Impact of IT identity and data privacy on mobile telemedicine use: A UTAUT perspective

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Abstract

The purpose of this study is to identify potential determinants of the intention to use mobile telemedicine applications. We gathered a total of 187 responses from smartphone users who expressed interest in utilizing Halodoc mobile telemedicine application. This study analyzed the acquired data using Partial Least Squares Structural Equation Modeling (PLS-SEM) and employed Importance-Performance Mapping (IPMA) to propose possible managerial enhancements for developers of mobile telemedicine applications. A total of 7 out of 11 hypotheses in this study were supported. Performance expectancy and facilitating conditions have a substantial impact on users' attitude toward mobile telemedicine applications, according to the findings of the study. Usage intention is not directly influenced by performance expectancy or facilitating conditions. While effort expectancy has no effect on attitude, it has a substantial impact on usage intention. The impact of social influence on attitude and behavioral intention is predominantly positive. Data privacy, in contrast to IT identity, does not have a positive impact on usage intention. In general, a favorable attitude toward the application positively influences the user's intent to use mobile telemedicine applications.

Keywords: *Telemedicine, UTAUT, IT identity, data privacy, technology acceptance*

Introduction

Telemedicine is a digital platform that may enable patients to consult virtually with professional physicians online through instant messages or video calls. Telemedicine is an effective alternative to face-to-face health consultation for people who are afraid to consult with a doctor in a hospital during a pandemic. Telemedicine proved useful for patients suffering from common illnesses and offer convenience to patients. Telemedicine may also benefit people who want to consult a psychologist regarding their mental health. Telemedicine makes mental health consultations more accessible because it helps patients avoid stigma and maintain their privacy (Arafat et al., 2021). Telemedicine is especially important in the attempt to democratize healthcare in Indonesia. Indonesia suffers from a very low ratio between the number of

healthcare workers and the total population. In 2020, Indonesia's doctor-population ratio was only 0.6 doctors per 1,000 people, the third-lowest in Southeast Asia (Kompas, 2022). The availability of mobile telemedicine applications enables physicians to treat many patients at the same time and significantly reduce consultation costs for patients, thus lowering the barriers to healthcare for low- and middle-income communities.

Past studies have proven that health stress and contamination avoidance are the primary drivers of continued telemedicine use during the COVID-19 pandemic in Indonesia (Alexandra et al., 2021; Lu et al., 2023). Paranoia towards COVID-19 infection is a notable factor that helps encourage adoption of telemedicine for Indonesian smartphone users. Telemedicine is particularly effective in mitigating physician shortages during the COVID-19 pandemic and is cost-effective for patients (Kichloo et al., 2020). However, a decrease in COVID-19 cases may also result in a decline in mobile telemedicine application usage. The Indonesian government's plan to start the transition to endemic status as COVID-19 cases wane (The Jakarta Post, 2022) further decreases the relevance of mobile telemedicine applications as hospital operations return to pre-pandemic conditions. In contrast to the prediction that telemedicine growth may slow down during the transition to endemic conditions in Indonesia, Indonesian mobile telemedicine applications experienced steady and rapid growth instead. According to a recent survey, new telemedicine users increased by 44.1% between September 2021 and March 2022, and only 33.6% of the users used telemedicine because of COVID-19 infections (Katadata, 2022). This phenomenon demonstrates that aside from health stress, there are other factors that affect the use of mobile telemedicine applications in Indonesia and warrant further investigation.

IT identity is a phenomenon in which technology becomes increasingly immersed in everyday human behavior and thus constitutes an individual's persona (Wu et al., 2022). People tend to identify themselves within a certain group based on their beliefs, ideologies, hobbies, and so forth. An individual's IT identity is how they see technology as an inseparable part of their life and an important part of their personal identity. It is interesting to explore the IT identity variable in Indonesia because of the exponential increase in mobile phone usage in recent years, which has made Indonesia the fourth country with the largest number of smartphone users in the world (Statista, 2022). Research on the relationship between self-identity and mobile technology is relatively new, leading to a scarcity of studies on this topic. Moreoever, no previous studies have specifically investigated IT identity in the context of mobile telemedicine applications.

Another research gap that we are trying to solve is the inconsistent findings regarding the UTAUT constructs toward attitude and behavioral intention in the context of mobile telemedicine applications. For instance, past studies found that social influence significantly affect the intention to use health applications (Alam et al., 2020; Kamal et al., 2020; Zobair et al., 2021), while other studies found contrasting results (Alexandra et al., 2021; Baudier et al., 2023; Schmitz et al., 2022). The causal relationship between effort expectancy and attitude is also inconclusive, Pangaribuan and Wulandari (2019) and Shaikh et al. (2021) significant causal effect. Other studies found insignificant

causal effect (Allah Pitchay et al., 2022; Rahi et al., 2019). Therefore, this study tries to confirm the robustness of the UTAUT theory in explaining the usage intention of mobile telemedicine applications in Indonesia to fulfill the research gap. To understand the factors that may affect usage of mobile telemedicine applications, this study tries to extend the UTAUT model with IT identity and data privacy to consider potential user attitudes and their intentions to use mobile-based telemedicine applications.

Literature Review

Performance expectancy is defined as a technology user's expectation regarding the performance of the adopted technology (Hung et al., 2019). Performance expectancy is the extent of belief that using the new technology may help an individual improve their performance (Chakava et al., 2018). The performance expectancy variable is the equivalent of perceived usefulness in the Technology Acceptance Model (Venkatesh, Morris, Davis, & Davis, 2003). Consumers are more likely to adopt a new technology if they believe that the technology is useful in their daily lives (Alalwan et al., 2017). When an individual perceives that a new technology is useful for them, they will have a better attitude towards the new technology (Dwivedi et al., 2017). A user's expectation of a technology's performance may influence their attitude towards it. Positive feelings towards the technology may arise when a potential user perceives the new technology as useful and believes it can enhance their performance in a particular activity. Researchers have found that performance expectancy significantly influences attitudes towards crowdfunding technology (Pangaribuan & Wulandar, 2019) and telemedicine services (Rahi, Khan, & Alghizzawi, 2021). Thus, the following hypothesis is proposed:
H1: Performance expectancy has a positive and significant impact on the attitude towards mobile telemedicine applications.

When using a new technology, the first thing people consider is the benefit they would get from it. An individual would only consider using a new technology if it made them feel more productive, time-efficient, and easier to do a certain task. The UTAUT theory suggests that performance expectancy is the strongest predictor of user intention towards a certain technology because technology users typically consider using a new technology only if the technology may benefit them (Venkatesh et al., 2003; Venkatesh et al., 2012). Previous studies have proven that performance expectancy is the strongest predictor of usage intention for mobile health applications (Duarte & Pinho, 2019) and telemedicine services (Baudier et al., 2023; Schmitz et al., 2022). Thus, the following hypothesis is proposed:
H2: Performance expectancy has a positive and significant impact on the intention to use mobile telemedicine applications.

Effort expectancy refers to an individual's assessment of the ease with which a technology is used (Sair & Danish, 2018). Effort expectancy is the individual’s expectation of the effort required to operate a technology (Hutabarat et al., 2021)Consumers tend to evaluate the effort required to use a technology before its actual usage (Venkatesh et al., 2012). When consumers think that

using the technology requires minimal effort, the probability that they will use the technology increases (Rahi & Ghani, 2019). Consumers who are adept at using various technologies deem new technology usage more straightforward and uncomplicated (Alalwan et al., 2017). The rapid adoption of digital technology as a consequence of COVID-19 supposedly made consumers more proficient in using mobile technology and thus more willing to try different kinds of applications offered in the market. Potential technology users often evaluate the ease of use of the technology they want to use. When the technology is perceived to be difficult to use and requires significant effort in learning in order to use it, the potential user might develop an unfavorable attitude towards the technology. Previous studies on the effect of effort expectancy on the attitude towards a technology have been inconclusive. Some studies found that effort expectancy is an insignificant antecedent of user attitude towards technology (Allah Pitchay et al., 2022; Rahi et al., 2019). However, other studies found that effort expectancy is a positive and significant antecedent of user attitude towards technology (Pangaribuan & Wulandari, 2019; Shaikh et al., 2021). We propose the following hypothesis, based on the premise that the more difficult a technology is to use, the less favorable it is for the potential user:
H3: Effort expectancy has a positive and significant impact on the attitude towards mobile telemedicine applications.

Using a new technology may seem daunting for many people because they must learn how to use it first before they can utilize it. If the new technology is hard to learn and requires a lot of effort to be able to use it properly, then people would be hesitant to start using it. According to the UTAUT theory, effort expectancy is important for both voluntary and mandatory technology users, and the effect of effort expectancy on a technology's usage intention is more pronounced for first-time users (Venkatesh et al., 2003, 2012). Baudier et al. (2023) discovered that effort expectancy has a positive and significant effect on the intention to use telemedicine and health-related technologies. Thus, we postulate the following hypothesis:
H4: Effort expectancy has a positive and significant impact on the intention to use mobile telemedicine applications.

Social influence refers to the degree to which an individual's behavior is influenced by the views of others (Effendy et al., 2021). Social influence refers to the perception that individuals are either encouraged or discouraged by important people in their lives to engage in specific behaviors (Ajzen & Fishbein, 1975; Zhang et al., 2020). The majority of individuals conform to the rules and norms of a society in order to prevent social exclusion. Individuals consistently strive to conform to their preferred social circles, and this inclination to assimilate influences numerous patterns of consumption (Solomon, 2018:415). Social influence has consistently played a crucial role in shaping consumer behavior. According to Venkatesh et al. (2003), social influence can change a person's beliefs about a technology. Peers and relatives have the potential to endorse the adoption of novel technology, thereby exerting an impact on individuals' perception of said technology. If peers and relatives express favorable opinions about the technology, it is highly probable that the potential

user will also develop positive attitudes towards it. Prior research has demonstrated that social influence has a positive impact on individuals' attitudes towards technologies (Allah Pitchay et al., 2022; Rahi et al., 2019). Therefore, the subsequent hypothesis is proposed:
H5: Social influence has a positive and significant impact on the attitude towards mobile telemedicine applications.

An individual's purchase of a product or service or the adoption of new technology can also be swayed by the perspectives and sentiments of others. Individuals often rely on the guidance of influential individuals in their lives when making decisions about purchasing, using, or selecting a product or service. The reviews of the product from previous users can serve as an indicator of its quality. Seeking input from others prior to making a purchase can assist consumers in avoiding acquiring products or services that may not align with their specific requirements or desires. According to the UTAUT theory, social influence affects an individual's intention to use a technology by either responding to the potential benefits of social status or by changing their intention to use the technology due to social pressure (Venkatesh et al., 2003). The impact of social influence on the intention to use healthcare technology has yielded inconsistent results across different studies. Several studies have yielded conflicting results regarding the impact of social influence on the intention to use healthcare technology. Some studies have found that social influence has no significant effect on healthcare technology usage intention (Alexandra et al., 2021; Baudier et al., 2023; Schmitz et al., 2022). However, other studies have found that social influence does have a significant impact on healthcare technology usage intention (Alam et al., 2020; Kamal et al., 2020; Zobair et al., 2021). Based on the assumption that social influence plays a significant role in the majority of consumer decisions made on a daily basis, we suggest the following hypothesis:
H6: Sosial influence has a positive and significant impact on the intention to use mobile telemedicine applications.

Facilitating conditions refer to the perception of having control over a user's behavior (Palau-Saumell et al., 2019). Facilitating conditions encompass factors such as the perception of sufficient resources and external assistance that are accessible when utilizing a technology (W. J. Lee & Shin, 2019). Facilitating conditions could also include the provision of technical assistance, guidance, and training when utilizing a novel technology (Lee et al., 2019). The presence of adequate resources, essential skills, and support for users of a new technology can enhance the likelihood of its utilization (Schmitz et al., 2022). Facilitating conditions can potentially decrease the perceived obstacles to the acceptance and implementation of a novel technology (Blok et al., 2020). Prior to adopting a technology, a prospective user will assess their possession of resources and the extent of external support required to effectively utilize the technology. If potential users believe that their current circumstances do not support the use of the new technology and perceive a significant obstacle to its use, they may form negative opinions about the technology. Previous studies conducted by Rahi et al. (2021) and Zin et al. (2023) discovered a significant

impact of facilitating conditions on attitudes towards telemedicine services and digital healthcare technology, respectively. Building upon the findings of prior research, the subsequent hypothesis is put forth:
H7: Facilitating conditions has a positive and significant impact on theattitude towards mobile telemedicine applications.

It is essential to take into account facilitating conditions when utilizing a novel technology. An individual's likelihood of adopting a new technology is influenced by the current conditions that support its use, such as the availability of assistance and the necessary resources. The UTAUT theory proposes that facilitating conditions can reduce the perceived obstacles to adopting a new technology (Blok et al., 2020). The facilitating conditions variable has been identified as a factor that influences the intention to use telemedicine and mobile health applications, as supported by studies conducted by Kamal et al. (2020), Alam et al. (2020), and Zobair et al. (2021). Building upon the findings of prior research, we put forth the subsequent hypothesis:
H8: Facilitating conditions has a positive and significant impact on the intention to use mobile telemedicine applications.

Identity refers to an individual's affiliation with a specific label or category (Reed et al., 2012). Identity encompasses an individual's self-perception and their understanding of the surrounding world. Individuals often engage in self-categorization and social comparison as a means of understanding their social surroundings (Balapour et al., 2019). Identity can be defined as an individual's perception of themselves in relation to their surrounding environment. IT identity refers to the degree to which an individual considers the use of IT as an essential part of their self-perception (Carter & Grover, 2015). The swift advancement of technology has led to a growing integration of IT into our everyday existence, resulting in a digital migration of individuals who now engage in a wide range of activities online, including shopping and seeking medical advice. The advent of technology has revolutionized the manner in which individuals and organizations establish and delineate their identities (Whitley et al., 2014). For example, individuals who regularly utilize mobile phones in their day-to-day activities may perceive mobile phones as an indispensable component of their lives (Wu et al., 2022). Individuals who self-identify as technology enthusiasts experience a feeling of empowerment in relation to technology, and technology has the potential to shape their personalities and influence their behavioral choices (Balapour et al., 2019). The identity theory posits that individuals who strongly identify with technology are more inclined to adopt novel technological advancements (Carter & Grover, 2015; Wu et al., 2022). Prior research has established that IT identity serves as a precursor to the intention to use mobile health applications (Balapour et al., 2019). Therefore, we make the assumption that:
H9: IT identity has a positive and significant impact on the intention to use mobile telemedicine applications.

Data privacy refers to the degree to which an individual possesses the sole authority to control the information that is stored about them by external

entities (Alam et al., 2020). Data privacy refers to the conviction that the user's data, which is revealed while utilizing a technology, is protected and free from any potential risks or breaches. In order to enhance the efficacy of telemedicine consultations, it is imperative to share patient data with both the physician and the healthcare application provider. The absence of essential patient data, such as age, gender, and medical history, can impede physicians' ability to accurately diagnose illnesses. Telemedicine poses a challenge as physicians are unable to assess the patient's health directly through physical contact. Personal information, including age, gender, occupation, and other sensitive data, can be vulnerable to unauthorized access. Mobile application users' express apprehension regarding the inappropriate gathering and retention of data, which could potentially result in adverse outcomes for the user (Keith et al., 2013). Furthermore, the data obtained from users may be utilized for unforeseen objectives. Nevertheless, mobile application users are more inclined to reveal personal information to providers if they believe that there will be advantages in doing so (Wang et al., 2016). The impact of data privacy on the usage intentions of mobile health applications and telemedicine has shown varying results. Kamal et al. (2020) discovered that the impact of data privacy on the intention to use telemedicine is not significant. In contrast, additional research has demonstrated that safeguarding data privacy is a favorable and substantial factor in determining the likelihood of individuals using mobile health applications (Alam et al., 2020) and telemedicine services (Zobair et al., 2021). Considering the significance of safeguarding data privacy and security, we make the following assumptions:

H9: Data privacy has a positive and significant impact on the intention to use mobile telemedicine applications.

Attitude refers to a subjective evaluation of a specific object, idea, or behavior, characterized by either a positive or negative sentiment (Kotler and Keller, 2016:197). An individual is more likely to engage in a particular action if they believe that the outcome of the action will be advantageous to them. Conversely, if the individual deems the action to be unsuitable, they will refrain from carrying it out (Aziz et al., 2019). An individual's attitude is shaped by their previous experiences and the information they have acquired about a specific object (Azizam et al., 2020). Individuals who possess a favorable disposition towards a technology are more inclined to adopt and utilize it, whereas individuals who harbor an unfavorable attitude towards the technology are likely to decline its usage. Attitude is proposed as a crucial factor influencing the intention to use in different theories of consumer behavior and technology acceptance, such as the Theory of Planned Behavior and Technology Acceptance Model (Ajzen & Fishbein, 1975; Davis et al., 1989). Nevertheless, the UTAUT theory did not provide a clear explanation of the connection between attitude and usage intention. This study aims to examine the impact of attitude on usage intention, a factor that was overlooked in the original UTAUT model. The studies conducted by Allah Pitchay et al. (2022), Pangaribuan and Wulandari (2019), Rahi et al. (2021), Zin et al. (2023) have all established that attitude towards the usage intention of a new technology has a positive and significant impact. Therefore, drawing from the findings of prior research, the

subsequent hypothesis is put forward:
H11: Attitude has a positive and significant impact on the intention to use mobile telemedicine applications.

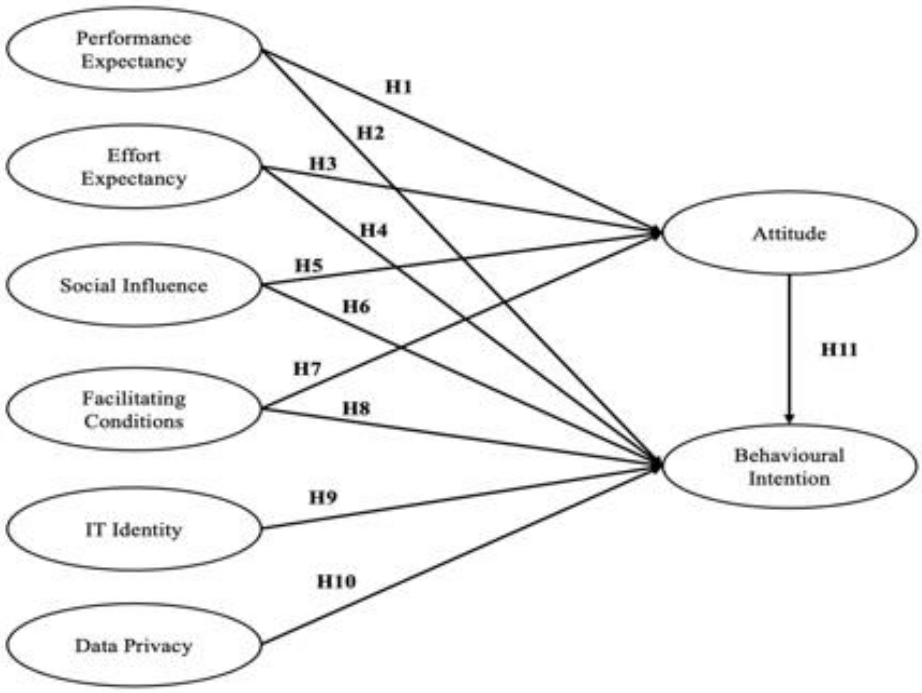

Figure 1. Research Model

Methods

The constructs in the proposed model were measured using indicators derived from previous studies. The English items were initially translated into Indonesian and then modified to suit the specific requirements of mobile telemedicine applications. The items were predominantly assessed using a five-point Likert scale, which spanned from (1) "strongly disagree" to (5) "strongly agree". This study used the non-probability sampling method, specifically the purposive sampling approach. The participants in this study are individuals who have a keen interest in utilizing mobile telemedicine applications, specifically Halodoc. The Katadata Insight Center's survey (2022) revealed that Halodoc is the most popular mobile telemedicine application in Indonesia, which is why we chose it as the main object of the study. The immense popularity of Halodoc in Indonesia facilitates the respondents' understanding of mobile telemedicine applications, thereby simplifying the questionnaire filling process. Screening questions were introduced to the online questionnaires, regarding the familiarity and desirability of the respondents toward Halodoc telemedicine application. Only respondents who indicated familiarity with Halodoc but have not yet used the application, and also expressed a willingness to use the Halodoc application, were included in this study. Subsequently, online questionnaires were disseminated during the period from May to June 2023. The minimum sample size required for studies utilizing the Partial Least Squares Structural Equation Modeling (PLS-SEM) data analysis method is determined by

multiplying the largest number of inner model paths directed at a specific construct in the inner model by ten (Hair et al., 2014). The proposed model comprises 11 distinct paths within the inner model, each focused on a specific construct. Therefore, the minimum required sample size for this study is 110. For PLS-SEM, it is more desirable to have sample sizes that exceed 100 samples (Hair et al., 2019). At the conclusion of the data collection period, a total of 187 responses were obtained, surpassing the minimum sample size.

This study also includes IPMA analysis as additional testing. The Importance Performance Matrix Analysis (IPMA) is a technique used to identify key areas within a research model that can be improved for managerial purposes (Rahi & Abd.Ghani, 2019). IPMA assesses the overall impact of the structural model by comparing it to the average scores of latent variables associated with a particular endogenous construct (Ringle & Sarstedt, 2016). The primary objective of the PLS-SEM analysis is to estimate the significance of direct, indirect, and total relationships among constructs (Busalim et al., 2021). In IPMA analysis, the total effect of a construct is contrasted with the average scores of the preceding construct. The cumulative impact indicates the significance of a concept in influencing the outcome concept, whereas the mean latent variable score reflects its effectiveness. IPMA facilitates the recognition of constructs that have a relatively high level of significance for the target construct. This aspect of the analysis emphasizes the areas that are highly significant for enhancing constructs that currently exhibit poor performance (Colicev et al., 2016).

Result and Discussions

This study obtained a total of 187 responses were obtained at the end of the data collection period, surpassing the minimum sample size suggested by (Hair et al., 2014). 47.6% of the respondents were male, and 52.4% of the respondents were female. The majority of the respondents aged 17-26 years old (49.2%) and 27-42 years old (42.8%), and only 8.0% of the respondents aged 43-58 years old. The educational backgrounds of the respondents are high school diploma (34.2%), associate's degree (21.4%), bachelor's degree (41.7%), and master's degree (2.7%). Partial Least Squares Structural Equation Modeling (PLS-SEM) method was used to examine the proposed model. The measurement model is assessed based on its internal consistency reliability, convergent validity, and discriminant validity. In order to ensure internal consistency reliability and convergent validity of the proposed model, it is necessary for each variable to have a composite reliability (CR) value greater than 0.7 and an average variance extracted (AVE) value exceeding 0.5 (Hair et al., 2019). Factor loadings should exceed 0.7, and if factor loadings fall below this threshold, they can be eliminated if it leads to improved composite reliability (CR) and average variance extracted (AVE) of the constructs (Aburumman et al., 2023). The constructs' CR and AVE were enhanced by dropping the items SI1, EE2, FC1, and PE3. Once the above items have been removed, the measurement model is deemed suitable for further scrutiny.

Table 1. Assessment of Discriminant Validity

Items	Loadings	CR	AVE	Source
Perfomance Expectancy (PE)				
PE1	0.772	0.788	0.554	Venkatesh *et al.* (2003); Alam et al. (2020)
PE2	0.722			
PE3	Dropped			
PE4	0.738			
Effort Expectancy (EE)				
EE1	0.760	0.782	0.545	Venkatesh *et al.* (2003); Alam et al. (2020)
EE2	Dropped			
EE3	0.734			
EE4	0.720			
Social Influence (SI)				
SI1	Dropped	0.798	0.568	Venkatesh *et al.* (2003); Zobair et al. (2021)
SI2	0.765			
SI3	0.747			
SI4	0.749			
Facilitating Conditions (FC)				
FC1	Dropped	0.763	0.518	Venkatesh *et al.* (2003); Alam et al. (2020)
FC2	0.709			
FC3	0.673			
FC4	0.774			
IT Identity				
ITI1	0.728	0.790	0.557	Wu *et al.* (2022); Carter et al. (2020)
ITI2	0.704			
ITI3	0.804			
Data Privacy (DP)				
DP1	0.750	0.783	0.545	Chellappa and Pavlou (2002); Alam et al. (2020)
DP2	0.735			
DP3	0.730			
Attitude (ATT)				
ATT1	0.754	0.756	0.509	Rahi *et al*. (2020)
ATT2	0.735			
ATT3	0.647			
Usage Intention (UI)				
UI1	0.769	0.801	0.502	Venkatesh *et al.* (2003); Zobair et al. (2021)
UI2	0.643			
UI3	0.679			
UI4	0.737			

Note: CR = Composite Reliability, AVE = Average Variance Extracted

The Fornell-Larcker criterion is employed to assess the discriminant validity of the constructs. Discriminant validity is established when the square root of the average variance extracted (AVE) for a particular construct is greater than its correlation with all other constructs (Rasoolimanesh, 2022). Table 1 demonstrates that the measurement model possesses adequate discriminant

validity.

Table 2. Assessment of Discriminant Validity

	ATT	DP	EE	FC	ITI	PE	SI	UI
ATT	0.714							
DP	0.606	0.738						
EE	0.570	0.450	0.738					
FC	0.542	0.347	0.471	0.720				
ITI	0.667	0.655	0.521	0.507	0.747			
PE	0.705	0.631	0.552	0.443	0.656	0.744		
SI	0.540	0.544	0.506	0.378	0.624	0.587	0.754	
UI	0.685	0.583	0.649	0.489	0.727	0.671	0.631	0.709

The proposed hypotheses were tested using a bootstrapping procedure consisting of 5000 subsamples, as suggested by several researchers (Risher & Hair Jr, 2017; Sarstedt et al., 2019). A hypothesis is deemed valid when the t-value exceeds 1.96 and the p-value is below 0.05, both at a 95% confidence level. Table 2 displays the complete results of the hypothesis testing.

Table 3. Assessment of Discriminant Validity

Hypothesis	Relationship	Path Coefficient	t-statistics	p-values	Decision
H1	PE→ATT	0.454	7.004	0.000	Accepted
H2	PE → UI	0.123	1.527	0.127	Rejected
H3	EE → ATT	0.159	2.684	0.007	Accepted
H4	EE → UI	0.244	3.392	0.001	Accepted
H5	SI → ATT	0.108	1.302	0.193	Rejected
H6	SI → UI	0.144	2.092	0.037	Accepted
H7	FC → ATT	0.225	3.249	0.001	Accepted
H8	FC → UI	0.020	0.350	0.726	Rejected
H9	ITI → UI	0.304	3.836	0.000	Accepted
H10	DP → UI	0.015	0.257	0.797	Rejected
H11	ATT → UI	0.159	2.201	0.028	Accepted

This study provides a more in-depth analysis of the mediation mechanisms involved in the proposed relationships. According to the model, there are four potential indirect effects between the independent and dependent variables. According to the results of the hypothesis testing, only one out of four indirect effects is deemed statistically significant. Table 3 displays the complete outcomes of the indirect effects.

According to the importance-performance mapping analysis, the variable that has the greatest impact on the intention to use mobile telemedicine applications is IT identity. However, the performance of IT identity is lower than that of social influence. Therefore, mobile telemedicine application providers can focus their marketing efforts on potential users who possess a strong IT identity, which is defined by their enthusiasm, reliance, and connectivity with

mobile technology. Additional areas for potential enhancement include user attitudes and the efficacy of mobile telemedicine applications. Marketing campaigns can enhance both user attitudes and performance expectancy by emphasizing the practicality and convenience of the application.

Table 4. Indirect Path Hypothesis Testing

Path	Path Coefficient	p-value	t-value	Result	Evaluation
PE → ATT → UI	0.072	0.045	2.005	Accepted	Full Mediation
EE → ATT → UI	0.025	0.084	1.727	Rejected	No Mediation
SI → ATT → UI	0.017	0.309	1.018	Rejected	No Mediation
FC → ATT → UI	0.036	0.053	1.939	Accepted	No Mediation

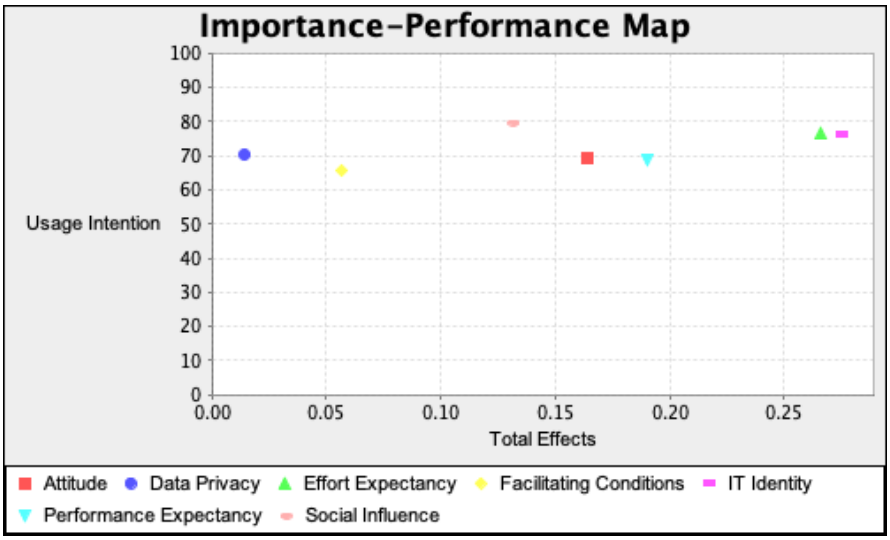

Figure 2. IPMA Analysis

This study aims to expand the UTAUT model by incorporating IT identity and data privacy factors in order to elucidate potential users' attitudes and intentions towards the utilization of mobile telemedicine applications. The study discovered that performance expectancy has a substantial impact on the attitudes of potential users towards mobile telemedicine applications. This finding aligns with Rahi et al. (2021), which similarly concluded that performance expectancy positively and significantly affects user attitudes in the context of telemedicine services. Enhancing the telemedicine application's performance is crucial for enhancing the assessment of telemedicine health services for prospective users (Rahi et al., 2021). Perceptions of enhanced healthcare accessibility through telemedicine positively influence the likelihood of potential users adopting telemedicine applications (Nawarini et al., 2022). Nevertheless, the predictive power of performance expectancy on usage intention for mobile telemedicine applications is negligible, in contrast to previous findings (Baudier et al., 2023; Schmitz et al., 2022). The justification for this outcome can be attributed to the potential rivalry between telemedicine applications and in-person health consultations with healthcare professionals.

In-person health consultations with physicians are more adept at diagnosing a range of illnesses, particularly severe ones, compared to telemedicine applications. Therefore, telemedicine is considered to have fewer advantages than face-to-face health consultations in specific circumstances. Our perspective aligns with multiple studies (Hwei & Octavius, 2021; Malliaras et al., 2021), which have highlighted various drawbacks of teleconsultations, limiting their suitability to common ailments and non-urgent situations. The study demonstrated that the connection between performance expectancy and usage intention is completely influenced by attitude. Therefore, it can be inferred that performance expectancy plays a crucial role in enhancing usage intention by initially generating a favorable assessment of mobile telemedicine applications in the minds of potential users.

This study also discovered that the level of expected effort is a significant factor that influences both attitude and intention to use, which aligns with previous research conducted by Pangaribuan and Wulandari (2019) and Shaikh et al. (2021). According to Napitupulu et al. (2021), individuals in Indonesia who have the potential to use telemedicine are more inclined to utilize the application if they perceive it to be user-friendly. If the application is considered excessively intricate to operate, potential users may readily seek out alternative health consultation channels, such as in-person consultations or the utilization of other telemedicine applications that provide a more straightforward user experience. Moreover, this study demonstrated that social influence has a direct impact on the intention to use, which aligns with previous research conducted on telemedicine services (Alam et al., 2020; Kamal et al., 2020; Zobair et al., 2021). However, this study along with Rahi et al. (2021) discovered that social influence does not have a significant impact on the attitudes of potential users, contradicting the previous statement. These findings can be attributed to various plausible factors, including the apprehensions of both patients and doctors regarding the potential for misdiagnosis when relying exclusively on telemedicine consultations. Nevertheless, establishing a pre-existing doctor-patient relationship can potentially mitigate this concern (Lee et al., 2021). The presence of an established doctor-patient relationship can alleviate concerns regarding the effectiveness of telemedicine, as the doctor already possesses the patient's medical records, enabling them to make more accurate diagnoses through telemedicine services. Furthermore, the extensive utilization of telemedicine services amidst the COVID-19 pandemic, coupled with endorsements from peers and family members, fosters a predisposition among potential users to avail themselves of telemedicine services (Limna et al., 2023). Facilitating conditions have a significant impact on attitude, which is consistent with the findings of Rahi et al. (2021) and Zin et al. (2023). However, it is important to note that facilitating conditions do not directly cause usage intention in this study, which contradicts the findings of previous studies (Alam et al., 2020; Kamal et al., 2020; Zobair et al., 2021). Additional research has corroborated the lack of a significant correlation between facilitating conditions and the intention to use (Bervell et al., 2021; Chan et al., 2015). The lack of a significant relationship between facilitating conditions and usage intention can be explained by users' habitual use of related technology, specifically mobile applications (Bervell et al., 2021) The study primarily focuses on potential users

from generation Z and generation Y, who possess advanced skills in utilizing smartphones and exhibit a strong sense of perceived behavior control in relation to smartphone usage. Mobile telemedicine applications are expected to be easily usable by Generation Z and Generation Y users, who are unlikely to require assistance. Therefore, facilitating conditions are considered unnecessary for their intention to use the application. Facilitating conditions are beneficial for users, but they do not determine whether to use the application.

This study is among the initial ones to examine the notion of IT identity in connection with the intention to utilize mobile telemedicine applications. This study discovered that IT identity strongly influences the intention to use mobile telemedicine applications among potential users. Interestingly, the analysis revealed that IT identity is the most crucial factor in increasing this intention, according to the IPMA analysis. Patients are more inclined to utilize mobile health applications provided by clinics if they possess a sense of assurance, enthusiasm, and motivation to embrace novel technology (Balapour et al., 2019). IT identity, an extension of the social identity theory, suggests that individuals are more inclined to adopt and utilize technology when they perceive it as a fundamental aspect of their existence. Carter et al. (2020) proposed that reliance on a technology, such as smartphones, could have a substantial impact on consumer behavior. Accessing health consultations through digital platforms is more convenient than in-person consultations and significantly reduces the waiting time for medical care (Kichloo et al., 2020). Hence, individuals who have a strong interest in technology and are heavily dependent on smartphones are more likely to be capable of embracing novel mobile technologies, such as telemedicine applications. This study also examined the variable effects of data privacy on intentions to use. According to the findings of this study, data privacy does not have a significant impact on usage intention. This is different from what was found by Alam et al. (2020) and Zobair et al. (2021). Nevertheless, this finding aligns with the study conducted by (Kamal et al., 2020), which similarly concluded that there is no significant correlation between data privacy and usage intention in the context of telemedicine services. The lack of awareness regarding the significance of data privacy and the absence of data privacy laws in Indonesia, as highlighted by Mangku et al. (2021), can account for this outcome. Most mobile phone applications typically require users to provide access to essential data, including personal identity, contact list, location, and other data. Denying access to this data will prevent users from using the application, leaving them with no alternative but to agree to the condition. Western consumers, in contrast, prioritize privacy. Western countries have enacted several laws to protect user privacy, including the General Data Protection Regulation (GDPR) in Europe and the California Consumer Privacy Act (CCPA) in America. Nevertheless, there is a scarcity of regulations governing user privacy, and discussions regarding user privacy in Indonesia are also limited. Therefore, data privacy is less significant in Indonesia compared to western countries. Attitude has been established as a crucial factor that directly influences the intention to use mobile telemedicine applications. This finding aligns with the Technology Acceptance Model (TAM) proposed by Davis et al. (1989) and other previous studies (Allah Pitchay et al., 2022; Pangaribuan & Wulandar, 2019; Rahi et al., 2021; Zin et al., 2023). This demonstrates that

without compulsory usage, prospective users are more inclined to utilize mobile telemedicine applications solely if they possess a favorable disposition towards the application. Zin et al. (2023) found that a favorable perception of healthcare technologies is positively correlated with the intention to use these technologies.

Conclusion

This study is among the initial ones to examine the impact of IT identity on the intention to utilize mobile telemedicine applications. Additionally, this study aims to validate the contradictory effect of data privacy on the intention to use telemedicine services. Out of the 11 hypotheses, 4 were rejected in total. The results indicate that the connection between performance expectancy and usage intention is completely influenced by attitude. Furthermore, the attitudes of potential users towards mobile telemedicine applications are mainly influenced by their expectations of performance, expectations of effort, and the conditions that facilitate their use. Effort expectancy, social influence, and IT identity are the main factors that primarily influence usage intention. Ultimately, the level of data privacy does not strongly indicate or forecast the likelihood of individuals using mobile telemedicine applications. Consistent with previous research, attitude has a significant impact on the intention to utilize mobile telemedicine applications. This study provides a range of valuable insights and recommendations to enhance the adoption of mobile telemedicine applications in Indonesia.

This study's findings may provide multiple suggestions to promote user acceptance of mobile telemedicine applications. The findings of this study indicate that in order to enhance the attitudes of potential users towards mobile telemedicine applications, providers should emphasize the advantages, user-friendliness, and specialized customer assistance in their marketing campaigns for such applications. Additionally, mobile telemedicine application providers should endeavor to form partnerships with hospitals and physicians in order to encourage potential users to consider utilizing the application, because users are more inclined to use mobile telemedicine applications if their family physician convinced them to do so. Based on the IPMA analysis and the findings of the structural model, it has been determined that IT identity is a significant and primary factor influencing the intention to use mobile telemedicine applications. Therefore, it can be inferred that individuals who are passionate about technology are more inclined to utilize mobile telemedicine applications. Based on this finding, mobile telemedicine application providers should target their marketing efforts toward individuals who have a keen interest in technology. This can be achieved by promoting the application at technology fairs and advertising it through digital platforms like social media, rather than using traditional marketing channels.

There are several limitations to this study. Firstly, this study is limited to the context of Indonesian consumers; thus, future research can conduct a similar study in other countries to confirm the findings of this study. Secondly, future studies can include a larger sample size to evaluate the consistency of the results of this study. Future studies can also investigate the psychological antecedents behind the adoption of mobile telemedicine applications, including factors such as health consciousness, flow experience, long-term orientation,

and other interesting constructs. Lastly, a more comprehensive investigation using qualitative studies can be employed to find out the reasons behind the usage of mobile telemedicine applications.

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