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Telemedicine Application Adoption During the COVID-19 Pandemic: The Lens of the UTAUT Framework Model

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ABSTRACT

The objective of this study is to analyze the impact of various factors such as performance expectancy, effort expectancy, social influence, facilitating conditions, technology characteristics, task characteristics, and self-efficacy within the framework of the UTAUT model on the intention to adopt telemedicine applications, particularly in light of the ongoing Covid-19 pandemic. A quantitative approach is employed for data analysis, with data being gathered through the distribution of online questionnaires. The research sample consists of 350 respondents, and the data is examined using the Structural Equation Modeling (SEM) technique facilitated by the SmartPLS software. The findings reveal a positive and significant relationship between task technology fit and technology fit, as well as between technology characteristics and technology fit. Furthermore, task technology fit is shown to positively and significantly influence the intention to adopt telemedicine applications, where the services are anticipated to offer health assistance to users of the application. This study offers valuable insights for application developers to enhance features and services to attract public interest in utilizing telemedicine applications..

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1. INTRODUCTION

In recent years, there has been a rise in the emergence of various novel illnesses, leading to growing concerns within society. Among these is the 2019 Corona Virus Disease Pandemic, commonly known as COVID-19, an epidemic that is currently affecting global populations[1]. The detection of COVID-19 transmission in Indonesia can be traced back to March 2, 2020, specifically in the Depok region. As of December 5, 2021, the total count of confirmed positive COVID-19 cases stood at 4,257,685, with 4,106,292 individuals having successfully recovered. Data provided by the Committee for Handling COVID-19 and National Economic Recovery, accessible through the Covid19.go.id platform, indicates the geographical spread of COVID-19 across Indonesian provinces. Among the 34 provinces, Java, Kalimantan, Sumatra, Riau, and Bali rank highest in terms of COVID-19 cases, posing a significant challenge for healthcare professionals in delivering adequate services and care to the populace, particularly within these regions [1].

Health workers are currently leveraging recent technological advancements. One such advancement is the utilization of online applications focused on providing health services to the public, known as telemedicine. Telemedicine involves a system that combines software and hardware to create a medical tool that can operate on a computer. These tools offer a user-friendly interface and serve as a means of connecting, displaying, and processing all necessary information for health services [2]. According to the World Health Organization (WHO), telemedicine is defined as the delivery of medical services considering geographical distance and the utilization of information and communication technology. This encompasses sharing

diagnostic data, disease prevention and treatment, research, evaluation, and medical provider education. The primary objective of telemedicine is to enhance accessibility, timeliness, and quality of healthcare.

Symptoms endured by a patient require suitable care from a certified specialist; however, the restrictions enforced by the COVID-19 pandemic have greatly limited the scope of interaction between healthcare professionals and patients. Despite this, in the current era, medical consultations can be conducted flexibly and from any location using telemedicine-centered services. During the COVID-19 pandemic, remote healthcare consultations provide a practical method to decrease the transmission of COVID-19, thereby empowering medical practitioners to address patients without the need for face-to-face interaction.

Currently, the use of telemedicine platforms is increasing and has attracted the attention of the Indonesian population. Scholars posit that there are various factors at play in determining the intention to use these platforms. These factors include the perceived Performance Expectancy, perceived Effort Expectancy, Social Influence, self-efficacy in managing Facilitating Conditions, as well as the advantages stemming from Task Characteristics and Technology Characteristics, which can enhance the efficacy in addressing health issues, along with the Awareness generated by employing telemedicine applications. The advent of telemedicine services enables the provision of healthcare in situations where healthcare providers and patients are physically distant from each other (Kuntardjo, 2020). Noteworthy examples of telemedicine services encompass Halodoc, Get Well, Good Doctor, Klik Doktor, and AloDoktor, among others.

Previous studies have indicated that the utilization of telemedicine can be enhanced through the provision of accurate health information coupled with user-friendly technology. Consequently, telemedicine applications are anticipated to effectively address healthcare requirements, while the technological components utilized can offer viable solutions for users' medical needs. Another study highlighted that the progression of telemedicine technology has significantly bolstered initiatives promoting social distancing in communities amidst the COVID-19 crisis. The availability of features within telemedicine applications also plays a crucial role in influencing their adoption. Specifically, the compatibility between the technology employed and users' healthcare necessities, along with the collaborative efforts of application developers and healthcare providers delivering services through the platform, are key factors shaping the utilization of such applications.

Research methodologies employing the Unified Theory of Acceptance and Use of Technology (UTAUT) have been widely utilized to scrutinize the utilization of various applications. For instance, Anggriani, E. F., Mutiah, N., & Febriyanto, F. conducted a study on the employment of the Peduli Protect application [5], while Dai, R. H., Raupu, R., & Padiku, I. R. examined the satisfaction levels of users of the Archives Information System Integrated Dynamics (Srikandi)[6]. Previous studies addressing the involvement of healthcare workers and physicians in delivering consultation services through telemedicine revealed that prior to the onset of the Covid-19 pandemic, 12% of doctors rendered healthcare services, whereas during the pandemic, 96% of doctors resorted to telemedicine applications. Additionally, 91% of doctors expressed their intention to persist in using telemedicine applications post-pandemic [7]. Through the active participation of healthcare workers and physicians, they are better equipped to respond to and cater to the healthcare needs of telemedicine application users. Consequently, this study aims to investigate the factors influencing the adoption of telemedicine applications among individuals, particularly within the context of Indonesia.

2. LITERATURE REVIEW

The investigation conducted in this study focuses on establishing a correlation between an individual's intention to adopt telemedicine applications, particularly amidst the COVID-19 outbreak, by employing the UTAUT framework. The Unified Theory of Acceptance and Use of Technology (UTAUT), formulated by Vankentesh [8], provides insights into the behavior associated with the acceptance and utilization of technology in a particular system or context. UTAUT comprises four fundamental elements, namely: expectations concerning the performance of the technology (Performance Expectancy), anticipations regarding the benefits that will be derived from the technology (Effort Expectancy), the impact of social factors on technology adoption (Social Influence), and the conducive conditions facilitating technology utilization (Facilitating Conditions). The telemedicine application serves as the focal technology in this study.

The dependent variable is the Intention to adopt Telemedicine Applications, indicating consumer behavioral intentions in the adoption of telemedicine psychological counseling platforms. This aims to ascertain individual intention in adopting intellectual health counseling platforms within a highly competitive business environment. Thus, the crucial inquiry revolves around the primary intention behind utilizing a telemedicine application - whether it primarily serves health-related needs or other purposes as perceived by the application user. The dependent variable, Intention to Adopt Telemedicine Applications, is subject to influence from various independent variables.

The Task Technology Fit (TTF) Model, developed by Goodhue, underscores the significance of individual performance in utilizing internet technology. According to the TTF model, users are intent on

adopting technology that aligns with their tasks and enhances their overall performance. The TTF Model integrates three primary components: technology characteristics, task characteristics, and task technology fit. Within the scope of current research, technology characteristics are described as the utilization of a wireless sensor network for task execution. Consequently, task characteristics denote the specific actions carried out by individuals when utilizing applications of wireless sensor networks.

2.1. The influence of Performance Expectancy on the Intention to Adopt Telemedicine

Applications is a key area of study. Performance Expectancy, as per [8], refers to the individual's belief in the ability of the current system to assist in task completion. Brown et al. (2016) defines it as the degree to which technological utilization can offer advantages to users, thereby enhancing performance. Consequently, users are more intent on adopting applications that they perceive as valuable and useful. Their assessment of an application's performance expectancy involves comparing the benefits before and after usage. In the context of telemedicine applications, users anticipate improved communication with medical professionals for online health consultations. Hence, the convenience and benefits of telemedicine play a pivotal role in motivating users to embrace such applications. Therefore, it can be constructed as follows:

H1: Performance Expectancy significantly influences the intention to adopt telemedicine.

2.2. The Influence of Effort Expectancy on the Intention to Adopt Telemedicine

Effort Expectancy, also known as business expectations, according to Vaktesh (2003) [8], refers to the level of ease linked to utilizing the system. Through their research, [9] demonstrate that the ease of application usage yields a positive and noteworthy influence by enhancing user experience. Furthermore, Effort Expectancy plays a crucial role in stimulating the user's behavioral intention towards application usage. The convenience level of an application is also influenced by its distribution method and the provision of guidance on utilization and transaction execution within the application. The ease of application access is a key factor for users, positively impacting their intention to adopt the application. Hence, the ease of access and application usability profoundly affects user interest in telemedicine applications. Therefore, it can be constructed as follows:

H2: Effort Expectancy significantly influences the intention to adopt telemedicine.

2.3. The Influence of Social Influence on the Intention to Adopt Telemedicine

The adoption of telemedicine applications is often influenced by social connections, where individuals are likely to choose the same applications utilized by their family, friends, or relatives for communication and information exchange. This social influence concept pertains to an individual's confidence in using technology when observing its usage by others, particularly within their social circle [10]. Individuals are heavily influenced by their social surroundings when considering the adoption or utilization of a new system. Venkatesh (2012) also highlighted how social influence plays a crucial role in capturing individual attention by shaping their perceptions and opinions [11]. Hence, the decision to use a telemedicine application can be significantly impacted by the user's social environment. Therefore, it can be constructed as follows:

H3: The influence of social influence on the intention to adopt telemedicine.

2.4. The Influence of Facilitating Conditions on The Intention To Adopt Telemedicine

A Previous study by [12], revealed a decrease in the intention to adopt or utilize novel technology in situations where facilitating conditions were lacking, leading to a discrepancy between intention and actual usage of the technology. Facilitating conditions pose as hindrances when there is limited or scarce access to essential resources. The level of ease in obtaining these necessary resources plays a role in shaping individuals' subjective likelihood of utilizing the system. In their research, Maruping, Bala, Venkatesh & Brown (2016) [13] anticipated that the influence of facilitating conditions on behavioral anticipations would be subject to moderation by gender, age, and experience, as these conditions would hold more significance for females, older adults, and those with greater familiarity with a particular system. The significance of facilitating conditions is evident in their impact on shaping the intention to engage in Internet marketing [14]. Consequently, service providers of application services must ensure the provision of adequate internet infrastructure support to facilitate a seamless user experience with the application. Consequently, users of telemedicine applications are impacted by the conditions of internet infrastructure or facilities. Thus, the facilitating conditions within telemedicine applications can significantly influence the users' utilization of the application. Therefore, it can be constructed as follows:

H4: Facilitating Conditions have a significant influence on Intention to adopt telemedicine.

2.5. The Influence of Task Characteristics on Task Technology Fit

Tasks Characteristics encompass a broad range of activities undertaken by individuals to transform input into output. They are integral components of a person's work, involving a series of actions aimed at achieving specific objectives as noted by Fu and Shang (2019). Research conducted by [15] reveals that varying task characteristics can influence the correlation between problem-solving efficiency and time spent on tasks in specific manners. Therefore, Task Characteristics, which encompass external elements like the ease of use or obstacles encountered in utilizing telemedicine applications, play a crucial role in this relationship. Therefore, it can be constructed as follows:

H5: Task Characteristics have a significant influence on Task Technology Fit of telemedicine.

2.6. The Influence of Technology Characteristics on Task Technology Fit of Telemedicine

Within this context, technology characteristics are conceptualized as affordances, which are the capabilities that enable individuals to accomplish specific objectives [17]. Moreover, Park and ChongWoo (2019) [16] define Task Technology Fit as the appropriateness of technology for tasks, indicating how technology assists individuals in performing their tasks effectively. Thus, the characteristics of a technology not only facilitate its usability by individuals but also influence its effectiveness in supporting task completion or achieving objectives. Consequently, a significant correlation exists between technology characteristics and the suitability of technology for individual use, particularly in telemedicine applications. Therefore, it can be constructed as follows:

H6: Technology Characteristics have a significant influence on Task Technology Fit of telemedicine.

2.7. The Influence of Awareness on the Intention to Adopt Telemedicine Applications

Yamin & Bader have identified awareness as a prevalent aspect in studies related to the adoption of technology[19]. Despite the successful distribution of telemedicine applications, there is a lack of awareness among patients regarding the advantages of electronic health services. In regions like Bangladesh, the awareness levels have been reported to be low and unfavorable towards health services like telemedicine. Hence, it is essential to promote knowledge and benefits of telemedicine among the general public to enhance awareness and ensure the effective utilization of telemedicine applications, especially in times of crises such as the COVID-19 pandemic. Therefore, it can be constructed as follows:

H7: Awareness has a significant influence on the intention to adopt telemedicine.

2.8. The Influence of Self-Efficacy on The Intention to Adopt Telemedicine

Previous research by [20] has demonstrated that a heightened level of self-efficacy indicates an individual's preparedness and capability to confront challenging circumstances in the context of new business development and goal pursuit. Yamin & Bader (2020) have defined self-efficacy in telemedicine applications as the belief that technology users possess in their ability to effectively utilize such applications[19]. Essentially, this self-efficacy instills confidence in patients regarding their proficiency in using telemedicine applications for their healthcare needs. High self-efficacy in this research signifies a positive inclination towards adopting telemedicine applications, ultimately impacting how individuals manage their health conditions. Therefore, it can be constructed as follows:

H8: Self-efficacy has a significant influence on the intention to adopt telemedicine.

2.9. The Influence of Task Technology Fit on the Intention to Adopt Telemedicine

Aljukhadar (2014) discusses how task technology fit encompasses constructs such as ease of use, quality of information, and interactiveness aimed at users[20]. The Task Technology Fit is partly determined by the technology utilized. Affordances, which are the means through which individuals' capabilities align with their objectives, represent technological characteristics in this context. Additionally, the appropriateness of technology for specific tasks is crucial. Tasks, as defined in the study, are work-related activities that individuals need to accomplish. The nature of these work-related tasks can vary based on the individual's job role. Tasks encompass a range of activities, including producing reports, drafting contracts, performing calculations, making payments, attending meetings, and completing assignments [20] – [22]. Therefore, the adequacy of technology plays a pivotal role in the adoption of telemedicine applications.

H9: **Task Technology Fit has a significant influence on the intention to adopt telemedicine**

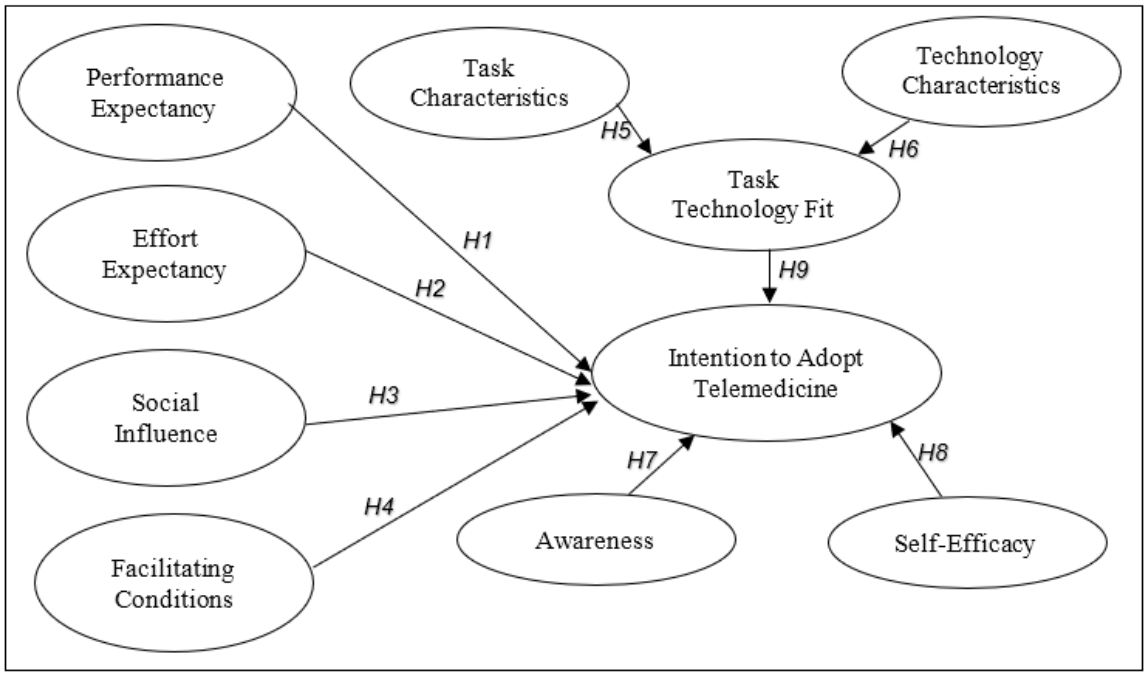

Figure 1. Research Framework

3. METHODOLOGY

The research design employs a quantitative approach for validation, involving a sample of 350 individuals residing in Java Island (120 individuals), Sumatra Island (113 individuals), and Kalimantan Island (117 individuals). The participants encompass diverse groups, including private sector employees, state-owned enterprise workers, business owners, government officials, and students. Data collection is conducted through a survey method, utilizing Google Forms to disseminate questions to the participants for easy access and completion based on their respective circumstances. The primary data collection method involves administering questionnaires, which entails gathering information from the public through a structured online survey. Surveys serve to acquire data on respondents' attitudes, emotions, and knowledge.

Researchers conducted a literature study as the data collection method. The significance of library study lies in its integral role in research activities that are closely intertwined with academic literature. The data acquisition process involved examining and correlating literature about relevant topics, particularly the utilization of telemedicine applications, thus providing a foundation and framework for problem analysis. Specifically, data collection techniques were implemented by scrutinizing literature reviews sourced from various written materials, including books and references pertinent to the ongoing research.

For data analysis, the researchers opted for the partial least squares (PLS) method. PLS serves as a proficient approach for resolving equations within the realm of Structural Equation Modeling (SEM), showcasing its superiority over alternative SEM methodologies. Notably, SEM is a favored tool among researchers specializing in the social sciences due to its adaptable nature in merging theoretical constructs with empirical data, facilitating path analysis utilizing latent variables. Table 1 presented the respondents' demographics.

Table 1. Respondents' Demographics

Characteristic	Frequency (n=350)	Percentage
Gender		
Male	167	47.7%
Female	183	52.3%
Age		
Below 20 years old	11	3.1%
20 - 30 years old	158	45.1%
31 - 40 years old	152	43.4%
41 - 50 years old	25	7.1%
Above 50 years old	4	1.3%

Characteristic	Frequency (n=350)	Percentage
Occupations		
Students	20	5.7%
Public Servants	19	5.4%
Entreprenuer	15	4.3%
Private Sector	210	60%
Government Corporate	69	19.7%
Others	17	4.9%
Income per month		
Below or Equal to Rp. 5.000.000	101	28.9%
Rp. 5.000.001 - Rp. 8.000.000	152	43.4%
Rp. 8.000.001 - Rp. 12.000.000	47	13.4%
Above or Equal to Rp. 12.000.001	50	14.3%
Frequency of using Telemedicine per monthly		
1- 2 Kali	310	88.6%
3- 5 Kali	34	9.7%
>= 6 Kali	6	1.7%
Telemedicine Apps that Used the most		
Good Doctor	21	6%
Halodoc	141	40.3%
Alo Dokter	50	14.3%
Klik Dokter	21	6%
Get Well	72	20.6%
Lainnya	45	12.8%
Expenses of using Telemedicine Applications		
Below or equal to ≤ Rp. 100.000	106	30.3%
Rp. 100.001 - Rp. 500.000	222	63.4%
Rp. 500.001 - Rp. 1.000.000	22	6.3%

From the data presented in Table 1, which encompasses 350 participants, it can be inferred that the majority gender engaging with telemedicine applications is female, constituting 183 individuals or 52.3% of the participants. The demographic of telemedicine users skews towards the younger age bracket, specifically between 20 to 30 years old, representing 45.1% of the participants. Moreover, the majority of respondents are employed in the private sector, amounting to 210 individuals or 60% of the participants. In terms of income, the average earnings range from Rp. 5,000,001 to Rp. 8,000,000, accounting for 152 individuals or 43.4% of the participants. The frequency of telemedicine application utilization within a month average between 1 to 2 times, with 310 individuals or 88.6% of the total participants partaking. Among the various applications, Halodoc stands out as the most widely used, being favored by 141 individuals or 40.3% of the total participants, with an average expenditure ranging from Rp. 100,001 to Rp. 500,000, utilized by 222 individuals or 63.4% of the total participants.

4. RESULTS AND DISCUSSION

The first phase is to evaluate the measurement model by analyzing the validity and reliability of the measurement items. Based on the findings presented in Table 2, it concluded that the validity of the Average Variance Extracted (AVE) in the context of data processing or research can be affirmed, as the values of each variable surpass the threshold of 0.5. This includes an AVE value for AWA was 0.934, EEX was 0.850, FCN was 0.872, ITA was 0.769, PEX was 0.885, SEF was 0.897, SIN was 0.881, TSK was 0.794, TTF was 0.840, and TCH was 0.850. The loading factor of each measurement item surpassed the threshold of 0.7, Composite Reliability (CR) exceeded 0.7, and the Cronbach Alpha (CA) exceeded 0.7. All the measurement items met the validity and reliability parameters.

Table 2. Output of Measurement Model Analysis

Variable	Measurement Items	Loading Factor
	PEX1: Telemedicine applications are very useful for daily life during the pandemic	0.948

Variable	Measurement Items	Loading Factor
Performance Expectancy (PEX) CR: 0.968 CA: 0.957 AVE: 0.885	PEX2: The telemedicine application helped me quickly find the treatment I needed during the pandemic	0.936
	PEX3: Using the telemedicine application, improves my quality of life in looking for care/treatment needs	0.953
	PEX4: Telemedicine apps help me deal with health problems during the pandemic	0.926
Effort Expectancy (EEX) CR: 0.958 CA: 0.941 AVE: 0.850	EEX1: Learning to use telemedicine applications is very easy	0.915
	EEX2: I found the telemedicine app easy to use	0.949
	EEX3: I became very skilled at using telemedicine apps with ease	0.915
	EEX4: Interactions with telemedicine applications are clear and understandable	0.906
Social Influence (SIN) CR: 0.967 CA: 0.955 AVE: 0.881	SIN1: In a social community, I feel it is important to understand telemedicine applications	0.930
	SIN2: Social communities influenced me to use telemedicine applications during the pandemic	0.947
	SIN3: In the social community, supporting me to use telemedicine applications during the pandemic	0.947
	SIN4: Telemedicine application users have helped the social community during the pandemic	0.930
Facilitating Condition (FCN) CR: 0.953 CA: 0.926 AVE: 0.872	FCN1: I have enough resources to use telemedicine apps during the pandemic	0.944
	FCN2: I have enough knowledge to use telemedicine applications during the pandemic	0.939
	FCN3: The telemedicine app fits perfectly with other apps I use (e.g. payments via e-wallet)	0.918
Technology Characteristics (TCH) CR: 0.958 CA: 0.941 AVE: 0.850	TCH1: The telemedicine application allows me to get medical treatment/care anytime and anywhere	0.912
	TCH2: Telemedicine applications can adapt to my needs	0.958
	TCH3: The telemedicine application provides relevant medical information according to the patient's condition	0.902
	TCH4: Telemedicine applications make it easy to consult doctors in distant locations	0.915
Task Characteristics (TSK) CR: 0.939 CA: 0.912 AVE: 0.794	TSK1: Using telemedicine applications can handle my complex health problems	0.783
	TSK2: Using the telemedicine application can handle my health problems at any time	0.939
	TSK3: Telemedicine applications can provide health-related answers	0.897
	TSK4: Telemedicine applications can be used to treat more than one health problem	0.935
Self-Efficacy (SEF) CR: 0.963 CA: 0.942 AVE: 0.897	SEF1: Monitoring my health condition is very easy with the telemedicine application	0.954
	SEF2: I have the ability to know my health condition with the telemedicine application	0.963
	SEF3: I can use the telemedicine app without a hitch	0.924
Awareness (AWA) CR: 0.977 CA: 0.965 AVE: 0.934	AWA1: I have enough information about telemedicine applications	0.971
	AWA2: I have information on the benefits of using telemedicine applications during the pandemic	0.962
	AWA3: I have information on using telemedicine applications	0.966
Intention to Adopt (ITA)	ITA1: I intend to use a telemedicine application shortly	0.875
	ITA2: I intend to use the telemedicine application next month	0.899
	ITA3: I will use telemedicine apps in the future	0.857

Variable	Measurement Items	Loading Factor
CR: 0.909 CA: 0.852 AVE: 0.769		
Task Technology Fit (TTF) CR: 0.940 CA: 0.905 AVE: 0.840	TTF1: Accurate telemedicine application	0.869
	TT2: Telemedicine applications provide health-related assistance during the pandemic	0.934
	TTF3: Telemedicine applications can easily access health-related information during the pandemic	0.945

Table 3. Discriminant Validity (Cross Loading)

Items	AWA	EEX	FCN	ITA	PEX	SEF	SIN	TCH	TSK	TTF
AWA1	0.971	0.743	0.813	0.636	0.682	0.904	0.659	0.822	0.804	0.846
AWA2	0.962	0.733	0.815	0.666	0.676	0.908	0.646	0.811	0.809	0.833
AWA3	0.966	0.728	0.796	0.659	0.718	0.895	0.642	0.843	0.837	0.870
EEX1	0.672	0.915	0.691	0.560	0.540	0.665	0.660	0.677	0.583	0.680
EEX2	0.700	0.949	0.742	0.610	0.587	0.703	0.695	0.698	0.596	0.690
EEX3	0.695	0.915	0.735	0.575	0.557	0.681	0.727	0.682	0.613	0.686
EEX4	0.732	0.906	0.736	0.603	0.680	0.756	0.738	0.764	0.697	0.759
FCN1	0.757	0.755	0.944	0.601	0.624	0.757	0.736	0.777	0.713	0.747
FCN2	0.832	0.769	0.939	0.633	0.651	0.814	0.693	0.799	0.770	0.801
FCN3	0.750	0.683	0.918	0.609	0.574	0.741	0.673	0.761	0.693	0.730
ITA1	0.504	0.466	0.490	0.875	0.472	0.518	0.427	0.531	0.534	0.540
ITA2	0.543	0.514	0.544	0.899	0.472	0.567	0.485	0.537	0.557	0.582
ITA3	0.698	0.663	0.666	0.857	0.522	0.677	0.589	0.633	0.644	0.713
PEX1	0.677	0.605	0.641	0.540	0.948	0.653	0.532	0.752	0.701	0.724
PEX2	0.658	0.600	0.609	0.509	0.936	0.648	0.489	0.773	0.720	0.704
PEX3	0.691	0.621	0.626	0.554	0.953	0.674	0.495	0.754	0.727	0.723
PEX4	0.669	0.595	0.609	0.507	0.926	0.621	0.500	0.735	0.683	0.708
SEF1	0.852	0.715	0.765	0.628	0.682	0.954	0.635	0.809	0.846	0.844
SEF2	0.881	0.725	0.758	0.634	0.655	0.963	0.647	0.803	0.847	0.833
SEF3	0.918	0.724	0.820	0.668	0.626	0.924	0.637	0.791	0.795	0.844
SIN1	0.599	0.732	0.661	0.521	0.478	0.619	0.930	0.611	0.556	0.617
SIN2	0.616	0.696	0.655	0.542	0.530	0.631	0.947	0.626	0.578	0.633
SIN3	0.643	0.728	0.727	0.541	0.495	0.633	0.947	0.640	0.592	0.641
SIN4	0.659	0.719	0.768	0.574	0.507	0.652	0.930	0.674	0.655	0.667
TCH1	0.767	0.723	0.792	0.592	0.715	0.767	0.647	0.912	0.755	0.788
TCH2	0.837	0.737	0.814	0.626	0.759	0.812	0.657	0.958	0.827	0.863
TCH3	0.768	0.665	0.702	0.566	0.741	0.784	0.558	0.902	0.833	0.840
TCH4	0.776	0.704	0.771	0.631	0.737	0.755	0.649	0.915	0.794	0.802
TSK1	0.609	0.484	0.549	0.530	0.474	0.663	0.525	0.578	0.783	0.682
TSK2	0.830	0.644	0.765	0.640	0.706	0.853	0.611	0.836	0.939	0.850
TSK3	0.786	0.650	0.743	0.600	0.750	0.789	0.581	0.861	0.897	0.867
TSK4	0.768	0.619	0.695	0.602	0.721	0.800	0.546	0.799	0.935	0.825
TTF1	0.722	0.636	0.686	0.653	0.588	0.743	0.603	0.694	0.805	0.869
TTF2	0.843	0.730	0.775	0.662	0.760	0.828	0.620	0.902	0.837	0.934
TTF3	0.846	0.733	0.773	0.638	0.732	0.865	0.652	0.851	0.858	0.945

Based on the cross-loading outcomes presented in Table 3, it is evident that the relationship between the construct and its respective indicators surpasses the relationship with alternative constructs. Consequently, all

configurations or latent variables exhibit high discriminative validity, indicating that the indicators within the configuration indicator block outperform indicators in other blocks.

Table 4. Evaluation of R-Square

Variable	R-Square	R- Square Adjusted	Results
Intention to Adopt Telemedicine Applications	0.537	0.528	Moderate
Task Technology Fit	0.869	0.868	Strong

In Table 4 presented above, it is evident that exogenous factors play a significant role in impacting the Intention to Adopt Telemedicine Applications, accounting for 54% of the variance, while the remaining 46% can be attributed to other variables. Furthermore, exogenous factors exhibit a substantial influence on Task Technology Fit, explaining 87% of the variance, leaving the remaining 13% to be influenced by other factors.

Table 5. Evaluation of F-Square

Path	F-Square	Result
AWA → ITA	0.001	No Effect
EEX → ITA	0.008	No Effect
FCN → ITA	0.004	No Effect
PEX → ITA	0.000	No Effect
SEF → ITA	0.001	No Effect
SIN → ITA	0.004	No Effect
TSK → TTF	0.546	Strong
TCH → ITA	0.044	Weak
TCH → TTF	0.321	Moderate

Based on the data presented in Table 5, the analysis of the F-Square value indicates one strong influence, specifically Task Characteristics on Task Technology Fit, one moderate influence of Technology Characteristics on Task Technology Fit, one path of weak influence of Technology Characteristics on Intention to Adopt, and six paths with no influences. Namely, Awareness on Intention to Adopt Telemedicine Applications, Effort Expectancy on Intention to Adopt Telemedicine Applications, Facilitating Conditions on Intention to Adopt Telemedicine Applications, Performance Expectancy on Intention to Adopt Telemedicine Applications, Self Efficacy on Intention to Adopt Telemedicine Applications, Social Influence on Intention to Adopt Telemedicine Applications, and lastly Task Technology Fit on Intention to Adopt Telemedicine Applications.

Table 6. Hypothesis Testing

Hypothesis	β	T-Statistic	P Values	Result
H1: PEX → ITA	0.013	0.059	0.226	Rejected
H2: EEX → ITA	0.118	0.079	0.135	Rejected
H3: SIN → ITA	0.075	0.967	0.334	Rejected
H4: FCN → ITA	0.091	1.002	0.316	Rejected
H5: TSK → TTF	0.545	8.310	0.000	Supported
H6: TCH → TTF	0.418	6.361	0.000	Supported
H7: AWA → ITA	0.056	0.505	0.614	Rejected
H8: SEF → ITA	0.080	0.722	0.470	Rejected
H9: TTF → ITA	0.364	3.853	0.000	Supported

Based on Table 7 of the hypothesis test above, it can be concluded that Hypothesis 1, namely the influence between Performance Expectancy and Intention to Adopt Telemedicine Applications with t-statistics < t-table (0.059 < 1.96) and p-value 0.820, then H1 is rejected, meaning there is no influence between Performance Expectancy and Intention to Adopt Telemedicine Applications. Hypothesis 2, the influence between Effort Expectancy and Intention to Adopt Telemedicine Applications with t-statistics < t-table (0.077 < 1.96) and p-value 0.126, then H2 is rejected, meaning there is no influence between Effort Expectancy and Intention to Adopt Telemedicine Applications. Hypothesis 3, the influence between Social Influence and Intention to Adopt Telemedicine Applications with t-statistics < t-table (0.983 < 1.96) and p-value 0.326, then H3 is rejected, meaning there is no influence between Social Influence and Intention to Adopt Telemedicine

Applications. Hypothesis 4, the influence between Facilitating Conditions and Intention to Adopt Telemedicine Applications with t-statistics < t-table (0.997 < 1.96) and p-value 0.319 then H4 is rejected, meaning there is no influence between Facilitating Conditions and Intention to Adopt Telemedicine Applications. Hypothesis 5, the influence between Task Characteristics and Task Technology Fit with t-statistics > t-table (8.246 > 1.96) and p-value 0.000, so H5 is supported and significant. Hypothesis 6, the influence between Technology Characteristics and Task Technology Fit with t-statistics > t-table (6.282 > 1.96) and p-value 0.000, so H6 is supported and significant. Hypothesis 7, the influence between Awareness and Intention to Adopt Telemedicine Applications with t-statistics < t-table (0.518 < 1.96) and p-value 0.605, then H7 is rejected, meaning there is no influence between Awareness and Intention to Adopt Telemedicine Applications. Hypothesis 8, the influence between Self Efficacy and Intention to Adopt Telemedicine Applications with t-statistics < t-table (0.751 < 1.96) and p-value 0.453, then H8 is rejected, meaning there is no influence between Self Efficacy and Intention to Adopt Telemedicine Applications. Hypothesis 9, the influence between Task Technology Fit and Intention to Adopt Telemedicine Applications with t-statistics > t-table (3.738 > 1.96) and p-value 0.000, so H9 is supported and significant.

4.1 MANAGERIAL IMPLICATION

The research conducted describes the practical implications of the research findings. The data analysis indicates that the Task Characteristics variable is favorable, as it reveals those users of telemedicine applications highly value online services capable of addressing multiple health issues. Consequently, there is an expectation for the company to enhance the development of this application, particularly in health services, by expanding the pool of specialized doctors in complex disease treatments. This strategic move is anticipated to boost user engagement sustainably, as reflected in the frequency of consultations within the application. Patients with intricate medical conditions are likely to seek specialist advice at least four to five times per month. This trend is underscored by the notably higher mean value associated with this particular indicator, in comparison to others.

Moreover, the Technology Characteristics also yield favorable implications, as respondents express a strong preference for telemedicine applications facilitating remote consultations with doctors in distant locations. This specific indicator garners the highest mean value, suggesting that remote doctor consultations could have a beneficial effect on society and enhance the willingness to utilize telemedicine applications. Consequently, application developers should streamline existing features, enhance user-friendliness, and provide instructional videos for each feature. This approach aims to attract a wider audience, particularly individuals aged 40 and above, towards the utilization of telemedicine applications.

Finally, the Task Technology Fit has positive implications as respondents expressed a high level of satisfaction with the technological support that offered health information amid the Covid-19 crisis. This is supported by the respondents' selection of the indicator "Telemedicine applications provide health-related assistance during the pandemic" with the highest mean value. Based on this data, it can be inferred that the public will greatly appreciate the telemedicine application if enhancements are made to improve service quality, such as incorporating a video call consultation feature. This addition could not only enhance diagnostic accuracy but also bolster the security of video calls through monitoring of the telemedicine application and the legal framework safeguarding consumer rights. The evaluation of service quality in telemedicine applications is typically conducted by surveying users post-treatment from healthcare providers.

5. CONCLUSION

The impact of implementing telemedicine applications on health consultations and solutions for users in Indonesia during the COVID-19 period has been examined in various studies, revealing a significant influence of Task Characteristics on Technology Fit, and Task Technology Fit on Intention to Adopt. Consequently, the telemedicine application developed amidst the COVID-19 pandemic is designed to cater to user needs and assist in providing health solutions through technological means. On the other hand, several other factors exhibit notable outcomes, such as Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Awareness, and Self-efficacy, all contributing to the intention to adopt telemedicine applications. This preference is attributed to users' inclination towards assessing technological compatibility over other factors initially. The primary constraint of this study pertains to the limited research duration, which hindered a more comprehensive exploration of telemedicine application utilization. Additionally, the respondent pool was constrained to the researcher's locality due to time constraints. For entrepreneurs, enhancing services for patients with intricate illnesses is essential. This can be achieved by incorporating specialized physicians, streamlining features for user-friendliness, offering video tutorials for each function, introducing video call capabilities to enhance diagnostic accuracy, and evaluating user feedback on consultation services to boost interest and sustained usage of telemedicine applications. As for prospective

researchers utilizing this study as a resource, it is recommended to explore alternative variables to substitute weaker ones for improved outcomes.

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