance in 2016-2022.

The analysis data technique used in this study had two phases. They are univariate and bivariate analysis. In this research, the univariate analysis describes the respondents' characteristics such as gender, age, educational level, etc. Afterward, the bivariate analysis was applied to examine the relation between the two variables. In this research, bivariate analysis was used to measure the influence of human capital on employee performance. The statistical test used is the Ordinal Regression Test to gauge the relation between two variables.

## Result and Discussion

In the following data, the researcher shows the results of respondents' characteristics based on gender, age, last education, job status,

work period, also the division or unit where respondents work. Furthermore, the researcher also describes SPSS data processing results with an ordinal regression test.

**Table 1** .Frequency Distribution of Respondents

Respondent's characteristics	Frequency	Percentage (%)
<b>Gender</b>		
Male	8	19.0
Female	34	81.0
<b>Age</b>		
20-29 years	11	26.2
30-39 years	15	35.7
40-49 years	12	28.6
50-59 years	4	9.5
<b>Latest Education</b>		
SMA (High School)	3	7.1
D3	26	61.9
S1	13	31.0
<b>Job Status</b>		
PNS	35	83.3
Contract Worker	4	9.5
Freelance	2	4.8
Internship	1	2.4
<b>Length of Work</b>		
1-3 years	11	26.2
4-6 years	5	11.9
>6 years	26	61.9
<b>Division or Unit</b>		
Administration	5	11.9
Quality Management Team	1	2.4
Internal Audit Team	1	2.4
Essential Public Health Efforts and Public Health Care (UKM Esensial dan Perkesmas)	5	11.9
Developmental Public Health Efforts (UKM Pengembangan)	4	9.5
Individual Health Effort (UKP)	9	21.4
Other	17	40.5

Source: Data that has been processed by researchers, 2022

Based on the first table above, the highest percentage of gender characteristics is female (81.0%). Hereinafter, the highest age percentage of respondents is between the age of 30-39 years (36.7%), while the lowest age of respondents is 50-59 years (9.5%). For respondents who filled out the questionnaire, the majority of the latest education is D3 (61.9%). The highest job

status is PNS (civic servant), with the amount percentage of 83.3%. Based on the frequency distribution above also known that respondents mostly had a job period of more than six years. Further, the highest percentage of respondents' division or unit is other (40.5%), and the lowest is in Quality Management Team and Internal Audit Team respectively (2.4%)

**Table 2.** Cross Tabulation of Human Capital Variables and Employee Performance

		Employee Performance						Total	%
		Very Good		Good		Not Good			
		F	%	F	%	F	%		
Human Capital	Very Good	0	0	3	7.1	1	2.4	4	9.5
	Good	3	7.1	29	69.1	1	2.4	33	78.6
	Not Good	0	0	4	9.5	1	2.4	5	11.9
<b>Total</b>		<b>5</b>	<b>11.9</b>	<b>36</b>	<b>85.7</b>	<b>1</b>	<b>2.4</b>	<b>42</b>	<b>100</b>

Source: Data that has been processed by researchers, 2022

According to the table above, it is known that the percentage of respondents who have poor human capital is (11.9%) with the percentage of good employee performance ranging from (9.5%). As for the respondents who have good human capital is (78.6%) with good performance of (69.1%). Besides, respondents with very good human capital have percentage of (9.5%) respondents with good performance are (7.1%). Moreover, in this research, the researcher has processed the data with the Ordinal Regression Test which obtained the result of a sig value of 0.720. Based on the Ordinal Regression Test conducted by the researcher, if the score of  $\text{sig} \geq 0,05$  then  $H_0$  received has no effect on human capital towards employee's performance in UPTD Tawangrejo Public Health Madiun. Furthermore, this study gained a score of Nagelkerke 0,025. It indicates no relationship between two variables by 2,5%.

Following the result gained from the questionnaire distribution towards 42 respondents, the Service Technical Implementation Unit of Tawangrejo Public Health Madiun can be claimed that most respondents own good human capital with a percentage of 78.6% or about 33 people. Then respondents who have poor human capital with five people in total (11.9%) and very good with four people in total (9.5%). From that mentioned data, can be implied that human capital in Tawangrejo Public Health belongs to the good category. Based on the theory of (Hidayah, 2018), in this era full of digitalization advances, human resources in the field of health must continuously adapt, innovate, effectivity and performance of related human resources to bring innovative advances for public health. The disruption era has influenced thinking patterns and human resource procedures in public health. Human capital is one of the excellent sources inside the

organization to face challenges, where human capital can create the best solution based on the employee's knowledge. Based on the theory, human capital will increase if it is being well-managed by its organization (Ulum & Fitri Wijayanti, 2019).

Human capital is an accumulation between knowledge, skill, ability, and other attributes which can produce output in the form of innovation in work. In the organization or company, human capital is the most significant source and is the center of intellectual capital to bring a goal (Daniel, 2019). Factors supporting the success of Human Capital include the existence of a reliable leader role who has the ability of leadership that can run the whole human capital inside the organization. Furthermore, company investment in the form of training and development, improving the quality of work also providing welfare for employees can produce innovative and good-quality human resources (Peprah, 2020). Proper management of human capital will affect decision-making to improve quality, boost company competitiveness also predispose the success of an organization or company. It is in line with the theory of human capital based on the macro economy, where humans considered as the most valuable component for the growth of an organization (Peprah & Ganu, 2018). Even though in this research most respondents' answers were considered as good, it will be better if public health leaders keep concerned about the knowledge, expertise, skill, and ability of its employee by providing training, seminars, and employee skill to adapt to the advance of service technology in public health.

Based on the research results gained from distributing questionnaires in the Service Technical Implementation Unit of Tawangrejo Public Health Madiun, the employee perfor-

mance in the very good showed one respondent (2.4%). Next, followed by good performance respondents, namely 29 people (69.1%) and not good three people (7.1%). Viewing from that data, the Service Technical Implementation Unit of Tawangrejo Public Health Madiun belongs to the good category. Employee performance is one of the most vital components of an organization, considering well and poor employee performance will affect the profitability of the company. The performance also points to the work achievement of the employee and the performance is the result of work both in quality and quantity (Jain & Ahuja, 2018). Several factors affect employee performance. The ability factor is where employees must possess high abilities such as potential (IQ) as well as reality expertise (skill) to improve workers' quantity and quality, respectively. The motivation factor is an action within oneself that aims to move individuals in achieving these work goals (Maryudanto, 2020). It is in the same way as the research conducted by (Hartono et al., 2021), where the role of leadership coaching affects the performance of an employee, pointed by the result of a p-value of 0,033 can be concluded that the influence between leadership role towards employee's performance in Cempaka Putih Jakarta Islamic Hospital. Hereinafter, to improve the employee's performance, an organization should invest in its human resources by giving training, empowerment for the worker up to give salary also appropriate rewards based on the workload (Nderitu et al., 2019).

Based on the results of research data analysis in the Service Technical Implementation Unit of Tawangrejo Public Health Madiun by using an ordinal regression test, the discovered value of sig is 0.720. It shows that  $0.720 > 0.05$ . Then  $H_0$  is accepted there is no effect of the variable on the human capital of employee performance. Whereas, based on the Nagelkerke score discovered as 0.025. It indicates that no effect of the two variables by 2.5%. Although the value is not that great, it shows no influence of the two variables. The absence of the influence of the human capital variable on employee performance is proven in the cross-tabulation table. The human capital variable with the not good category has good

performance (9.5%), followed by the not good performance (2.4%). It proved that human capital in the not good category does not affect employee performance in the Service Technical Implementation Unit of Tawangrejo Public Health Madiun. It indicates that even though employees have good performance, yet public health still lack training access for its employee, especially in this disrupted era in the health field.

Next, the human capital variable with the good category with good performance (69.1%) and followed by the not good performance (7.1%) also very good (2.4%). It gives evidence that human capital with good category directly affects employee performance with good results as well. Although there are poor employee performances, it does not give much effect since it has few amounts. Good human capital yet followed by bad performance can be affected by the lack of human resource quality itself. But, good human capital, followed by good performance, can be indicated because the level of knowledge is supported by the provision of facilities from the public health center.

Last, the human capital variable with the very good category with good performance (7.1%) and not good performance (2.4%). It verifies that human capital with very good performance does not affect the performance of employees in the very good category. Indirectly, it indicates that employees in carrying out their work is still not done optimally. Even with very good human capital, it has not been able to improve employee performance to be very good. Perchance, several factors can influence such as employee psychology, family, as well as internal public health. Good human capital management will affect decision-making in improving quality. In line with (Perera & Weerakkody, 2018), showing positive relation between human capital with employee performance and marked by the value of R square 0,434, means that the positive influence of the human capital is only 43, 4% when the rest is affected by other variables, that matter can improve company competitiveness.

The poor performance of workers will affect customer satisfaction and the organization's performance. Furthermore, poor employee performance also can indicate a decline

in work spirit and passion. The performance of employees can affect the quantity, quality, and timeliness of achieving organizational goals. Based on the research (Shivangi, 2020), one of the reasons for poor worker performance, either in quality or quantity, is the heavy feeling of pressure experienced by employees in an organization towards their work. The results indicate no human capital influence towards workers' performance in the Service Technical Implementation Unit of Tawangrejo Public Health Madiun in 2022. There are factors that affects it. The tendency of respondents to fill the questionnaire positively due to direct pressure and lack of honesty in filling out the questionnaire according to the facts on the ground. It is contrary to filling out the employee performance questionnaire filled out by the Head of the Administrative Section, which assesses the performance of employees according to the level of performance of each individual, such as if there are still unprofessional employees in doing their jobs.

The previous study that is not in line with the results is one conducted on Bank Syariah DIY employees. It showed significant influence marked by the coefficient value 0.406 and t statistic 5.636. It means human capital gives a great contribution to employee performance (Muafi et al., 2017). Research on the workers in Perusahaan Jasa Minyak Nigeria pointed out a positive relation between human capital development in form of education, training, also experiences to employee's performance. It showed by the value of Chi-Square 59.303 in the training independent variable, the score of chi-square 70.862 in the education variable, and 130.862 in the variable of experience (Philip & Ikechukwu, 2018). Besides, another study that is not in line with the researcher is (Jeki & Sulastri, 2019), who studied several literatures related to the influence of human capital towards employee performance showing positive and significant result. Another notion from (Rakhmalina et al., 2017), also disclose the different and convenient management of human resources will generate good output for the company. Hereafter, another research conducted on 377 government employees also showed a positive significant effect between human capital and employee performance

(Erten & Türkmen, 2022).

## Conclusion

According to the research in the Service Technical Implementation Unit of Tawangrejo Public Health Madiun, deliver a fact that it is still necessary to increase knowledge, expertise, abilities, and skills through the provision of training, comparative studies, and seminars. The employees should easily adapt to changes in the digitalization era in the health sector. Even though this research has not proven that caused by several factors, it will be better if the public health center improves human capital for its employees in order to upgrade their performance.

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