

Indonesian Higher Education Institutions Competitiveness and Digital Transformation Initiatives

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ABSTRAK

Pandemi COVID-19 menyebabkan tantangan tak terduga untuk semua sistem pendidikan. Beberapa platform online yang diluncurkan Kemendikbud memaksimalkan solusi e-learning yang tersedia, serta mengembangkan lebih lanjut keterampilan dan kompetensi digital dosen. Penelitian ini bertujuan untuk menganalisis kebutuhan komparatif lingkungan digital pendidikan tinggi Indonesia saat ini dan melakukan studi mendalam tentang pembelajaran digital di lingkungan pendidikan tinggi Indonesia. Kajian ini juga menguraikan rencana mitigasi, strategi inovatif yang diadopsi, serta implikasi dan rekomendasi bagi perguruan tinggi di Indonesia. Metode penelitian menggunakan analisis wacana dengan literatur dan sumber berita untuk menilai dampak, tantangan, dan peluang pendidikan yang lebih tinggi selama pandemi di Indonesia. Studi ini menemukan bahwa pandemi COVID-19 berdampak signifikan terhadap pendidikan tinggi di Indonesia; Baik dosen maupun mahasiswa di perguruan tinggi menghadapi banyak tantangan dalam proses belajar mengajar. Efeknya lebih buruk di Indonesia Timur karena konektivitas internet yang buruk untuk pembelajaran online. Dalam hal mitigasi pembelajaran online, dampaknya masih belum diketahui. Keterbatasan dalam penelitian ini menyatakan bahwa studi literatur dan berita tidak komprehensif karena krisis pandemi saat ini belum berakhir. Studi ini dapat memberikan gambaran tentang keterbatasan studi yang lebih empiris yang akan dilakukan tentang bagaimana krisis saat ini mempengaruhi proses pembelajaran perguruan tinggi di Indonesia.

ABSTRACT

The COVID-19 pandemic is causing unexpected challenges for all education systems. Several online platforms launched by the Ministry of Education and Culture maximize available e-learning solutions and further develop lecturers' digital skills and competencies. This study aims to analyze the comparative needs of Indonesia's current digital higher education environment and conduct an in-depth study of digital learning in Indonesia's higher education environment. This study also outlines the mitigation plans, innovative strategies adopted, and implications and recommendations for universities in Indonesia. The research method uses discourse analysis with literature and news sources to assess the impact, challenges, and opportunities of higher education during the pandemic in Indonesia. This study found that the COVID-19 pandemic had a significant impact on higher education in Indonesia; Both lecturers and students at universities face many challenges in the teaching and learning process. The effect is worse in Eastern Indonesia due to poor internet connectivity for online learning. In terms of mitigating online learning, the impact is still unknown. The limitations of this study are that the literature and news studies are not comprehensive because the current pandemic crisis has not ended. This study can provide an overview of the limitations of a more empirical study that will be carried out on how the current crisis affects the learning process of higher education in Indonesia.

1. INTRODUCTION

In March 2020, the COVID19 pandemic was causing severe and unexpected challenges for all education systems in ASEAN countries, which calls for an immediate response by the Member States (Abbasi et al., 2020; Alchamdani et al., 2020). The coronavirus crisis challenges higher education institutions in many new and unexpected ways. Today, this has implications, challenges, and opportunities

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for ASEAN universities, particularly digitization and digitally enhanced learning and teaching. To see reactions and adaptation of education in ASEAN countries in a period of crisis, governments quickly implement distance learning on a large scale in the ASEAN region (Alchamdani et al., 2020; Dewantara & Nurgiansah, 2020; Padmo et al., 2020). Several online platforms launched by the ministry of education maximize the available e-learning solutions like virtual and open classrooms educational resources, fostering possibilities for innovation and accelerated digital transformation, and further lecturers development digital skills and competencies (Nainggolan & Manalu, 2021; Suprayogie & Hakim, 2021).

The most crucial topic for universities during the pandemic was distance and remote learning, which have become widespread already (Neroni et al., 2018; Zawacki-Richter & Naidu, 2016). The pandemic will cause profound impacts and changes on the higher education system worldwide regarding education-teaching methods, research, internationalization, and mobility (Rineksa & Muslim, 2020; Xiong et al., 2020; Yu, 2021). There are many advantages and disadvantages of distance learning; since it is experienced worldwide and massively, the role and new aspects of online learning are widely discussed this fall and after the pandemic ends (El Refae et al., 2021; Nartiningrum & Nugroho, 2021). The main concern in different geographic regions was those students living in rural areas with no or insufficient access to internet connections and facilities. International students issue was another problem. Those students who went to their homeland never know if they can turn back to their school. Many may experience health insurance problems if they dare to stay in another country. The pandemic started at the beginning of the semester at several universities, and some students left the campus, leaving their staff there without being aware of the upcoming pandemic (Muradi et al., 2021; Sujarwo et al., 2020).

Nowadays, students hope that their universities will provide them with a valuable source of practical knowledge and be ready to offer suitable distance learning opportunities every day to diversify and enrich their study experience during global COVID-19 (Huang, 2020; Ulfa & Mikdar, 2020). A crisis pandemic may become a fact of their life in the coming decades (Ro'fah et al., 2020; Zalite & Zvirbule, 2020). Higher education must be ready to carry out new normality standards where lecturers must facilitate students' learning through media and be done in the learning process (Buana, 2020; Faizah et al., 2021). Furthermore, universities must build an independent learning ecosystem and prepare an adequate learning infrastructure and learning media that are wide open. New normality standards must be formulated in various policies, especially in the higher education curriculum, such as lecturer key performance indicators, higher education priority program policies, and education infrastructure policies, including new Standard Operating Procedures. The policy towards digitization has now been declared a priority, so higher education cannot be separated from technological advances. In addition, the introduction of further distance learning has to do with addressing the challenges and contradictions that higher education has during the pandemic (Grunt et al., 2020; Padmo et al., 2020).

In the previous study the response of the Turkish State Council of Higher Education to the pandemic can be evaluated in four stages: 1) Close monitoring, 2) Preparation, 3) Action, 4) New normalization (Tufan et al., 2020). Furthermore, other research stated that the relevance of their research is due to the contradiction between transitions massively Russian higher education system to distance-learning format and inadequate readiness of participants in the educational process to work under new requirements caused by the COVID-19 pandemic (Gafurov et al., 2020). Lecturers, students, and administrators Higher education institutions in Russia have faced several difficulties. His analysis will make it possible to identify the objective and subjective factors of the incident and develop recommendations for distance learning organizations further combined with traditional formats. The formal primary education system at all levels and areas of training, distance learning can be considered as a complementary form strengthening the traditional socio-pedagogical, organizational, psychological, and didactic potentials ("face to face) educational format (Gafurov et al., 2020). Meanwhile, China is specifically associated with the pandemic. Chinese universities are proactive in suppressing the coronavirus. Their fast and effective response deserves to be recognized by the international community so that everyone can learn from this experience (Yang, 2020).

To slow down transmission and ease the burden on the health system, the Indonesian Government has implemented a policy so that all universities implement distance learning to prevent the spread of COVID-19 in academic units (Anggriani et al., 2020; El Refae et al., 2021; Karadag et al., 2021). Some universities are not ready, while other universities are ready because they were proactive and already have online learning tools. However, online teaching is still new and requires upgrading and, in some cases, re-skills by the academic sector (Hutauruk & Sidabutar, 2020; Windhiyana, 2020). Therefore, this paper will provide insight into the journey so far about online teaching from the perspective of a higher education institution.

This research question is whether universities in Indonesia are digitally ready to change the traditional form of study to distance study completely? The novelty and topicality of this research are

justified by the need to assess the impact of the COVID-19 pandemic on Indonesia's higher education system and its adaptation to shift from traditional learning to online systems. This study aims to analyze the comparative needs of the current digital environment of Indonesian higher education and conduct an in-depth study of digital learning in the Indonesian higher education environment. According to the author, the experiences of several ASEAN Member States are invaluable for sharing information and best practices on how the higher education system is adapting to the global crisis by highlighting topics of topic and novelty.

2. METHOD

This research paper uses a qualitative approach to understanding resilience in the Indonesian higher education system. This depth of understanding is achieved by analyzing and integrating qualitative data, from written discourse to documents and reflections, into meaningful discourse analysis with literature and news sources to assess the higher impact, challenges, and opportunities of education during the Pandemic in Indonesia. The data analysis in this paper is divided into four stages. First, to provide an overview of actions in the face of the COVID-19 Pandemic. Second, critically analyze the challenges and impacts of COVID-19 on higher education and innovation in teaching. Third, explaining the mitigation plans in several Southeast Asian countries and Indonesia. After that, the fourth is to conclude the paper by discussing the implications and prospects are after the Pandemic.

3. RESULT AND DISCUSSION

Result

There are differences in the educational readiness of tertiary institutions, especially in several Southeast Asian countries in this study in dealing with the impact of the pandemic, where each university in a country has a method or already has alternatives in terms of operational and teaching readiness. Within the setting of Malaysia, the malady showed up after February 2020. On 11 March 2020, a disturbing number of cases were detailed after the devout gathering in Seri Petaling, which was gone to by 16,000 individuals, counting 1,500 outsiders, where this cluster got to be Southeast Asia's COVID-19 hotspot. More than 100 cases were detailed each day, mostly with contact with devout social occasions (Noor Hisham Abdullah, 2020). Incongruent with the WHO rule, the nation executed a development control arrangement (MCO) on 18 March 2020. With the execution of the MCO, all classes in Higher Education Institution were moved to e-learning (Menon, 2020). The MCO has been expanded over many stages (See et al., 2020): the moment stage of the MCO (1–14 April 2020), the third stage of the MCO (15–28 April 2020), the fourth stage of the MCO (29 April 2020–3 May 2020), the fifth stage of the conditional development control arrange (CMCO) (4–11 May 2020), the 6th stage of the CMCO (12 May 2020–9 June 2020), the seventh stage of the recuperation development control arrange (RMCO) (10 June 2020–31 August 2020) and the eighth stage of the RMCO (1 September 2020–31 December 2020).

To mitigate the impact of COVID-19, Thailand's Ministry of Higher Education, Science, Research and Innovation initiated an employment program, in which 10,000 jobs were created in research institutes and science institutes and allocated THB3,000 m for study and skills upgrading schemes. In Singapore, when the Disease Outbreak Response System Condition (DORSCON) or the alert level of the disease outbreak response system was raised from yellow to orange on February 7, 2020, the Singapore Ministry of Education implemented several precautionary measures such as suspending large groups of activities, including assemblies, camps, and Mass Grace. Break times are also arranged in educational institutions to avoid crowds, and before learning, temperature checks are carried out for students and staff members. Currently, mother education in Singapore has entered a safe, reopened arena, with most learning activities remaining online except for practical and laboratory sessions conducted on campus.

It is important to note that Singapore has adopted a digital learning platform to facilitate the teaching and learning process before COVID-19. For example, the National University of Singapore launched its "Learning Innovation Technology Fund" in 2012 to redesign classrooms with online learning integration. Likewise, Nanyang Technological University, Singapore Management University, and Singapore Institute of Technology adopted inverted classrooms more than five years ago (Times, 2015). Thus, the early adoption of digital learning eased the transition to online learning during the pandemic. On March 6, 2020, the Government of Indonesia announced the first case of Covid-19 in Indonesia. The transmission of the virus originated from visits by Japanese citizens living in Malaysia to Indonesia. Before testing Covid-19, the 31-year-old woman was detected dancing with a Japanese national at the Paloma club venue on February 14, 2020. Two days later, the woman developed a cough, and she went to outpatient care at the hospital. However, ten days later, his cough did not go away, and he asked to be

hospitalized. On February 28, 2020, a Japanese citizen called from Malaysia to inform the woman that she had tested positive for Covid-19 and was treated in Malaysia (Tosepu et al., 2020). See Figure 1 for the development curve of confirmed positive cases of COVID-19 until the end of March 2021.

As of February 24, 2021, there is already a discourse that the government will open schools after the completion of lecturers vaccinations in June, but the pandemic is not necessarily under control, let alone an end. Therefore, it is important for educators to equip themselves in a safe way to interact with students. COVID-19 spreads through droplets such as saliva and mucus, two things that are easily spread in schools because students and lecturers interact throughout the day in a closed room. Therefore there are rules related to how to reduce the risk of transmission in various school activities.

Challenges and Impact

We propose that the practical decisions made during this pandemic are linked to the following factor. The first factor is a set of clearly stated policies and instructions that determine the way forward to combat the COVID-19 pandemic. After observing the gradual spread of the virus from Wuhan across the country and increasing the number of confirmed cases, the Ministry of Local state education quickly issued a notification to delay return to campus time. However, it offered courses on schedule, suggest directions for epidemic control in terms of follow-up and teaching plans, therefore reduce uncertainty for educational institutions. The second factor is the mindset of the readiness of educational institutions to face the worst possible case. After publishing the Notification of postponement of campus opening, frankly, no one knows for sure when students will return to campus. To prepare for the worst, Indonesian universities began promoting media such as online platforms and provide online teaching training to all lecturers to complement their long-term online teaching. Because the emergency response plan is made Worst case accordingly, countermeasures can be applied in various situations by carrying out a mitigation plan.

The third factor is maintaining communication with lecturers, students, and other interests, to turn pandemic challenges into opportunities to overcome difficulties. In classrooms provided for all teachers and students, the higher education institution convinces the lecturers and college students that they will always insist that learning can be done with or in the current conditions and confidence that difficulties and setbacks will strengthen and increase achievement—college institutions. Despite the impact on current educational methods, the COVID-19 outbreak has provided an excellent opportunity to drive the transformation and development of education to turn crises into opportunities. Prolonged crisis and recovery periods will drive more significant localization, online learning, and financial austerity. Education institutions in “returning to campus” must focus on both short and long-term challenges.

Table 1. Impact of COVID-19 Crisis on Higher Education (PwC, 2020)

	Swift Recovery	Sustained Recession	Prolonged / Acute Recession
Enrolment	<ul style="list-style-type: none"> One-off impact on student enrolments in the upcoming 2021 academic year, particularly in the international student segment due to deferrals and offer cancellations / rejections 	<ul style="list-style-type: none"> Cancelled admission tests, examinations and graduations Recruitment events and further travel bans dampens international enrolments for 2021 cycle Competition for domestic students exacerbates as international reduces 	<ul style="list-style-type: none"> Economic slowdown may create opportunities for graduate enrolment as the job-seeking population seeks price-competitive education as a means of gaining a competitive edge for when the economy returns
Teaching	<ul style="list-style-type: none"> Travel bans and social distancing measures prevent face-to-face learning activities Online learning to predominate over remainder of 2020 academic year; physical learning to resume in 2021 	<ul style="list-style-type: none"> Institutions may switch to an all-online proposition for part of the 2021 academic year and will require more sophisticated online learning tools e.g. testing / examinations Decline in ancillary revenue sources, e.g. 	<ul style="list-style-type: none"> Extended period of online delivery – strong capabilities will be a major differentiator in the market along with marketing / branding Online learning approaches more integrated with physical learning –

	Swift Recovery	Sustained Recession	Prolonged / Acute Recession
	academic year	research funding, conferences	institutions will be 'digital-first' and incorporate essential face-to-face learning
Staffing and operations	<ul style="list-style-type: none"> • Sharp immediate impact to bottom line, from refunds issued • Incur additional expenses not previously budgeted, e.g. online learning software modules and special compensation for essential staff 	<ul style="list-style-type: none"> • Operating budgets strained – move to essential spend • Shrinking state budget allocations to universities add further constraints • Staff hiring freezes and layoffs to minimise costs (teaching and support) 	<ul style="list-style-type: none"> • Sustained streamlining of spend to only "essential" categories • Alternative usage of university premises • Emergence of new staffing models, e.g. flexible working arrangements for faculty members, streamlined support teams

Table 2. The higher education sector must refine its digital agenda, protect and grow its revenue base and re-organise costs (PwC, 2020)

Key Considerations for Higher Education Institutions	Key Opportunities
<ol style="list-style-type: none"> 1. Re-define Digital Education Challenge in providing engaging online courses at scale and implementing holistic digital solutions e.g. admissions, lectures, examinations, graduation 2. Protect and Expand Revenues Challenge in meeting expectations of current / incoming cohorts and seeking new growth opportunities 3. Seek Immediate Cost Optimisation Challenge in identifying essential and non-essential cost 'buckets' and quantum of cost reductions required to maintain quality service / products 4. Re-Organise for Longer Term Growth Challenge in responding to longer term structural impacts from the pandemic e.g. prolonged social distancing measures 	<ul style="list-style-type: none"> • Re-define digital learning pedagogy for both students and lecturers considering synchronous / asynchronous learning methods • Deepen digital engagement / UX across student and faculty value chain • Strengthen existing propositions • Identify additional and alternative revenue streams across segments • Diversify customer base and international student concentration • Assess cost base to focus on costs which create differentiation, reduce spend in certain areas to ensure minimum operations • Eliminate non core spend • Re-define aspects of strategy and consider longer term transformation initiatives and associated new capabilities / partnerships

Discussion

First, in terms of increasing learning abilities, many online creative learning efforts have been made. Lecturers and students as front lines during the outbreak have enriched our understanding of learning and knowledge acquisition styles (Durnali, 2020; Sindiani et al., 2020). For example, some students perceive online teaching as breaking physical space constraints and saving travel time, and some students perceive that the 'replay' and 'fast-forward' functions increase their 'control' over learning. Second, in terms of identity and community building, online education transcends the physical offline activity barrier, making it easy to hold and coordinate group learning and meetings discussions by relying on a convenient online video conferencing application, therefore provides a new possibility to break the boundaries of traditional offline communities. In addition, several studies shown that generations of young students who have grown up on the internet feel more comfortable and open in online communication (Bokayev et al., 2020; Masrom et al., 2021). Lastly, in terms of value formation, the idea of fully promoting online education and insisting on the teaching and learning process itself provides the best opportunity for all lecturers and students to experience self-improvement and value formation.

Pandemics are, to some extent, a journey of life, and now is the perfect time for all to calm down and reflect on society and themselves (Sadikin et al., 2020; Syarifudin, 2020). Seize this opportunity is conducive to enhancing students' thinking about values and the spiritual realm.

The COVID-19 pandemic and its broad implications will continue to spread across many sectors globally. Education has changed dramatically with the advent of distinctive online learning, where teaching is done remotely on a digital platform (Xiong et al., 2020; Yu, 2021). There are three changes in values and attitudes, namely stay at home, focus on rationality and utility, and focus on the value of altruism (El Refae et al., 2021; Rinekso & Muslim, 2020). Therefore, educational institutions must be able to take advantage of this situation. Regarding marketing strategies, educational institutions can understand changes in values, balance the curriculum, create social orientation, create interesting and creative learning content. can collaborate with practical business actors, higher education institutions can provide relief from the fee system and build positive framing designs. Not only that, instructors are also provided with good material, educational institutions One way is by doing soft selling with webinars and establishing relationships with alumni as is done by many universities today.

Furthermore, higher education institutions face various challenges amid the Covid-19 pandemic (El Refae et al., 2021; Nartiningrum & Nugroho, 2021). Universities did not underestimate the emergence of online short courses ten years ago because they were not considered competitors. However, now it should be better. The Covid-19 pandemic makes competencies and skills increasingly needed to survive in the world of work so that diplomas are not a top priority. Online short courses offer knowledge that can be chosen based on interest with more flexible learning times than face-to-face lectures (Mishra et al., 2020; Rinekso & Muslim, 2020). So, it cannot be collected into an endowment fund to finance operations, even though endowment funds can guarantee the survival of higher education at a time like this.

However, universities and tertiary institutions in Indonesia are trapped by insufficient infrastructure and resources to support online learning (Nartiningrum & Nugroho, 2021; Primasari & Zulela, 2019). This raises the question of how students can complete courses on time, especially those offering scholarships. This exacerbates the scenario as students enrolled in Higher Education Institutions with limited learning management system facilities will not continue their studies online. Switching to another higher education institution may be a good solution, but the unavailability of courses, location, and cost can be a constraint for students. Although internet users in Indonesia currently reach 175.4 million, with penetration reaching 64 percent. That means, of the total population of 272.1 million in Indonesia, 64 percent of them connecting to the internet, there is still an infrastructure gap, among them in the Eastern Indonesia region. A study shows that students in the United States who do not have access to broadband and mobile devices perform worse than students with broadband access (Al Fariz & Lestari, 2020; Hampton et al., 2020). Conversely, the pandemic has also had a positive impact on the world of crisis education, providing a golden opportunity for universities around the world to test distance learning approaches and at the same time giving students the whole experience of using technology-supported learning (R. Hamid et al., 2020; Suputra, 2021). In addition, it provides opportunities for both lecturers and students to learn and use the many functions of e-learning systems and applications.

Mitigation Plan

Despite the pandemic, universities in Thailand have established steps that all stakeholders must comply with for the teaching and learning process. For example, students and staff members of Chulalongkorn University are prohibited from traveling abroad or inviting foreigners for any university-related activities (Eua-arporn, 2020). The use of blended learning, namely, online and face-to-face, is used by Mahidol University based on the nature of the program and in line with the procedures for preventing and controlling the spread of COVID-19 (Bervell & Arkorful, 2020; Mahaisavariya, 2020; Mulyanto et al., 2020). However, most students prefer face-to-face classes and believe that face-to-face classes are more comfortable than online classes (Lampong Klomkul, 2021).

Indonesia has significant challenges in dealing with COVID-19 (Mufaziah & Fauziah, 2020; Selfi et al., 2021). Of all the aspects that are currently challenging, the Indonesian government issued a social distancing policy, which later issued a circular letter from the Ministry of Education and Culture, Directorate of Higher Education No. 1 of 2020, concerning the prevention of the spread of COVID-19 in the world of education. In this circular, the Indonesian Ministry of Education and Culture instructs to organize distance learning and study from home (SFH). This policy became known as online/online learning. Online learning started in March 2020. As for students independently must actively follow information updates on which platform their courses will carry out online learning, assign assignments/quizzes, and provide material. This learning technique fully adapts to the lecturers' policies for each course. Platforms that can be utilized include googling classroom, video conference, telephone or live chat, zoom, Webex, google meet, and WhatsApp group (Djamdjuri et al., 2020; Suhery et al., 2020).

Prospects after the Pandemic in higher education institutions

The presence of the COVID-19 outbreak reveals that the infrastructure that supports online education is mainly different in different countries and regions, leading to a digital divide affecting equality in education (Mufaziah & Fauziah, 2020; Windhiyana, 2020). In this situation, technology and infrastructure determine the accessibility of education and even the stability of society. Therefore, colleges and states should build and consistently improve this 'new infrastructure,' which is the foundation of various types of online education and blended learning. In times of pandemics, experimental learning that requires direct student experience has been very influential. The transition to the online learning model has initiated the use of several online tools for teaching purposes (R. Hamid et al., 2020; Hamid et al., 2021). More specifically, several higher education institutions have subscribed to various online teaching platforms such as Cisco Webex, Collaborate Blackboard, Canvas, Moodle cloud, Edmodo LMS will soon meet this new challenge (Divanoglou et al., 2018). This online platform is a robust and fully functional synchronous web conferencing system, providing a variety of tools, such as whiteboards, video streaming, the ability to share screens, text chat fields, Internet resources, and multiple audio and video connections (Yusuf, 2020). This online platform also provides a multidevice-ready platform that can be used with headphones, laptops, and tablets (Morrison et al., 2020). In the same way, there are free online video calling tools for meeting and teaching purposes such as Skype, Zoom, and Microsoft Teams. Simultaneously, they support creating accessible communication between native and digital learning resources and, at the same time, offering personalized learning opportunities.

Recent research trends indicate that more efforts need to be made to improve lecturers' online teaching skills as a synchronous and asynchronous online teaching and learning platform that is new to most lecturers. Specifically, synchronous learning is real-time and direct online social interaction, where responses are given to students immediately (Rinekso & Muslim, 2020). On the other hand, asynchronous interaction refers to online communication that does not occur in real-time (Dahlstrom-Hakki et al., 2020). Lecturer-student communication occurs primarily on an "anytime, anywhere" basis, although most of this also includes other media such as synchronous chat, recorded lectures, limited face-to-face meetings, or computer-assisted modules such as tutorials or simulations.

Redesigning course assessments and structuring course content to suit online learning is also part of the new norm. In particular, it helps determine the parts of the curriculum standard on which they will focus and their goals in incorporating other topics (Daniel, 2020). For example, centralized final semester exams at several universities have been changed to take-home exams (Marshman et al., 2018). This is a complete innovation that allows students more flexibility in writing and examination under less pressure and free space. As a result, we may see a new kind of high-achieving student. Likewise, some courses now use i-Lectures as another channel providing students with pre-recorded lectures. All of these innovations provide students with the opportunity to explore new learning spaces. Overall, to fully take advantage of online teaching and learning approaches at universities, there is a need for further evaluation and re-strategy from faculty and student feedback, and this area of research should be given more attention. Moreover, the skills required in using these technological tools are needed. Therefore, educators need to continue improving and developing the need to share experiences with various parts of the Association of Southeast Asian Nations (ASEAN) and the world in general, which will prove helpful.

4. CONCLUSION

The COVID-19 pandemic has taught us many things, the impact of which needs to be a common concern so as not to disrupt education traffic. Of course, what higher education institution must do is adaptation and mitigation by utilizing technology. Therefore, the COVID-19 pandemic can be used as a momentum to improve the education ecosystem, one of which is higher education. Higher education institutions need to relax the curriculum that adapts to current phenomena and developments. Opening oneself to a new paradigm in a more responsive way becomes a model of transdisciplinary curriculum development that is oriented towards the needs of individuals and communities with problem-solving methods or by making an impact. Higher education must be ready to carry out new normality standards where lecturers must facilitate students' learning through media and be done in the learning process.

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