

Legal Education for MMU Students: Harmonization of Digital Health Service Regulations between Indonesia and Malaysia

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Abstract.

*The digital transformation in healthcare through telemedicine, electronic medical records, and application-based platforms has significantly improved access and efficiency, yet it also raises critical legal challenges related to patient data protection, professional liability, and legal certainty. Differences in regulatory approaches between Indonesia and Malaysia highlight the need for comparative legal analysis and regulatory harmonization to ensure a safe, ethical, and sustainable digital health ecosystem. This Community Service Program aims to enhance the legal literacy of students at Multimedia University (MMU), Malaysia, while strengthening comparative understanding of digital health law in Indonesia and Malaysia. The program employs an educational capacity-building approach through international seminars, regulatory harmonization workshops, and case-based academic discussions. It also produces academic outputs, including learning modules, teaching materials, scientific publications, video documentation, and intellectual property submissions. The results demonstrate both empirical success and philosophical significance. Empirically, students' understanding of telemedicine, data protection, and professional responsibility improved significantly, as shown by pre- and post-test evaluations. Philosophically, the program reflects the **lag of law**, Radbruch's triad of legal values, and Rawls' theory of justice by promoting equal access to legal knowledge. It also embodies Roscoe Pound's concept of law as social engineering and applies legal hermeneutics through contextual interpretation. The comparative approach underscores the urgency of legal harmonization, while the constructivist learning model strengthens critical legal awareness. Furthermore, through the Integrative-Tetradic Realism Theory, the program integrates normative, social, moral, and empirical dimensions, contributing to a dynamic and justice-oriented legal education paradigm in the digital era*

Keywords: Digital Health Law, Legal Literacy and Regulatory Harmonization.

I. INTRODUCTION

The development of information and communication technology has driven a major transformation in the global healthcare system through the utilization of digital health services such as telemedicine, electronic medical records, and application-based health platforms [1]. This transformation not only improves access to healthcare services but also accelerates the exchange of medical information across regions and countries [2]. In Southeast Asia, the digitalization of healthcare services is growing rapidly along with the increasing use of the internet, advancements in health technology, and the growing public demand for fast and efficient healthcare services. However, the development of digital health technology also raises various legal issues related to patient data protection, the professional responsibility of medical personnel, and legal certainty in the practice of digital health services [3]. Therefore, strengthening legal literacy regarding digital health services has become an urgent necessity, particularly for academics and students who will become part of the legal and health policy ecosystem in the future [4] [5].

Indonesia and Malaysia are two countries in Southeast Asia that are actively developing digital health services as part of the transformation of their national health systems [6]. In Indonesia, the development of digital health services is supported by various regulations, including Law Number 17 of 2023 concerning Health and several policies related to telemedicine and digital health systems [7]. Nevertheless, the implementation of these regulations still faces several challenges such as regulatory fragmentation, limited supervision of digital platforms, and the absence of a comprehensive regulatory framework that fully accommodates platform-based digital health services [8]. These conditions may create legal uncertainty [9],

particularly regarding the legal responsibility of medical personnel, patient data protection, and digital health service standards [10].

On the other hand, Malaysia has earlier developed a legal framework related to digital health services through various regulations, including the Telemedicine Act 1997, which was designed to regulate telemedicine practices and provide a legal basis for the implementation of technology-based healthcare services [11]. This regulation provides clarity regarding the authority to practice telemedicine, certification requirements for medical professionals, and the obligation to obtain patient consent before digital health services are provided [12]. Furthermore, Malaysia has also developed an integrated digital regulatory ecosystem through various policies in communication and information technology that support the development of digital health services in a more systematic manner [13]. The comparison between regulatory systems in Indonesia and Malaysia shows differences in regulatory approaches, which can serve as important lessons for the development of digital health policies at the regional level [14] [15].

In the academic context, Multimedia University (MMU) Malaysia, as one of the universities that focuses on the development of digital technology, has great potential to become a partner in community service activities aimed at improving legal literacy in the field of digital health technology [16]. MMU students who have strong backgrounds in information and communication technology require adequate understanding of the legal aspects governing the use of technology in healthcare services [17]. This is important so that the development of health technology innovations is not only oriented toward technical aspects but also considers legal principles such as personal data protection, professional responsibility, and the protection of patient rights [18]. Therefore, legal education activities for MMU students regarding the harmonization of digital health service regulations between Indonesia and Malaysia become a strategic step in building legal awareness among the younger generation of academics [19] [20].

Based on the situational analysis, it can be identified that the main problem faced by the partner in this community service activity is the limited understanding among students regarding the legal aspects governing digital health services and the lack of optimal understanding of the comparative regulatory systems of digital health services between Indonesia and Malaysia [21] [22] [23]. In the era of economic and digital integration within the ASEAN region, regulatory harmonization becomes very important to ensure that health technology innovations can develop in a safe, ethical, and sustainable manner [24] [25]. Therefore, the program “Legal Education for MMU Students: Harmonization of Digital Health Service Regulations between Indonesia and Malaysia” is designed as a strategic effort to improve students’ legal literacy in understanding the dynamics of digital health regulations, strengthen comparative legal perspectives between the two countries, and encourage the development of a more responsible digital health innovation ecosystem oriented toward public protection.

II. METHODS

The implementation method of this Community Service Program is systematically designed to address the priority problems faced by students at Multimedia University (MMU) Malaysia, namely the limited legal literacy related to digital health service regulations, the lack of optimal integration of legal perspectives in the development of digital health technology innovations, and the absence of an academic educational platform that comprehensively discusses the harmonization of digital health service regulations between Indonesia and Malaysia. The partner in this program represents an academic community group that is not oriented toward productive economic activities; therefore, the implementation method focuses on an educational approach, capacity building, and strengthening legal literacy through structured academic activities. The program is implemented through several stages, including the preparation stage, the implementation stage of educational activities, the academic mentoring stage, and the evaluation and sustainability stage.

1. Program Preparation Stage

The preparation stage is the initial phase aimed at ensuring that the community service program can be implemented effectively and in accordance with the needs of the partner. Several main activities are conducted during this stage, including:

a. Coordination with the Partner

The proposing team from Universitas Duta Bangsa Surakarta conducts initial coordination with Multimedia University (MMU) Malaysia to agree on the form of activities, implementation schedule, and the number of participants who will attend the legal education activities.

b. Partner Needs Assessment

A needs assessment is conducted to identify the level of students' understanding of digital health service regulations and to determine the educational materials relevant to the fields of technology and digital health law.

c. Preparation of Educational Materials

The proposing team prepares educational materials covering several important topics such as telemedicine regulations, health data protection, legal responsibilities of medical professionals in digital health services, and a comparative analysis of digital health regulations between Indonesia and Malaysia.

d. Preparation of Learning Media and Program Dissemination

Learning materials are prepared in the form of presentations (PowerPoint), educational modules, and academic discussion materials that will be used during the implementation of the program.

2. Program Implementation Stage

The implementation stage is the core phase of the community service program aimed at improving students' legal literacy regarding digital health service regulations through various educational activities. The program is implemented through several methods as follows:

a. International Seminar on Digital Health Law Education

An international seminar is organized to provide fundamental understanding of digital health service regulations and the legal dynamics of telemedicine in Indonesia and Malaysia. The seminar features speakers from academic and professional backgrounds with expertise in digital health law.

b. Workshop on the Harmonization of Digital Health Service Regulations

The workshop is conducted as a follow-up activity to the seminar in order to provide deeper insights into the comparison of digital health regulations between Indonesia and Malaysia. In this activity, participants are encouraged to discuss various legal issues emerging in digital health services and the importance of regulatory harmonization to support the development of health technology in the regional context.

c. Academic Discussion and Case Study

Academic discussions are conducted using a case study approach that examines various legal issues arising in digital health services, such as patient data protection, health information system security, and the legal responsibilities of telemedicine service providers. This method aims to enhance students' analytical abilities in understanding digital health law issues critically and comprehensively.

3. Partner Participation in Program Implementation

Partner participation is an important factor in the successful implementation of the community service program. In this activity, Multimedia University (MMU) Malaysia plays an active role in several aspects of the program, including:

a. Providing participants consisting of students who have an interest in digital technology and legal studies.

b. Facilitating the venue for the implementation of seminars and workshops.

c. Participating in academic discussions and knowledge exchange related to digital technology regulations in Malaysia.

d. Supporting the dissemination of program results through academic media and digital platforms.

4. Program Evaluation and Sustainability

The evaluation stage is conducted to assess the effectiveness of the program in improving students' understanding of digital health service regulations. The evaluation is carried out through several methods, including:

a. Pre-test and post-test to measure participants' improvement in understanding the educational materials.

b. Evaluation questionnaires to obtain feedback from participants regarding the quality of materials, delivery methods, and the benefits of the activities.

c. Evaluation of program outputs, including scientific publications, video documentation of the activities, and the integration of community service materials into university learning processes.

Program sustainability will be realized through the development of academic collaboration between Universitas Duta Bangsa Surakarta and Multimedia University in the fields of research and community service related to technology law and digital health. Furthermore, the outcomes of the program will be integrated into course materials in relevant subjects so that the benefits of the program can continue to be experienced by students in the future.

5. Roles and Responsibilities of the Implementation Team

III. RESULT AND DISCUSSION

The results and discussion of this Community Service Program implementation not only demonstrate empirical success in improving the legal literacy of students at Multimedia University (MMU) Malaysia, but also reveal deeper philosophical significance when analyzed through the lenses of legal philosophy, theories of justice, and the evolution of law in a digital society.

Fig 1. Outdoor academic discussion enhancing students’ understanding of digital health law through interactive and contextual learning.

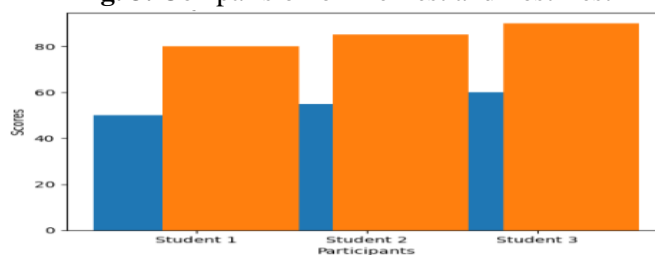


Fig. 2. Group documentation reflecting successful collaborative and experiential learning in improving legal literacy on digital healthcare.



Empirically, the structured educational approach delivered through international seminars, workshops, and academic discussions has proven effective in enhancing students’ understanding of digital health service regulations. This is evidenced by the comparison between pre-test and post-test results, which shows a significant increase in students’ comprehension of key issues such as telemedicine, health data protection, and the legal responsibilities of medical professionals. The initial condition where students demonstrated limited understanding reflects a classical phenomenon in legal philosophy known as the *lag of law*, where technological advancements outpace the development of legal norms and public understanding. In this context, law often assumes a reactive rather than proactive role.

Fig. 3. Comparison of Pre Test and Post Test



From a philosophical perspective, this condition can be analyzed through Gustav Radbruch's triad of legal values: justice, legal certainty, and expediency. In digital health services, these three values frequently exist in tension. For instance, technological innovations such as telemedicine provide substantial benefits in expanding access to healthcare, yet they may undermine legal certainty and justice if not supported by adequate regulatory frameworks, particularly in relation to patient data protection and professional accountability. Therefore, this educational program functions as a bridge to balance these values by strengthening students' legal understanding as future scholars and practitioners.

Furthermore, when viewed through John Rawls' theory of justice, this program represents an effort to create *fair equality of opportunity* in accessing legal knowledge. Students who initially had limited understanding were provided with equal opportunities to learn through inclusive and participatory methods. Thus, the program not only enhances individual capacity but also contributes to a more equitable social structure in the distribution of legal knowledge in the digital era.

Within the framework of sociological jurisprudence, as proposed by Roscoe Pound, law is seen as a tool of social engineering. This program clearly embodies that function, as legal education becomes an instrument for shaping students' mindsets, attitudes, and behaviors to be more adaptive to developments in health technology. Students are not merely passive recipients of knowledge but are positioned as agents of change who can promote digital health practices that are fair, secure, and oriented toward public protection.

The implementation of academic discussions and case studies also carries strong philosophical dimensions, particularly within the framework of legal hermeneutics. Through these discussions, students are encouraged to interpret legal norms within concrete contexts, allowing law to be understood not as rigid text but as a dynamic and contextual construction of meaning. This ability is crucial in addressing the complexity of legal issues in digital health services, where legal vacuums and regulatory ambiguities often arise.

The comparative analysis between the legal systems of Indonesia and Malaysia further enriches students' perspectives by highlighting the pluralistic and relative nature of law. Malaysia, with its more systematic regulatory framework, demonstrates the importance of well-planned legal development in responding to technological advancements. In contrast, Indonesia's ongoing challenges with regulatory fragmentation reflect the need for stronger legal harmonization. In this regard, the Theory of Legal Harmonization becomes highly relevant, emphasizing the importance of aligning laws both vertically and horizontally to achieve coherence, legal certainty, and justice.

The outdoor learning activities involving selected students can also be examined through the philosophy of legal education. This method reflects a constructivist approach, where knowledge is actively built through direct experience rather than passively received. Philosophically, this aligns with John Dewey's concept of *learning by doing*. In the context of legal studies, such an approach is essential because law is not only normative but also practical and contextual.

The significant improvement in post-test results, along with observational findings on increased student participation and critical engagement, indicates that contextual learning experiences strengthen the internalization of legal values. Students move beyond merely acquiring legal knowledge toward developing *legal consciousness*, a deeper and more reflective awareness of law and its role in society.

More broadly, this program can also be analyzed through the lens of the Integrative-Tetradic Realism Theory proposed by Aris Prio Agus Santoso, which conceptualizes law as a multidimensional reality encompassing normative, social, moral, and empirical dimensions. This program successfully integrates these four dimensions: the normative dimension through regulatory understanding, the social dimension through international academic collaboration, the moral dimension through emphasis on ethics and patient protection, and the empirical dimension through measurable pre-test and post-test outcomes. This demonstrates that effective legal education must be multidimensional and move beyond purely doctrinal approaches.

In conclusion, from a philosophical standpoint, this community service program not only contributes to improving legal literacy but also fosters a new paradigm in legal education in the digital era. Law is no longer viewed as a static and closed system but as a dynamic, open, and responsive framework that evolves alongside social and technological changes. Students, as subjects of legal education, are expected not only to

understand the law but also to critically engage with it, develop it, and apply it wisely in addressing global challenges.

Looking forward, this program has strong potential to serve as a model for internationally collaborative community service initiatives that go beyond knowledge transfer to promote the transformation of legal awareness and the cultivation of justice-oriented values in a digital society. Ultimately, it may contribute to the development of a *global legal consciousness* capable of addressing increasingly complex legal challenges in an interconnected and digitalized world.

IV. CONCLUSION

Based on the results and discussion, it can be concluded that this Community Service Program has been empirically and philosophically successful in enhancing the legal literacy of students at Multimedia University (MMU) Malaysia regarding digital health service regulations. The significant improvement between pre-test and post-test results demonstrates that structured educational approaches through international seminars, workshops, academic discussions, and outdoor learning are effective in increasing students' understanding of telemedicine, health data protection, and the legal responsibilities of medical professionals. Beyond empirical outcomes, this program also reflects a deeper philosophical contribution by bridging the gap between rapid technological development and the slower evolution of legal awareness, thereby addressing the classical problem of the lag of law. Through the integration of legal philosophy perspectives such as justice (Radbruch), fairness (Rawls), and law as social engineering (Roscoe Pound), the program not only strengthens cognitive understanding but also fosters critical legal consciousness among students.

Furthermore, the program successfully demonstrates that legal education in the digital era must adopt a multidimensional approach, as reflected in the Integrative-Tetradic Realism Theory, which integrates normative, social, moral, and empirical dimensions of law. The comparative analysis between Indonesia and Malaysia enriches students' perspectives on legal pluralism and highlights the importance of legal harmonization in ensuring legal certainty, justice, and public protection in digital health services. Therefore, this program not only enhances academic capacity but also contributes to shaping future legal actors who are adaptive, critical, and responsible in responding to global challenges in digital healthcare.

In order to further strengthen the impact and sustainability of this program, several recommendations can be proposed. First, similar legal education programs should be continuously developed and expanded through broader international collaborations involving more universities and interdisciplinary fields, particularly integrating law, technology, and health sciences. Second, there is a need to institutionalize the integration of digital health law into formal curricula in higher education to ensure that students systematically acquire legal competencies relevant to technological advancements. Third, future programs should incorporate more advanced and practical learning methods, such as simulations, legal clinics, and real-case problem solving, to deepen students' analytical and practical skills. Finally, it is recommended that policymakers and academic institutions strengthen efforts toward the harmonization of digital health regulations at the regional level, particularly within ASEAN, to ensure that technological innovation in healthcare develops in a manner that is legally certain, ethically grounded, and oriented toward public welfare.

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sustainable contributions to the advancement of education, research, and community service at the global level.

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