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POST PANDEMIC INNOVATION; A COLLABORATION AND ORGANIZATIONAL PERFORMANCE APPROACH

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Abstract

This study aims to assess the performance of government organizations during the pandemic in the city of Palu, Indonesia. The current unprecedented pandemic crisis has pushed many organizations in an urgent state to innovate, including innovation in the performance of government apparatus in Indonesia. This study adopts the collaboration model developed by Shou et al., 2017 used to measure organizational collaboration consisting of 4 items, while the development model from Lee and Song, 2015 is used to measure organizational innovation consisting of 5 items, and Organizational performance developed by Tseng and Liao, 2015 is used to measure the performance of an organization consisting of 5 items. This research will focus on testing theoretical models that state that there is a collaborative relationship to organizational performance after Covid-19 in the city of Palu. Researchers test theoretical models to understand the consistency of theories so that they can be used as new scientific findings. This study uses quantitative research techniques with regression analysis techniques. The results of the study reveal the gap between the planned and implemented outcomes, this study also shows what service aspects of the community's view are effective in servants so that it will help identify and improve potential problems. This is critical for improving organizational performance in crisis sectors such as the handling of the Covid-19 pandemic in developing countries in particular Palu City, given the challenges associated with care systems and handlers in prevention in public health.

Keyword; ***collaborative, organizational, innovation, public service***

INTRODUCTION

The events that lead to an influenza pandemic are recurrent biological phenomena and cannot realistically be prevented. Pandemics appear to occur at 10–50 year intervals as a result of the emergence of new viral subtypes from viral reassortments(Potters 2001). As the global population increases and we need to live closer to animals, it is likely that new transfers of viruses into the human population will occur more frequently. All our society can do is take preventive measures so that we can act quickly the moment we suspect an outbreak. We must also strive to learn from the consequences of pandemic outbreaks to prepare our society if and, most likely, when this happens again(Shah et al. 2020). In late December 2019, the new and widespread disease COVID-19 started in China and rapidly spread worldwide, and on March 11, 2020, the World Health Organization declared it a pandemic. As of 25 August 2020, there are over 23.3 million confirmed cases of COVID-19, and over 800,000 deaths reported globally(Abbot 2021; Gómez et al. 2020).

Recently, the COVID-19 pandemic made it clear that healthcare supply chains are far from perfect. Not much improvement has been made from experience gained during previous epidemics such as Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS).(Choi 2020; Peeri et al. 2020). COVID-19 is a global problem that still exists today, from 2020 to 2021 the number of cases is increasing every day, affecting people of all ages and genders, and has been classified as a global pandemic (WHO, 2020). Severe Acute Respiratory Syndrome 2 (SAR-CoV-2), also known as novel coronavirus 2 (COVID-19), is a respiratory disease that was newly identified in December 2019 and is spreading rapidly throughout the city of Wuhan, where it was first detected.(Liu et al. 2020). Therefore, the World Health Organization declared COVID-19 a public health emergency on 28 February and a pandemic on 11 March 2020.(Fitriani et al. 2022). The outbreak and spread of COVID-19 has brought great challenges to our economic and social activities. It threatens people's lives and health, and has a significant impact on the economy, finances, industry, region and business(Y Wang & Gao 2020). According to a joint statement by the World Health Organization and the International Chamber of

Commerce, COVID-19, with its multiple impacts on health and the economy, requires urgent action by governments to minimize its transmission. These early and effective steps could reduce short-term infection risks for employees and reduce long-term costs to trade and the country's economy(Yoosefi Lebni, Ziapour, et al. 2021). COVID-19 is currently the greatest global health challenge, and due to its widespread and continuous mutation, has left organizations with volatility, uncertainty, complexity and ambiguity. This pandemic has created many challenges for organizations, including business continuity, low employee motivation, remote work, and unemployment(Abbas et al. 2021; Nangia & Mohsin 2020; Yosefi Lebni, Abbas, et al. 2021). Therefore, in the current crisis, the safety, health and well-being of employees is a concern for many organizations(Dennerlein et al. 2020; NeJhaddadgar et al. 2020). Human resources managers in charge of recruiting people, managing employee performance, payroll and benefits, and developing and revising employee classifications seek innovative, creative, and effective ways to solve employee problems, keep them healthy(Chanana 2021; De Leon 2020)and support them by creating a sound management strategy(Roggeveen et al. 2020; Yosefi Lebni, Ziapour, et al. 2021; Ziapour et al. 2017).

The historical challenges of COVID-19, given the extraordinary and uncertain circumstances and the changing economic landscape, require deep forethought and flexibility to manage human capital well(Abbas et al. 2019; Risley 2020; Yosefi Lebni, Abbas, et al. 2021). First of all, Covid-19 has had a significant impact on the job market because of its potential and competitive rates of mortality and morbidity for the population. This phenomenon is reminiscent of history when the "Black Death" pandemic hit Europe starting in October 1347 after 12 Genoese merchant ships anchored in the Port of Messina, the Sicilian Islands spreading the bubonic plague which resulted in the loss of a third of the Sicilian population.(Djirimu et al. 2021). The COVID-19 pandemic has posed many challenges for organizations(Chi 2022).

The pandemic has also dramatically changed the way organizations operate. Meanwhile, the issues of social innovation and user innovation broaden the context of open innovation and ecosystems by providing new products, services or solutions that can solve social problems.(Phills et al. 2008). This pandemic also comes at a time of technological opportunity, due to progressive ongoing research in areas such as advanced manufacturing, robotics, and digital technologies and the start of their appropriate implementation into various sectors of society. As the impact of the COVID-19 pandemic has extended far beyond the boundaries of the healthcare system, the social and economic impact of the pandemic has affected every aspect of the lives of individuals around the world.(Haleem et al. 2020). With the Large-Scale Social Restrictions Policy (PSBB) and health protocols that must be complied with, technology and information developments can be utilized as much as possible(S Jumiyati & I Irmawati 2021). Since June 2020 Indonesia has entered a new normal phase (New Normal) as a form of adaptation to the co-19 pandemic(Pitriani et al. 2021).

The New Normal phase is marked by the rise of vaccinations as an effort to prevent transmission of COVID-19. The Covid-19 vaccination activity in Palu City involves competent resources in their fields such as doctors, nurses and other health workers. The health workers who served as vaccine providers had previously been given training(Chairunnisa et al. 2022). Physical distancing measures will likely carry over to the post-COVID-19 world(Bai et al. 2021). Welcoming the new post-COVID19 pandemic era requires renewed skills to face the upcoming challenges and changes(Sudha & Singh 2022). The current unprecedented pandemic crisis has pushed many organizations in a state of urgency to innovate, for example, changing business goals, products, materials, etc. preventing the spread of viruses, shortages of key ingredients due to supply chain disruptions, helping people in need, and safely reopening economies(Bello et al. 2020; Stoll 2020). There are big changes in daily life and work routine; Innovation is a vital strategy for organizations to survive and recover from crises(Zhong et al. 2022). In this context, innovation is defined as a creative response that requires a commitment of resources to the development of a new product or process(Taalby 2017). Continuous innovation is essential to achieve organizational survival and success in the turbulent market environment of the digital age and post-COVID-19 pandemic(Lee & Trimi 2021).

Organizational innovation indicators regarding Ravichandran (2018), Schomaker and Bauer (2020), Kristinae et al. (2020), and Rai et al. (2021) are as follows: (1) Companies are adding product types; therefore, there is no reduction in employees, (2) There is no reduction in salary from the company, (3) Work patterns and colleagues become flexible and result-oriented, (4) Employees are allowed to contribute creative ideas to develop effective and efficient business solutions for the sustainability of the company, (5) Employees get training opportunities to improve technical competence to be more creative(Kristinae et al. 2020; Rai et al. 2021; Ravichandran 2018; Schomaker & Bauer 2020). Strategies for dealing with crises can vary depending on the scale and impact of the event, time pressure, and level of control(Ritchie 2004). The SARS, Ebola and COVID-19 pandemics are crises that have arisen from the transmission of a highly contagious virus, extensive negative media

coverage and increased public fear(Li et al. 2021). Several scholars have revealed the impact of innovation on organizational performance during the Covid-19 pandemic(Akinwale 2020; El-Chaarani 2021; El Chaarani et al. 2021; Yonggui Wang et al. 2020). They point out that innovation is especially important during a crisis because it results in an efficient response to societal needs, and thus, can increase competitive advantage(El Chaarani & Raimi 2022). Thus, continuous innovation has become a strategic priority for every type of organization, be it a business, government or not-for-profit company(Ettlie 2007; Lee & Lim 2018; Veronica et al. 2020). Considering the combination of these factors, it is hypothesized that the COVID-19 pandemic will be a driving force for innovation across society, with many innovations demonstrating potential long-term impact.(Zimmerling & Chen 2021). Our research focuses on collaborative and innovative approaches in crisis scenarios when organizations must ensure public service delivery(Phillips et al. 2021).The subject of this research is societythe community as recipients of services and the Social Service and Health Office of Palu City, Central Sulawesi as government organizations that have contributed most to the handling of the COVID-19 pandemic in serving public needs are the objects of research.

RESEARCH METHODS

a. Method Description

This research will focus on testing the theoretical model which states that there is collaborative relationship to post-covid-19 organizational performance in the city of Palu. Researchers test theoretical models to understand the consistency of the theory so that it can be used as new scientific findings. This study uses quantitative research techniques with regression analysis techniques.

b. Participants and Procedures

The participants in this study were the people of Palu-Donggala city. Recruitment of participants through online surveys. Participants are required to read the informed consent form before participating in this study and can stop at any time. The following are sociodemographic data in this study:

Table1 Participant Sociodemographic Data

Gender
Woman
Man
Ethnic group
Kaili
Bugis/Makassar
Java
Bali
Other
Education
SD/Equivalent
Middle School/Equivalent
SMA/Equivalent
Diploma and/or Bachelor Degree
S2 and/or S3
Status
Not married yet
Marry
Widow widower
Age
18-20
21-25

26-30
31-35
36-40
41-45
46-50
Type of work
Doesn't work
Non-permanent workers
Trader
Farmers, Fishermen,
Skilled Worker (Tailor, Mechanic, Carpenter, Barber)
Bankers, Administration/Office
Civil Servants (Regional Servants)
Professional (teacher, doctor, engineer, journalist)
Other

c. Measurement

The measurement tools used in this study are Collaboration to measure the level of organizational collaboration, innovation to measure innovation in the organization and performance to measure organizational performance during the Covid-19 pandemic. All measuring instruments in this study went through a process of adaptation to Indonesian.

a) Collaboration developed by Shou et al., 2017 is used to measure organizational collaboration consisting of 4 items. This measuring tool uses a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The Cronbach's alpha reliability coefficient value is 0.95 which shows that all the results of the scale analysis are valid and reliable for use in measurement. Example item "I am able to share information with members of the organization".

b) Innovation developed by Lee and Song, 2015used to measure organizational innovation consisting of 5 items. This measuring instrument uses a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The reliability coefficient value of Cronbach's alpha is 0.93 which indicates that all the results of the scale analysis are classified as valid and reliable for use in measurement. Example item "capable of adopting new skills and technologies".

c) *organizational performance*developed by**Tseng and Liao, 2015**used to measure the performance of an organization which consists of 5 items and is divided into 5 point Likert scale. The reliability coefficient value of Cronbach's alpha is 0.89 which indicates that all the results of the scale analysis are classified as valid and reliable for use in measurement. Example item "I have superior customer satisfaction?"

d. Data analysis

This study used several data analysis techniques, including; 1) descriptive data analysis, 2) Bivariate correlation, 3) Confirmatory Factor Analysis (CFA), 4) Regression.

e. Population and sample collection techniques

1. Population

In the research method the word population is very popular, used to mention allied or a group of objects that are the target of research. Therefore, the research population is the whole (universum) of the research object that can be in the form of humans, animals, plants, air, symptoms, values, events, attitudes to life, and so on, so that these objects can be a source of research data

Population data in this study were taken from the total population in the West Palu sub-district, the population in this study totaled 49,279 people. This population was taken according to population data in 2020 by the Palu City Statistics Agency.

2. Sample

The sample selection method in this study uses a purposive sampling technique or chooses a sample on purpose. The method will determine respondents with the conditions that are the characteristics or criteria needed or those that have been determined by previous researchers, the samples taken are not random but the researchers determine the samples taken themselves with certain considerations, namely the community affected by the co-19 pandemic. Respondents who represent the population at the research location use the sample determination rules according to Krejcie and Morgan

In taking the sample required by the researcher, it can be determined using the formula introduced by Krejcie & Morgan (1970). The formula in Figure 3.1 is used to determine the number of samples as follows:

Formula ImageKrejcie & Morgan

$$s = \frac{x^2.N.P(1-P)}{(N-1).d^2 + x^2.P(1-P)}$$

Information :

S = desired sample size

X2 = chi-square table value for 1 degree of freedom at the desired confidence level (3.841)

N = population size

P = population size (assuming 0.50 as this will give the maximum sample size)

d = level of accuracy expressed as the rate (0.05)

Calculation of the number of samples needed for the population of West Palu sub-district is determined using Figure 3.1. The following is the calculation of the number of samples required as respondents in this study:

$$S = \frac{3841(49.279)(0,5)(1-0,5)}{0,05^2(49.279-1) + 3841(0,5)(1-0,5)}$$

$$S = \frac{47.320}{123,195 + 0,960,25}$$

$$S = \frac{47.320}{124,15525}$$

$$S = 381,13 \approx 381$$

The number of samples required in this study using the formula is the total population of the West Palu area, amounting to 381 people

RESULTS

a. Description of Biographical Data

Demographic Background	Items	Frequency	Percentage
Gender	Man	223	58%
	Woman	158	42%
Age	18-20	5	1%
	21-25	95	26%
	26-30	86	22%
	31-35	95	26%
	36-40	57	15%
	41-45	22	6%
	Etc	21	5%
Ethnic group	Bugis-Makassar	101	25%
	Kaili	196	49%
	Java	61	15%
	Bali	10	3%
	Etc	32	8%
Education	Senior high school	190	49%

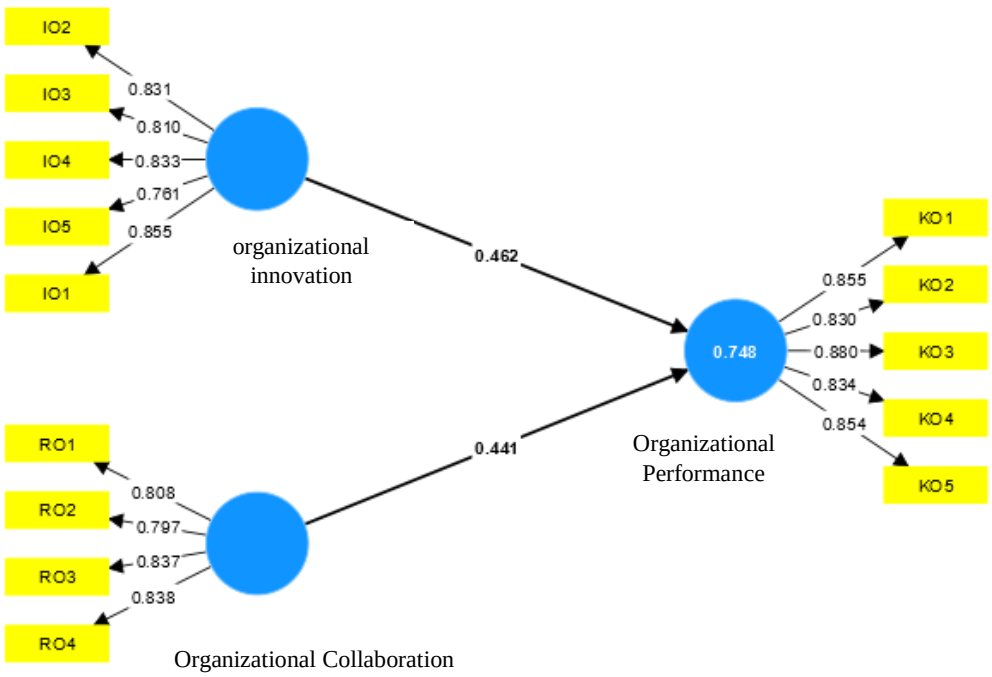
	S1/D4	148	38%
	S2/S3	43	13%
Status	Not married yet	125	34%
	Marry	256	66%
Work	Farmer	26	7%
	Laborer	12	3%
	Self-employed	199	51%
	civil servant	116	30%
	Doesn't work	10	3%
	Etc	18	7%

From databiography can be seen that this research was conducted in the City of Palu with the result that the respondents in this study were men with a total percentage of 58%. The results of high school and undergraduate graduates dominated with a presentation of 49% and 38% as research respondents, ethnicity was dominated the kaili tribe which has a presentation of 49%. The data is also dominated by productive age, namely age 21-25 with a total presentation of 26% which has the same presentation rate, namely age 31-35 years, with self-employed work with a percentage rate of 51%

b. Data Analysis

Based on the results of the measurement model analysis, it is known that there are several indicators with a value below 0.7, so they must be excluded from the analysis, namely X2. The six indicators have a loading factor value below 0.70. The next step is retesting to see if all indicators meet the standard value > 0.7.

Convergent validity in PLS is also assessed by AVE (Average Variance Extracted). The rule of thumb used for convergent validity is AVE ≥ 0.50 (Hair et al., 1998). After repeated testing, the results of the convergent validity test revealed that the AVE value was greater than 0.50 for all variables, namely quality of service, finance, and training and development, so that it was concluded that the variable was convergent. legitimate.



Based on the picture above, it shows that all indicators have an outer loading greater than 0.7, so it is concluded that it is valid in reflecting the variables of organizational innovation, organizational collaboration and organizational performance.

Composite Reliability Test

Based on the composite reliability test showed that the value of all variables > 0.7. Therefore, it can be concluded that the variables tested are valid and also reliable (Ghozali, 2005).

Indicator	Cronbach's Alpha	Composite Reliability (Rho_A)	Composite Reliability (Rho_C)	Average Variance Extracted (Ave)
organizational innovation	0.877	0.878	0.910	0.670
organizational performance	0.905	0.905	0.929	0.724
organizational collaboration	0.838	0.838	0.892	0.673

a. Inner Model Collinearity Test Analysis (Structural Model)

The results of the collinearity test show that on the path of the influence of finance (X1) and Learning and training (X2) on Service Quality (Y) it is known that the collinearity values for the variables Finance, Service quality and Learning and Training have VIF all below 5, so it is said that free water of linearity

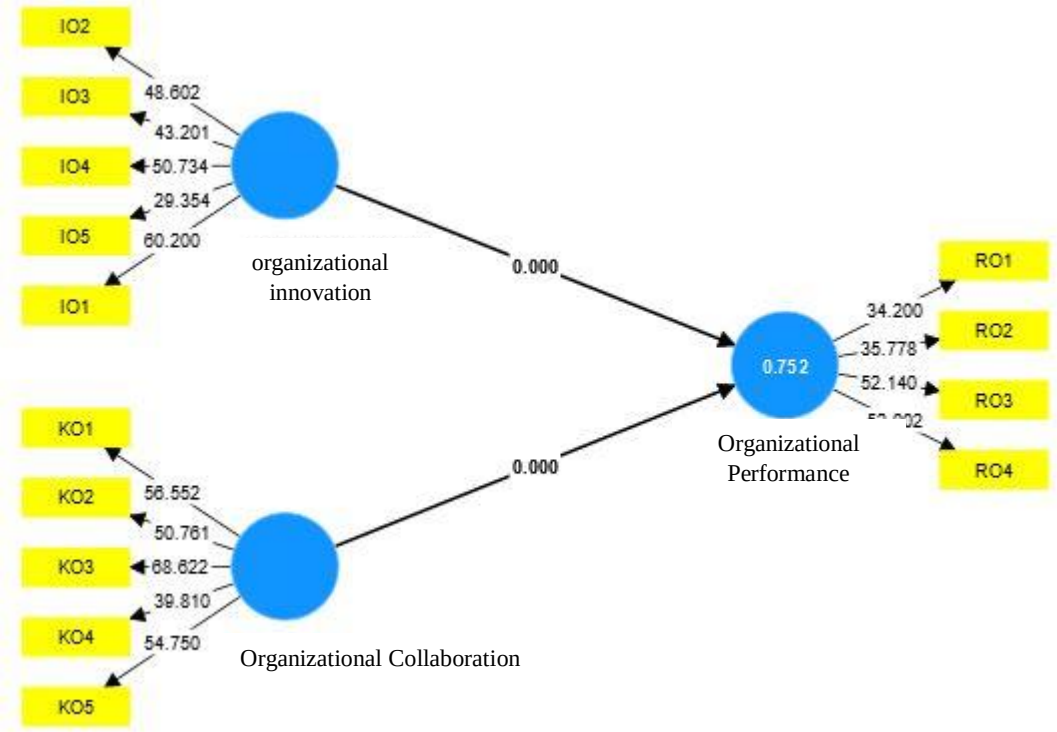
Independent Variable	Vif	Information
Organizational Innovation	2,081	
Organizational Performance	2,483	
Organizational Collaboration	2,483	

Determination Coefficient Test (R-Square)

The R2 value for organizational performance (Y) is 0.748, meaning that the percentage influence of organizational innovation (X1) and organizational collaboration (X2) on organizational performance (Y) is 74%, while the remaining 26% is explained by other variables,

Path coefficient test

Indicator	R-Square	R-Square Adjusted
organizational performance	0.748	0.747



Indicator	Original Sample (O)	Sample Means (M)	Standard Deviation (Stdev)	T Statistics (|O/Stdev|)	P Values
Organizational Innovation -> Organizational Performance	0.476	0.475	0.052	9.107	0.000
Organizational Collaboration -> Organizational Performance	0.431	0.432	0.052	8,311	0.000

The test results show that the beta coefficient value of organizational innovation on organizational performance is 0.475 and the t-statistic is 9.107. This result is stated to be a significant t-statistic. because >1.96 with a pvalue <0.05 so this organizational innovation is accepted. Meanwhile, the test results show that the beta coefficient value of organizational collaboration on organizational performance is 0.432 and the t-statistic is 8.311. From this result, the t-statistic is significant. because >1.96 with a pvalue <0.05 so organizational innovation is accepted.

Model Fit Test (Model Fit)

The SRMR value limit is below 0.08 indicating a fit or good model, and if the SRMR value is more than 0.08 but still smaller than 0.12 it indicates the model is still acceptable (marginal fit), whereas if the SRMR value is greater than 0, 12 shows the model is not fit (lack of fit or poor fit). The results of the evaluation of the model fit with SRMR were 0.098, this value was greater than 0.08 but still within the limits of 0.12, so it can be concluded that this research model has a marginal fit level or is called marginal fit.

DISCUSSION

To see the significant value of organizational innovation on organizational performance, we can see that organizational innovation has 5 items and also organizational performance has 5 items. When the Palu City Health Office revolutionized due to technological changes, demographic changes, and changing situations, innovation became a necessity to provide quality services. Organizational innovation analysis has a significant value on organizational performance which has a higher convergent value. So it can be concluded that organizational performance has a relationship with organizational innovation according to the situation. There is innovation in handling Covid-19 in Palu City, there is no doubt that organizational performance has a positive relationship and goes according to policies issued by the central and regional governments in handling Covid-19. strong in

improving the quality of service in handling Covid-19 in the city of Palu. So it can be concluded from this analysis that there is no doubt that the handling of Covid-19 in Palu city is in accordance with the policies set by the central government and local governments. And also about the innovation variable, namely the importance of developing technology and actions when handling Covid-19, especially in Palu City where technological developments are very important for the people of Palu City during the Covid-19 pandemic. Organizational innovation has 5 items that match the threshold, so the organization's performance in handling Covid-19 in Palu city has good innovation. That technological developments in the Covid-19 situation. Innovation developments in handling Covid-19. Establishing this innovation indicator as a parameter in the success of an organization's performance in handling Covid-19. that the public understands innovation in handling so that the community is satisfied with now because the service is tangible and the efforts made by service providers to comply with central and regional policies in handling Covid-19 19 to satisfy society. Considering the fact that most of the general Health Services are underperforming, a lack of performance coupled with a lack of satisfaction growth there is usually the possibility of dissatisfaction and high turnover rates, which can have a negative impact on organizational performance. these findings have several profound practical implications.

The results of this study are the level of relationship between organizational innovation that has a significant relationship to organizational performance in the Palu City Health Office in handling Covid-19. From the results of the data analysis above it can be concluded that the relationship between organizational innovation and organizational performance has significant value. high significance, it can be seen that the relationship between organizational innovation and organizational performance has a significant positive value in handling Covid-19 in Palu City. these findings have several profound practical implications. The results of this study are the level of relationship between organizational innovation that has a significant relationship to organizational performance in the Palu City Health Office in handling Covid-19.

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Every development in an organization, there must be collaboration between organizations. So in handling Covid-19 in Palu City requires collaboration between organizations in handling the community during this pandemic. The Palu City Health Office conducted several collaborations between related agencies in handling Covid-19 in Palu City. From the results of the data analysis above, we can see that collaboration has a high convergent value. So it can be concluded that organizational collaboration has a significant relationship to organizational performance. Because good organizational collaboration can provide satisfaction to society and produce good organizational performance. Therefore organizational collaboration is a determinant for the effectiveness of organizational performance, especially at the Palu City Health Office in handling Covid-19.

Judging from the indicators of organizational collaboration, which has 4 items, namely mutual respect for inter-organizational communication, good information sharing between organizations, good organizational views, and mutual respect for inter-organizational relationships in providing information that is easily understood by the community. In order to provide information that is easy to understand, this collaboration indicator is set as a parameter in good organizational performance which can be seen from the superior satisfaction of the community, the existence of a high level of public trust, the growth of community satisfaction with the organization and the existence of superior organizational probilits in handling Covid-19 in Palu City. So the handling of Covid-19 carried out by the Palu City Health Office has a good level of collaboration so that increased organizational probability has high community satisfaction. Organizational collaboration has a positive relationship to organizational performance.

CONCLUSION

Organizational performance is the level of success of the organization in fulfilling its duties and responsibilities as well as the ability to achieve the goals and standards that have been set. Organizational performance has a high level of community satisfaction with the organization. Monitoring organizational

performance reveals discrepancies between planned and implemented results resulting in satisfied public opinion helps identify and correct potential problems. This is very important for improving organizational performance in the crisis sector such as handling the Covid-19 epidemic in developing countries, especially Palu City, given the challenges associated with the care and handling system in prevention in public health. . Although the main function of the Department of Health is to provide valid and appropriate information, The modern Health Service cannot work without supporting services where the biggest component in the Health Service is organizational collaboration. However, organizational performance in providing information about the handling and control of Covid-19 has not received the necessary attention because most of the interventions are focused on the performance of clinical health services. Responding to the need to develop organizational collaboration, which can be considered for measuring inter-organizational relationships on organizational collaboration, is the main objective of this study. Following a review of the literature on service quality, a set of service qualities was first created. It then undergoes further content validation and construct validation through the application of factor analysis, principal component extraction.

There are many other studies like this without limitations. The indicators proposed are general in nature and mostly subjective, which is in accordance with the practice of handling Covid-19 at the Palu City Health Service. Measurable performance can pose challenges, besides that the information may not be available. This research is limited to 3 scopes of performance indicators. Even though the selected performance is located next to each other, a significant relationship occurs between organizational collaboration and organizational innovation on organizational performance in the Health Office. Palu City is very good. The indicator preference possibility may exist in fact despite the results validating the intentional data loop from all three services. From the limitations of this study, hence future research should target the development of organizational performance more objectively for assessment over time. A larger sample may also be necessary to investigate each level of quality at each level of service. In addition, future studies should be directed to place weights on the proposed indicators to ensure preference of indicators based on weight. As a next step, empirical testing and indicator validation are suggested to improve the service quality of Public Health Office management facilities.

Further construction is carried out through the application of principal factor and component analysis. A larger sample may also be needed to investigate each level of quality at each level of service. In addition, future studies should aim to assign weights to the proposed indicators to ensure preference for indicators based on weights. As a next step, empirical testing and indicator validation are suggested to improve the service quality of Public Health Office management facilities. Further construction is carried out through the application of principal factor and component analysis. A larger sample may also be needed to investigate each level of quality at each level of service. In addition, future studies should aim to assign weights to the proposed indicators to ensure preference for indicators based on weights. As a next step, empirical testing and indicator validation are suggested to improve the service quality of Public Health Office management facilities. Further construction is carried out through the application of principal factor and component analysis.

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