Reconceptualization Of Legal Protection Against Medical Malpractice Through The Integration Of Artificial Intelligence Technology

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Abstract: *Technological developments, especially artificial intelligence (AI), now present challenges as well as opportunities for legal practice in various sectors. This paper examines how AI integration can reformulate the legal protection paradigm in the context of business law, with particular application to cases of medical malpractice related to inaccuracies in diagnosis and surgical procedures. By combining theoretical analysis and case approaches, this study offers a reconceptualization of legal accountability mechanisms. The proposed new model aims to support a more adaptive, inclusive, and justice-based legal protection system, in line with the ongoing digital transformation. The paper also touches on the initial findings in a dissertation that reviews the medical aspects, as a basis for integrating technological innovations into the business legal framework to improve operational standards and law enforcement effectiveness. The implications of integrating AI are expected to not only stimulate policy reform in the health sector, but also provide a foundation for the development of innovative legal models in the digital age.*
Keywords: *Artificial Intelligence, Malpractice, Legal Protection*

INTRODUCTIONS

The development of digital technology over the past two decades has brought significant changes to various sectors, including in the health sector and the justice system. One of the innovations that is getting more attention is artificial intelligence (AI). AI has shown great potential to improve the medical diagnostic process, process data quickly, and detect error patterns that may be missed by human observation. In the healthcare sector, where proper diagnosis and treatment are crucial factors, the application of AI is particularly relevant in addressing the problem of medical malpractice, a condition where errors in the process of enforcing medical standards can result in serious harm to patients (Dewi, 2008).

Along with the emergence of advanced technology, the legal system that has been conventional faces challenges to adapt immediately. Existing regulations are generally normative and not always responsive to the complexity and dynamics of technological innovation. This condition raises the need to reconceptualize the legal protection framework in order to align the legal accountability mechanism with the new reality of health services that are increasingly integrated with digital technology. A review of legal principles and procedures, particularly in handling cases of medical malpractice, should consider the role of AI as a tool that can improve the accuracy and speed of medical error identification (Notohamidjojo, 1970).

In addition, the public is now increasingly demanding transparency and accountability in every aspect of health services. Cases of medical malpractice often have a negative impact

not only physically and psychologically on patients, but also erode public trust in health institutions. In this context, AI integration is not only seen as a technological solution, but also as a catalyst for more adaptive and responsive reform of the legal system. Digital transformation is expected to be able to present new methods in auditing and supervising medical practices, so that any irregularities can be detected and followed up more effectively (Sugiyono, 2014).

The need to strike a balance between innovation and legal protection also includes ethical aspects as well as data privacy. The use of big data in AI systems to analyze medical information requires strong protections for sensitive patient data. Thus, reconceptualization must include regulatory adjustments regarding information security and privacy, so that every process of data collection and processing can be legally accountable (Guwandi, 2004).

RESEARCH METHODS

This research uses qualitative methods with case studies to explore in depth how AI is integrated into medical practice, and how the legal system responds to new challenges related to accountability, ethics, and patient data privacy. Through in-depth interviews, observations, and documentation studies, researchers will explore the experiences of doctors, hospital administrators, legal experts, regulators, and patients affected by malpractice cases. Thematic analysis processes will be used to identify key patterns, such as legal barriers, the need for regulatory reform, and efforts to protect patient data in the digital era.

With this approach, it is expected that the research can provide a complete picture of the need for reconceptualization of the legal protection framework, so that a balance can be created between technological innovation and protection of patient rights. The results of the study are expected to be recommendations for policy makers in formulating regulations that are adaptive, accountable, and oriented towards protecting the community amidst the digital transformation of health services.

RESULTS AND DISCUSSION

The implementation of AI in healthcare presents a great opportunity to strengthen legal protection mechanisms against medical malpractice. AI has the advantage of processing data quickly and accurately, which allows healthcare systems to identify patterns of failure or misdiagnosis that may not be seen by conventional medical personnel. The application of analytical algorithms in AI systems can help reduce the incidence of malpractice by conducting early detection of potential errors in each diagnostic process (Kevin, 2015).

In the legal framework, AI integration requires a redefinition of the concept of fault. When an AI system recommends an incorrect diagnosis, the question arises about who should be responsible: the developer of the technology, the healthcare institution that implements it, or the medical personnel who decide the final course of treatment? The answer to this question is not easy and requires a thorough revision of the principles of legal accountability. New models must be able to accommodate the fact that in the digital age, errors may be systematic and involve complex interactions between humans and machines.

Along with that, there are also challenges related to the ethical aspects of using AI. The development and application of AI technology must be grounded in ethical principles that ensure that patients' rights are not compromised. For example, to avoid bias in algorithms that could lead to discrimination or misdiagnosis in certain groups, developers and regulators should work together in overseeing the implementation of these technologies. Ethical policies

must also include mechanisms for periodic audits so that AI systems are always compliant with applicable medical service standards (Fadjar, 2005).

Data protection is also a crucial issue in the integration of AI in the health sector. Medical data is highly sensitive information, so the mechanism for its collection, storage, and analysis must refer to strict security standards. The implementation of advanced encryption and other security protocols is a must to maintain the confidentiality and integrity of patient data. Thus, the reconceptualization of the legal framework must also accommodate provisions that govern data protection across the board so that any use of AI in the healthcare system does not compromise patient privacy (Sutarno, 2014).

In addition to technical and ethical aspects, the adoption of AI in health systems also requires adequate human resource support. Health institutions and law enforcement officials need to receive intensive training to understand how AI works and potential. This capacity building includes not only technical aspects, but also knowledge of new regulations that may be implemented. Collaboration between academics, medical practitioners, and technology experts is needed to develop comprehensive policies and operational standards. Thus, AI integration can take place optimally without neglecting the basic principles of justice and legal protection (Tripa, 2019).

Furthermore, cross-disciplinary dialogue between various stakeholders is essential to test and refine new legal models. Empirical studies and in-depth research need to be conducted to evaluate the impact of AI implementation on the legal system, especially in the context of medical malpractice cases. The results of the research can be the basis for formulating regulations that are adaptive and relevant to technological dynamics and community needs. Efforts like this will lead to the formation of a legal ecosystem that is responsive to technological innovation and provides maximum protection for patients (Notohamidjojo, 1970).

CONCLUSION

The reconceptualization of legal protection against medical malpractice through the integration of AI in the digital age offers a new paradigm in health justice enforcement. AI can improve diagnostic accuracy and detect errors early, thereby reducing the risk of malpractice. However, its implementation also poses legal, ethical, and technical challenges, including issues of responsibility, data protection, and human resource readiness. Therefore, legal reform based on a multidisciplinary approach involving the legal, medical, and technological sectors is needed. The new regulations must ensure transparency, accountability, and the protection of patients' rights, accompanied by regular audits of AI systems. With cross-sector collaboration and continuous research, it is hoped that a health service system that is more equitable, safer, and adaptive to technological developments will be created.

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