



**THE EFFECT OF HEALTH PERFORMANCE SYSTEM ON MATERNAL AND CHILD
HEALTHCARE IN ACEH, INDONESIA**

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ABSTRACT

This study aims to determine the influence of the quality of health services, healthworkforce, and infrastructure/technology on performance of the healthcare system at the district level in Aceh Province, Indonesia. The Health Performance System theory can explain the research on the impact of health performance system on maternal and child health services in Indonesia by examining the relationship between various elements of the health performance system, including leadership, management, human resources, technology, and healthcare processes, and their effects on the performance of maternal and child health services in Aceh, Indonesia. This theory postulates that a well-functioning and efficient health performance system can impact the availability and quality of maternal and child health services. Moreover, the theory suggests that the quality of health services can be influenced by adequate technology infrastructure and human resources, which can in turn mediate the overall performance of maternal and child health services. As such, this research can provide insights into the importance of implementing an effective and efficient health performance system to enhance maternal and child health services in Aceh, Indonesia. This can be achieved through various interventions such as improving technology infrastructure and human resources, as well as fostering strong support and collaboration among the government, healthcare institutions, and the community. This study used a quantitative research design with a cross-sectional approach in 12 districts/cities within Aceh Province. The study involved health workers employed in healthcare facilities in Aceh Province, with a sample size of 384 respondents who were selected using purposive sampling. Data was collected using structured closed questionnaires given through direct and/or online interviews. The Likert scale was used for the questionnaire answers. Data analysis included t-tests for univariate analysis and Structural Equation Modeling (SEM) through the Analysis Moment of Structural (AMOS) program for multivariate analysis. The aim was to determine the effect of exogenous variables on endogenous variables, predict variables, and construct a model. The hypotheses were accepted at a significance level of 0.05. The research results show that there is a significant direct influence of health workforce and technology/infrastructure on health performance system and the quality of maternal and child health services. Additionally, service quality indirectly mediates the influence between technology/infrastructure and health workforce on performance of the health system. The ability to perform actual analysis from various data sources is key for the government to respond accurately to changes in context, risks, issues, and community needs. An effective health performance system can influence the availability and quality of maternal and child health services in Aceh, Indonesia.

Keywords: Health Performance System, Maternal and Child, Healthcare

INTRODUCTION

Indonesia is a country with high maternal and infant mortality rates, although there has been a decline in recent years (UNICEF, 2020; World Health Organization, 2019). Factors contributing to the high maternal and infant mortality rates in Indonesia include limited access to healthcare services, a shortage of trained human resources, and a lack of understanding about the importance of antenatal and postnatal care (Primasari, 2021). Maternal and child health services have become a primary focus in efforts to improve public health in Indonesia. Basic health services often face resource limitations such as medical personnel, healthcare facilities, medicines, and medical equipment. This makes it difficult to provide adequate healthcare services to the entire population. Basic health services are still unevenly distributed and inaccessible to the entire population, especially those living in remote areas, border areas, and areas that are difficult to reach (Nizamuddin, 2018). This creates a gap in healthcare services between urban and rural areas (Suparmi & Tampubolon, 2018). According to data from the Indonesian Ministry of Health, the maternal and infant mortality rates in Indonesia are still relatively high despite a decline in recent years. The maternal mortality rate in Indonesia is currently around 305 per 100,000 live births (World Health Organization, 2019). The infant mortality rate in Indonesia is around 20 per 1,000 live births (World Bank, 2020). According to data from the Central Statistics Agency (BPS) Aceh in 2020, the maternal mortality rate in Aceh is still quite high, at 98 deaths per 100,000 live births. This is still far above the Millennium Development Goals (MDGs) target of only 102 deaths per 100,000 live births. In addition, the infant mortality rate in Aceh is also quite high, at 19 deaths per 1,000 live births.

One effort to reduce maternal and child mortality rates is by improving the health system's performance. A poorly functioning health system can impact the quality of maternal and child health services provided by healthcare providers, leading to misdiagnosis, improper treatment, and a lack of prevention efforts for mothers and children (Ulinuha & Firdausy, 2020). Additionally, a poorly functioning health system can affect the motivation and performance of healthcare providers in providing health services. Under normal conditions, a strong health system's performance can provide integrated, effective, efficient, and quality health services (Widayati & Fauzi, 2020). However, during emergencies or natural disasters, such as the COVID-19 pandemic or earthquakes, a strong national health system becomes crucial in providing a quick and accurate response to the emergency situation. Previous studies, such as the research by Hamidah et al. (2018), have shown a significant correlation between health system performance and maternal and child health services. Research conducted by Ayuningtyas et al. (2018) demonstrated that better health system performance results in better maternal and child health services provided by hospitals. Research by Utami et al. (2019) also indicated that better health system performance leads to better maternal and child health services provided by health centers. Specifically, maternal and child health services are related to health system reform. Health system reform aims to improve the efficiency and effectiveness of the health system by optimizing health service processes, including cost regulation, planning and management, as well as monitoring and evaluation (Sunarta, I. N., & Astuti, P. D. 2023).

Health system policy reform has a positive impact on healthcare financing policies in ensuring sufficient, equitable, efficient, and effective healthcare financing (Prasetyo, 2018). The performance of a healthcare system is usually associated with the country's healthcare system. A country with a good healthcare system can improve the health of its population, which has an impact on improving the quality of life and productivity of the people. Conversely, a country with a poor healthcare system will experience many health problems and can hinder economic growth. To develop a good healthcare system, supporting factors are needed that play an important role in improving the performance of the healthcare system. These factors include the quality of healthcare services, governance, healthcare workforce, healthcare financing, and infrastructure/technology (Sari,

et al. 2019). Therefore, research is needed to determine the influence of these factors on the performance of the healthcare system. However, in this study, the researchers track it at the district level. This study aims to determine the influence of the quality of healthcare services, governance, healthcare workforce, healthcare financing, and infrastructure/technology on the performance of the healthcare system at the district level in Aceh Province, Indonesia.

LITERATURE REVIEW

Health Performance System

The health performance system plays a crucial role in providing quality health services to the community. The health performance system involves various aspects such as human resource management, financial management, operational management, and health service quality management (Gwatkin, et al. 2016). Health service quality is an important aspect of the health performance system. Health service quality includes aspects such as the availability of drugs and medical equipment, the speed and accuracy of diagnosis, ease of access to services, and patient involvement in treatment decision-making processes (Bhutta, 2014). In maternal and child health services, the health performance system also plays a critical role. Maternal and child health services include aspects such as antenatal care, delivery, newborn care, and immunization (Kurniawan, Y., et al. 2019). A good health performance system can ensure the availability of quality human resources, adequate drugs and medical equipment, as well as effective and efficient service procedures to improve the quality of maternal and child health services (United Nations Population Fund, 2017). Improving the quality of maternal and child health services can be done through various efforts such as improving the availability of quality human resources, increasing accessibility to health services, improving the availability of drugs and medical equipment, and increasing community participation in the decision-making process related to health services. In the context of Indonesia, the health performance system and maternal and child health services remain a challenge that needs to be addressed (WHO, 2016). Many areas still have limited human resources and health facilities, as well as low community participation in health-related decision-making processes. Therefore, efforts are needed to improve the health performance system and maternal and child health services in Indonesia.

Healthcare System in Indonesia

The healthcare system in Indonesia consists of various health services, including both government and private healthcare facilities, as well as community health services. However, the healthcare system in Indonesia still faces various challenges such as uneven access and quality of services, as well as a shortage of medical personnel especially in remote areas (Kusuma, et al. 2021). Nevertheless, the Indonesian government continues to strive to improve the healthcare system, including by launching the National Health Insurance (JKN) program aimed at providing equal and quality healthcare access to all Indonesian citizens.

The healthcare system in Indonesia also faces other issues such as high healthcare costs and low public health levels. For example, the cost of hospitalization in private hospitals in Indonesia can be very expensive and burdensome for low-income families. Therefore, the National Health Insurance (JKN) is designed to provide equal and affordable healthcare access to all Indonesian citizens (Mahendradhata, 2017). This program is expected to improve the quality of healthcare services and enhance the overall health of Indonesian citizens. Furthermore, there are still many areas in Indonesia that lack medical personnel, especially in remote areas.

This makes healthcare access more difficult for people living in those areas. The Indonesian government continues to increase the number of medical personnel in remote areas by providing incentives to medical personnel willing to work there (Wibowo, et al. 2018). The healthcare system

in Indonesia also faces challenges in terms of healthcare service quality. Some factors that affect healthcare service quality in Indonesia include a lack of qualified medical personnel, inadequate healthcare facilities, and a lack of regulation and supervision over healthcare practices that do not meet standards. Therefore, the Indonesian government needs to continue evaluating and improving the healthcare system to enhance the quality of healthcare services for its citizens.

RESEARCH METHODS

This study utilized a quantitative analytic research design with a cross-sectional approach. It was conducted in 12 districts/cities within Aceh Province, namely Simeulu, Aceh Singkil, Southeast Aceh, South Aceh, Nagan Raya, West Aceh, Pidie, Bireun, East Aceh, Central Aceh, Langsa, and Subulussalam. The study took place in hospitals, health centers, and clinics providing maternal and child health services, both governmental and private. The population of the study was all health workers employed in healthcare facilities in Aceh Province. The sample consisted of 384 respondents, including general practitioners, obstetrics and gynecology specialists, pediatricians, midwives, and nurses, who were selected using purposive sampling. The sample size was calculated based on Krejcie and Morgan's (1970) formula with a 95% confidence interval and a 0.5 significant level. Structured closed questionnaires were used to collect data, consisting of question items or statements in accordance with the compiled variables. These questionnaires were given to the respondents through direct and/or online interviews via social media applications such as WhatsApp, Telegram, Facebook, and Instagram. The Likert scale was used for the questionnaire answers, with five ranges: Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), and Strongly Agree (SA). Univariate analysis, specifically t-tests, were used for the data analysis, and multivariate analysis was conducted using Structural Equation Modeling (SEM) through the Analysis of Moment Structures (AMOS) program. The objective of this analysis was to determine the effect of exogenous variables on endogenous variables, to predict variables, and to construct a model. The criteria for accepting hypotheses were set at a significance level of 0.05.

RESULTS

Characteristics of respondents

The characteristics of the respondents are what criteria will be given to the research subjects so that the sources of information in the research can be directed correctly and as expected. The characteristics in this study consist of education level, profession/position, place of work, length of work, employment status, and monthly income (rupiah). The characteristics of the respondents in this study are listed in the table 1 below

Table 1. Characteristics of Respondents

No	Characteristics	Frequency	Percentage
1	Level of education		
	Diploma	243	63.3%
	Bachelor	116	30.2%
	Masters	25	6.5%
2	Profession/ Position		
	medical doctor	17	4,4
	Midwife	231	60.0%
	Nurse	111	28.9%
	program coordinator	25	6.5%

3	Workplace		
	Clinic	15	3.9%
	health center	180	46.9%
	hospital	189	49.2%
4	Length of work		
	1-5 years	54	14.1%
	6-10 years	40	10.4%
	11-15 years	112	29.2%
	16-20 years	87	22.7%
	21-25 years	64	16.7%
	>25 years	27	7%
5	Job status		
	Contract	35	9.1%
	Permanent	277	72.1%
	Another	72	18.8%
6	Monthly income (rupiah)		
	<1,000,000	44	11.5%
	1,000,000 – 2,499,999	114	29.7%
	2,500,0000 – 3,999,999	120	31.3%
	4,000,000 – 5,499,000	69	18%
	5,500,0000 – 6,999,999	22	5.7%
	7,000,000 – 8,499,000	7	1.8%
	8,500,0000	8	2%
Source: Primary data, 2022 (processed)			

This study involved 384 respondents, with females dominating at 357 respondents (93%) while males only accounted for 27 respondents (7%). This can be attributed to the fact that the health workforce providing maternal and child health services is mostly comprised of midwives who are predominantly female, as well as doctors and nurses who also have a high proportion of women. Regarding age, the largest respondent group fell within the age range of 43-47 years (89 respondents or 23.2%), while the lowest age range was between 23-27 years (24 respondents or 6.3%). From the respondent's profile, it was observed that the most dominant health workforce education was Academy (D3), which had 243 respondents (63.3%), followed by Bachelor's degree (S1) with 116 respondents (30.2%), and only 25 health workforces (6.5%) had a Master's (S2) education degree. The most common profession was midwives, with 299 respondents (77.9%), followed by nurses with 35 respondents (9.1%), doctors with 20 respondents (5.2%), head of the room/coordinator program with 18 respondents (4.7%), and structural personnel with 12 respondents (3.1%). Respondents from Pidie and Bireun districts were the most dominant among the 12 research locations, each with 72 respondents (18.7%) and 71 respondents (18.4%), respectively. Health workers from East Aceh accounted for 51 respondents (13.2%), while the lowest respondents were from Subulussalam City with only 11 respondents (2.8%).

Measurement Models

The variables of governance are measured by adapting indicators based on Scheider et al. (2020), Sharma et al. (2019), and WHO (2016). The health workforce variable is measured by adjusting the indicators based on Manyazewal (2018), Lutwama (2012), Sharma et al. (2019), Kamalasanan (2020), and WHO (2016). Service quality variables are measured by adapting indicators based on Sharma et al. (2019) and question/statement items from WHO (2016). Infrastructure/technology variables are measured

by adapting indicators based on Sharma et al. (2019), Merali et al. (2014), Baharuddin et al. (2019), and WHO (2010). The results of the data normality test indicate that the data were distributed normally within the range of ± 2.58 . Table 2 shows the data processing for confirmatory factor analysis for all constructs in this study.

Table 2 Indicator of Loading Factor on Variables

Statement	Validity	Reliability	Factor Loading	Average	CR
Health system performance:					
All pregnant women in my work area receive standard antenatal visits;	0.887	0.874	0.914	0.782	3,879
All pregnant women in my work area receive 10 T services during their pregnancy;	0.853		0.917		
All pregnant women, risk of pregnancy detected;	0.892		0.905		
All at-risk pregnant women admitted with cases or referrals;	0.868		0.943		
All deliveries in my work area are carried out in standard health care facilities;	0.670		0.812		
All deliveries in my work area are assisted by at least two trained helpers;	0.629		0.790		
Contraceptive use among women of childbearing age in my area is right on target;	0.583		0.720		
Long-term contraceptive methods are highly recommended for birth attendants;	0.553		0.680		
All newborns in my work area receive standard health care;	0.589		0.677		
Newborns with complications are treated or cases referred;	0.526		0.668		
All toddlers in my work area receive standard health care;	0.535		0.617		
Every toddler in my work area is given complete basic immunization;	0.556		0.777		
The ratio of maternal mortality in my work area has decreased in the last 3 years;	0.680		0.617		
The number of infant deaths in my work area has decreased in the last 3 years	0.568		0.914		
Quality of Maternal and Child Health Services					
Women are routinely assessed on admission to health facilities, during labour, appropriate and timely services are provided;	0.591	0.912	0.612	0.633	4,325
All newborns receive routine care soon after birth;	0.590		0.785		
Women with severe preeclampsia or eclampsia receive appropriate intervention promptly, according to WHO guidelines;	0.503		0.758		
Women with postpartum hemorrhage receive urgent intervention, according to WHO guidelines;	0.693		0.598		
Women with delayed labor/obstructed labor receive appropriate interventions, according to WHO guidelines;	0.741		0.336		
Newborns who are not breathing	0.685		0.699		

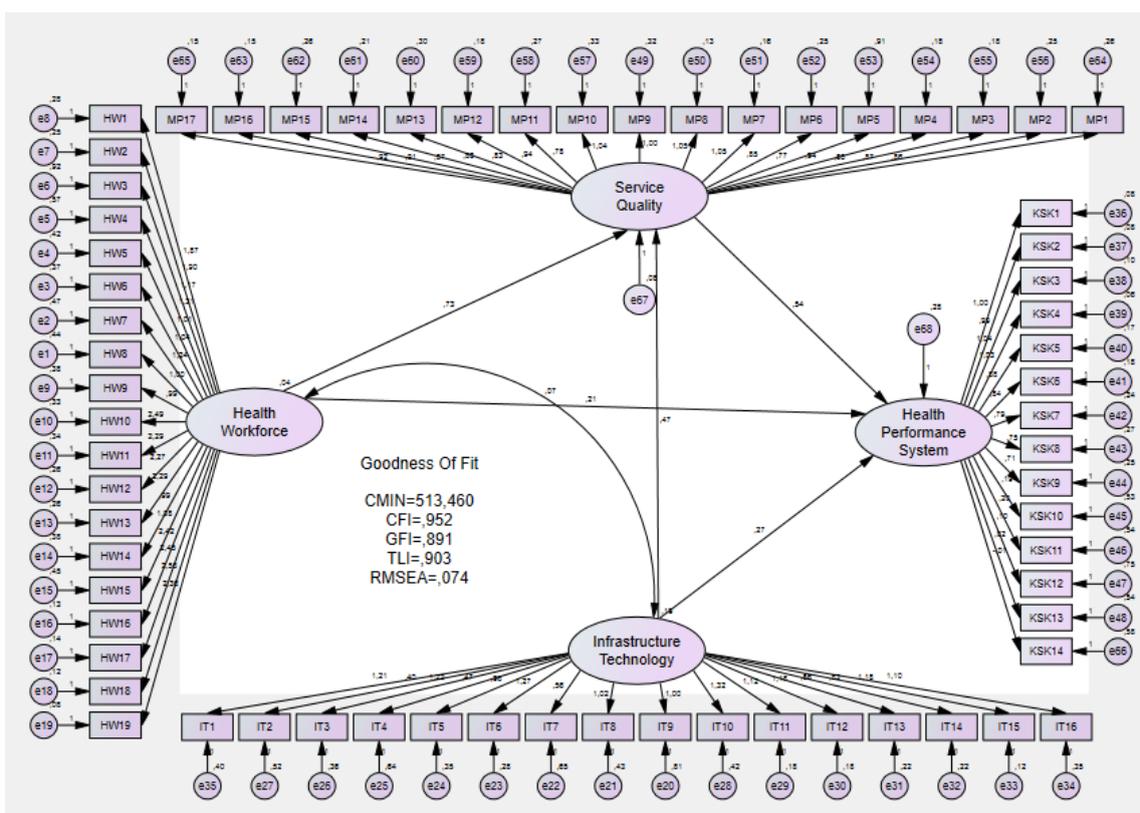
spontaneously receive appropriate stimulation and resuscitation using a bag and mask within 1 minute of birth, according to WHO guidelines;					
Women in preterm labor receive appropriate interventions for themselves and their babies, according to WHO guidelines;	0.738		0.678		
Premature and small babies receive appropriate care, according to WHO guidelines;	0.806		0.608		
Women with or at risk of infection during labour, delivery or the early postpartum period receive appropriate intervention promptly, according to WHO guidelines;	0.754		0.622		
All women and newborns receive care according to standard precautions to prevent infection;	0.732		0.555		
Every mother and newborn is appropriately assessed to determine if referral is necessary, and the decision to refer is made without delay;	0.643		0.694		
Every mother who needs a referral is carried out according to a predetermined plan without delay at any time;	0.776		0.552		
No woman or newborn should be subjected to unnecessary or harmful practices during pregnancy, childbirth and the early postnatal period;	0.795		0.643		
All women and newborns have privacy during labor and delivery, and their confidentiality is respected;	0.689		0.601		
No woman or newborn is abused or denied services	0.684		0.724		
All women and their families receive information about care and interact effectively with staff;	0.746		0.592		
All women and their families experience coordinated care, with clear and accurate exchange of information;	0.726		0.717		
Health workforces:					
This facility has a sufficient number of health workers to provide MCH services;	0.784	0.904	0.791	0.690	3,678
The workload at this facility is manageable;	0.754		0.743		
My productivity is measured by the number of patients I treat;	0.635		0.725		
The organization has indicators to measure staff productivity;	0.746		0.730		
Clients are always satisfied with the friendly service offered by the officers;	0.762		0.729		
Clients are satisfied with the quality of services we provide;	0.783		0.639		
Clients are satisfied with the timeliness of the service;	0.628		0.608		
Stakeholders are satisfied with the cooperation of health workers;	0.721		0.583		
Health workers get professional support to improve their performance;	0.728		0.708		
The organization regularly provides the necessary training or refresher at least every 12 months;	0.690		0.661		

I can apply the knowledge I gain through training programs;	0.753		0.621		
Every mother and newborn is served by competent personnel;	0.629		0.670		
Birth attendants and skilled support workers have the appropriate competencies and skills;	0.687		0.673		
Officers at these facilities had better overall job satisfaction;	0.753		0.631		
Officers are highly motivated to work;	0.723		0.308		
This organization has a solid work team;	0.649		0.810		
My team is always sharing and exchanging experiences effectively;	0.539		0.798		
My team is always developing interdisciplinary treatment plans;	0.637		0.833		
My team has always supported the goal of getting the right treatment	0.547		0.858		
Infrastructure/Technology:					
The hospital has the necessary basic equipment and supplies for MCH services, available in sufficient quantities;	0.610		0.738		
The organization has a system for checking and routine maintenance of medical equipment;	0.720		0.563		
The organization has sufficient supplies of medicines (antibiotics, magnesium sulfate, oxytocin, Vitamin K, Hb 0) and consumables;	0.739		0.792		
Hospitals are provided with adequate medicines and medical equipment for stabilization and pre-referral care for referred mothers and newborns;	0.850		0.723		
The organization has a special ward to receive sick and unstable little babies;	0.752		0.579		
Water, electricity, sanitation and waste disposal facilities function and are adequate in this organization;	0.842		0.749		
The organization has sterilization and disinfection facilities according to the instruments;	0.568	0.886	0.668	0.693	4.148
The hospital has a functioning incinerator or other suitable method for the management of infectious waste and used equipment;	0.863		0.734		
Blood banks or blood units are available at these health care facilities;	0.746		0.664		
There are no administrative barriers to the blood supply;	0.782		0.755		
Referral transportation facilities are always available for pregnant women, childbirth, postpartum, and newborns;	0.790		0.776		
Reference vehicles function properly with regularly available fuel;	0.689		0.630		
All mothers and their families receive service-related information;	0.639		0.616		
There is an appropriate exchange of information and feedback with relevant officials about referred mothers and newborns within or between health facilities;	0.653		0.830		
Every mother and newborn has a complete,	0.543		0.631		

accurate and standardized medical record;				
Maternal and perinatal death reporting systems are conducted regularly and can be accessed online	0.576		0.644	

Source: AMOS Release, 2022

Based on the table above, it is evident that all indicators have met the requirements to be included in the subsequent data processing for the structural equation model analysis, as the loading factor value is >0.5. The next step involves analysing the results of data processing in the full-stage SEM model by conducting suitability and statistical tests. The results of the complete SEM model analysis data processing are presented in the figure below.



Source: AMOS Release (2022)

Figure1 – Structural Equation Model

For details, see the following table 3:

Table-3 Full Model Fit Index

Conformity Index	Results	Cut	Information
Chi-Square	513,460	Expected small	Good
NORMEDCHISQ/CMIN DF	1682	< 2	Good
P-value	0.000	< 0.05	Good
GFI	0.891	>0.90	Good
AGFI	0.889	>0.90	Good
RMSEA	0.074	< 0.08	Good
TLI	0.903	>0.90	Good

CFI	0.952	>0.90	Good
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Source: AMOS Release, 2022

Based on Table 3, the chi-square test result for the entire model is 513.460 with a CMIN DF of 1,682 and a p-value of 0.000, along with an RMSEA value of 0.074. Additionally, the structural model presented above meets the Goodness of Fit Test criteria, with GFI (0.891), AFGI (0.889), TLI (0.903), and CFI (0.903) values above the cut value (>0.90). As a result, this study's model falls under the "fit" category, allowing for further analysis. To test the hypothesis, the Critical Ratio (CR) value is utilized at a significant level of 0.05, and a t-value is calculated. If the CR value > $t_{\alpha/2}$ (1.96) or P-value < Sig. α (1%, 5%, or 10%), the research hypothesis (H_a) is accepted, and H_0 is rejected. If the CR value < $t_{\alpha/2}$ or P-value > Sig. α , then H_a is rejected, and H_0 is accepted. Table 4 shows the results of the hypothesis testing, conducted by running data through the AMOS program.

Table 4. Regression Weight: (Group number 1 - Default model)

Exogenous Variables		Endogenous Variables	Estimating	SE	CR	P
Service_Quality	<---	Health_Workforces	,733	,209	3,508	***
Service_Quality	<---	Infrastructure_Technology	,467	,093	5028	***
Health_System_Performance	<---	Health_Workforces	,208	,126	2,756	.031
Health_System_Performance	<---	Infrastructure_Technology	,272	,136	2005	.045
Health_System_Performance	<---	Service_Quality	,541	,116	4,680	***

Source: AMOS Release, 2022

Table 4 reveals that the effect of exogenous variables on endogenous variables has a significant value. The p-value is <0.05, and the CR value corresponds to the cut-off value of >1.96. The analysis of influence below is conducted to determine the influence of exogenous variables on endogenous variables, both directly and indirectly, as presented in Table 5 below.

Table 5 Standard Live Effects (Group number 1 - Default model)

	Infrastructure_Technology	Health_Workforces	Service_Quality	Health_System_Performance
Service_Quality	,464	,336	,000	,000
Health_System_Performance	,184	.065	,368	,000

The table above shows that there is a direct effect of technological infrastructure on service quality of 0.464, health personnel on service quality of 0.336, a direct effect of technological infrastructure on health system performance of 0.184, health workers on health system performance of 0.065, service quality on health system performance is 0.368.

Table 6. Standard Indirect Effect (Group number 1 - Default model)

	Infrastructure_Technology	Health_Workforces	Service Quality	Health_System_Performance
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	Infrastructure_ Technology	Health_ Workforces	Service Quality	Health_System_Performance
Service_Quality	,000	,000	,000	,000
Health_System_Performance	,171	,124	,000	,000

Source: AMOS Release, 2022

The indirect effects of technology infrastructure and health workers on health system performance were calculated in this study. The indirect effect of technology infrastructure on health system performance was found to be 0.171, calculated by multiplying the indirect coefficients of 0.464 and 0.368. Similarly, the indirect effect of health workers on health system performance was found to be 0.124, calculated by multiplying the indirect coefficients of 0.336 and 0.368. Service quality was found to mediate the influence of technology infrastructure and health workers on health system performance. These findings are in line with previous studies by Sudhir Anand and Till Bärnighausen (2011), Mosadeghrad (2014), Rosyidah et al. (2019), Refrew et al. (2014), Maqsood et al. (2017), Sharma et al. (2019), Baharuddin et al. (2019), and Varkey et al. (2020).

DISCUSSIONS

The research findings reveal a direct effect of technological infrastructure and health workforces on service quality of 0.464 and 0.336, respectively. Moreover, a direct effect of technological infrastructure and health workforces on health system performance of 0.184 and 0.065, respectively, and a direct effect of service quality on health system performance of 0.368 are also observed. These outcomes signify a significant influence of governance, health workers, and infrastructure/technology on the health performance system and the quality of maternal and child health services in Aceh province. Furthermore, the quality of service indirectly affects the impact of technology infrastructure and health workers on the performance of the health system. Specifically, the variables of health infrastructure and medical personnel have a significant positive effect on public health development. These results are consistent with other studies, which indicate that good governance is critical in ensuring effective health service delivery, and investment in health positively influences reactive strategies (Sharma et al., 2020). Additionally, the aspect of health workers plays a vital role in the health performance system. The number of health workers in health facilities whose primary role is promotive-preventive is still dominated by rehabilitative curatives, indicating a lack of public health workers. The role of public health workers is crucial in health management at every level of intervention, particularly in carrying out risk communication and public education (Ali, A. M. M., Jabir, S. M., Almusawi, E. G., Kadhim, H. K., & Almagtome, A. 2023). Equitable access to skilled and motivated health workers in good health systems is necessary to meet the Sustainable Development Goals (SDGs). The maldistribution, inadequate number of workers, low wages, and poor working conditions are some of the issues faced by various health professionals (Lassi, ZS et al, 2016). The inadequate availability of health human resources, in terms of number, type, and quality, and uneven distribution, impact the low level of public access to quality health services (Kemenkes RI, 2016). Furthermore, the quality of health services is closely linked to the performance of health workers. Good or bad services provided to patients will affect the level of patient satisfaction (Rahmi, 2013). Another factor that affects performance is leadership. Djestawana's research (2012) reveals that leadership has a significant effect on employee performance. This research aligns with Handayani's (2018) study, which establishes a relationship between leadership and the performance of health workers. Subagyo's research (2013) indicates a positive correlation between ability and employee

performance at the public health center, signifying that the better the performance ability, the better the employee performance. The outcomes show that there is a relationship between ability ($p= 0.014$), motivation ($p= 0.023$), and leadership ($p= 0.043$) with the performance of health workers, which play a very strategic role in accelerating the improvement of public health status.

CONCLUSION

There is a direct significant effect of health workforce and infrastructure/technology on health performance system, and service quality of maternal and child healthcare. Also, indirectly service quality mediates the effect between technology infrastructure and health workforce on health system performance. The ability to carry out actual analysis from various data sources is key for the government to respond appropriately to changing contexts, risks, problems, and citizen needs. An effective health performance system can influence the availability and quality of maternal and child health services in Aceh, Indonesia. Efforts to improve the health performance system, such as training healthcare staff, monitoring and evaluation, as well as effective management, can help enhance the performance of maternal and child health services. Good support and collaboration between the government, health institutions, and the community are also essential in improving the health performance system and maternal and child health services.

CONFLICT OF INTEREST

The author declares no conflict of interest

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