Data and Metadata. 2025; 4:732
doi: 10.56294/dm2025732

ORIGINAL

Perceptions of Paramedics and Non-paramedics Related to Existence of Telemedicine in ASEAN Based on SEM-PLS

Percepciones de paramédicos y no paramédicos en relación con la existencia de la telemedicina en la ASEAN según SEM-PLS

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Cite as: Fadillah Mardianto MF, Wahab IA, Arrova Dewi D, Vebriano T, Jaya Saputra I. Perceptions of Paramedics and Non-paramedics Related to Existence of Telemedicine in ASEAN Based on SEM-PLS. Data and Metadata. 2025; 4:732. https://doi.org/10.56294/dm2025732

Submitted: 26-04-2024 **Revised:** 23-08-2024 **Accepted:** 22-03-2025 **Published:** 23-03-2025

Editor: Dr. Adrián Alejandro Vitón Castillo

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ABSTRACT

Introduction: this article explored the potential of telemedicine in ASEAN amidst challenges regarding health facilities. This article analyzed perceptions of paramedics and non-paramedics regarding the implementation of telemedicine in ASEAN to further improve health services, as stated in the third Sustainable Development Goals (SDGs).
Method: perceptions of paramedics and non-paramedics were analyzed using Structural Equation Modeling-Partial Least Square (SEM-PLS). A sample of 500 were taken from paramedics and non-paramedics across ASEAN countries using purposive sampling technique. The data was analyzed descriptively and the outer and inner model was evaluated.
Results: outer model evaluation showed the indicators were valid and reliable. Meanwhile, inner model evaluation showed a moderate influence of the indicators on Telemedicine satisfaction and hypothesis testing showed that Doctor Reliability, Responsiveness, and Assurance variables significantly influence paramedics and non-paramedics perceptions of Telemedicine satisfaction.
Conclusions: an application is needed that provides telemedicine services universally in ASEAN by strengthening features regarding Doctor Reliability, Responsiveness, and Assurance, to connect patients with the nearest doctor. This application can strengthen Telemedicine usage in Southeast Asia.

Keywords: Health Services; Perceptions of Paramedics and Non-Paramedics; SEM-PLS; Telemedicine.

RESUMEN

Introducción: este artículo explora el potencial de la telemedicina en la ASEAN en medio de los desafíos relativos a las instalaciones sanitarias. Este artículo analizó las percepciones de paramédicos y no paramédicos con respecto a la implementación de la telemedicina en la ASEAN para mejorar aún más los servicios de salud, como se indica en la tercera Sustainable Development Goals (SDGs).
Método: en este estudio, las percepciones de los paramédicos y de los no paramédicos se analizaron utilizando Structural Structural Equation Modeling-Partial Least Square (SEM-PLS). Se tomó una muestra de 500 paramédicos y no paramédicos de los países de la ASEAN mediante una técnica de muestreo intencional. Los datos se analizaron descriptivamente y se evaluó el modelo externo e interno.
Resultados: la evaluación del modelo externo mostró que todos los indicadores cumplían la validez convergente y eran fiables. Por su parte, la evaluación del modelo interno mostró una influencia moderada

de los indicadores en la satisfacción con la telemedicina, y las pruebas de hipótesis demostraron que las variables de fiabilidad del médico, capacidad de respuesta y garantía influyen significativamente en las percepciones de los paramédicos y no paramédicos sobre la satisfacción con la telemedicina.
Conclusiones: se necesita una aplicación que proporcione servicios de telemedicina de forma universal en la ASEAN, reforzando las funciones relativas a la fiabilidad, capacidad de respuesta y garantía del médico, para conectar a los pacientes con el médico más cercano. Esta aplicación puede reforzar el uso de la telemedicina en el Sudeste Asiático.

Palabras clave: Servicios Sanitarios; Percepciones de Paramédicos y no Paramédicos; SEM-PLS; Telemedicina.

INTRODUCTION

The Coronavirus Disease in December 2019 resulted a pandemic on a global scale. It caused almost all sectors, including the health sector to experience a severe crisis. In dealing with the spread of this virus, many countries, one of which is the ASEAN region, are implementing strategies of physical distancing, stay at home, travel restrictions, and closing public facilities to prevent and hold physical interaction between people.[1] Thus, it triggers a dilemma on the health sector.

For example, in the treatment of some diseases, where the doctor's services are limited and have less physical interaction with patients. Within the scope of the medical world, good interaction is needed for health services because every day paramedics have to interact with patients who need help.[2]

However, the fact is that hospitals and medical personnel have a higher risk to be infected with Covid-19. Because of that interactions between doctors and patients in physical contact must be avoided.[3] On the other hand, rapid technological developments encourage people to use digital systems in their daily lives. One of the technological innovations in the world of health that utilizes digitalization is telemedicine. Telemedicine is an application that innovatively provides online health consultations and at the same time a hope to action the growing effect of the pandemic. The existence of telemedicine is also aligned and helps the world government in SDG's achievement, especially number 3 regarding a healthy and prosperous life during this pandemic.

The development of technology in a massive way will facilitate health services becomes easier. This is because several countries in ASEAN already have telemedicine, such as Halodoc (Indonesia), MyDoc (Singapore and Vietnam), Doctoroncall (Malaysia), Medgate (Philippines), and Raksa (Thailand).[4] Telemedicine in the ASEAN region has various health service features such as consultation features, health shops, medical services, Covid-19 response services, and others. Patients who wish to use telemedicine services can choose health workers who have been classified based on their specialist fields according to the patient's complaints. Standby health workers are usually marked 'online' and can be selected for consultation or treatment sessions. However, patients who require further medical action need to come to medical service points such as hospitals, clinics, and others.

According to the previous explanation, the research aims to solve three main objectives. First, assessing the characteristics of telemedicine users in the ASEAN region. Second, analyzing the influence of the advantages and disadvantages of telemedicine compared to conventional doctors in ASEAN countries. Also, looking at components that effects telemedicine usage in the ASEAN Region. A statistical method called Structural Equation Modeling - Partial Least Square (SEM-PLS) can be utilized to resolve those objectives. SEM-PLS is a method that can find causal relationships between endogenous and exogenous variables. In addition, this method emphasizes prediction and estimates a statistical model capable of explaining the causality.[5,6] Thus, using SEM-PLS will have flexible and accurate results regarding the perception of the existence of telemedicine.

Research on telemedicine processed with SEM-PLS was conducted by Hartono et al.[7] regarding the determinant factors that influence the use of telemedicine continuity with the SEM-PLS method. The results obtained are that performance expectation, the value of the consultation price, compatibility, and user privacy security are significant factors for users to use telemedicine. In addition, research conducted by Adenuga et al.[8] regarding the reinforcement and improvisation of telemedicine among doctors in Nigeria. Based on his research, the use of telemedicine in Nigeria is leveraged by performance components, facility conditions, doctor's diagnosis accuracy, and remote clinical management. Another study was conducted by Putra and Dewa Ayu, who modeled variable aspects of word of mouth and competence of paramedics' communication beliefs that could influence patients to decide in use of telemedicine.[9]

However, there has been no semi-continental research, such as analysis of telemedicine in the ASEAN region. Even if there is, the analysis only focuses on a few regions, such as Indonesia, Malaysia, or Indonesia and Malaysia. This study has a broader scope in analyzing perceptions of the use of telemedicine among paramedics and non-paramedics using the SEM-PLS as the statistical method.

https://doi.org/10.56294/dm2025732

METHOD

This study utilizes a mixed method that combine quantitative and qualitative research method. Quantitative method is used because related to data collection and SEM-PLS as a statistical method. Qualitative method is used to elaborate information about telemedicine using open question to support quantitative method.

About the Questionnaire

The questionnaire was compiled without the element of leading the respondent's opinions to a certain opinion, but instead the researchers neutrally wanted to compare and find out the opinions of respondents towards existing telemedicine services. Personalized questionnaires were administered to study participants in initial consultation with health practitioners. The questionnaire consists of 5 different sections. The first, the part of filling in personal data. Second, the researchers measured the level of patient satisfaction with telemedicine services. As a result, they were given an identification code in which the actual measurements were taken with a categorical rating ranging from very unsuitable to very consistent with the patient's expectations. The third part of the questionnaire focused on assessing the existence of conventional medical practices such as evaluating the services provided and the suitability of the drugs given to patients. The fourth part of the questionnaire contains the appearance assessment of the health facilities used. The last part of the questionnaire contains aspects of the reliability of health services. Additionaly, the question also concerns the scopes of service quality were assessed from elements of responsiveness preferences of health workers, assurance, physical evidence, and empathy possessed by health practitioners.

SEM-PLS

According to Mardianto et al.[14], Structural Equation Model (SEM) is a multivariate analysis method that can be used to investigate certain components that influence a situation. The linear link is simultaneously between among variables (indicators) and variables that couldn't be measured directly (latent variables). In SEM, there are two types of latent variables which consists of endogenous and exogenous variables. In this case, response variables are cited as endogenous variables and predictor variables are specified as exogenous variables. The assumptions that must be met in this model are that the data must be multivariate normally distributed and there were no cases of multicollinearity.

There is a popular type of SEM, known as Partial Least Squares (PLS). It is a impactful analytical approach since it has no dependence on measurement scale (e.g. measurements that require interval or ratio scales), sample size, and residual distribution. The indicators can be formed with reflexive or formative types. Modeling includes 3 stages, namely the measurement model (outer model), structural model (inner model), and weight relation.[15]

The inner model presents the relationship between latent variables, while the outer model displays the relationship between manifest variables and latent variables. Structural model or inner describes a relationship model that is formed based on substance theory. There is a relationship between endogenous latent variables (causal chain) because SEM-PLS is designed for a one-way causality model (recursive model), according to the following equation:

$$\eta_j = \sum_{i=1}^{j_2} \beta_{ji}\eta_i + \sum_{b=1}^{b_1} \gamma_{jb}\xi_b + \zeta_j \qquad (1)$$

With $j=1,2,\ldots,j_1$; $i=1,2,\ldots,j_2$; and $b=1,2,\ldots,b_1$.
Where:
j_2: Number of other endogenous latent variables.
b_1: Number of exogenous latent variables.
η_j: Endogenous variable j.
η_i: Endogenous variable i to i≠j.
β_{ij}: Coefficient of the endogenous latent variable -i to the endogenous latent variable j.
γ_{jb}: Coefficient of the exogenous latent variable-b to the endogenous latent variable j.
ζ_j: Measurement error (inner residual) latent variable j.
In previous research related to parameter estimation in SEM-PLS conducted by Cahyono, using the least squares method to estimate parameters.[16]

Relation Between Exogenous Variable and Endogenous Variable

Satisfaction Services Relationship to Physical Evidence

Physical evidence is the main concern of users in assessing the value or quality of a product. According to Wong and Sohal, physical evidence is the only service quality item that can be seen directly.[17] This helps users to identify and evaluate the quality of service provided by companies or operators. Siddiqi's research backs up this fact, which proves that physical evidence has a significant effect on service satisfaction to users.

https://doi.org/10.56294/dm2025732

[18] Indicators that can represent an assessment of physical evidence include the doctor's appearance, clear information, the facilities provided during the treatment period are very good, the doctor's accessibility is easy, and the recommendations for drugs or prescriptions are appropriate.

Relationship Satisfaction with Doctor Service and Reliability

Doctor's reliability is crucial in providing service satisfaction for users. The reason is that the goal of the user is to obtain health assistance from a doctor who is an expert in their field. According to Choudhry et al.[19], stated that a connection is present between doctor reliability and service satisfaction. Indicators that can represent an assessment of a doctor's reliability include a regular schedule, the right diagnosis according to the patient's condition, the doctor's responsibility to the patient, the doctor asks for details of the patient's condition, and the doctor has a professional license.

Relationship Satisfaction with Service and Empathy

Empathy is needed by companies or operators to form a positive impression with consumers through the company's attention to consumers when service activities are in progress. According to Bahadur et al.[20], there is a strong influence of empathy on user satisfaction. So, the higher the empathy given to the user, the satisfaction felt by the user will increase. Indicators that can represent an assessment of empathy include a good and friendly attitude, the doctor cares about the development of the patient's condition, the doctor provides motivation and psychological support to the patient, the doctor serves the patient patiently during the consultation, the doctor listens and responds well to the patient's complaints, and doctors carry out their profession professionally in accordance with the code of ethics

Relationship Satisfaction with Doctor Service and Responsiveness

According to Zeithan et al.[21], operator responsiveness or responsiveness in helping users or providing fast and responsive services, which includes operator alertness in serving customers, operator speed in handling transactions and handling user complaints.This is also supported by research by Khatoon et al.[22] which says that the responsiveness dimension has a significant relationship with customer satisfaction. Indicators that can represent an assessment of responsiveness include registration being efficient and easily understood by telemedicine users, information about procedures and requirements being stated clearly, service speed and the health examination process being satisfactory, communication between health services and patients running effectively and communicatively, and the drug service process fast and easy

Relationship Satisfaction with Doctor Service and Assurance

Assurance can help patients to trust during the treatment period, so if the guarantee for this patient is guaranteed it will increase patient satisfaction. This is supported by research from Kim et al.[23] which states that the warranty variable has a positive effect on customer satisfaction. Indicators that can represent an assessment of Assurance include doctors providing the same treatment according to the patient's condition, practices carried out by doctors are in accordance with eligibility standards, ease of communication during treatment, personal data and privacy are well guarded, doctors explain the patient's health condition clearly and in accordance with health sciences, and the doctor has an identity and license that meets the requirements.

Data

The data used in this study is primary data from surveys spread throughout the ASEAN region. Questionnaires were distributed via Instagram, Facebook, Telegram and WhatsApp starting in August 2022 with the help of researcher relations as an effort to equalize the number of respondents. The questionnaire was compiled without the element of leading the respondent's opinions to a certain opinion, but instead the researchers neutrally wanted to compare and find out the opinions of respondents towards existing telemedicine services.

Researchers collect respondent information by adhering to research ethics, namely by respecting the privacy of respondents and there is no element of coercion or necessity in filling out identities. In addition, researchers are also ensured to maintain the privacy of the data collected so that the identity of the respondents is guaranteed to be secure. This has also been conveyed in the questionnaire which was distributed to ensure that the respondents were convinced of the seriousness of the researchers in upholding research ethics.

The data collection technique in this study used a purposive sampling technique, namely choosing respondents with certain considerations, with specific criteria respondents were respondents who had used telemedicine services. The ideal minimum sample size is ten times the number of indicators.[17] In this study, the number of indicators is 35 Thus, the minimum number of samples that are in accordance with the SEM-PLS rules is 350.

Research Variables

This study consisted of one endogenous variable and five exogenous variables, with each variable using an ordinal scale. The endogenous variable is Satisfaction with Telemedicine (Y_1) with six indicators as follows:

Telemedicine service as expected ($Y_{1.1}$), Telemedicine service does not disappoint ($Y_{1.2}$), Facilities and infrastructure of telemedicine as expected ($Y_{1.3}$), Telemedicine satisfaction in general ($Y_{1.4}$), Satisfaction of diagnosis in telemedicine service ($Y_{1.5}$), and Satisfaction with the quality of drugs provided in telemedicine service ($Y_{1.6}$). The exogenous variables are then grouped as Quality of Service (X_1) variable.

The five exogenous variables with their respective indicators are as follows: Tangibles with indicators include Neat doctor appearance ($X_{1.1.1}$), Health information facilities ($X_{1.1.2}$), Checkup facilities ($X_{1.1.3}$), Doctor accessibility ($X_{1.1.4}$), and Ease of obtaining medicine ($X_{1.1.5}$); Reliability with indicators include The doctor's service schedule is clear and consistent ($X_{1.2.1}$), The doctor's accuracy in diagnosis ($X_{1.2.2}$), The doctor's responsibility until the patient is cured ($X_{1.2.3}$), The doctor's accuracy in check-ups ($X_{1.2.4}$), and A doctor knowledgeable and skilled ($X_{1.2.5}$); Responsiveness with indicators include Neat doctor appearance ($X_{1.1.1}$), Health information facilities ($X_{1.1.2}$), Checkup facilities ($X_{1.1.3}$), Doctor accessibility ($X_{1.1.4}$), and Ease of obtaining medicine ($X_{1.1.5}$); Assurance with indicators include Doctors are fair ($X_{1.4.1}$), Security during consultation guaranteed ($X_{1.4.2}$), Convenience during consultation guaranteed ($X_{1.4.3}$), Data privacy guaranteed ($X_{1.4.4}$), Accurate doctor explanation ($X_{1.4.5}$), Greater chance of recovering after treatment through telemedicine ($X_{1.4.6}$), and Doctors have a clear license ($X_{1.4.7}$); finally Empathy with indicators include Friendly doctor services ($X_{1.5.1}$), Doctors care about patients ($X_{1.5.2}$), Doctors provide psychological support ($X_{1.5.3}$), Doctors are patient in dealing with patients ($X_{1.5.4}$), Doctors listen to patient complaints ($X_{1.5.5}$), Doctors serve politely ($X_{1.5.6}$), and Doctors greet ($X_{1.5.7}$).

Analysis Procedure

The data in the study were analyzed using the Partial Least Square (PLS) based Structural Equation Modeling (SEM) approach which explained through the flowchart in figure 1.

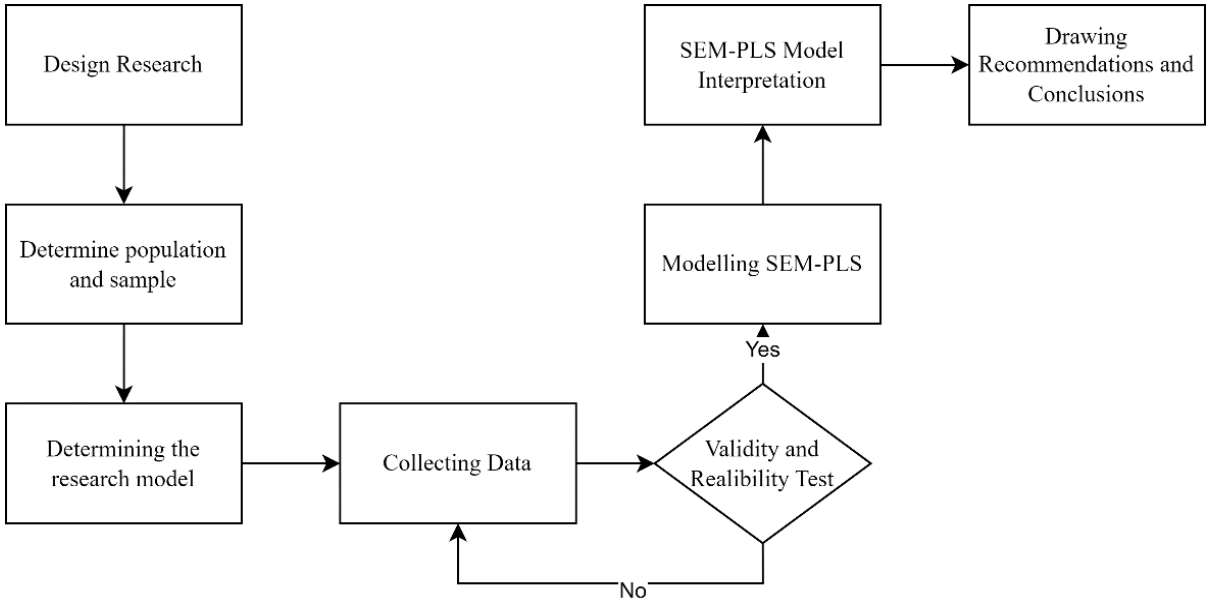


Figure 1. Research design

The procedure carried out in this study to analyze the data is described as follows:

1. Evaluation of the measurement model by focusing on evaluating the validity and reliability of the constructs of each indicator and latent variable.
   a. Convergent validity is measured using the AVE value. When the AVE value is greater than 0,5, on average the construct explains more than half of the variance of each indicator.[24,25]
   b. Composite reliability is 0-1 and the higher the value, the greater the level of reliability indicated.[24]

2. Evaluation of the structural model (Inner Model) is carried out to determine the relationship between latent variables through testing the significance of the structural model and reviewing the value of R^2.
   a. Significance testing is done by looking at the p-values and t-statistics then comparing them to the 5 % alpha significance level.
   b. The value of R^2 is divided into three classifications, namely substantial, moderate, and weak.[24]

https://doi.org/10.56294/dm2025732

3. To interpret the model from the path diagram that illustrates the relationship between exogenous and endogenous variables and the relationship between exogenous and endogenous variables for each indicator.
4. Write down equations mathematically.
5. Develop appropriate recommendations to improve telemedicine services in ASEAN and the perceptions of paramedics and non-paramedics on the existence of telemedicine.

RESULTS

Data Exploration

Based on the World Health Organization (WHO) website, data was obtained regarding the percentage of paramedics in Southeast Asian countries of 10,4 %. Researchers took a sample of paramedics as much as 12 % which can be representative of the population. On the results of the questionnaire, based on figure 2, it was found that 12 % of respondents came from Indonesia and worked as paramedics and 88 % worked as non-paramedic.

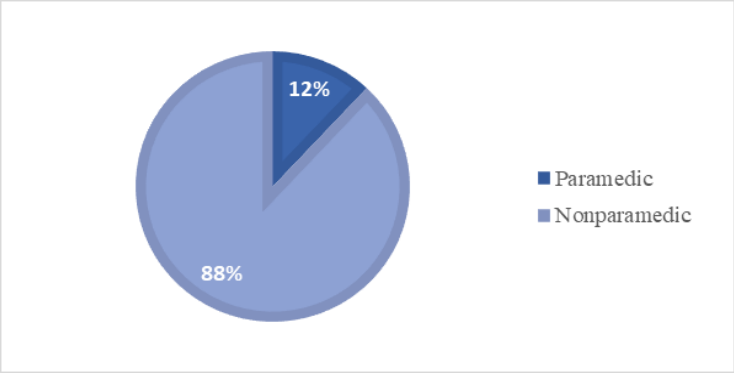


Figure 2. Questionnaire results from Indonesian respondent's

Then, in figure 3 there are 47 % of respondents working as nurses, 17 % as medical specialists, 18 % as medical assistants, 12 % as general practitioners, and 6 % working as Dentists.

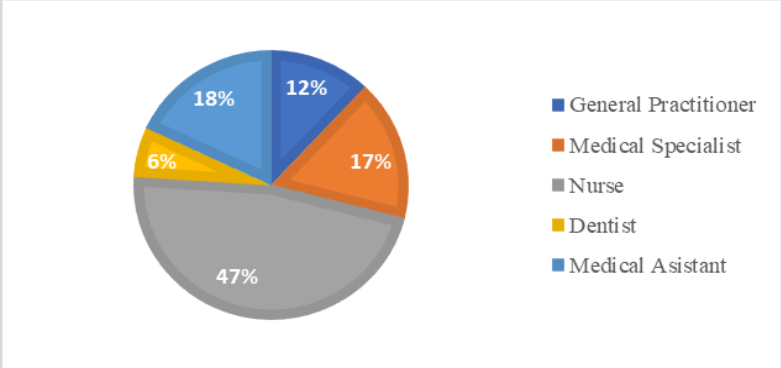


Figure 3. Paramedics profession from Indonesia respondent's

In figure 4, there are several respondents from ASEAN countries, with the largest percentage, 28 % coming from Timor Leste and the least percentage, 9 % coming from Singapore and Cambodia.

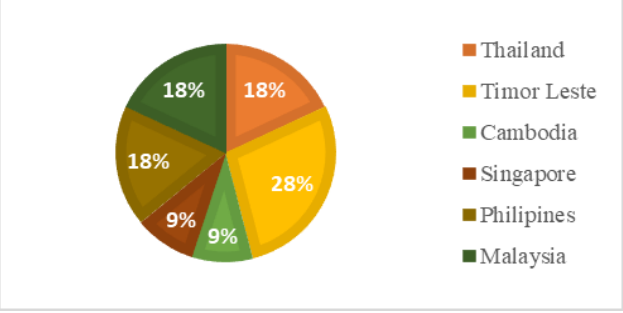
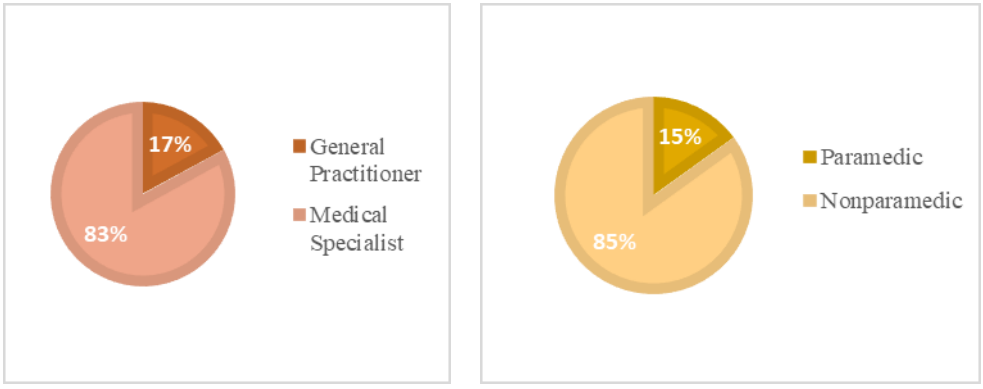


Figure 4. Questionnaire results from outside Indonesian respondent's

Based on the information obtained in figure 5, there are 15 % of respondents working as paramedics with as much as 17 % as general practitioners, and 83 % working as medical specialists.



(a) (b)

Figure 5. Questionnaire results from outside Indonesian respondent's. (a) Paramedic profession (b) Paramedic and non-paramedic respondents

In figure 6, this is the characteristics of our respondents in terms of Treatment Services. In sampling results, respondents often use Medical Practices rather than Telemedicine Services. Based on the opinions of paramedical and non-paramedical respondents regarding perceptions of telemedicine, it was concluded that both of them have the same characteristics. Thus, from the similarity of these characteristics it can be modeled into one model which will be used in the overall interpretation.

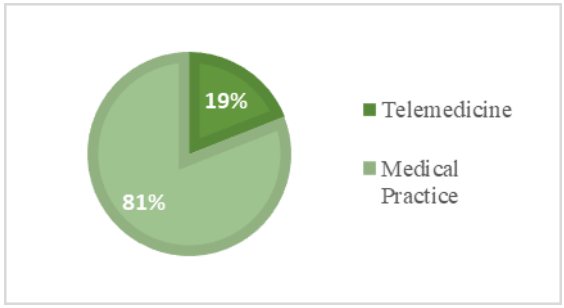


Figure 6. Health treatment services use more often

SEM-PLS Analysis

Outer Model Evaluation

Evaluation of the outer model is used to determine the validity and reliability of each indicator and latent variable.

Convergent Validity

Convergent validity analysis evaluates the relationship between indicators to ensure they adequately represent their intended construct. According to Ali et al., this validity is determined by the Average Variance Extracted (AVE) value, with a threshold of > 0,50 indicating acceptable convergent validity.[18] As illustrated in table 2, all AVE values in this study exceeded 0,50, confirming that the indicators meet the required criteria for convergent validity.

Table 2. The latent variable AVE value

Latent Variable	AVE	Validility
Satisfaction with Telemedicine Services	0,599	Valid
Physical Evidence in Telemedicine	0,735	Valid
Doctor Reliability	0,620	Valid
Responsiveness	0,755	Valid
Guarantee	0,582	Valid
Empathy	0,672	Valid

https://doi.org/10.56294/dm2025732

Composite Reliability

Analysis of the composite reliability is utilized to calculate an indicator's stability in the survey. If the value is more than 0,7, then the indicator could be classified as reliable. According to table 3, composite reliability values were above 0,7 so it could be concluded that all latent variables are reliable.

Table 3. Latent Variable Composite Reliability Value

Latent Variable	AVE	Validility
Satisfaction with Telemedicine Services	0,899	Reliable
Physical Evidence in Telemedicine	0,892	Reliable
Doctor Reliability	0,891	Reliable
Responsiveness	0,924	Reliable
Guarantee	0,893	Reliable
Empathy	0,925	Reliable

Inner Model Evaluation

Evaluation of the inner model is done after the outer model has been evaluated. This evaluation analyzes the relationship between latent variables then the R-Square value and coefficient significance are reviewed.

R-Squared Value

The R-square value serves as an indicator to assess the extent to which exogenous latent variables influence endogenous latent variables. The classification thresholds for interpreting R-square values are divided into three categories: 0,75 (substantial), 0,50 (moderate), and 0,25 (weak).[16] Based on the analytical findings, the R-square value for the Satisfaction in Telemedicine Services (K) variable is 69,7 %, falling just below the 0,75 threshold. Consequently, this result places the variable within the moderate classification.

Hypothesis Test

Hypothesis testing is conducted by evaluating the structural model, which examines parameter coefficients and t-statistics to determine whether a hypothesis should be accepted or rejected. This analysis involves assessing the statistical significance of relationships between constructs using t-statistics and p-values, with a predefined significance threshold (alpha) of 0,05.

The hypothesis to test the effect between the variables Physical Evidence (C) and Satisfaction with Telemedicine services (B) is as follows:

- H_0: There is no influence of C on B.
- H_1: There is the influence of C on B.

While the hypothesis to test the effect between the variables Empathy (G) and Satisfaction with Telemedicine services (B) is as follows:

- H_0: There is no influence of G on B.
- H_1: There is the influence of G on B.

Based on table 4, it is known that the Physical Evidence in Telemedicine (C) and Empathy (G) variables have no significant effect on Satisfaction with Telemedicine Services (B) because the P-value of these three variables is more than 0,05. While the variables Doctor Reliability (D), Responsiveness (E), and Assurance (F), have a significant effect on Satisfaction with Telemedicine Services (B).

Table 4. Results of The Bootstrapping Process

	Original Sampel	Sampel Average	Standard Deviation	t-Statistics	P-values
C→B	0,008	0,002	0,089	0,085	0,932
D→B	0,782	0,788	0,104	7,508	0,000
E→B	0,329	0,330	0,088	3,735	0,000
F→B	-0,338	-0,342	0,138	2,445	0,015
G→B	0,091	0,094	0,047	1,927	0,055

After evaluating the outer and inner models, the final model is obtained. There are 6 latent variables where, 5 exogenous variables, one endogenous variable, and 30 indicators. As explained in figure 7.

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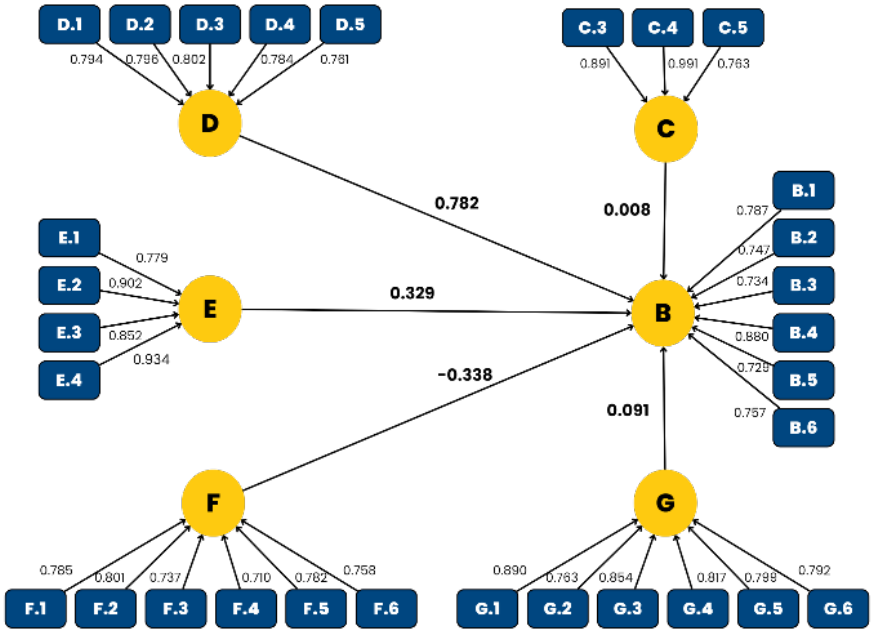

Figure 7. Structural Evaluation Result Diagram

Mathematically SEM-PLS on the variable Satisfaction with Telemedicine Services (B) is written in the following equation.

$$\hat{B}=0{,}008\,C+0{,}782\,D+0{,}392\,E-0{,}338\,F+0{,}091\,G \qquad (2)$$

$\hat{B}$ is the estimator of Telemedicine Services, (C) is Telemedicine Factor, (G) is Empathy Factor, (D) is Doctor Reliability Factor, (E) is Responsiveness Factor, (F) is Assurance Factor.

DISCUSSION

The results showed that what significantly influenced Telemedicine Service was Doctor Reliability Factor (D), Responsiveness Factor (E), Assurance Factor (F), while Telemedicine Factor and Empathy Factor did not have a significant influence on telemedicine service. Furthermore, based on equation (2) the Doctor's Reliability variable has a significant increase of 78,2 %. In Telemedicine, the main service provided is consultation with a doctor so that the doctor's service schedule is clear and consistent, the doctor's accuracy in diagnosis, the doctor's responsibility until the patient is cured, the doctor's accuracy in check-ups, and A doctor knowledgeable and skilled in influencing the performance of Telemedicine.[26] In addition, the Responsiveness variable experienced a significant increase of 39,2 %, this was influenced by the neat appearance of doctors, health information facilities, examination facilities, accessibility of doctors, ease of getting medicine.[27] Furthermore, the Assurance variable experienced a significant decrease of 33,8 %. This is related to the doctor's diagnosis which provides a guarantee of medicine for the patient's recovery.[28]

However, several recommendations can be proposed to improve telemedicine services in ASEAN and paramedical and non-paramedical perceptions of the existence of telemedicine. According to the results of the SEM-PLS, it was found that Doctor Reliability and Responsiveness greatly influenced the existence of telemedicine doctor services. This can be supported by adding professional doctor facilities in each country, and the responsiveness of doctors in serving patients is needed so that telemedicine services can be better. However, there is a guarantee variable that causes a decrease in the effect on telemedicine services. So, people are still unsure about this telemedicine service. Thus, it is hoped that the presence of telemedicine can be developed even better with various features that can assist doctors in making accurate diagnoses, and provide advices related to the health problems currently being experienced by patients.

CONCLUSIONS

The Covid-19 outbreak is very influential in various sectors, making health a major focus over the past few years. This case makes it difficult to achieve the 3rd Sustainable Development Goals (SDGs) which is health service. The health sector currently has developed telemedicine which has various health service features such as consulting features, health stores, and others. Based on the survey analyzed using SEM-PLS, all six variables are valid, reliable, and showed moderate influence. Hypothesis test shows that the Physical Proof (C) and Empathy (G) variables are not significant to satisfaction with telemedicine services while Doctor Reliability (D), Responsiveness (E), and Assurance (F) variables are positively significant to satisfaction with telemedicine.

https://doi.org/10.56294/dm2025732

Based on this research, the recommendations that can be given is an application with connectivity within Southeast Asia countries. Other than that, any other telemedicine features such as teleconsulting, laboratory, first aid, and user-friendly interface are required to support digital health services to cope more users.

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FINANCING

This publication is funded by SATU Joint Research Scheme 2022-2023.

CONFLICT OF INTEREST

There is no conflict of interest

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