Telemedicine Technology Marketing: Enhancing Utilization of Telemedicine among Medical Professionals

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ABSTRACT

The rapid evolution of telemedicine technology has revolutionized healthcare delivery, providing a feasible solution to improve the gap between healthcare providers and patients, particularly in remote areas. This study explores the utilization of telemedicine among medical professionals in Malaysia, aiming to identify strategies to enhance its utilization and integration into routine medical practice. The research mentioned the increasing demand for telemedicine driven by factors such as an aging population, patients in rural area, potential recurrence of public health crises similar to the COVID-19 pandemic, and advancements in medical technology. For this reason, the researcher opted for a descriptive study and qualitative research methods to glean insights from participants through interviews. This research explores medical professionals' experiences with telemedicine to accelerate its integration into Malaysia's healthcare system, aiming to provide quality healthcare services to all Malaysians and develops targeted strategies to enhance telemedicine use among medical professionals. By tailoring these strategies to their experiences, the integration of telemedicine into routine healthcare can be facilitated, ultimately improving patient care quality. By implementing the proposed strategies, healthcare providers in Malaysia can enhance the utilization of telemedicine, ultimately leading to better healthcare access and outcomes, especially in underserved rural areas. This research contributes to the growing body of knowledge on telemedicine technology marketing and provides a foundation for future studies to further explore and refine these strategies.

Keywords: Telemedicine Technology Marketing, Utilization, Medical Professionals, Medical Practice Routine, Strategies

INTRODUCTION

The global trend of an increasingly elderly population, coupled with the resulting rise in demands on healthcare systems, has sparked a heightened curiosity in technological advancements aimed at reducing the burden on overstretched healthcare systems (chew et al., 2023). Malaysia's telemedicine act 1997 has aimed to enhance healthcare using digital technologies in the system that combines government subsidized public services with a thriving private sector. The tasks and responsibilities of healthcare professionals have evolved with the advent of digitalization in the industry (phaik et al., 2024). The coronavirus disease leading to a world pandemic played a crucial role in rapidly speeding up the widespread acceptance of telemedicine consultations (lee et al., 2023). Recent advances in medical technology have broadened telemedicine applications, including telephone triage, outpatient e-visits, mental health 2 consultations, postoperative follow-ups, and specialized counselling. As patients and providers increasingly embrace virtual interactions during the pandemic, telemedicine is expected to remain integral to future healthcare delivery (ghaddaripouri et al., 2023). According to global market insights, the digital health market worldwide is expected to make around us$193.70 billion in 2024. It's predicted to keep growing at a rate of about 9.16% each year until 2028. By then, it could reach a size of about us$275.00 billion. As for malaysia, the estimated revenue projection for the digital health market in malaysia is expected to reach us$587.90 million. In accordance with health minister

dr. Zaliha mustafa, malaysia is committed to leveraging digital technology for various purposes, including providing support, medical consultations, and healthcare services (new straits time, 2023). Today, healthcare lags behind other industries such as media, finance, insurance, and retail in terms of digital innovation, leading to limited growth in labour productivity (stoumpos et al., 2023). Despite successful implementation in some areas of the world, telemedicine still faces unexpected barriers (ang et al.,2023). While malaysia has advanced in healthcare digitalization, it still lags behind countries like the u.s., india, and china in telemedicine (dewadas et al., 2023). A study revealed that while many doctors found telemedicine useful during covid-19 (34.2%) or essential to daily practice (42.5%), only 22% used it for consultations, and 74% believed it would benefit up to 30% of patients (thong et al., 2021). In contrast, another study of 835,826 cases found 88.8% were assisted consultations with e prescriptions, suggesting telemedicine is preferred over traditional methods (j. S. Loo et al., 2023). There's a scarcity of local studies on telemedicine among healthcare professionals in malaysia. Numerous previous studies have primarily examined and evaluated telemedicine from the patients' perspectives rather than those of healthcare professionals (ma et al., 2022). Hence, this study aims to explore the utilization of telemedicine among medical professionals and enhance the level of utilization which can be provided as a reference for the further development of telemedicine in malaysia.

BACKGROUND OF THE PROPOSED PROJECT

In this research, the researcher defines Telemedicine as a way to help patients to receive healthcare remotely through the use of technology and this study involves promoting and raising awareness about telemedicine through various channels. This encompasses strategies focus on informing healthcare professionals in Malaysia about the availability, benefits, and convenience of telemedicine, while also building trust and credibility in the services to boost their utilization.

Furthermore, telemedicine enhances healthcare professionals' performance by offering robust clinical workflow support (Tabaeeian et al., 2022). Thus, effective management should focus on increasing telemedicine utilization among healthcare professionals by providing education, support, and resources to integrate telemedicine seamlessly into their practice. Ensuring that doctors, nurses, and primary care 4 providers fully utilize telemedicine is crucial for maximizing their benefits in healthcare (Asad et al., 2021). Therefore, this study will investigate how healthcare professionals utilize telemedicine in their workflow and daily practice routines for the researcher to identify strategies that can be used to improve the utilization of telemedicine among medical professionals.

The objectives are to 1) To analyze the experiences of medical professionals regarding the utilization of telemedicine in their practice and 2) To determine the strategies to improve utilization of telemedicine among medical professionals tailored to their preferences. The propositions are to 1) In recent years, the field of healthcare has experienced a profound transformation with the widespread adoption of telemedicine technologies. Telemedicine has emerged as a powerful tool for delivering healthcare services remotely, overcoming geographical barriers and enhancing patient care. This research aims to explore the experiences of medical professionals in telemedicine to accelerate the integration of telemedicine into Malaysia's healthcare system, ultimately advancing the goal of providing quality healthcare services to all Malaysians. 2) This research proposes to develop targeted strategies aimed at improving the utilization of telemedicine among medical professionals. By tailoring these strategies based on the experience of medical professionals, the integration of telemedicine into routine healthcare delivery can be facilitated. Ultimately, the aim is to improve the quality of care provided to patients through the effective utilization of telemedicine technology.

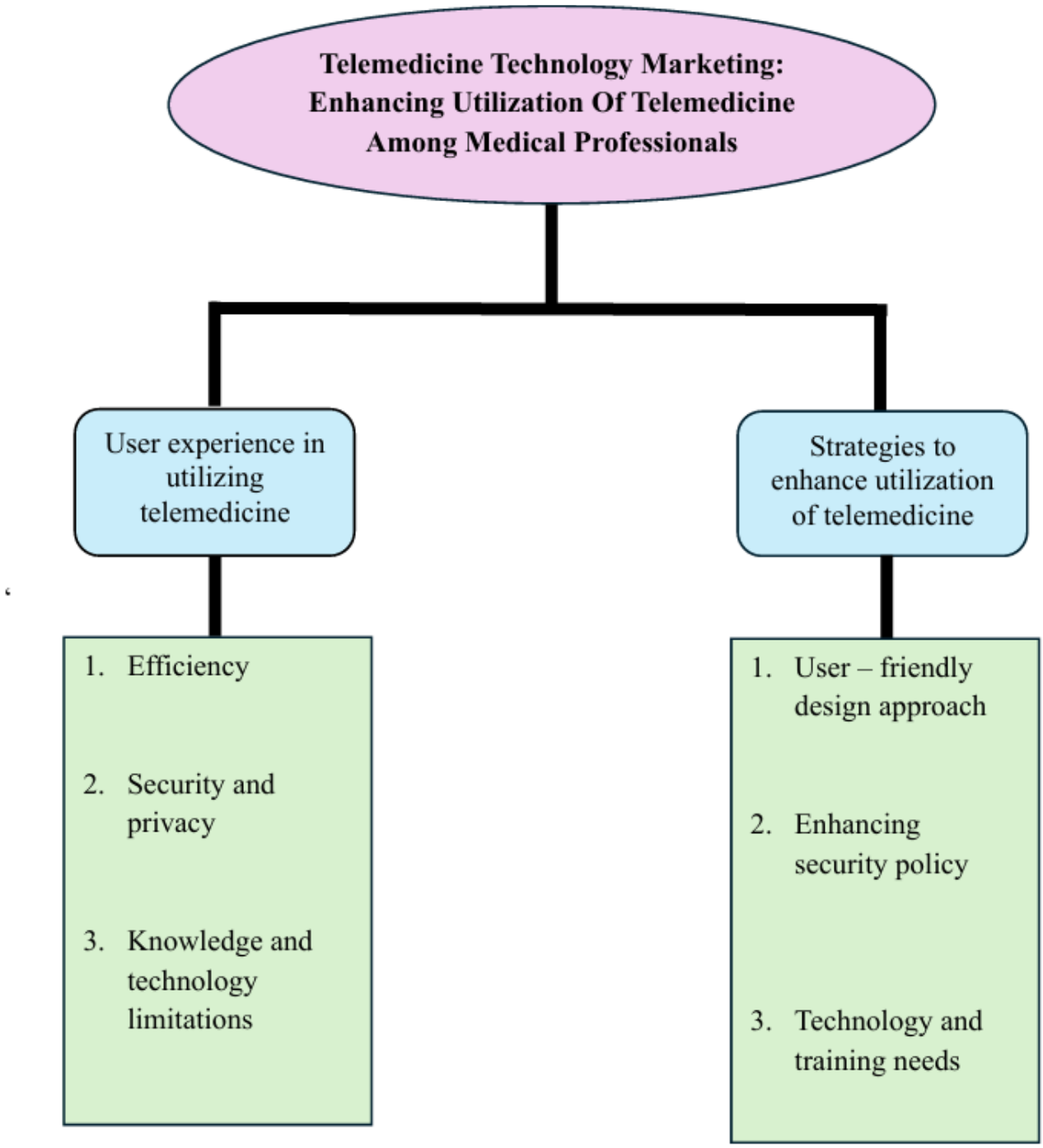

Figure 1 Conceptual Framework

The conceptual framework of this study illustrates the relationship between key factors influencing telemedicine utilization among medical professionals. The independent variables include efficiency, security and privacy, and technological readiness, while the dependent variable is the utilization of telemedicine. The study proposes that effective telemedicine marketing strategies mediate this relationship by enhancing awareness, training, and adoption among healthcare providers. Figure 1 demonstrates how these components interact: improved efficiency and security, supported by marketing strategies and technological readiness, lead to increased utilization of telemedicine in clinical settings.

Figure 1 states that the input is the game's content in the form of educational, challenges, abilities, and intelligence through their PC or Mobile Devices. During the game, it has an intro with a logo followed by a Main Menu (Setting, How to Play, Player (Characters), Mini-Map, and Player Objective. Players navigate through simulated environments that mimic real-world cybersecurity challenges. It Cover various topics (e.g., phishing, malware, network security with Integrate lessons from actual cybersecurity incidents.

Encouraging exploration and self-directed learning through interactive play can provide by the game and the output is analyzing user engagement, retention, and skill acquisition. Ensuring the application is usable for individuals with varying abilities.

Scope and Limitation Scope

The strategies in improving the utilization of telemedicine among medical professionals had been the main topic of this study. It concentrates on how current medical professionals utilize telemedicine in their workflow to cultivate the strategies needed to improve the usage of telemedicine among medical professionals. In addition, medical professionals which are doctors had been the researchers target respondents in this study. The researcher will then conduct an interview with doctors. 7 the limited time available to complete the study poses challenges in conducting a comprehensive investigation into the use of telemedicine among medical

Professionals. The availability of accurate and reliable data is also essential for carrying out a thorough analysis. Besides that, the rapidly evolving nature of telemedicine technology and healthcare practices may pose a limitation to this study's relevance over time. Findings may become outdated as new technologies, regulations, or best practices emerge in the field. Lastly, securing participation from a diverse range of doctors, especially those actively engaged in telemedicine, can be challenging. Limited access may impact the generalizability of findings.

RELATED REVIEW LITERATURE AND STUDIES

According to the who, e-health refers to the cost-effective and secure use of information and communication technologies (ict) to support health and health related fields. It includes a variety of interventions, such as telehealth, telemedicine, mobile health (mhealth), electronic medical or health records (emr/i), big data, wearables, and even artificial intelligence. As e-health technologies continued to be developed, the field of telemedicine emerged (britannica, 2024). Telemedicine, derived from "tele," the greek word for distance, is defined by who as the use of information and communication technologies by healthcare professionals to deliver healthcare services remotely for the diagnosis, treatment, and prevention of diseases and injuries. (stoltzfus et al., 2023). The concept of telemedicine involves utilizing information and telecommunication technology to deliver medical services, regardless of the geographical distance between physicians and patients. Recently, researchers have increasingly focused on wireless communication technologies in telemedicine to ensure effective and reliable healthcare service delivery, particularly during emergencies (alenoghena et al., 2023). Today, telemedicine has evolved into a highly sophisticated and expansive field. It ranges from the remote provision of medical advice, akin to that offered in the 19th century (now via the internet instead of the telephone), to advanced continuous 11 monitoring of vital functions and the use of artificial intelligence (including machine learning and deep learning systems) (holčapek et al., 2023).

User experience is defined as "a person's perceptions and responses that result from the use or anticipated use of a product, system, or service." Ensuring a positive user experience is essential for the successful adoption, acceptance, and efficacy of telemedicine. It is closely linked to satisfaction, a key indicator of healthcare quality. Various studies have highlighted crucial factors that enhance ones satisfaction with telemedicine, such as ease of use, affordability, improved communication, and reduced travel time (khairat et al., 2023). Most telemedicine studies have concentrated on patient satisfaction, there has been less focus on the satisfaction of providers, both those referring and those performing services. Moreover, provider satisfaction (medical professionals) is a crucial factor in determining the usage of telemedicine for patient consultations (ning et al., 2020).

Telemedicine and virtual software platforms have been previously utilized in managing public health emergencies. Their adoption provides medical practitioners with a reliable platform for accessing accurate and real-time information, aiding in clinical decision-making. The covid-19 pandemic significantly accelerated the adoption of information and communication technologies (ict) in healthcare, notably telemedicine and virtual software platforms, enabling remote healthcare delivery. While these technologies have demonstrated success in patient monitoring across various medical settings, their widespread integration within larger, more complex healthcare systems has faced challenges and remains underdeveloped (bokolo, 2020). Such training can be

provided by experienced users of the technology, who can organize sessions for those who are less familiar. In academic programs, incorporating this training into well-structured curriculum would enhance the readiness of hesitant providers to adopt telemedicine services (ftouni et al., 2022). Conduct comprehensive training modules across numerous sessions, manually rehearse tasks, and verify workflow integration is in place before starting sessions (houser et al., 2023). As telemedicine adoption accelerates, equipping healthcare providers with the necessary skills to address its challenges becomes paramount. This training need extends to medical students and educators, who are also navigating this evolving landscape. Previous research proposes a shift from the traditional expert model towards a collaborative learning approach, fostering concurrent development of telehealth competencies in both groups. Tele simulation emerges as a promising tool for future training and assessment, meticulously replicating diverse telehealth scenarios in a controlled environment for effective skill acquisition and evaluation (cruz-panesso et al., 2023). Telemedicine platforms necessitate training, software, and potentially the purchase of equipment. Additionally, more comprehensive inpatient telemedicine systems, which facilitate consultations between requesting doctors and consulting specialists, typically require even more extensive training (manning & gillespie, 2022).

Research Design

A research design is a procedural plan that ensures objective and accurate answers to research questions. It determines the type of analysis required and is judged by its effectiveness in answering these questions. As a framework of methods and techniques, it logically combines research components to address problems efficiently. It outlines the methodology for assessing questions and serves as a blueprint for data collection, measurement, and analysis (khanday & khanam, 2023). Exploratory research in social science aims to discover new and interesting insights by delving into a research topic. This approach is inherently risky because the outcomes are uncertain until deep into the research process. However, exploratory research is vital for advancing knowledge, as it seeks to provide novel insights. Without it, research would stagnate, merely repeating what is already known, except in cases of replication studies (elman et al., 2020). Descriptive research involves observing and documenting events or behaviors as they naturally occur, either through live observation or recordings. These observations are then systematically organized to help readers understand key features, often using data visualization or summary statistics. This approach is used to document and analyze conditions in natural settings, providing a comprehensive overview of the subject being studied (kosie & lew-williams, 2022). In explanatory research, causal relationships between a determinant and an event are analyzed, considering confounders and modifiers. Conflicting results may arise from differences in the theoretical design or mismatches between the theoretical design and data collection design (bentouhami et al., 2021). For this study, the descriptive research design is used. The researcher is aiming to understand doctors' experiences and preferences for telemedicine use (descriptive of current experiences and potential improvements), a descriptive research design with semi-structured interviews is a strong fit.

Data Collection

Researchers often face the challenge of selecting the most suitable research approach—whether quantitative, qualitative, or mixed methods—to examine and explain their study findings. The variety of options available in research design can make it difficult to discern which approach best fits the study's needs and objectives (Taherdoost, 2022). In this study, through employing a qualitative research approach, specifically utilizing in-depth interviews, the researcher attained a profound comprehension of all the interviewee thoughts and experiences. Qualitative and quantitative methods differ not just in data collection, study designs, and analysis techniques, but fundamentally in their assumptions about the world, reality, science, and knowledge. Qualitative approaches are particularly effective for exploring, describing, and understanding phenomena where little is known, providing a humanized perspective on research inquiries. They also often inspire research questions and hypotheses for subsequent quantitative studies (Ataro, 2020). The qualitative method is employed to explore participants' experiences, opinions, and beliefs, allowing the researcher to obtain deeper explanations that cannot be captured through quantitative methods (Gani et al., 2020). The qualitative method had been applied to all the interviewee. This qualitative method, prioritizes capturing rich and personal experiences of medical professionals. By analyzing their stories, the research extract and present accurate information directly related to the study's objectives.

Research Strategy

The researcher used narrative inquiry. Narrative inquiry explores how experiences are interpreted through stories of practice. Humans are inherently storytelling beings who live their lives through narratives. Stories encapsulate accumulated knowledge and lived experiences, and narrative inquiry serves as a method to make sense of this knowledge and experience (Mayer, 2023). Thus, 27 Narrative inquiry is a powerful tool for this research study because it delves into the personal stories and experiences of medical professionals. The time horizon in research methodology refers to the specific period during which the study focuses on the population. Researchers choose the time horizon based on their objectives and the nature of the investigation, which can involve examining the population at a single point in time or over an extended period. There are two types of research: cross-sectional and longitudinal. Cross-sectional research studies samples at a specific point in time, while longitudinal research examines samples over an extended period (Alamgeer & Alamgeer, 2023).

Cross-sectional studies are observational studies that analyze data from a population at a single point in time. They measure the prevalence of outcomes, understand determinants, and describe population characteristics. Unlike other observational studies, cross-sectional studies do not follow individuals over time. They are typically inexpensive and easy to conduct, making them useful for providing preliminary evidence for future, more advanced studies (Wang & Cheng, 2020). In this research, the researcher used cross sectional studies as it is relatively quick and inexpensive way to gather data and allows the researcher to get a snapshot of their current experiences and attitudes towards telemedicine.

In this section, the scientific canons of Validity and Reliability had been discussed in detail. The purpose of scientific canons is to help the researcher to gain reliable findings and generate worthy research. Reliability and validity are fundamental concepts in research quality assessment, indicating how effectively a method, technique, or test measures a phenomenon. Reliability pertains to the consistency of measurements, while validity concerns the accuracy and appropriateness of measurements (Middleton, 2022).

The issue of qualitative research primarily revolves around the validity and reliability of its data. An instrument is deemed effective when its data collection process meets the criteria for validity and reliability. Validity addresses whether the research is trustworthy and accurately evaluates the intended subject. Therefore, the quality of the interview instrument is crucial, as the research conclusions depend on the information it gathers (Gani et al., 2020). Validity in academic research is a complex and multifaceted concept with various types and interpretations. For evaluating validity in qualitative research, the importance of data richness and operational measurement is emphasized. Several types of validity are identified, including content validity (ensuring all relevant aspects of a concept are covered), construct validity (assessing how well a test or scale measures a theoretical construct), and criterion validity (evaluating how well a test predicts an external criterion) (William, 2024).

On the other hand, regarding the instrument's reliability, the data's subjective and narrative nature can complicate the analysis. However, research is considered reliable when the interview data is consistent, unbiased, and measures the intended concepts accurately (Gani et al., 2020). A study is deemed reliable when it yields consistent results under identical conditions and over time. High reliability does not ensure validity, and low reliability does not necessarily indicate poor validity. Rather, these concepts are interrelated, with a study's overall validity relying on both the validity and reliability of its measurement tools. Thus, it is crucial to determine the reliability, validity, and usability of a measurement instrument to use it appropriately in clinical practice and research (William, 2024).

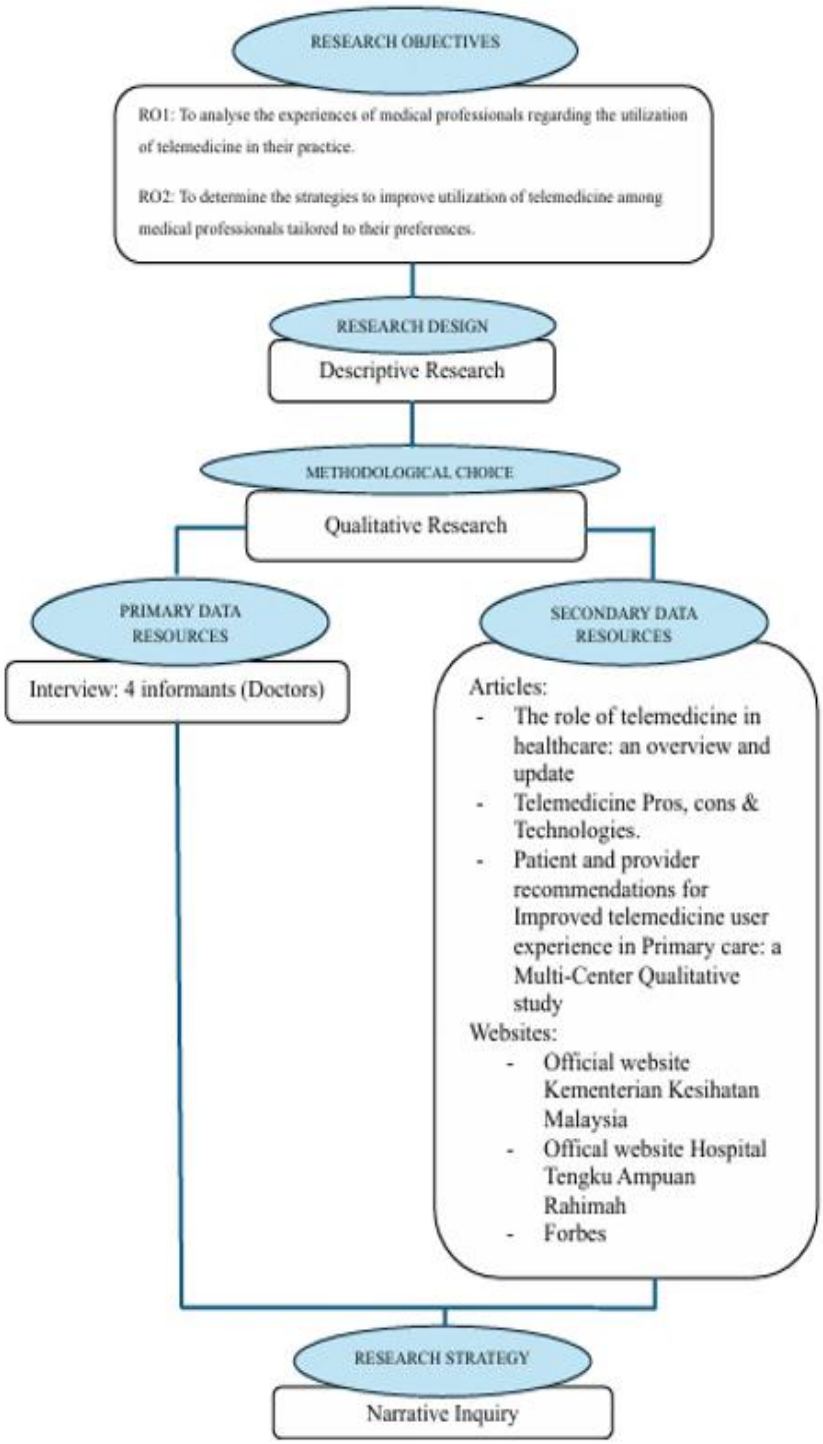

Figure 2. Research Framework

According to figure 2, the researcher described the procedures utilised to conduct this study. Descriptive research techniques were chosen as the study design. This approach enabled the researcher to analyse and study the experiences of medical professionals who utilized telemedicine and to develop strategies for enhancing its utilization by examining the interviewees' experiences. This research employed a qualitative methodology to collect, compile, and analyse data. Qualitative research was chosen because it allowed the researcher to conduct an in-depth analysis and minimize bias during the data collection process. The primary data for this study was gathered through Interviews with four doctors from different background and workplace. The researcher collected secondary data from articles, journals, websites, and books as a key source for this research. The chosen research strategy for this project was narrative inquiry, an approach that focused on exploring and understanding the stories or narratives that medical professionals shared about their experiences utilizing telemedicine. This research strategy was selected because it enabled the researcher to obtain real and raw data to address the study's objectives and research questions posed in the study's title.

Additionally, cross-sections were chosen as the time horizon for this research, aligning with the short-term periods commonly used in academic studies. The researcher also discussed the validity and reliability of this study, as it aimed to capture the true experiences of medical professionals with telemedicine. Reliability and validity ensured that the researcher's findings accurately reflected their experiences rather than being influenced by random chance or researcher bias.

Informants of the Study

In research, an informant is someone who provides insights or data based on their expertise or unique perspective relevant to the study. (Zola et al.,2021) Key informants are chosen for their ability to assist researchers in understanding cultural patterns, often offering background information that is otherwise inaccessible, implicit, or challenging to uncover through document reviews or other limited sources. (Pahwa et al., 2023) The researcher conducted interviews with four medical professionals in Malaysia: three houseman doctors and one dentist. The houseman doctors are in their initial years of practical training, working under the supervision of senior doctors while completing rotations in five core departments: Medicine, Surgery, Obstetrics and Gynaecology,

Paediatrics, and Orthopaedics, along with one alternative posting such as Anaesthesiology or Emergency Medicine. The dentist, with nearly seven years of professional experience, has practiced in both government and private sectors. All informants demonstrated patience and provided comprehensive insights regarding their utilization of telemedicine in practice, as well as suggestions for its improvement from their professional perspectives. The four informants who participated in data gathered for this research are listed below.

Table 1: Informants' Demographic

No.	Informants	Reference	Age	Gender	Current job
1.	Gan Ming Shen	I-1	24	Male	Doctor (Junior Medical Houseman)
2.	Vinnit Kobbin	I-2	26	Male	Doctor (Senior Medical Houseman)
3.	Leong Jia Min	I-3	26	Female	Doctor (Senior Medical Houseman)
4.	Shalini Rajan	I-4	31	Female	Dentist

RESULTS AND DISCUSSION

Project Description

As stated in the literature review, the concept of telemedicine involves utilizing information and telecommunication technology to deliver medical services, regardless of the geographical distance between physicians and patients. (Alenoghena et al., 2023) and telemedicine has many types, including real-time communication (synchronous) and store and forward communication (asynchronous) (Mohammadi et al., 2020). Informant [I-1] works at Hospital Tengku Ampuan Rahimah, Klang, Selangor (HTAR). Informant [I-2] works at Hospital Malacca, Informant [I-3] works at HTAR as well and Informant [I-4] works at 'Klinik Pergigian Dentabay' at Setapak, Kuala Lumpur. Each informants provided detailed explanations regarding the types of telemedicine technologies or services they most frequently use at their respective workplaces.

Informant's Job Scope Related to Telemedicine

Given the highly specialized nature of medical skills, healthcare professionals serve as both essential resources and primary users of telemedicine (Ma et al., 2022). As stated by most of the informants, they use all of the service provided from their workplace where it was explained in the first part of what telemedicine technology are utilize in their workplace. Each informants indicated that their job scopes involve utilizing the telemedicine services provided at their respective workplaces.

User experience in Utilizing Telemedicine

User experience (UX) encompasses an individual's perceptions and responses arising from their actual or anticipated interactions with a product, system, or service. Cultivating a positive UX is paramount for the successful adoption, acceptance, and effective utilization of telemedicine services (Khairat et al., 2023).

The first objective was to analyse the experience of medical professionals regarding the utilization of telemedicine in their practice. From the results of the data collected in previous chapter, the researcher discovered that all the examined aspects which are efficiency, security and privacy, and knowledge and technology limitations, are highly relevant in understanding medical professionals' experiences utilizing telemedicine in their daily practice. These aspects not only influence how telemedicine is perceived but also highlight critical areas for improvement to enhance its utilization The findings highlight that telemedicine tools significantly enhance efficiency by reducing manual processes, facilitating seamless data sharing, and enabling quicker access to patient information. According to Haleem et al. (2021), medical professionals can conveniently and efficiently access patient information through electronic files, significantly reducing overall wait times. The researcher discovers that systems such as Schuynet and HIS provide instant lab result access and inter-hospital communication, saving time and improving workflow. This efficiency is particularly critical in high- pressure medical settings, where time-sensitive decisions directly impact patient outcomes.

Besides that, the study's findings align with prior research emphasizing telemedicine's ability to streamline clinical workflows and reduce administrative burdens (Ma et al., 2022). However, unlike much of the existing literature, which often focuses on patient-side efficiency, this study sheds light on provider-side advantages, such as reduced time spent on repetitive administrative tasks and improved interdepartmental coordination. According to Taani, (2020), telemedicine has been found to improve the efficiency of resource allocation in clinical processes.

In conclusion, the study agrees with the theory that using technology in healthcare can make things work more efficiently. Telemedicine not only enhances access to specialized stroke care but also leads to positive clinical outcomes, along with improved efficiency in health services (Barbosa et al., 2021). For example, telemedicine helps doctors save time and manage patient information better according to the findings of this study. But the study also found a problem which is not all healthcare facilities have equal access to telemedicine tools. Some places have advanced systems, while others don't. These systems save considerable time for medical professionals, prevent errors, and streamline patient management. However, these benefits are hindered by occasional system downtimes, outdated technology, and insufficient hardware availability in some institutions.

The second objective was to determine the strategies to improve utilization of telemedicine among medical professionals tailored to their preferences. From the results of the data collected in previous chapter, the researcher discovered that all the examined strategies which are having a user-friendly design approach, enhancing security policy, technology and training need, are also validated by the informants. In addition, the researcher also concluded that another strategy which is patient accessibility and engagement is recommended by one of the informants through this study. These strategies can enhance utilization of telemedicine among medical professionals tailored to their preference.

SUMMARY OF FINDINGS

This study discussed the medical professionals experience in utilizing telemedicine. The findings in the foregoing chapter help to gain insight in the experiences of medical professionals regarding the utilization of telemedicine in their practice and the strategies to improve the utilization of telemedicine among medical professionals tailored to their preference is generate.

CONCLUSION

This research study discussed the experience of medical professionals regarding the utilization of telemedicine in their practice and strategies to improve utilization of telemedicine among medical professionals tailored to their preferences. The method used in this study was qualitative research, where the researcher conducted

interview sessions and use narrative inquiry to interpret the experience of the informants and analysed the findings with thematic analysis. The researcher used a web-based speech-to text tool to transcribe the informants' responses in the interview sessions. All the selected samples, data and findings in this research are valid from reliable sources and valid to draw conclusion. The validated conceptual framework is proposed in figure 6 on the experience of medical professionals utilizing telemedicine in their practice and strategies to enhance utilization of telemedicine among medical professionals.

The researcher concludes that telemedicine has emerged as a transformative tool for healthcare delivery, not only supporting remote consultations but also significantly enhancing system-based processes. These include medical reporting, checking and managing blood availability, booking investigations, transmitting patient data, providing post-care instructions, and facilitating seamless communication among medical professionals. Its applications span various fields, including medicine, dentistry, physiotherapy, and other allied health sectors, improving patient care and operational efficiency.

In summary, telemedicine holds immense potential to revolutionize healthcare delivery in malaysia by advancing the goal of providing quality, accessible services to all malaysians. However, achieving this vision requires a balanced approach, integrating telemedicine into routine healthcare while preserving the invaluable aspects of in-person care. Certain healthcare services, particularly those requiring physical interaction or hands-on expertise, remain irreplaceable and must complement telemedicine's capabilities. This study lays the groundwork for future research and initiatives to optimize the utilization of telemedicine across diverse healthcare settings, ensuring its long-term sustainability and impact.

RECOMMENDATIONS

Future studies should consider expanding the sample size and including participants from diverse regions and healthcare systems to obtain a more comprehensive understanding of telemedicine utilization. Additionally, integrating quantitative methods, such as system performance analysis and satisfaction surveys, would provide a more robust dataset. Further research could also explore the patient perspective more thoroughly, focusing on barriers such as technological literacy and privacy concerns. Examining the cost-

Effectiveness of implementing universal telemedicine systems, as proposed by the informants, would offer valuable insights for policymakers. Another recommendation is to understand medical professionals particular those in private sector since all of the informants in this research went through government jobs. Future studies can also interview informants with medical specialist as they may have different experience compared to junior doctors. Lastly, longitudinal studies could investigate how ongoing advancements in technology and training programs impact telemedicine adoption over time.

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