

Generative AI-Based Telemedicine Management: An Analysis of Ethical Acceptability, Medical Governance, and Patient Social Trust

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ABSTRACT – The implementation of Generative AI in telemedicine management brings transformative shifts to operational efficiency while simultaneously raising complex ethical and social challenges. This study aims to analyze the ethical acceptability, medical governance mechanisms, and implications of using generative artificial intelligence on patient social trust within the digital healthcare consultation ecosystem. The methodology employed is a descriptive qualitative approach based on a systematic literature review of recent studies. The findings indicate that the ethical acceptability of Generative AI is determined by clear transparency regarding communicator identity, data privacy protection via advanced encryption, algorithmic bias mitigation, and definitive legal accountability. Furthermore, sustaining patient social trust requires active physician supervision (human-in-the-loop), accessible services, and socioculturally sensitive therapeutic communication. This study concludes that successful digital transformation in telemedicine demands a balance among technological innovation, adaptive regulation, and enhanced AI literacy for medical personnel to safeguard patient safety and dignity.

Keywords: generative ai, telemedicine, ethical acceptability, social trust, medical governance, data privacy, clinical accountability.

A. INTRODUCTION

The integration of Generative Artificial Intelligence (Generative AI) into the architecture of digital healthcare service management, particularly telemedicine services, marks a paradigmatic shift in modern clinical interactions. Generative artificial intelligence technology no longer merely processes numerical data or handles structured medical data, but is now capable of producing intuitive textual responses, drafting

consultations, summarizing medical histories, and precisely simulating therapeutic communication. This transformation offers operational efficiency solutions for healthcare providers by reducing doctors' administrative burdens and accelerating remote consultation workflows (Tahereh et al., 2023). The optimization of digital health platforms requires robust information architectures and technological capabilities (Khayru, 2022). Nevertheless, the replacement or supplementation of human capacity by generative predictive systems within virtual consultation spaces raises fundamental questions regarding the fulfillment of healthcare service ethics principles (Skender & Ali, 2024). Topol (2019) outlines that the application of artificial intelligence in medical practice must strictly prioritize the preservation of human values (human touch) to prevent the depersonalization of the doctor-patient relationship.

From the perspective of healthcare service management, the adoption of Generative AI in telemedicine systems demands a re-engineering of operational governance and quality assurance (Vashishth et al., 2025). The use of large language models (LLM) to automatically answer patient complaints has the potential to trigger AI hallucinations or clinical recommendation biases that risk endangering patient safety (Roberts et al., 2025). Healthcare facility managers bear full responsibility for ensuring that all generative medical outputs have undergone a doctor verification and supervision process (human-in-the-loop). Rajpurkar et al. (2022) affirm that medical management efficiency must not sacrifice clinical accuracy, where standardized evaluation of generative algorithms is crucial in mitigating the risk of digital malpractice on online medical platforms. Strict accountability frameworks are essential for establishing

consumer protection and defining the legal responsibilities of practitioners within medical service systems (Setiawan et al., 2023).

The direct impact of implementing Generative AI is felt in the dynamics of social trust and patient ethical perceptions toward the healthcare service ecosystem (Dawood & Khan, 2025). Public trust, which has long been built upon the basis of empathy, medical confidentiality, and the moral accountability of professional medical personnel, is vulnerable to erosion if patients feel uncertain whether the medical advice they receive originates from humans or algorithms (Al-Amiery, 2025). Doubts regarding the confidentiality of medical records processed by external AI modalities further strengthen public anxiety biases. Public confidence and informed decision-making are heavily influenced by the quality and clarity of health information circulating across digital platforms (Issalillah, Mardikaningsih, & Darmawan, 2026). The lack of transparency regarding the use of generative artificial intelligence in medical service workflows can reduce patient compliance and trigger patient alienation from digital healthcare systems. Char et al. (2018) state that moral integrity and algorithmic transparency are the primary foundations to prevent the erosion of public trust in health technology.

This governance challenge is further complicated by the absence of regulatory frameworks and medical ethics guidelines that specifically regulate the operational boundaries of Generative AI in the healthcare sector. Conventional labor regulations and medical consumer protection laws frequently fail to mitigate accountability issues when diagnostic errors are produced by artificial intelligence (Ahaiwe et al., 2025). Unclear assignment of legal liability burdens between technology vendors, healthcare facilities, and examining physicians creates legal uncertainty that harms the patient's position. Price and Cohen (2019) reveal that legal inequalities in medical AI governance remain a major obstacle in creating comprehensive patient safety protections in the digital transformation era. Normative challenges regarding misdiagnosis require comprehensive legal evaluation to establish fair liability boundaries within the healthcare system (Setiyadi et al., 2023).

The core issue centered in this research analysis focuses on how the implementation of Generative AI in telemedicine service

management influences the formation and maintenance of patient social trust. The commodification of clinical communication and inherent algorithmic scientific error risks can damage the trusting relationship between the public and health institutions (Witkowski et al., 2024). The research problem emphasizes exploring the boundaries of ethical acceptability for Generative AI usage, identifying reliability variables in virtual medical service management, and formulating risk mitigation mechanisms capable of guaranteeing confidentiality, safety, and legal accountability for telemedicine patients. Institutional accountability also extends to managing sensitive documentation standards, where the integrity of medical records remains a vital component of legal proof within justice systems (Ustani et al., 2024).

Based on these research problems, this study aims to investigate the impact of Generative AI utilization on the dynamics of patient social trust within the telemedicine ecosystem and formulate ethical medical service management standards. This research maps the AI-based medical service aspects most vulnerable to triggering public trust crises. Furthermore, this study aims to compile management service strategy recommendations that integrate ethical oversight, data governance transparency, and legal protection for patients. According to Cohen et al. (2020), formulating medical governance based on algorithmic transparency and privacy protection is an imperative step to secure the social legitimacy of artificial intelligence applications in the medical realm.

This research provides a theoretical contribution to the development of health service management science, medical ethics, and the sociology of technology through the construction of an AI-patient trust dynamics analytical framework. From a practical standpoint, the results of this study present strategic evaluation guidelines for health facility managers and policymakers in designing operational boundaries for generative artificial intelligence that are safe, ethical, and accountable. Strengthening ethical guarantees and public trust is expected to realize a telemedicine transformation that is not only technologically advanced, but also equitable and humanistic.

B. METHOD

To unravel the complexity of Generative AI governance and public trust dynamics with precision, this research employs a descriptive-explanatory qualitative analysis scheme based on literature study integrated with an action research framework grounded in medical ethics. The research strategy is focused on an in-depth review of the operationalization of generative AI conversational features and virtual assistant systems on leading telemedicine platforms as documented in various literature. The focus of the study includes evaluating virtual health service supply chain management, medical record data protection protocols, and the ethical perceptions of patients who have used AI-based consultations based on findings from previous studies. Creswell and Poth (2018) emphasize that an explanatory-descriptive framework is highly appropriate for exploring new technological phenomena fraught with social dynamics and complex moral considerations.

Data collection is carried out through systematic and comprehensive literature searches, encompassing reputable scientific journal articles, technical reports and audits of telemedicine platforms, privacy policy documents and digital health regulations, as well as publications from relevant research institutions and medical associations. The researcher explores diverse perspectives and findings related to digital health service management, data protection protocols, and patient ethical perceptions through the synthesis of previously published study results. Likewise, aspects of medical AI system development and the dynamics of interaction between service providers and patients are traced through narratives from case studies and observation reports documented in academic and industry literature. Denzin and Lincoln (2018) explain that the variation of literature sources from various levels of analysis strengthens the depth of information gathered within the scope of social-technology studies. Internal data validity is maintained through triangulation among types of literature sources and cross-examination among references to ensure consistency of findings.

Data processing and analysis procedures apply the framework analysis technique specifically designed for health service management and policy research. All library materials are classified into five analytical

stages: data familiarization from all literature, identification of the thematic framework, structured data coding, mapping of thematic matrices, and interpretation of relationships among categories of ethics, management, and social trust. Ritchie et al. (2013) elaborate that framework analysis provides a systematic and transparent approach to connecting qualitative data with strategic decision-making in the public service sector. This analytical approach ensures that the resulting findings possess a high level of conceptual precision and practical relevance for the formulation of health regulations.

C. RESULTS AND DISCUSSION

Ethical Acceptability and Governance of Generative AI-Based Telemedicine Service Management

The evaluation results indicate that the implementation of Generative AI in the management of telemedicine services requires a restructuring of medical ethical standards to safeguard the reliability of digital diagnostic and consultation processes. The use of generative algorithms as clinical communication assistants raises fundamental challenges regarding the assurance of the accuracy of medical information presented to patients. Healthcare management must establish strict verification protocols to mitigate the risk of erroneous recommendations generated by large-scale language models. The absence of direct supervision by healthcare professionals has the potential to reduce the quality of healthcare services and endanger patients' lives (Zawar & Vikhar, 2025). The integration of generative artificial intelligence into telemedicine workflows must be clearly positioned as an 'augmented tool', not a substitute for the role of doctors. Healthcare facilities bear full responsibility for ensuring that all automatically generated text outputs undergo regular scientific validity testing. Responsive and transparent medical service management standards form the cornerstone for minimising the negative impacts of clinical automation. Amann et al. (2020) outline that the explainability of medical algorithms is an absolute ethical requirement for ensuring accountability in digital medical practice.

The application of transparency principles in the automation of telemedicine services plays a crucial role in fulfilling patients' basic rights to health information. Patients have a fundamental

right to clearly know whether the medical responses they receive are produced by generative algorithms or written directly by the examining physician. The unclear identity of the communicator within virtual consultation spaces can trigger perceptions of information distortion that damage the reputation of healthcare service providers (Eşidir et al., 2025). The management of digital health platforms must include automated notifications marking the involvement of artificial intelligence in every medical interaction session. This information openness enables patients to provide informed consent consciously and rationally. Additionally, service providers must offer patients the option to switch to direct human consultation channels without procedural barriers. The integration of reliable decentralized systems can also strengthen information validity across digital networks (Darmawan, da Silva, & da Costa, 2025). Commitment to this transparency principle serves as a primary indicator of ethical digital transformation success. Gerke et al. (2020) affirm that informed consent tailored to the characteristics of artificial intelligence is a crucial instrument in protecting patient autonomy in the digital medical era.

The protection of privacy and the security of patient medical record data represent the most critical ethical issues in the operationalization of Generative AI on telemedicine platforms. The training process of generative algorithmic models requires massive medical data input, which is vulnerable to personal information leaks if not managed with high-level encryption systems (Chen & Esmaeilzadeh, 2024). Healthcare platform providers must guarantee that sensitive patient data is perfectly anonymized before being processed by artificial intelligence architectures. The practice of commercialization or utilization of health data without explicit patient permission constitutes a severe violation of medical ethics and data protection law. Healthcare facility management is obligated to implement regular cyber security audit standards to prevent unauthorized outside infiltration. The strengthening of digital data governance regulations is an absolute prerequisite for creating a secure telemedicine ecosystem. Rigorous protection of personal data rights serves as an essential legal shield for individuals navigating digital environments (Issalillah & Hardyansah, 2024). Murdock et al. (2021) confirm that encryption integrity and

medical data sovereignty are core pillars in building trustworthy artificial intelligence-based health systems.

The dynamics of ethical acceptability regarding Generative AI are also influenced by the high risk of algorithmic bias embedded in medical data processing systems. Generative algorithms trained using unrepresentative datasets tend to produce diagnostic recommendations that discriminate against specific patient groups based on race, gender, or socio-economic status. This inequality in medical outputs worsens disparities in access to quality healthcare services within society (Joseph et al., 2024). Platform developers and healthcare managers bear the responsibility to audit training data diversity continuously in order to eliminate such systemic biases. Adjusting clinical recommendation criteria to local demographics is a crucial step to guarantee the fair distribution of medical services. Proactive handling of algorithmic bias reflects the moral commitment of service providers in upholding social justice within the health sector. Ensuring anti-discrimination principles and equal access is vital for maintaining equity across vulnerable patient populations (Napu, Khayru, & Hardyansah, 2023). Morley et al. (2020) state that algorithmic fairness evaluations must be integrated from the early stages of artificial intelligence technology design to prevent bias escalation in medical practices.

Legal responsibility for clinical recommendation errors produced by Generative AI remains a gray area that requires specific regulatory structuring. The unclear division of accountability burdens between algorithm development companies, telemedicine platform managers, and examining physicians confuses the pursuit of legal claims by harmed patients (Giorgetti et al., 2025). Within the framework of medical service management, physicians still hold the position of primary decision-makers for the final clinical decisions provided to patients. However, high reliance on automated algorithmic advice can obscure the boundaries of professional medical negligence. Establishment of clear legal compensation standards is necessary to address diagnostic errors effectively within digital healthcare systems (Mokoginta et al., 2024). The formation of an independent AI ethics supervisory board in every healthcare facility serves as a much-needed control mechanism to investigate digitally based

medical incidents. This legal certainty is important to provide balanced protection for both patients and medical personnel. Pasquale (2019) outlines that the formulation of medical AI accountability laws must firmly place the obligation of patient safety guarantees above the commercial interests of platform developers.

The prioritization of operational efficiency in telemedicine management has the potential to trigger the depersonalization of the doctor-patient relationship, which is rooted in the loss of human empathy (McEniery, 2023). Medical communication is not limited to the exchange of objective clinical data, but also involves emotional support, psychological understanding, and empathetic touches that cannot be fully replicated by generative algorithms (Vergallo et al., 2025). The excessive use of virtual assistants risks turning healthcare services into a cold, mechanical transaction. Hospital management and telemedicine platforms are obligated to maintain an adequate proportion of human interaction at every stage of service. Therapeutic communication capacity training for doctors assigned to digital channels must be continuously enhanced. Maintaining a balance between technological sophistication and the warmth of human relationships remains a key success factor in healthcare services. Advanced technological integration can sometimes alter traditional social bonds and fragment interpersonal connections within modern environments (Abror et al., 2025). Blease et al. (2019) emphasize that the value of empathy and interpersonal relationships remains the most crucial core in medical practice that cannot be replaced by artificial intelligence.

The accessibility of Generative AI interfaces in telemedicine applications influences the level of ethical acceptance among users from diverse digital literacy backgrounds. Interface designs that are overly complex or difficult to understand for elderly groups and individuals with special needs create new barriers in obtaining equitable healthcare services. Digital platform managers are required to design inclusive, user-friendly application navigation that supports various regional languages (Rafi, 2025). The provision of automated voice guidance and visual aid features can enhance patient comprehension of medical information delivered by systems. The inclusiveness of technology design is a manifestation of ethical

justice principles in public service. Regular evaluations of user satisfaction from vulnerable groups must be established as core performance indicators for platform management. Shaw et al. (2019) confirm that the inclusivity of digital interface designs plays an important role in expanding the reach of fair and sustainable healthcare services.

Standardized clinical validation of Generative AI models before widespread implementation on telemedicine platforms is a mandatory risk management phase. Every algorithm code update or new diagnostic feature addition must go through limited trials approved by a medical ethics committee (Victor & Aldo, 2025). This tiered validation process aims to measure the precision of medical feasibility, system stability, and algorithm resilience against input data manipulation. The absence of strict clinical validation processes risks distributing immature systems to the wider public. Healthcare providers must not use the public as subjects for technology experiments without guaranteed safety guarantees. The implementation of industry-standard testing protocols serves as proof of telemedicine management professionalism. Habli et al. (2020) state that safety certifications and repeated validations are mandatory standards to measure the operational feasibility of artificial intelligence-based medical software.

The role of medical professional organizations and independent regulatory bodies is absolute in formulating operational ethics guidelines for Generative AI in the healthcare sector (Sahu et al., 2025). Conventional regulations need periodic updates to keep pace with the rapid innovation speed of generative artificial intelligence technology. Medical governance guidelines must contain strict boundaries regarding the types of disease complaints that can be simulated by AI and health issues that require direct handling by medical specialists (Skender & Ali, 2024). Administrative sanctions and the revocation of operational permits must be strictly enforced against platforms violating patient safety ethical standards. Collaboration between medical experts, technologists, and policymakers is the main key to realizing ideal digital governance. Adaptive regulations will protect patient rights while encouraging responsible innovation. Robust regulatory frameworks are also essential to ensure patient safety and compliance within virtual medical services (Sasmita et al., 2023).

Vayena et al. (2018) emphasize that adaptive governance and flexible external oversight represent the best approach in overseeing the application of medical AI.

Enhancing AI literacy for professional medical personnel is an important pillar in realizing ethical and safe Generative AI-based telemedicine governance. Doctors and nurses must be equipped with adequate understanding regarding algorithmic working mechanisms, potential system weaknesses, and techniques to identify analytical errors produced by artificial intelligence (Cao et al., 2026). This continuous training enables health workers to act as effective filters protecting patients from digital diagnostic errors. Medical education curricula need to integrate AI ethics and digital health management materials as part of graduate competency standards. Doctors possessing high digital literacy capacity will feel more confident in utilizing artificial intelligence wisely to improve service quality. The empowerment of medical personnel is a strategic investment in building a humanistic and modern future health ecosystem. Medical technology transformations offer vast opportunities alongside complex challenges that require structured implementation strategies (Sarif & Issalillah, 2022). Topol (2019) outlines that digital literacy education for medical practitioners is a key driver for healthcare transformation based on artificial intelligence collaboration.

The Implications of Generative AI Implementation for Patients' Social Trust in Telemedicine Services

The adoption of Generative AI within telemedicine service workflows has a direct impact on the dynamics of patients' social trust in the reliability of digital healthcare systems. Public trust, which has long been built through face-to-face interactions, undergoes a fundamental shift when the consultation process is mediated by artificial intelligence (Nonda et al., 2025). Patients often experience psychological doubts regarding the ability of generative algorithms to fully comprehend the nuances of health complaints, including their emotional aspects. Uncertainty regarding human involvement in the formulation of a diagnosis triggers anxiety that has the potential to undermine the therapeutic relationship (Jóna, 2024). Health platform operators must recognise that social trust is built not only on technological efficiency, but also on assurances of empathy and clinical safety. Enhancing

operational transparency is key to mitigating the erosion of public trust in virtual medical services. Asan et al. (2020) outline that patients' acceptance of artificial intelligence depends heavily on the extent to which the technology is able to maintain a sense of security and the reliability of clinical communication.

The quality of textual responses generated by Generative AI significantly influences patient perceptions of the professionalism of healthcare institutions providing telemedicine. Automated responses that feel rigid, generic, or insensitive to patients' emotional conditions can drastically reduce user satisfaction and trust (Amr & Meder, 2025). Conversely, well-structured therapeutic communication simulations can enhance patient comfort during remote consultation processes. Stigmatization or public misunderstanding regarding mental health aspects in digital counseling environments requires careful social management to protect user well-being (Gardi & Khayru, 2024). Nevertheless, the artificial warmth displayed by generative algorithms risks creating an illusion of false emotional connection that could potentially mislead patient expectations. Medical service management must ensure that the boundaries of AI roles are communicated honestly to prevent trust crises caused by user disappointment. Clear consumer protection standards within healthcare promotional activities are essential to prevent misleading claims and maintain service integrity (Sahidu, Putra, & Darmawan, 2023). The consistency of clinical response quality serves as a crucial indicator in maintaining health platform reputations. Khullar et al. (2018) affirm that patient perceptions of digital medical competence are heavily influenced by the honesty of communication governance implemented by healthcare facilities.

Medical record confidentiality and personal data protection represent the primary pillars determining public social trust levels toward Generative AI-based telemedicine. Patients frequently worry that sensitive disease histories entered into AI conversation features might be accessed by third parties or utilized for commercialization modeling purposes (Jaswanth et al., 2025). Concerns over digital data leaks can cause patients to withhold important clinical information, which subsequently endangers the accuracy of medical diagnoses. Medical platform providers must actively socialize encryption systems and data protection guarantees to build a sense of

safety on the user side. The existence of transparent security certifications is effective in restoring public trust in health technology innovations. Comprehensive legal frameworks concerning national health development and equitable service access are vital to reinforce public security in digital health systems (Harianto et al., 2024). The absence of robust privacy guarantees will drive massive public resistance against telemedicine adoption. Privacy risk perception is inversely proportional to the adoption rate and patient trust in modern digital healthcare services.

The risk of AI hallucinations or the misdelivery of medical facts by generative algorithms constitutes a serious threat to the credibility of telemedicine systems. When patients receive inaccurate health information or data contradicting valid medical principles, their trust in the overall healthcare service ecosystem will plummet sharply (Ouahbi et al., 2025). A single public exposure of an automated diagnostic error can trigger a domino effect consisting of collective fear and rejection of medical AI usage (Akbar et al., 2024). Human-in-the-loop supervision schemes must be published openly so patients believe every medical action remains controlled by expert practitioners. Full reliance on automation without human verification is a high-risk step that degrades the social legitimacy of medical institutions. Strict legal liability frameworks are also necessary to resolve administrative and financial disputes within insurance and therapeutic service programs transparently (Eskandar, Issalillah, & Vitrianingsih, 2025). Gille et al. (2020) state that accountability and medical information accuracy are absolute prerequisites to secure public trust in digital health transformation.

The inequality of digital and AI literacy among the public creates disparities in social trust levels toward the use of artificial intelligence-based telemedicine. User groups with high technology comprehension tend to more easily accept the presence of Generative AI as an efficient consultation tool (Moyo, 2025). Conversely, ordinary citizens or elderly groups frequently show high levels of skepticism and fear toward the automation of medical services. This condition threatens to weaken healthcare service inclusiveness and alienate vulnerable groups from modern medical access. Healthcare facility management, together with the government, bears the responsibility of organizing public education regarding the

working mechanisms, benefits, and safe boundaries of medical AI usage. Inclusive socialization will help shape rational public expectations and facilitate more evenly distributed social acceptance. Strategic evaluation of workforce competencies and digital adaptations helps address technological disparities across diverse user segments (Darmawan, 2025). Longoni et al. (2019) confirm that patient reluctance toward AI-based care stems from a perceived lack of control and understanding of algorithmic working mechanisms.

The level of patient social trust is also heavily influenced by perceptions regarding distributive justice and the affordability of Generative AI-based telemedicine service access. The utilization of artificial intelligence is fundamentally expected to reduce medical service operational costs so that virtual consultation tariffs become more affordable for all layers of society. If AI efficiency is only utilized to increase corporate profit margins without providing cost-reduction impacts for patients, the public will view the technology negatively (Baikadolla, 2025). Excessive commercialization perception can damage the humanitarian image of the medical profession and trigger distrust toward provider intentions. Equitable distribution of service access and affordable pricing policies remain essential to ensure fairness within digital health systems (Khayru & Issalillah, 2022). Healthcare service management is obligated to balance financial targets with public service social missions to maintain ethical legitimacy in the eyes of society. Service price fairness serves as a tangible manifestation of healthcare facility commitment in building trusting relationships with users. According to Esmaeilzadeh (2020), perceptions of social justice values and cost convenience play key roles in shaping trust and the intention for continued medical AI usage.

The role of mass media and public opinion in shaping perceptions and social trust toward Generative AI in telemedicine is highly dominant. Media reporting that tends to sensationalize medical algorithm errors can create excessive fear among the public, triggering skeptical rejection of digital innovations (Thompson & Walker, 2025). Conversely, objective and balanced narratives of successful AI integration are capable of fostering public optimism toward the future of healthcare services. Telemedicine platform managers need to establish proactive and

transparent public communication to convey empirical facts regarding the safety and clinical benefits of their technology. Transparency in conveying system limitations will actually increase public credibility and empathy toward service providers. Effective cognitive mapping of public attitudes allows organizations to transition from individual concerns to collective trust (Darmawan, 2024). Effective management of public issues is an integral part of long-term social trust assurance strategies. Meskó et al. (2017) outline that building positive public perceptions of medical artificial intelligence requires honest, educational, and strong evidence-based communicative narratives.

The integration of local ethical and cultural values into Generative AI interactions becomes a crucial factor in strengthening the social trust of telemedicine patients. Medical communication styles that do not align with local politeness norms or cultural sensitivities can trigger discomfort and rejection from patients. Generative algorithms must be trained to recognize user sociocultural backgrounds so they can present medical considerations politely and warmly (shabeer, 2025). Healthcare service management is tasked with performing cultural adaptations to the AI models implemented within their operational regions. Respect for local values demonstrates provider commitment to honoring patient dignity as complete human beings. This cultural harmonization process will accelerate the assimilation of artificial intelligence technology into society's social life. Understanding urban social structures and community dynamics is vital to bridge cultural gaps in technology adoption (Mardikaningsih, 2021). Lupton (2018) underlines that trust in digital health technology is tightly bound to the cultural construction and social experiences of users in daily life.

The existence of clear legal frameworks and consumer protection guarantees constitutes the primary foundation supporting patient social trust in AI-based telemedicine. Patients need to feel confident that their legal rights remain fully protected if losses occur due to clinical recommendation errors by generative systems (Usenkov, 2025). The absence of regulatory certainty regarding compensation and legal responsibility holders will make society hesitant to fully utilize virtual medical consultations. The government and regulatory institutions are obligated to establish strict licensing standards and

accountability rules for every medical platform adopting AI. Comprehensive legal protections are critical to shield patients from potential malpractice and professional negligence (Lethy et al., 2023). The existence of strict legal oversight provides certainty and a sense of safety for society when interacting with new technologies. Legal protection certainty represents the state's presence in safeguarding the safety and trust of its citizens. Price et al. (2019) state that certainty in medical artificial intelligence governance regulation is an absolute prerequisite to build systemic trust in modern society.

Maintaining social trust in Generative AI within telemedicine requires comprehensive transformation in healthcare service management strategies. Trust cannot be forced through technical superiority alone, but must be nurtured through transparency, accountability, public education, and consistency in medical service quality. Healthcare service providers must place patient safety and well-being as the primary pillars above operational efficiency or commercial profits. Close collaboration between technologists, doctors, regulators, and the public will create a telemedicine ecosystem that is not only sophisticated but also humanistic and trustworthy. Robust institutional frameworks and clear electronic record regulations ensure long-term accountability across digital healthcare operations (Kholis et al., 2023). The success of health digital transformation is ultimately measured by how much society believes that technology is present to protect the dignity of their lives. The sustainability of artificial intelligence adoption in public service is strongly determined by the successful formation of solid and sustainable social trust.

D. CONCLUSIONS

The integration of Generative AI in telemedicine service management offers significant operational efficiency, yet presents fundamental challenges regarding the criteria of ethical acceptability and patient social trust. Based on comprehensive analysis, the effectiveness of using generative algorithms heavily depends on strict medical governance structuring, encompassing transparency guarantees, medical record data privacy protection, algorithmic fairness audits from systemic biases, and clear clinical accountability schemes. Adjustments to patient safety criteria and medical personnel supervision involvement

(human-in-the-loop) serve as absolute foundations so that medical communication automation does not sacrifice diagnostic quality or damage the humane therapeutic relationship that forms the core of medical practice.

The implications of this study affirm that digital transformation in the health sector cannot solely rest on the technical superiority of algorithms alone, but must be accompanied by the restructuring of management policies and adaptive legal regulations. Telemedicine platform organizers are urged to invest resources into high-level cybersecurity systems and inclusive interface design to prevent digital marginalization among vulnerable groups. Regulatory uncertainty regarding legal responsibility for AI automation errors can trigger widespread erosion of public trust, making regulatory interventions from the government and professional organizations an important prerequisite in overseeing the safe continuity of this technology's application. Policymakers and regulatory bodies need to establish strict standard operating procedures regarding the boundaries of AI authority and the formulation of accountability laws that protect patient rights. Furthermore, medical education curricula and continuous training programs for healthcare workers need to comprehensively integrate digital literacy and AI ethics, while transparent public socialization must continue to be promoted in order to build rational and trustworthy societal expectations.

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