Communication To Foster Technology Acceptance Of Telemedicine Among Medical Personnel Under The Covid-19 Epidemic: Case Studies In Medical School Hospitals In Thailand

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Abstract

This research, titled "Communication to Foster Technology Acceptance of Telemedicine Among Medical Personnel Under the COVID-19 Epidemic: Case Studies in Medical School Hospitals in Thailand," aimed to (1) study the communication planning strategies for fostering acceptance of telemedicine systems among medical personnel, and (2) examine the factors influencing their acceptance of telemedicine technology. The study employed a qualitative methodology using in-depth interviews with purposively sampled participants, including communication planners and medical personnel, from Chulalongkorn Hospital and Siriraj Hospital. Data were analyzed through thematic content analysis, ensuring alignment with research objectives.

Findings revealed that communication strategies in both hospitals shared four common objectives: (1) raising awareness about telemedicine systems, (2) reducing COVID-19 transmission risks, (3) optimizing hospital bed usage to accommodate critical cases, and (4) enhancing health-care service capabilities. Factors influencing acceptance included seven key elements: (1) image, (2) subjective norms, (3) voluntariness, (4) job relevance, (5) perceived ease of use, (6) output quality, and (7) result demonstrability, with the supplementary variable of experience identified as the most significant. Personal experience enabled medical personnel to recognize telemedicine's benefits and influenced other factors. Conversely, image had the least impact, as neither hospital prioritized it during system implementation.

The results emphasize that the success of telemedicine adoption relies heavily on strategic communication planning tailored to organizational contexts and the experiences of medical personnel. These findings contribute to the development of effective communication frameworks to promote technology acceptance in healthcare.

Keywords: 1) Medical personnel 2) Telemedicine 3) Telemedicine acceptance 4) Technology acceptance factors

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Introduction

Currently, there is a global emphasis on healthcare, as good health is considered the foundation for a high quality of life. Health awareness has become a new trend that society is increasingly interested in, extending beyond seeking medical attention only when ill to include continuous consultation with doctors for both physical and mental health care to prevent diseases. This aligns with the perspective of the Director of the Institute of Nutrition at Mahidol University, who emphasizes the importance of daily self-care. The focus is on seeking health knowledge, such as proper nutrition, exercise, hygiene practices, and rest, to adjust lifestyle approaches in response to the ongoing COVID-19 situation (Pengput, 2020) Today, society has become more conscious of maintaining health according to hygiene principles, and new forms of communication with healthcare providers have emerged.

A search of the Cochrane database revฺeals that medical and public health personnel are satisfied with the use of mobile health (mHealth) programs, as they serve as tools that promote collaboration between medical and public health staff, enabling rapid connectivity and coordination despite limitations in face-to-face communication (Pengput, 2020) Simultaneously, Telemedicine systems allow people to access healthcare independently through online channels, including the development of hospital search systems, online health services, and patient status monitoring via applications. Telemedicine systems have been implemented in many hospitals, enhancing service efficiency in patient access (Phitaktab, 2019)

The use of technology for medical communication dates back to 1850 during the Civil War, when frontline soldiers would send messages about the wounded via Telegraph networks to doctors in hospitals to prepare for treatment. This evolved into the development of telephone and radio systems for transmitting medical information (Hjelm and Julius, 2005, p.338) Subsequently, Telemedicine systems progressed to the era of transmitting images and sound through television and telecommunications systems. Today, technology has advanced significantly (Jagarapu and Savani, 2021, p. 12)

Thailand first implemented Telemedicine in 1973 when the Princess Mother's Medical Volunteer Foundation (PMMV) provided medical consultations to patients in remote areas via radio networks. Currently, Thailand has developed a stable and high-speed internet infrastructure. The context of Telemedicine usage is defined as the provision of medical communication services through remote communication technology. In the digital era, Telemedicine systems help reduce disparities in accessing basic health services and increase the flexibility of physicians' work (Kalayasiri and Wainipitapong, 2021, p. 2)

Chulalongkorn Hospital and Siriraj Hospital have implemented Telemedicine systems for patient care, developing applications to provide efficient and comprehensive remote medical services. The study of communication for building acceptance of Telemedicine systems among medical personnel during the COVID-19 situation is a significant focus of this research.

The benefits of this technology will enable both healthcare facilities to accommodate more COVID-19 patients and provide comprehensive and efficient services. Additionally, it helps create motivation for increased acceptance and usage of the system. This research on communication strategies for Telemedicine acceptance is particularly relevant as it examines how these leading hospitals adapt to new healthcare delivery methods in response to the pandemic. The findings could provide valuable insights into the factors influencing medical personnel's acceptance of Telemedicine, which is crucial for the successful implementation and expansion of such systems in healthcare settings.

Objectives of Research

1. To study the communication plan for fostering the acceptance of Telemedicine systems among medical personnel.

2. To investigate the factors influencing the acceptance of Telemedicine technology by medical personnel in teaching hospitals in Thailand.

Literature Review

1. Definition and History of Telemedicine

Telemedicine is the application of technology in medicine to facilitate communication between medical personnel and patients by using electronic signals to transfer information such as X-ray images and clinical diagnostic results. This is particularly beneficial for patients who are unable to travel to the hospital (Kyriacou, et al., 2003, p. 4; Bakthula, Shivani and Agarwal, 2018, pp. 8376-8377)

The term "Telemedicine" is derived from Greek, originating in the 1970s. The word "tele" means distance, and "medicine" refers to treatment. When combined, they denote "distance treatment." The use of Telemedicine began in the 18th century with the development of telegraph systems for remote treatment of soldiers. In 1905, William Einthoven developed a system for transmitting electrocardiogram data via telephone. This technology evolved into the Centro Internazionale Radio Medico (CIRM) system in Italy and the Aerial Medical Service in Australia. The components of Telemedicine can be categorized into four main aspects : (1) providing services to support medical activities, (2) reducing geographical barriers to accessing services, (3) using various types of information technology for diagnosis and treatment, and (4) improving diagnostic and treatment systems to be faster and more efficient (Paul, Pearlson and McDaniel, 1999, p. 287).

2. Concepts of Health Communication

The concept of health communication involves a communication plan that leads to the creation of understanding in coordination between the sender and receiver of the message to achieve the goals set in the plan. It can be said that strategic communication planning is essential for ensuring that the receiver truly understands the sender.

Health communication is a process that directly impacts health management in disease prevention, healthcare, and the use of technology that facilitates treatment. This is achieved by using health-related communication strategies targeted at specific groups or users of the system, including service recipients

who are aware of maintaining good health. Health communication is thus a two-way communication between the receiver and the sender, allowing the general public to easily and comprehensively access health information and knowledge. It involves participatory knowledge management and the exchange of knowledge, leading to health maintenance behaviors (Kreps and Neuhauser, 2010, p. 287)

Health communication planning must systematically consider the goals of the health communication process by establishing a communication plan as a guideline to achieve health communication objectives. This process consists of seven steps as follows (Schiavo, 2007, pp. 223-226)

1. Setting Usage Goals

Health communication planning concept, the process typically begins by setting goals for health programs. The program's usage should contribute to improved health through health communication initiatives. Defining these usage goals helps inspire progress towards achieving the goals, such as planning for medical personnel to access the system or ensuring the public can equally and comprehensively access basic health services.

2. Defining Usage Objectives

Usage objectives are defined based on the outcomes of using health communication programs, including behavioral, social, and organizational objectives. These objectives support the goal of maximizing the effectiveness of health communication programs. Behavioral objectives focus on users understanding the guidelines for application, social objectives emphasize the policy use of health information for widespread benefit, and organizational objectives highlight how organizations can access health information.

3. Situation Analysis

This step involves an in-depth analysis of the health communication environment, including political, social, and behavioral contexts. These situations are related to the use of health-related programs and represent external environments affecting health issue management. For example, the outbreak of diseases is a naturally occurring problem that is challenging to control, thus making these environments relevant for driving solutions to such situations. These environments impact health communication goals and lead to various positive and negative outcomes.

4. Communication Objectives

Communication objectives are divided into three areas: 1) behavioral, 2) social, and 3) organizational. These areas affect the achievement of communication objectives and can result in different outcomes. For example, if users are ready or if the health communication program is simple and easy to use, it can lead to rapid changes in behavior, society, and organizations. These objectives can be evaluated and measured effectively.

5. Communication Strategies

Communication strategies involve presenting approaches to achieve specific objectives and goals through various channels. Generally, these strategies briefly describe the objectives of operations targeting specific goals.

6. Tactical Planning

Tactical planning involves detailing

various elements, including messages, channels, materials, and activities related to different health aspects. It also addresses other factors that directly and indirectly affect health communication, such as timelines, operational budgets, and individual responsibilities.

7. Evaluation Plan

The evaluation plan includes describing behavioral, social, and organizational indicators and other factors used in assessments. This plan is accepted by most group members and details data collection, analysis, and presentation methods.

3. Technology Acceptance Theory

The Technology Acceptance Model (TAM) was developed by Fred Davis in 1989 to explain and predict user acceptance and usage of technology. Technology acceptance depends on two main factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). These factors influence users' attitudes (Attitude) and behavioral intentions (Behavioral Intention) towards adopting technology in their daily lives (Davis, 1989, p. 320) Perceived Usefulness (PU) refers to the belief that technology will enhance job performance or various activities. Perceived Ease of Use (PEOU) refers to the belief that technology is easy to use and not complex. The combination of PU and PEOU impacts users' technology acceptance. When users believe that technology is beneficial and easy to use, they will have a positive attitude and a stronger intention to use it (Venkatesh and Bala, 2008, pp. 273-315)

Moreover, TAM has evolved and expanded into various models such as TAM2 and the Unified Theory of Acceptance and Use of Technology (UTAUT), which incorporate new factors like social and contextual factors that affect technology acceptance (Venkatesh and Bala, 2008, pp. 273-315)

In the context of Telemedicine, applying TAM is crucial to understand the factors influencing the acceptance and usage of this technology by medical personnel. Research applying TAM in Telemedicine indicates that perceived usefulness and ease of use of Telemedicine technology influence the attitudes and behaviors of doctors and medical staff in adopting this technology for patient care (Holden and Karsh, 2010, p. 162)

Studies and research related to technology use in hospitals reveal that factors affecting the acceptance of Telemedicine technology include the belief in its benefits (PU) and ease of use (PEOU), as well as other factors such as organizational support, training, and the involvement of medical personnel (Chau and Hu, 2002, p. 196)

In summary, the Technology Acceptance Model (TAM) plays a significant role in explaining the acceptance and use of Telemedicine technology in hospitals. Applying TAM in research helps us understand the factors influencing the adoption of technology in healthcare, which is essential for the development and promotion of Telemedicine technology in the future

4. Related Research

Among medical personnel, most studies focus on communication within hospitals. Keeratilapin studied the patterns and factors affecting communication efficiency within Baan Paew Hospital (Public Organization). This

research highlights that hospital administrators use communication as a management tool to foster good relationships between management and staff. Organizational communication plays a crucial role in helping personnel understand and work in a unified direction (Keratilapin and Siriwong, 2018, pp. 48-72)

Research related to the study by Ramírez-Correa, et al. examined the influence of the Theory of Planned Behavior (TPB) and Technology Acceptance Model (TAM) on the use of Telemedicine services during the COVID-19 pandemic. The study found that perceived behavioral control, attitude, perceived usefulness, perceived ease of use, and behavioral intention affected the acceptance of Telemedicine technology among patients or service recipients. Most research is quantitative and relates to the use of Telemedicine systems (Ramírez-Correa, et al., 2020, p. 1593)

Thongjud studied factors affecting the attitude and intention to use Telemedicine services among patients at Ramathibodi Hospital. The study found that most service recipients recognized the benefits of using Telemedicine and showed an increasing tendency to use it in the future. They also expressed confidence in the security of personal data and had a positive attitude towards the service (Thongjood, 2021, pp. 51-78)

International research, such as the study by Zhou et al. examined factors affecting the acceptance of Telemedicine services among the elderly in China. The study found that satisfaction, ease of use, and information quality significantly influenced the acceptance of Telemedicine technology (Zhou, et al., 2019, pp. 118-127) Similarly, Kamal, Shafiq and Kakria investigated factors influencing Telemedicine acceptance in rural Pakistan and found that perceived ease of use, perceived risk, trust, and facilitating conditions affected the acceptance of Telemedicine services (Kamal, Shafiq and Kakria, 2020, p. 1)

Methodology

The research on "Communication to Foster Technology Acceptance of Telemedicine Among Medical Personnel Under the COVID-19 Epidemic: Case Studies in Medical School Hospitals in Thailand " employs a qualitative research method through in-depth interviews to analyze and present findings that provide factual information and address the research objectives.

This study focuses on Chulalongkorn Hospital and Siriraj Hospital due to their reputable status, credibility, and use of innovative communication technologies such as Telemedicine to provide patient services during the COVID-19 pandemic. The selection of interviewees will be done through purposive in-depth interviews, dividing participants into two groups: communication planners for Telemedicine and medical personnel users of Telemedicine.

Data Collection: The data collection process involves conducting in-depth interviews using semi-structured questions, which were developed based on relevant theories and concepts, such as the Technology Acceptance Model and Diffusion of Innovation Theory. The interview guide focuses on themes including:

1. Strategies and processes for Telemedicine communication planning.

2. Perceptions and experiences of Telemedicine among medical personnel.

3. Barriers and facilitators influencing the acceptance of Telemedicine systems.

4. Organizational support and external factors impacting adoption.

Examples of interview questions include inquiries about the influence of social factors, such as "Who encouraged you to adopt telemedicine systems?" or "How do you perceive the impact of Telemedicine on the hospital's image?" Additionally, questions related to the ease of use and efficiency of Telemedicine were posed, such as "How has Telemedicine improved your workflow?" and "Is the information received through Telemedicine systems reliable?" These semi-structured questions were designed to elicit detailed insights into the participants' experiences and perceptions.

Interview appointments were arranged in advance, with clear explanations of the research objectives provided to participants. Informed consent for audio recording and participation was obtained prior to the interviews.

Data Analysis: The collected data were processed and reduced to ensure clarity and relevance to the research objectives. The analysis involved thematic coding based on pre-determined frameworks, identifying patterns and relationships between concepts. Triangulation was applied to verify the reliability and credibility of the findings by cross-referencing data sources and theoretical perspectives.

Ethical Considerations: This study received approval from the Ethics Committees of the Faculty of Medicine, Chulalongkorn University, and the Faculty of Medicine, Siriraj Hospital, Mahidol University. Ethical clearance included permissions to access sensitive data and conduct interviews with participants. Confidentiality and data protection measures were strictly adhered to throughout the research process.

Results

1. Communication Planning for Fostering Acceptance of Telemedicine Systems Among Medical Personnel

Chulalongkorn Hospital

The findings for the first objective at Chulalongkorn Hospital reveal that communication planning to foster acceptance of Telemedicine systems among medical personnel began with a situational analysis. The COVID-19 pandemic was a crucial factor necessitating the serious adoption of Telemedicine to reduce infection risks for both medical personnel and patients. This analysis focused on the political, social, and user environments, as these factors significantly influenced the implementation of Telemedicine within the hospital.

The goal-setting and objective formulation process at Chulalongkorn Hospital aimed to raise awareness among doctors for the proper and effective use of Telemedicine, to accommodate the increasing number of patients, and to reduce the risk of infection spread. The objectives emphasized behavior change among users, societal benefits, and the achievement of organizational goals. The communication objectives were to raise awareness, provide knowledge, foster a positive attitude,

and develop expertise in using Telemedicine among medical personnel. The hospital employed formal two-way communication strategies between management and staff to align with the organization's vision and mission.

The tactical planning involved detailed communication through messages, channels, and activities within the hospital, aligned with the strategy to be a world-class medical service provider. The implementation process began with executive meetings, the proposal of Telemedicine projects by doctors in each clinic, approvals, system installation, and user training. However, the evaluation plan indicated that the system might not yet cover all hospital buildings. Future developments could expand the system to meet user needs more comprehensively, ensuring maximum satisfaction.

Siriraj Hospital

The findings reveal that Telemedicine is particularly suited for specific conditions, such as chronic disease management and follow-up care, where patients can conveniently submit data remotely, including glucose levels, blood pressure, or other routine metrics. Additionally, Telemedicine has proven effective for neurological conditions like Parkinson's disease and stroke, where frequent physical travel to hospitals poses challenges for patients. However, it was also emphasized that Telemedicine is less suitable for cases requiring comprehensive physical examinations or procedures that demand direct interaction between doctors and patients.

The communication objectives of Siriraj Hospital focus on raising awareness and understanding of the benefits and limitations of Telemedicine among doctors to enable its appropriate use. The hospital employs informal communication strategies to create awareness and allow doctors to decide independently on its use. Tactical planning results from collaboration among the executive team, doctors, and nurses to drive Telemedicine usage, emphasizing flexibility in its application according to the suitability of each clinic. External agencies also support the system's development to enhance efficiency.

The final part, the evaluation plan for Telemedicine usage at Siriraj Hospital, is conducted informally, focusing on testing the system before actual use, prioritizing safety and speed. There is no formal quantitative survey of user feedback. Most evaluations rely on the attitudes and direct experiences of the doctors using the system. However, long-term evaluation plans will depend on the discretion of the management to ensure the system's sustainability.

Table 1 Simplified 7 Steps of Health Communication for Telemedicine Implementation in Two Teaching Hospitals

Hospital	Situation Analysis	Usage Goals	Usage Objectives	Communication Objectives	Strategies	Tactical Planning	Evaluation
Chulalongkorn Hospital	Political: COVID policy alignment.	Awareness of telemedicine benefits.	Inform staff of benefits.	Raise awareness on telemedicine value.	Organizational communication.	Use LINE groups.	No post-implementation evaluation.
	Social: Reducing crowd risks.	Lower COVID spread.	Minimize infection risk.	Provide solutions to specific issues.	Informal announcements.	Post on bulletin boards.	
	User: Efficient elderly care.	Efficient bed usage.	Improve elderly care.			Tech staff assist with usage.	
Siriraj Hospital	Political: COVID policy alignment.	Awareness of telemedicine benefits.	Inform staff of benefits.	Help staff understand tech limits.	Organizational communication.	Use LINE groups.	No post-implementation evaluation.
	Social: Reducing crowd risks.	Lower COVID spread.	Minimize infection risk.	Provide convenience and safety.	Informal announcements.	Post on bulletin boards.	
	User: Efficient elderly care.	Efficient bed usage.	Improve elderly care.			Tech staff assist with usage.	

2. Factors Influencing Medical Personnel's Acceptance of Telemedicine Technology

Chulalongkorn Hospital

The findings for the second objective at Chulalongkorn Hospital identified seven factors and one supplementary variable influencing the acceptance of Telemedicine technology among medical personnel. The factors are: referent compliance, image, voluntariness, job relevance, result demonstrability, quality of information received, and perceived ease of use. The supplementary variable is experience. Experience was found to be the primary factor affecting Telemedicine acceptance, as doctors with direct experience using Telemedicine had a foundational knowledge and were more willing to use the technology. Referent compliance was a significant factor in group adoption, where usage by a few led to broader group acceptance. Hospital support for Telemedicine

was driven by its perceived benefits in patient access.

Additionally, factors such as job relevance, result demonstrability, information quality, and perceived ease of use contributed to the acceptance of Telemedicine. Usage was categorized into two forms: use during the COVID-19 pandemic to reduce risk and enhance patient access, and 2) use for convenience and improved patient reach. The factor of image also played a role, with Telemedicine positively impacting the hospital's modern and technologically advanced image. Success in implementation was supported by various factors, such as sufficient budget, adequate equipment, personnel expertise, and doctors' experience with the technology.

Siriraj Hospital

Importantly, the study highlighted that Telemedicine's efficacy depends on its use for suitable medical conditions. It is effective in managing chronic illnesses, providing follow-up consultations, and ensuring continuity of care for patients with mobility constraints. However, limitations were noted for conditions requiring in-depth physical examination, which may hinder its applicability in certain medical scenarios. Telemedicine was directly related to doctors' work, aiding in patient follow-up and time management efficiency.

Doctors also recognized the ease of use of the system, despite occasional signal issues. Overall, the quality of information received was satisfactory, the system was practical, and results were demonstrable with minimal technical problems. The use of Telemedicine also enhanced Siriraj Hospital's image, reflecting its modernity and high standards of care.

Table 2 Comparative Factors Influencing Medical Personnel's Acceptance of Telemedicine Technology at Two Teaching Hospitals

Factors	Chulalongkorn Hospital	Siriraj Hospital
1. Facilitating Conditions	1.1 Experience: Regular workshops and Telemedicine integrated into hospital systems.	1.1 Experience: Informal learning; limited structured training.
2. Social Influence Processes	2.1 Conformity to References: Leadership-driven adoption with strong peer support.	2.1 Conformity to References: Relies on personal networks and individual preferences.
	2.2 Voluntariness: Encouraged with incentives like reduced workload and technical support.	2.2 Voluntariness: Participation depends on departmental decisions; incentives less defined.
3. Cognitive Instrumental Processes	3.1 Job Relevance: Integrated into workflows, reducing patient load and enhancing efficiency.	3.1 Job Relevance: Seen as an additional task, not core functionality.

Factors	Chulalongkorn Hospital	Siriraj Hospital
3. Cognitive Instrumental Processes	3.2 Perceived Ease of Use: User-friendly systems with ongoing support and regular updates.	3.2 Perceived Ease of Use: Requires self-learning; limited formal technical guidance.
	3.3 Information Quality: Real-time updates with centralized access and seamless integration.	3.3 Information Quality: Delayed updates and fragmented data access.
	3.4 Observable and Verifiable Outcomes: Significant improvements in patient follow-ups and efficiency.	3.4 Observable and Verifiable Outcomes: Limited data showing long-term impact.
4. Reputation	Recognized leader in Telemedicine innovation and smart hospital development.	Strong reputation in traditional medical practices; Telemedicine less emphasized.

An overview of the factors influencing medical personnel's acceptance of Telemedicine technology at the two teaching hospitals reveals seven key factors: experience, referent compliance, voluntariness, job relevance, perceived ease of use, quality of information received, and result demonstrability. These seven factors collectively impact the acceptance of Telemedicine technology in a sequential manner. Each factor is interconnected across multiple dimensions, such as the ability to use Telemedicine based on experience and knowledge gained from learning how to use the system, and the practical application of the technology's benefits in the context of physicians' roles in addressing COVID-19 for the public good.

Meanwhile, image was the only factor that did not significantly influence the acceptance of Telemedicine technology. Both hospitals did not prioritize image as a primary factor in adopting the system. Instead, their focus was on managing COVID-19 effectively, ensuring the safety of medical personnel and patients, and reducing the risk of infection in confined spaces. The primary concern was enabling safe access to infected patients, emphasizing Telemedicine's use in emergency situations during the pandemic. The aspect of image was seen more as an outcome of successful service delivery rather than a driving factor for technology adoption. Thus, when examining the implementation of Telemedicine within the hospitals, it is evident that both institutions prioritized the safety of medical personnel and infection control above all. The technology was officially adopted and maximized during the COVID-19 crisis, highlighting the importance placed on reducing infection risk and managing the situation effectively. This focus underscores the hospitals' commitment to safeguarding their staff while ensuring the best possible control over the pandemic situation.

Conclusion and Discussion

The findings of the study provide

valuable insights into the implementation and acceptance of telemedicine systems at Chulalongkorn and Siriraj hospitals. Below is a synthesized discussion based on relevant theories and prior research:

Chulalongkorn Hospital: Communication Planning and Strategic Implementation The findings that situational analysis during the COVID-19pandemic necessitated telemedicine adoption align with Rogers' Diffusion of Innovation Theory, which emphasizes environmental factors as catalysts for adopting innovations (Sahin, 2006, p. 17) The political, social, and user contexts identified in the study directly influence readiness to adopt telemedicine, as discussed in Schiavo (2007, pp. 223-226) The hospital's objectives to raise awareness, provide knowledge, and foster positive attitudes toward telemedicine correspond to the Technology Acceptance Model (TAM). The TAM posits that perceived ease of use and perceived usefulness significantly impact adoption behavior (Davis, 1989, p. 322) The use of structured two-way communication aligns with Berlo's SMCR model, highlighting the importance of clear, targeted messaging in achieving organizational goals. The limited evaluation scope might stem from logistical constraints. Expanding the system to cover all facilities could enhance user satisfaction and align with evidence suggesting that system comprehensiveness is key to user acceptance.

Siriraj Hospital: Tailored Communication and Tactical Planning Siriraj Hospital's informal communication approach reflects the need for flexibility and decentralized decision-making, resonating with findings by Ramirez-Correa et al., which highlight the role of behavioral intention in technology acceptance. By allowing physicians autonomy in adopting telemedicine, the hospital respects subjective norms and voluntariness, crucial factors under TAM2 (Ramirez-Correa, et al., 2020, p. 4853)The emphasis on chronic disease management and specific conditions like Parkinson's disease underscores the technology's job relevance and result demonstrability. These factors enhance perceived usefulness, fostering greater acceptance as suggested by TAM3 (Venkatesh and Bala, 2008, p. 12)

Factors Influencing Telemedicine Acceptance Across both hospitals, experience emerges as the most influential factor for adoption, supporting Schiavo's assertion that prior exposure facilitates behavior change. The supplementary role of perceived ease of use and information quality echoes Segrelles-Calvo et al. findings that simplicity and clarity drive healthcare professionals' adoption of telemedicine (Segrelles-Calvo, et al., 2017, pp. 147-155) The contrast in suitability for physical examination versus chronic disease management reveals telemedicine's contextual limitations, aligning with studies by Dash et al. that advocate its selective use based on medical needs. The results suggest that image and perceived modernity enhance organizational branding but play a secondary role in personal adoption decisions (Dash, et al., 2019, p. 1286) This aligns with the observation that practical benefits outweigh symbolic considerations in clinical settings (Bhattacherjee, 2000, p. 412)

The findings confirm the applicability of health communication theories, TAM, and

innovation diffusion concepts in understanding the adoption of telemedicine at Chulalongkorn and Siriraj hospitals. The results underscore the importance of strategic planning, effective communication, and context-sensitive application to maximize technology acceptance and user satisfaction. Future studies could further explore the interplay of organizational support and individual user experiences in sustaining long-term adoption.

The model discovered from this study compares the adoption factors of telemedicine systems at teaching hospitals in Thailand. Figure 1 illustrates the critical components of the Technology Acceptance Model (TAM) and their practical implications in Chulalongkorn and Siriraj Hospitals.

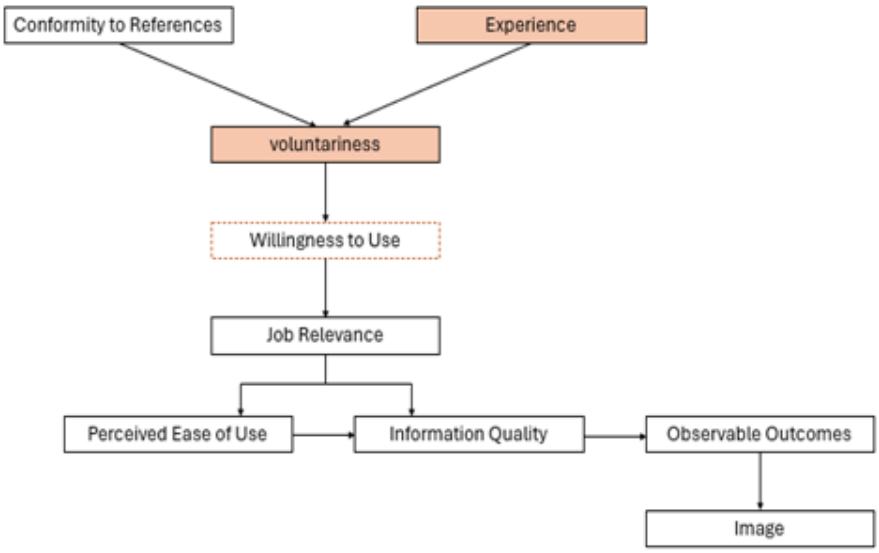

Figure 1 A Model of Factors Influencing Technology Acceptance in Medical School Hospitals in Thailand

Figure 1 illustrates a conceptual model of factors influencing technology acceptance in teaching hospitals in Thailand, developed based on the Technology Acceptance Model (TAM) by Venkatesh and Davis. The model highlights the interrelationships among key factors, beginning with Conformity to References and Experience, which shape the Voluntariness of medical personnel to adopt the technology. This voluntariness leads to Willingness to Use, which is further influenced by Job Relevance, emphasizing the applicability of the technology to specific roles and responsibilities. Downstream, Perceived Ease of Use and Information Quality significantly affect Observable Outcomes, representing tangible benefits of technology adoption. Finally, Image, as an outcome of observable results, contributes to the enhancement of organizational credibility and technological advancement. This model provides a structured framework for understanding how individual and organizational factors collectively impact the acceptance and utilization of technology in healthcare settings (Venkatesh and Davis, 2000, p. 10)

Recommendations

1. Policy Recommendations for Enhancing Telemedicine Acceptance: Policymakers should prioritize integrating Telemedicine into healthcare systems by addressing barriers to acceptance, such as technological limitations and user training. Experience was identified as a key variable influencing Telemedicine acceptance, which underscores the importance of providing hands-on training programs for medical personnel. Additionally, developing supportive policies to alleviate doctors' workloads through technological solutions should be emphasized, considering Thailand's doctor-patient ratio.

2. Recommendations for Hospitals Adopting Telemedicine: The study revealed that effective communication planning and direct experience are critical factors in telemedicine acceptance among medical personnel. Therefore, hospitals should conduct situational analyses to tailor communication strategies to their specific contexts. This includes raising awareness, providing practical knowledge, and addressing concerns about system usability. Hospitals should also implement hands-on training programs to enhance user experience and foster confidence in using telemedicine. Additionally, establishing evaluation frameworks to monitor system performance and address challenges post-implementation will ensure long-term success and improve both staff satisfaction and patient care outcomes.

3. Limitations of the Study: This research primarily focuses on the communication and acceptance of Telemedicine systems among medical personnel. It does not examine patient satisfaction or the clinical outcomes of Telemedicine usage, which are critical aspects influencing the overall acceptance and success of such systems. Future studies should address these dimensions to provide a more comprehensive understanding of Telemedicine's impact.

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