Journal of Administrative Science
Vol.19, Issue 2, 2022, pp.162-192
Available online at *http:jas@uitm.edu.my*

Towards a High Standards of Excellence in Malaysia's Higher Education Institutions: Obstacles and Enablers

Nurin Farzana Mohamad Fadzil[1], Puteri Nur Syarah Nabilah Samad[2], Aina Farhana Mohd Nawawi[3], Nurul Zafirah Mohamed Pandi[4] & Fadilah Puteh[5*]

[1,2,3,4,5] Faculty of Administrative Science and Policy Studies
Universiti Teknologi MARA (UiTM), Malaysia

Corresponding Author: fadilahputeh@uitm.edu.my

Abstract

Past literature and news portray that quality is crucial in the education sector as we move forward to digitalization and IR 4.0. Besides, under the 12th Malaysia Plan, many programs are underlined under this strategy, commonly touching on the quality increment in Technical and Vocational Education and Training (TVET), training academic staff, and digitalization plan. In addition, under the 2030 Agenda, the Ministry of Higher Education (MOHE) needs to strive for equitable access to achieve high-quality education for all students. As such, some efforts and strategies need to be implemented to assist the MOHE in promoting innovation in the education sector. This article explores the challenges MOHE, and higher educational institutions face in ensuring high-quality education in Malaysia. Numerous issues are identified and discussed extensively. This article adopted several key strategic management techniques such as PEST analysis, internal factor analysis, and SWOT matrix for the purpose of performing the internal and external analysis of Malaysia's higher education system. This serves as tools to uncovered challenges related to the issue of quality in higher education. The TOWS matrix was then used as a tool to put forward several feasible recommendations. This article is beneficial in providing information regarding the quality of higher education in Malaysia and the appropriate recommendations that the related stakeholders could apply.

***Keywords**: Education; Quality; Digitalization; Higher Education Institutions; Strategic Management*

INTRODUCTION

Received: 10 July 2022
Accepted: 21 August 2022
Published: 31 December 2022

The quality of higher education is essential in producing quality graduates in the future. It is evidence that the government of Malaysia put more concern into improving the development of the higher education system (Arumugam, 2021). It is in tandem with the 12th Malaysian Plan, which emphasizes the development of the higher education system from 2022 until 2025. Besides, under the Ministry of Higher Education (MOHE), the government has allocated a budget of RM14.5 billion to upgrade and improve education quality which can benefit the graduates and underprivileged students (Arumugam, 2021). Furthermore, the 12th Malaysia Plan indicated the emergence or increased Malaysia's quality education system. Nonetheless, many hiccups are currently noticeable in several agencies related to higher education, such as public universities, private learning institutions, TVET institutions, etc. The top management in MOHE intends to ensure that this Plan could be conducted to ensure

long-term socio-economic development and encourage the nation's competitiveness to be more persistent, agile, and resilient to face unpredictable circumstances (Bernama, 2021). The current strategy under the 12th Malaysia Plan is suitable to suit and solve all the challenges despite the Covid-19 pandemic. Moreover, the mission of MOHE is to sustain a quality higher education system to develop the potential of individuals to meet national aspirations (MOHE, 2021b). Regardless of ethnicity or religion, collaboration and cooperation are needed to succeed. Furthermore, some of the concepts learned in school can be transferred to higher education institutions, which are civic responsibility and inclusive education (Adilah, 2021).

The problem highlighted in this article is the quality of higher education institutions in Malaysia. The 12th Malaysia Plan has 398 hits about a "global search for quality." It demonstrates the critical importance of quality in all aspects of our lives and in shaping Malaysia's future (Chung, 2021). The quality of HEIs is essential to ensure the relevance and competitiveness of the institutions in producing high-quality graduates. Knowledgeable and skillful graduates are crucial to providing a high-quality workforce that will contribute to the development of the economy in Malaysia. However, it is related to the issue after an audit conducted by the Malaysian Qualifications Agency (MQA) earlier in the year revealed that eight postgraduate courses at Limkokwing University of Creative Technology had their accreditation denied (Free Malaysia Today, 2021a). While it is "alarming" when an institution offers a course that the MQA does not recognize, it is also questionable how comprehensively university curriculums are being examined when there are so many universities across the country.

Moreover, MOHE needs to overview the progress of the quality of the education system to avoid any issues. However, the 12th Malaysian Plan shows that some problems currently occur among the students and graduates, such as graduate mismatch. A total graduate mismatch dominated those with bachelor's degrees and diploma holders with 43% and 55% of the graduate, respectively (Darusman, 2020). This issue might lead to an argument or debate regarding the education system's effectiveness since most graduates need to face this issue in labor. Therefore, the quality of higher education is related to the quality of graduates, which will determine the quality of the workforce in the future. HEIs should strive to improve the institutions' quality rather than emphasize the number of graduates produced.

eISSN 2600-9374

Journal of Administrative Science
Vol.19, Issue 2, 2022, pp.162-192
Available online at *http:jas@uitm.edu.my*

METHODOLOGY

The information in this article was gathered primarily based on secondary sources of information, with the necessary data and information collected from a review of published articles, news articles, and government reports related to higher education quality. The approaches used in this article are by applying critical strategic management techniques. This article mainly focused on the Ministry of Higher Education, Public Higher Education Institutions, Technical and Vocational Education and Training (TVET) Institutions, and Private Higher Education Institutions to address the quality of higher education institutions.

The internal and external analysis of MOHE was performed to identify the challenges regarding higher education quality and provide recommendations for this issue. The method used to analyze the external environment is by performing PEST analysis to assess opportunities and threats from Political, Economic, Social, and Technological aspects related to the higher education system in Malaysia. Next, the Internal Audit Analysis was performed to analyze the strengths and weaknesses of MOHE. These analyses were then summarized using a SWOT matrix to provide clear points of argument. The alternative recommendations are formulated based on the TOWS Matrix, whereby both the internal and external environment of MOHE were analyzed to provide recommendations for the identified challenges.

CHALLENGES FACED IN HIGHER EDUCATIONS SYSTEM IN MALAYSIA

Using (i) external factor analysis (PEST technique), (ii) internal factor analysis technique, and (iii) SWOT matrix techniques, this article has identified and discussed several key challenges confronted by Malaysia's higher learning institutions. PEST is an acronym for Political and Legal, Economical, Socio-Cultural, and Technological aspect. This technique was utilized to identify the external factors that could hinder or provide opportunities related to higher education. In contrast, internal factor analysis was employed to identify the strength or weaknesses of several agencies related to higher education. The SWOT, an acronym for Strength-Weakness-Opportunities-Threats, is a technique used to help categorize factors derived from PEST and internal analysis that provide clear information prior to developing feasible alternative strategies.

Journal of Administrative Science
Vol.19, Issue 2, 2022, pp.162-192
Available online at *http:jas@uitm.edu.my*

Inadequate Mechanisms to Sustain Quality

The Ministry of Higher Education (MOHE) plays a vital role in the higher education sector. Without MOHE intervention, the quality of education in Malaysia may be affected. Following the Federal Cabinet reshuffle in August 2021, the new Prime Minister Dato' Ismail Sabri held a special news conference to announce the re-establishment of the Ministry of Higher Education (MOHE). MOHE plays a critical role in establishing a higher learning environment that includes the best public universities, private institutions of higher learning, vocational schools, and community colleges (*MOHE*, 2021a). MOHE is the Malaysian government's ministry in charge of higher education, polytechnics, community colleges, student loans, accreditation, and student volunteerism (Farisha, 2020).

There are challenges faced by MOHE in external factor analysis using the PEST technique related to adequate mechanisms to sustain quality. The first one is the decline of funding from the government. It's been recognized that the funding structure has a significant impact on institutional strategies and critical teaching and research operations. Higher Education Institutions are projected to extend their offerings while reducing their reliance on government funding due to increased international competition and commercialization of education (Abdullah, 2017) Reduced financing makes it difficult for public universities to generate revenue for institution operations. Aside from that, colleges must find means on their own to meet operating and development costs. As a result, it has become increasingly crucial for Malaysian public universities to diversify their revenue streams and enhance their performance to compete for government financing (A. R. Ahmad et al., 2017).

Higher education institutions in Malaysia did suffer insufficient funds to cater to all the requirements to keep up with all the adjustments made in the education sector in the recent past globally. Financial difficulties can have a direct impact on a person's cognitive function. Without sufficient funds, MOHE will face problems carrying out its functions. Funds received from other stakeholders could help MOHE implement a program. But sometimes, the fund received are being misused by another sector. The Malaysian government looks forward to adjusting the budgeting allocation of funds in universities to promote development and support universities to grow and improve the country's educational structure (Krishnan, 2021). The government would work hand in hand with university stakeholders to ensure success in higher learning institutions. The

eISSN 2600-9374

government may also consider providing initiatives for higher learning institutions to discover new ways to raise more sources of funding alternatives.

Other than that, using the PEST technique, poor governance is also identified as one of the external challenges. In most cases, poor governance practices signify an inefficient industry. Poor governance frequently leads to insufficient account, which obstructs the capacity to make decisions and, as a result, leads to an institution that is not working at maximum efficiency. The quality of governance can explain a lot of the differences in the efficiency of government spending. In poorly controlled institutions, public money has almost no influence on health and education outcomes (Inayatullah & Milojevic, 2016). The heavy workload of universities has expanded dramatically due to the rising number of affiliated institutions and students, diluting the fundamental concentration on academics and research. University administrators are being concentrated more on the management of their universities and less on the more convivial procedures of academic decision-making due to pressures for efficiency and accomplishment of performance targets (Wan et al., 2020). Academic divisions and non-academic offices are becoming more focused on management values. As a result, the faculty's role in university governance is dwindling, and it may become defunct if current trends continue. The Malaysian government has introduced measuring university competence by adopting a university good governance index (UGGI). It measures whether the institution is ready to accept the status of autonomy and the government to adjust and give needed assistance on the ground (Zulkiflie, 2022).

Besides that, the challenges faced by MOHE and higher learning institutions from the lens of internal factor analysis is an inadequate mechanism to sustain quality. Adequate mechanisms can help the education sector get better quality. The adequate mechanism includes the right equipment, information, environment, and educational channel educators use. The 12th Malaysia Plan recognized that more work needs to be done to increase the quality and graduates' relevance to fulfill the market expectations. There are limitations on resources or assets (Azman & Abdullah, 2021). Every expenditure to improve the quality, such as focusing on science and technology, should produce the intended outcome and generate a good return on investment. Resource allocation is tightly matched with the country's national goals of converting into an experience and understanding economy to optimize economic and social rewards. Research and Innovation (R&I) is essential to growing new goods, processes, services, or solutions. To improve the quality, (R&I) and the government should take other technical development initiatives by collaborating closely with the industry (Suriati, 2017).

Next, internal factor analysis revealed that poor strategy implementation affected sustaining higher education quality. The future is uncertain, unexpected, and out of control due to a lack of solid strategic planning in institutions concerning students. These depressing findings can only be interpreted as a threat to education, as they negatively impact learning and performance. Universities should have robust strategic plans to develop sustainability in the expanded education system. According to government objectives, institutions must develop financial policies (Wahab, 2018). MOHE has established a program arrangement office body to support implementing and executing the national higher education strategic plan beyond 2020. For example, MOHE came out with a suitable program for all universities because there are various types of universities in Malaysia. Any implemented programs or policies should be looked out from every aspect aligned with their aims or goals. MOHE also needs to ensure that persons with disabilities are protected. It is illegal for government and private education institutions to exclude students with disabilities from higher education. Other than that, there are a lot of inconveniences to students who come from remote areas yet have internet access when the Massive Open Online Courses (MOOC) are being promoted. For instance, after the Covid-19 outbreak, many campuses switched to online learning to ensure the safety of students and staff while facilitating learning. Many students reside in remote areas where they cannot access the internet, while others lack the necessary gadgets to learn online. Many of these students were forced to discontinue their education until in-person studies resumed to attend school (Wan, 2018). The planned program acts as a monitoring tool to prevent more challenges and guarantee that the government will get back its investments in higher education (Hilmi, 2018).

Mismatch of Industry Needs

TVET is an acronym for Technical and Vocational Education and Training, and it is a form of education and training that is occupationally oriented and strongly emphasizes industrial practices (MOE, 2019a). The government has demonstrated that the TVET industry is the primary source of highly skilled workers to fulfill the industry demand and assist Malaysia in achieving economic growth (MOE, 2019b). Although it is evident that TVET is no longer considered a second-class education, it still requires some interventions to strengthen its objectives, strategies, implementation, and monitoring the global trends. The demand for competent workers with excellent technical and soft skills is increasing, yet the skills gap is becoming a severe challenge

eISSN 2600-9374

for the global workforce (Ismail et al., 2021). The nation's TVET system has seen a significant transition in recent years; however, despite its achievements, TVET still has several shortcomings and has yet to accomplish the intended goal of providing a sufficient skilled workforce or becoming a preferred educational option for Malaysians (The Asia Foundation, 2022). The mismatch of industry needs could happen as employers are hesitant to hire graduates since their lack of skills makes them incompetent for the profession. TVET institutions need to enhance the graduate's quality to ensure that their skills and knowledge are relevant to the industry's demand. However, there are some challenges faced by the TVET institutions in providing high-quality education and graduates.

The first challenge is from the internal aspect, which is the lack of competency among the teaching staff in TVET institutions. TVET requires qualified and skilled teaching staff to prepare students with the technical knowledge and skills necessary to succeed in the industry (Ismail et al., 2018). However, due to a lack of competent teaching staff in TVET institutions, many instructors are employed after finishing their studies based on their academic credentials, without considering their teaching abilities. Novice instructors without industrial or hands-on expertise may struggle in the classroom, especially when handling specific equipment, tools, machinery, work processes, or new technologies (Ismail et al., 2018). Apart from that, they will face difficulties sharing and explaining real industrial experiences to the students. Aside from having enough knowledge and skills in their professions, the instructors need to have a deep passion for the subjects they teach, encouraging them to deliver effective lessons (Arifin & Rasdi, 2017). Other than that, vocational teachers face several difficulties when it comes to teaching in the English language, which is exacerbated by their inability to speak and write effectively in the language, as well as the students' incapacity to understand the language throughout the classes (Ismail et al., 2018).

The second challenge faced by TVET institutions is also from the internal aspect, which is the absence of a leading agency for pursuing the national TVET strategy. Currently, seven different ministries govern TVET in Malaysia, and there is a redundancy of programs when multiple ministries offer a variety of courses. Despite the National Occupational Skills Standard (NOSS) availability, certain ministries decide to function autonomously and maintain their current standards (The Asia Foundation, 2022). Other than that, the TVET curriculum was designed without input from the industry. Lack of information from the industry has led to a mismatch between the skills needed by the industry and the skills learned by graduates of TVET programs requiring

companies to retrain their recruits. As a result, the industry is reluctant to provide high salaries to fresh graduates of TVET programs (The Asia Foundation, 2022).

TVET graduates ready for work with a wide range of skills and competencies are highly demanded by employers in the private and public sectors. However, the existing curriculum is mostly supply-driven and does not focus enough on matching training to job positions, resulting in employers being dissatisfied with the TVET graduates' skill sets. Other than that, while the graduates have the technical expertise required in the industry, their soft skills are lacking and may limit their ability to perform daily (Frances, 2021). According to the report by Auditor General, 40 percent of the courses provided by private TVET institutes are not accredited. It may affect the graduate's employability as the employers may refuse to hire them. Currently, no uniform mechanism exists for evaluating the performance of both public and private TVET institutions. According to Human Resources Minister M Saravanan, the private institutions that provide TVET courses are responsible for evaluating their courses. Then they came out with these misleading reports about how 80 percent to 90 percent of their grads could secure employment. However, there is no proof that these reports are reliable or not (Free Malaysia Today, 2021b).

The third challenge is from the external aspects using the PEST technique, in which it was found that there has a widespread misperception of TVET programs among the society. Many believe that TVET is primarily for people who do not perform well academically and have difficulty gaining admission to other colleges and universities. As a result, students in TVET programs are seen as underachieving and unrecognized members of society. TVET have been credited with the success of many advanced countries. For example, in Germany and Switzerland, TVET is acknowledged as good as, or even better than, academic education (Xavier, 2021). However, Auditor-General's Report 2019 Series 2 shows that between 2016 and 2020, the overall number of TVET students enrolled decreased by between 1 percent and 24.6 percent, indicating a negative trend. In 2016, there were 139,699 students enrolled, compared to only 99,589 in 2020. Furthermore, TVET programs produced only 474,672 (52.8 percent) graduates between 2016 and 2020, compared to the 900,000 new job opportunities targeted for 2020 (Jabatan Audit Negara Malaysia, 2019). This shows that TVET is still highly not recognized by the Malaysian as a sector to be ventured into. Universities are still held in high regard by the public to achieve societal prestige, employment, and economic wealth.

eISSN 2600-9374

Insufficient Financial Resources for Private Higher Education Institutions (PHEIs)

Besides public universities, MOHE also strictly governs private higher education institutions (PHEIs) (Lim, 2022). This institution also carries the same motives in providing and delivering the knowledge to the students. According to Lim (2022), most private institutions emphasized profit entities and no subvention from the government, and these institutions gained the money through fees paid by the students. Furthermore, the 12th Malaysia Plan (12MP) had proposed strategies to promote innovation under educational technologies, virtual learning (Babulal, 2020), and learning experiential toward private higher education. Thus, MOHE needs to focus on a better quality of the education system, even in private institutions. However, the Plan falls due to the lack of financial resources provided under the PHEIs that restrict the institutions' upgrading their quality education system.

The financial challenge which refers to economic factor also seen as one of the external factors. Due to the Covid-19 pandemic, MOHE has identified that PHEIs also faced some impacts, especially on finances during the economic downturn. It occurs because the total enrollment of PHEIs dropped by 37 percent to 86,000 students at the end of the year 2020 (C. Chung, 2020). The number of students from local and foreign countries decreased due to the pandemic, and indirectly it has affected the profit gained by the institutions. Furthermore, most of the education system has changed to digital learning, or e-learning has significantly affected the enrollment of PHEIs when some students have delayed their studies due to financial stress (Lim, 2022). It isn't easy to promote innovation through educational technologies and virtual learning since not all students have the same learning opportunities, primarily through online learning. At the same time, the private institutions also need to struggle in having sufficient financial resources due to the new norm in the education system, which focuses on the online platform. Thus, fulfilling the stakeholder's satisfaction, such as the parents wanting to see the effectiveness and efficiency of the institutions in delivering the knowledge (The Star, 2020) also one of the objectives of private higher education. It will be a massive challenge for PHEIs to promote effective virtual learning in maintaining the quality of education due to a lack of financial resources. Moreover, according to the National Association of Private Educational (NAPEI), 200 out of 600 TVET centers do not receive new enrolments. Since there are relying on face-to-face practical training, some institutions need to be closed with losses of RM160 million (Williams, 2021).

Another economic factor identified is the government provides no stimulus package for the PHEIs (Lim, 2022) since the allocation budget under MOHE is more on

public institutions. It proved that the PHEIs were difficult to achieve the government target and the 12th Malaysian Plan due to the financial instability during this pandemic. The PHEIs need to find some initiatives to overcome the financial instability to promote innovation education. According to The Star (2020), The Malaysian Association of Private Colleges and Universities (MAPCU) has appealed the Budget of 2021 for allocation budget toward the private education sector. It is to help the private institutions deliver knowledge and sustain the education system's quality through the online platform during this pandemic. The financial issues in private higher education becoming worse since 2013, when there is technically insolvency and insufficient resources, especially to pay the bills (Williams, 2018). It proved financial stress is a major issue that occurs under PHEIs, which has affected the quality of the education system and indirectly made it challenging to promote innovative learning for the students. Therefore, it becomes a challenge under MOHE to assist the private institutions in overcoming the financial issues.

Besides, internal factor analysis found that in terms of finance, a lack of funding resources threatens the quality of the education system in private learning institutions (Anis et al., 2018). In private institutions, facilities incompletion always happens due to poor funding generation (N. Ahmad et al., 2019). This situation is highlighted by internal stakeholders (students, lecturers, and internal staff) and external stakeholders (employers and regulatory agencies). Even learning online in the pandemic requires reliable facilities like technology tools, computers, and lab instruments for science and technology courses in private learning institutions. The PLIs need a massive amount of investment and strong fund support to gain all these tools. Funds are required for internet access, networking coverage, technology equipment, books, journals, and many more (Anis et al., 2018). Moreover, the students and parents complained about the visual facility building on behalf of the public (Anis et al., 2018). Since the parents have already invested vast amounts of money for fees, they also stressed the importance of facilities to improve institutions' image and students' satisfaction. If the management improvises the facilities' development capacities, it could attract a pool of potential students. Although the degree of fees in PLIs depends on specific courses, the fees are still higher than in public universities. Therefore, the management should consider improving the facilities building by collaborating with other private universities for fund support.

eISSN 2600-9374

Usage Technology (E-learning)

The first challenge in terms of technology was cyberattack risks. This challenge was identified using the PEST analysis technique. In terms of technology issues, HEIs are exposed to diverse cyber-attacks from cyber-criminals, hackers, and spyware due to massive confidential and private information that has been kept (Rajaendram & Menon, 2021). Due to sudden changes from conventional in-class activities and campus e-learning systems, this causes universities are exposed to cyber-security attacks (Sani, 2020a). Compared to the pre-pandemic period, the varsity's Network Intrusion Monitoring System documented a 50 per cent increase in cyber threats, including ransomware. The study findings by Muniandy et al. (2017) focus on Malaysian university students' cyber security practices, revealing a general absence of cyber security best practices that could protect them against potential threats.

The second challenge in using technology based on the PEST analysis technique is social, which has caused the isolation of learning experienced by the students. According to Anis et al. (2018), based on the survey conducted by CCTV News, many students who live in isolation are having issues accessing networking coverage during online learning. Two per cent of China students who live in mountain areas need to walk hours to have an internet connection and gain internet services for their e-learning. The Sapienza University of Rome reported that 25% of families in that area have broadband connectivity issues. It led the students to experience isolation due to their inability to cope with their studies. They are not able to participate fully. Therefore, these barriers cause them to be isolated compared to those students who have technological accessibility to e-learning. Before covid 19, it was stated that only 47 per cent of the population in developing countries have opportunities in technological accessibility, whereas 86% of the population from developed countries failed to use it. In Malaysia, frequent disruption and connectivity issues resulted in student isolation and caused the ability to adapt to-learning pedagogies to become challenging (Al-Kumaim et al., 2021). Being isolated is also not in terms of technological aspect but also terms of concentration aspect. Not all the students can fully concentrate on the content delivered by their lecturers. According to Ayub (2018), in Malaysia, poor internet connection and frequent disruption have caused problems in synchronizing pedagogy, making live teaching via video conferencing difficult. These factors contribute to the absenteeism of the students. Apart from internet accessibility, students easily get distracted during online classes has also been a big challenge in online learning.

According to Albelbisi and Yusop (2020a), MOOCs ease the education system in high education institutions since the system in this e-learning decreases the cost of operation on behalf of MOHE. The minister from MOHE had made a statement that the ministry would like to enhance the quality of the education system by making technology reformation and adaptation of e-learning from the usage of technology tool, MOOC. The government extends and opens participation among Malaysians through this initiative to access education via technology. This platform regained popularity among the students since it gave them freedom by creating their own MOOC courses based on domestic learning demand and their preferences.

However, it was found that MOOC has several hiccups and affects the overall e-learning system introduced in Malaysia. Firstly, based on the internal factor analysis that we have conducted, this challenge was contributed by poor technology infrastructure, which is part and parcel of organizational resources infrastructure (Albelbisi & Yusop, 2020). Most students who live in rural and remote areas have internet connectivity issues and networking coverage problems. This issue hinders the potential students from fully participating during the section. According to a study by Zulkifli et al. (2020a), around 4449 students from Malaysia, 70 % of them still rely on the universities' WIFI facilities to attend courses in MOOC instead of using their sources of internet broadbands, etc. This showed that the students need extra affordable and reliable cyber support in completing their studies because most of their syllabus content is displayed in video interaction form. Furthermore, this system could be considered a new technology tool for students. Therefore, most of them are still struggling in adapting and accessing these technological devices. According to another study by Zalat et al. (2021), many students experience anxiety due to the sudden system change, especially during the early pandemic covid 19. Most of the students and even the lecturer themselves are forced to adapt to the technological new norm of learning. Therefore, addressing this issue will be beneficial on behalf of the students and teachers.

Furthermore, the internal analysis revealed that the technology showed a lack of technology integration among the teachers, indicating management capability in integrating the teachers with technological knowledge (Bidawatka, 2020). It is crucial to ensure that the teachers acquire minimal readiness and competency in adapting to e-learning transformation. Constant unpredictability and conflict in the organization displayed huge concern on how effective these organizations' capabilities are in giving

eISSN 2600-9374

their best performance and readiness in technology integration (Goh & Abdul-Wahab, 2020). For example, in this section, there is a noticeable weakness in the government's incapability in ensuring the teachers in TVET can adapt to technological infrastructure, especially in the covid 19 phase (Yeap et al., 2021). A past study showed that the teachers in TVET are incompetent in teaching methods, have poor classroom management, lack practical industry experience, and have poor interest in the subject they are designed to teach (TheStar, 2021).

Based on PEST and internal factor analysis techniques, all challenges are categorized using the SWOT analysis technique that helps to provide clear information on the challenges based on the Strength-Weakness-Opportunities-Threats quadrant.

Strengths S1: The Ministry of Higher Education (MOHE) has allocated RM14.5 billion in improving the quality of education S2: Availability of technology infrastructure (MOOC online learning) S3: TVET provide high skilled worker in the job market	Threats T1: Country's pandemic that led to the economic downturn T2: The government does not provide a stimulus package for the PHEIs T3: Students feel burdened when depending solely on government loans T4: Disruption during online learning due to weak technology integration (MOOC) T5: Risks of cyber attacks T6: Quality of TVET graduates T7: Widespread misperception of TVET programs T8: Declining of funding from government T9: Poor Governance
Weaknesses W1: Lack of funding resources threatens the quality of the education system in a private learning institution W2: Poor technical & technological skills among educators W3: Lack of technological security system W4: Lack of competency among the teaching staff in TVET institutions W5: Absence of a leading agency for pursuing the national TVET strategy W6: Inadequate Mechanism W7: Poor strategy implementation	Opportunities O1: ADKAR Theoretical Management System Adoption O2: Industry player involved in TVET management

Figure 1: *SWOT Analysis Technique*

Journal of Administrative Science
Vol.19, Issue 2, 2022, pp.162-192
Available online at *http:jas@uitm.edu.my*

RECOMMENDATIONS

This section discusses several feasible recommendations that we put forward using the TOWS matrix technique. TOWS matrix is a tool for situational analysis. It helps understand the best of strategic choices available and lay out strategic alternatives to address the challenges. Based on the information gathered in SWOT analysis technique, all the challenges are then grouped into four (4) quadrants, namely Strength-Opportunities (SO), Weakness-Opportunities (WO), Strength-Threats (ST), and Weakness-Threats (WT). TOWS matrix helps generate strategic choices by maximizing strengths to capitalize on opportunities and overcome threats while minimizing weaknesses and avoiding threats using strength and opportunities. The following Figure 2 depicts the TOWS analysis matrix.

	Strengths S1: The Ministry of Higher Education (MOHE) has allocated RM14.5 billion in improving the quality of education S2: Availability of technology infrastructure (MOOC online learning) S3: TVET provide high skilled worker in the job market	Weaknesses W1: Lack of funding resources threatens the quality of the education system in a private learning institution W2: Poor technical and technological skills among educators W3: Lack of technological security system W4: Lack of competency among the teaching staff in TVET institutions W5: Absence of a leading agency for pursuing the national TVET strategy W6: Inadequate Mechanism W7: Poor strategy implementation
Threats T1: Country's pandemic that led to the economic downturn T2: The government does not provide a stimulus package for the PHEIs T3: Students feel burdened when depending solely on government loans T4: Disruption during online learning due to weak technology integration (MOOC) T5: Risks of cyber attacks T6: Quality of TVET graduates T7: Widespread misperception of	SO Strategies S3O2: Provide programs through collaboration between industry player and institutions	WO Strategies W2O1: Adopt ADKAR Model in for the increment of technology skills among educators W5O2: Reform the TVET institutions to be industry-led.

eISSN 2600-9374

TVET programs T8: Declining of funding from government T9: Poor Governance		
Opportunities O1: ADKAR Theoretical Management System Adoption O2: Industry player involve in TVET management	ST Strategies S1T2: Provide more incentives or financial assistance S2T4: Provide a manual guideline for students' remote learning S3T7: Rebrand the images of TVET	WT Strategies W1T3: Create strategic partnership investment with the government W1T2: Identify the shortcomings and problems that will restrict improving the quality of education W3T5: Restructure and enhance privacy and security control in the campus e-learning system W4T6: Ensure the right competency among the TVET instructors W6T8: Improving Infrastructure facilities W7T9: Improving the private higher education sector W2T3: Employing competent teacher W7T6: Recognizing extra curriculum activities

Figure 2: *TOWS Analysis Matrix*

Based on Figure 2 above, several strategic choices have been recommended that could better address the challenges as discussed further. These strategic recommendations are generated by mapping between the internal and external factors according to the quadrant of SO, WO, ST, WT of TOWS matrix.

Sustain the Quality of Higher Education

To stay up with ever-changing technologies and maintain steady economic growth, knowledge, skills, and experience are essential. Besides, to ensure that academic institutions are open to all students, necessary processes should be undertaken, focusing on continuous improvement in the teaching style (Sharif, 2020). Students will remain engaged if the school provides facilities that they are interested in, enthusiastic teachers, and a teaching technique not based on rote learning. Malaysia has the greatest national capital budget, with a strong emphasis on education. There are several recommendations can be taken by MOHE that could be implemented to address the challenges discussed above.

The first strategic recommendation generated based on Weaknesses-Threats (WT) quadrant is by employing competent teachers. The teaching staff is seen as a leader, educator, facilitator, and, most importantly, a Subject Matter Expert. Competent personnel are in high demand in today's world. Competency is a multifaceted process, including interactions between teachers, students, and settings (Hilmi, 2018). Many students perform poorly due to poor learning methods. Teachers play a vital role in providing students with a high-quality education by planning, preparing, and conveying effective teaching and learning initiatives for every student (Zain, 2017). MOHE has improved learning processes through graphics, student workshops, and more (Zaidi, 2018). MOHE did establish 3D learning in the classroom. Teaching techniques are being shifted to prepare pupils to deal with modern technologies. As a result, operating a start-up 3D animation workshop could help MOHE to see how students can accept and deal with the existence of 3D technology syllabus in their classroom, which is one of a few ways that online courses are currently trying to change the way students learn in the classroom (Anizaim, 2020). Students can achieve academic excellence when they acquire the right information and are taught by knowledgeable, competent teachers.

Furthermore, recognizing extra curriculum activities in institutions is also another strategic recommendation generated based on Weaknesses-Threats (WT) quadrant that MOHE should take to sustain the quality in the education sector. Students can explore their interests and abilities while acquiring values and competencies that will equip them for a fast-changing world through these activities (Yeap, 2021a). Extracurricular activities are part of a plan to strengthen the institution's educational foundation. MOHE needs to ensure that every institution has facilities to allow students to participate in extra curriculum activities. This engagement will improve the performance of both students and staff. They help students grow their interests and help them spend their free time appropriately. This reduces students' chances of indulging in unproductive behavior like drugs abuse and immoralities when outside of class. Many students who engage in deviant behavior in universities have yet to discover their talents and hobbies as they do not engage in extracurricular activities (Yeap, 2021b). They get to link up with people of similar interests, and through globalization, the chances of growth and productivity are heightened with the internet.

The next strategic recommendation based on Weaknesses-Threats (WT) quadrant is improving infrastructure facilities. Many students lack chances to enroll in higher education learning Malaysia due to inadequate infrastructure facilities in

eISSN 2600-9374

universities to accommodate them all. The infrastructure of education includes suitable learning conditions (Siregar, 2021a). One of the necessities for providing educational access is to have a workstation. MOHE also did come out with several types of equipment to ensure that educators' or teachers' lessons are of high quality. After completing the course via curriculum introduction training, MOHE received over 50,000 curriculum resources, including textbooks, teachers' manuals, and supplemental materials. Educators or teachers were also given computers, LCDs, and a monthly incentive of 5% of their base salary to boost the use of technology in their lessons (Jamil, 2018a). There is substantial proof that infrastructure improves education and student results and also reduces dropout rates, among other things (Siregar, 2021b). MOHE should ensure that each institution has adequate infrastructure to ensure students' academic excellence; thus, good infrastructure also helps attract more international students to enroll in Malaysian universities.

Lastly, based on Weaknesses-Threats (WT) quadrant, the following recommended strategy to sustain quality is improving the private higher education sector. Considering society values higher education, the number of school-leavers seeking admission to higher education institutions has increased steadily. In Malaysia, the amount of public higher education institutions accessible can only accommodate a small number of students (Jamil, 2018). Furthermore, these institutions' low resources make it difficult for needy pupils to attend. By encouraging the construction and growth of private higher education institutions, the government can ensure that chances for students who have been denied admission to public universities are created. The Malaysian government is helping improve the private education sector by enforcing innovation in educational technologies, virtual learning, and experiential learning (Marimuthu, 2018). There has been a proposal to amend laws to enhance governance to improve the quality of services and increase the potential of the private higher education sector. MOHE should develop policies and initiatives to help private institutions enhance and strengthen their services to become more appealing and provide good value for money (Kasim, 2019).

Providing Skillful Workforce

The first strategic recommendation is based on the Weaknesses-Threats (WT) quadrant, ensuring the right competency among the TVET instructors. This recommendation is generated to minimize the weaknesses of teaching staff in TVET institutions and avoid the threat that will be imposed on the quality of TVET graduates. It will be beneficial for TVET instructors to improve their professional development if

they are provided with more industrial training and job training programs to enhance their skills and knowledge. Most vocational educators are graduates of polytechnic or university engineering programs. Because of this, young instructors must get ongoing education and training to develop effective teaching strategies and techniques (Salleh & Sulaiman, 2020).

TVET instructors need to be trained and retrained to be equipped with the updated skills relevant to the industry's demand. Malaysia should establish new national TVET teacher-training standards that will aid in identifying and evaluating instructors who have completed a specific training program as part of their ongoing professional development (J. Ahmad & Okon Essien, 2021). Vocational teaching staff must have a good approach toward the teaching and learning process and be highly knowledgeable and skillful in their professional fields. For example, Malaysia's construction industry is growing; however, the local TVET graduates did not fulfill the construction industry requirement (Azmi & Salleh, 2021). Hence the TVET instructors must possess fundamental expertise and extensive knowledge in construction technology. Their knowledge and skills must be regularly updated and organized to ensure that TVET students are equipped with updated and relevant knowledge of the construction industry sector.

The second strategic recommendation based on the Weakness-Opportunities quadrant is the need for the government to reform the TVET institutions to be industry-led. This recommendation is generated to take advantage of opportunities to improve the TVET program in Malaysia by overcoming the current weaknesses. TVET curriculum would be more relevant to fulfilling employers' demand in the job market if developed by industry. The industry is the one that is more expert in determining the relevant skills and knowledge needed to produce a skilled workforce in Malaysia (Dzof, 2020). The government should cease doing everything on its own and encourage industry to become considerably more active and take the lead in TVET operations. This strategy will ensure that TVET graduates are sought after by employers when they join the job market.

According to Jeffrey Tan, ACCCIM Deputy Chairman of the Human Resources Committee, much of the syllabus is dated, with topics dating back ten, fifteen, or even twenty years. This is in line with the report from Economic Planning Unit (2015) that the TVET institutions continue to teach programs that have been introduced since their

eISSN 2600-9374

establishment, and they do not specialize in any particular field. This has been why the TVET graduates are not equipped with the current skills and knowledge needed in the industry. The TVET curriculum must be thoroughly revamped to include technical knowledge and interpersonal skills to provide students with marketable abilities. The skills provided should be relevant to the demands of the employers in the job market, and the industry should involve contributing together to reforming the TVET institutions (Xavier, 2021). For example, In Germany, the industry operates the TVET program, and the industry bears much of the responsibility for the training provided. The employer provides 75% of the training, while TVET institutions mainly provide theoretical knowledge (Dzof, 2020). It is a private sector initiative and does not fall under the purview of the government, which is in contrast with what is practiced in Malaysia. The advantage of using this practice is that what the students learn is directly applicable to the work that they will be doing for the organization after graduation.

The third strategic recommendation based on the Strength-Threat (ST) quadrant is rebranding the images of TVET. This recommendation is generated by using the strength of TVET to avoid the threat brought upon the skeptical view of the society towards the TVET program. Generally, the public viewed TVET as a second option for less intellectual students; hence, to ensure that more students are interested in enrolling in TVET institutions, the government needs to rebrand the image of TVET. This strategy would attract students to enroll in TVET institutions, leading to enough highly skilled workforce in the job market. Thus, to achieve the strategies in 12th Malaysia Plan, we must encourage our young people to pursue a career in TVET and attract more students to join TVET institutions by rebranding and promoting TVET. As a result, Malaysian youth will be better prepared to help Malaysia's industrial development. According to Abu Mansor (2021), TVET requires a rebranding effort to instill trust in the public's acceptance of the sector. Government should focus on eradicating unfavorable perceptions, particularly among parents, of TVET programs as a second choice to traditional academic education and those who did not meet academic achievement. The government needs to rebrand the TVET sector as one of the attractive career choices for the students.

Based on the Strength-Opportunities (SO) quadrant, which allow to formulate a strategy that focus on using the internal strengths to take advantage of the external opportunities. In producing a skilled workforce, some programs through collaboration between industry players and institutions must be provided. It is to ensure the expectations in the labor market are parallel with the outcome of the TVET graduates in every institution. Besides, the programs also assist in identifying the frequent skills

needed in the labor market that can achieve the organization's objective. Therefore, collaborations between the industry players and institutions are essential, avoiding any misleading and unparallel demand for skilled workers in the labor market.

Provide Adequate Financial Resources

The challenges of the lack of financial resources for private higher education have restricted them in promoting innovation in educational technologies, virtual learning, and experiential learning. To address this challenge, the first strategic recommendation based on the Weaknesses-Threats (WT) quadrant, which minimizes the weaknesses and threats, is by providing more incentives or financial assistance. It is to help the students to gain knowledge in anyways. The Ministry of Higher Education (MOHE) has allocated RM14.5 billion under the budget for 2022 to improve the quality of education and give benefits to the students and the unprivileged (Arumugam, 2021). For instance, the ministry came out with "Peranti Siswa Keluarga Malaysia," which provides tablets for 600,000 students under higher education learning, especially for B40 households (Arumugam, 2021). This kind of initiative can help instill innovative education elements through technology advancement and virtual and experiential learning, especially for private higher education. It can also reduce the burden faced by the students who are not affordable to continue their studies by delaying the semester.

Next, a strategic recommendation based on Strength-Threat (ST) quadrant to maximize the strengths to overcome the threats is the institutions need to have strategic partnership investment with the government. Currently, most students depend on government loans such as National Higher Education Fund Corporation (PTPTN). The function is to help students who can't afford sufficient financial resources to make the loan. However, MOHE wants to reduce the dependency and have strategic investment partners in the system (Williams, 2021). It can be done by determining new funding or providing vouchers for other incentives to ensure sufficient financial resources among the students rather than making too many loans (Williams, 2021). Besides, it is to avoid discontinuation and delay the semester among the students. When the students have enough money to pay the fees and any requirements for their studies, enrollment can be avoided. Private education can also collect their profit and reduce financial stress from getting more severe in the future. Therefore, financial resources are essential in ensuring education quality can be improved and achieved. It ensures that all students will be

eISSN 2600-9374

produced based on the target outcome that can help them later, especially in the labor market.

Furthermore, based on the Weaknesses-Threats (WT) quadrant, it is recommended that the private institution review the management to minimize the weaknesses and threats. It is essential to identify the shortcomings and problems that occurred in the institutions that will restrict improving the quality of education. As mentioned in the challenges under private education institutions, they have already faced financial stress since 2013. Thus, it is vital to avoid these issues becoming more severe in the future. In addition, the research mentioned that institutions need to develop strategies and respond to the plans (Isa et al., 2021). At the same time, they need to review the budget and restructure the debt and operations (Isa et al., 2021). It can help to encourage the institutions to tighten their spending, or budget cuts are required. The institutions can also improve their infrastructures and facilities to ensure students' satisfaction and feel comfortable in the teaching and learning processes. All the efforts are to promote a quality education system, especially for private higher education since there are operated on a profit-oriented basis.

Manual Guideline for Remote Learning, Adoption of the ADKAR Model in Universities and Enhanced Security and Privacy Control to Reduce Cyber-Attacks

Firstly, is the recommendation for MOOC learning. For the TOWS analysis, this could be seen that the availability of technology infrastructure is considered a strength of MOOC management, and the weakness in technology integration (technology disruption in remote learning) is considered a threat to the students and management as well. According to Albelbisi & Yusop (2020a), to ensure that MOOCs can be utilized, the government and agencies should provide a manual guideline for students currently enrolled in remote learning. Since MOOC learning is one of the internet tools for online learning during the pandemic, MOHE and MOOC management should prepare an online manual guideline so that the MOOC users can refer to the manual. Through these TOWS analyses (Strength and Threat: S2T4), we recommend that this guideline could outline a general explanation of MOOC preparation, a tutorial on how to access the high-quality video from MOOC, and finally, listing existing features with a tutorial on how to use the online system. Finally, through these TOWS analyses (ST: Strength and Threat quadrant), we recommend MOOCs address the issue of internet networking coverage by creating an independent cyber/ network infrastructure and providing technical assistance to the students who live in remote areas. Hence, by upgrading

MOOC, the quality education system could be enhanced, and technological-savvy fresh graduates could be produced (Zulkifli et al., 2020b).

Secondly is the recommendation on technology adaptability (Khan & Smuts, 2019). This recommendation is based on the Weakness-Opportunities (WO) quadrant, which involves the combination of the ADKAR Model (ADKAR theoretical management system adoption model as opportunities and the poor technical and technological skills among educators or teachers as the organizational resource's weakness (Weakness vs Opportunities: W2O1). MOHE should ensure that public and private universities adopt the ADKAR Model to increment technology skills among educators. This model should be instilled as a part of the culture embracing change, especially technological change. In the ADKAR model, there are five elements to be discussed. Firstly, the staff involved must have a willingness and awareness to change. Secondly, the team must be willing to display massive support for change. Third, ensuring the stakeholders involved owning the technological knowledge. Fourth, using ability and skills and then conducting feedback (for room of improvisation) and finally making maintaining tools as frequent as compulsory maintenance. The purpose behind adopting this model is that the government, lecturers, students, and parents could contribute generously to the new norm of learning with this kind of benchmark and guideline. Few studies proved that the organization that implements the ADKAR model could lead to much better performance in a short period than the other organization that decided not to implement this model (Jie & Ali, 2021). Through conducting this model, top management in the MOHE could be an indicator of students. This method would lead the students and lecturers to be more motivated and supervised since manual guidance is available for them to refer to. The new culture would push them out of their comfort zone; hence, sooner or later, through this model, they will become technologically skilled in the long run.

Thirdly, in terms of the cyber security issue, top management of the higher learning institutions should consider a strategic recommendation generated based Weakness-Threat (WT) quadrant, which is restructuring and enhancing privacy and security control in the campus e-learning system (Manipal International University, 2021). Based on the TOWS analysis, this recommendation is built based on the element of (Weakness vs Threats: W3T5) from the TOWS analysis. The risks of cyberattacks as a threat (Threat) and a lack of technological security system is a source of weakness (Weakness). Most universities keep sensitive and private information, such as staff

eISSN 2600-9374

salaries, student information, accounting database, and human resource system. Hence, other than improvising a security maintenance system, it is vital to ensure that the lecturers and students are exposed to common cyber-attacks such as online scams and phishing (Sani, 2020b). Based on the report from Cybersecurity Malaysia, since working from home is standardized as the new norm in the early phase of covid 19, the number of internet traffic and usage increased tremendously. This led to significant opportunities among the cybercriminals to take advantage of companies' system vulnerabilities. Hence the security systems concern in HEI regarding e-authentication, availability, integrity, and confidentiality must be upgraded and monitored from time to time (Sani, 2020b). As a final strategy, remote learning should secure the network by updating the university's security policy, revising procedures and guidelines, and alerting the users with the security system knowledge to promote awareness and education (Sani, 2020b).

CONCLUSION AND MOVE FORWARD ACTIONS

In conclusion, strong support and collaboration from the various level of ministries are crucial to ensure that the Plan listed in this report can be implemented. Living in a modern technology era requires the ministries to always came up with diverse levels of innovation to ensure the quality of the education system can be sustained. From the listed challenges in various agencies, we could conclude that relevant ministries need to play their role in ensuring that thriving human capital is produced throughout online learning. Lack of physical class in activities causes the standard of the quality system to be much more challenging and requires modification to ensure that the syllabus and the technology invested can produce high-quality students. At this moment, based on this case study, we could see the relevance and vigorous effort shall be made by these mentioned ministries, which are the Ministry of Finance (leveraging financial resources for Private Learning Institution), Ministry of Science and Technology Innovation (supervising the effort before technology advancement and innovation via online learning), Ministry of Trade International Industry (enhancing entrepreneurial mindset and culture via TVET and Vocational Studies) and finally the effort from MOHE itself.

Collaboration from the mentioned level of ministries could lead Malaysia's public and private universities to become more well-known and become high prestige at the international level. Hence, this article would benefit all the relevant ministries and agencies, such as the MQA, to revise Malaysia's Education System and improve it to the

upper level. Previously mentioned in the challenges, our education system quality and competency of staff/ lecturers are questioned by many academic critiques. Therefore, this paper is conducted for constructive criticism among the relevant parties to take remedial action in sustaining the excellent quality of the education system in Malaysia. One of the targeted audiences for this journal article is an academician expert in (GERAK), MOHE, and other relevant education ministries and agencies. Finally, through this paper, high expectations are imposed on relevant agencies to increase the standard of the education system in Malaysia. For example, through this online learning, these targeted audiences should consider and focus on leveraging the utilization of the English Language among students, enhancing the competency of lecturers in technological training and workshops, increasing funding for lecturer shortage and encouraging students to develop crucial skills (high critical thinking, communication, and emotional intelligence). Hence, through this system modification, we believe universities in Malaysia could improvise their quality of education and experience rank increment in competing with other international universities.

Malaysia has gone far in its educational system. Over the last few years, the development of multiple foreign schools has intensified rivalry across government-run academic institutions, local private institutions, and overseas institutions. As can be seen here, MOHE did play an essential role in the education sector in Malaysia. MOHE needs to address all the mentioned problems to ensure that the quality of the education system could be enhanced even though Malaysia is in a state of pandemic crisis. All the efforts from top management, increment in organizational capabilities, and the quantity/ quality of organizational resources must be upgraded from time to time. Without MOHE monitoring and coordination, education sector quality might be affected. By sustaining the quality, the education sector in Malaysia has a bright future like other countries. MQA did help MOHE increase and maintain its quality. A lot of challenges are being faced by MOHE in making sure the quality of the education system in Malaysia always meets the KPIs. To solve the challenges faced by MOHE, MOHE can implement something to sustain the quality of the education system. The education system in our country can be well known worldwide to other countries whenever the quality is being maintained regularly. Implementing all the recommendations proves that MOHE did help improve the quality of the education system in Malaysia.

Next, from the TVET side, TVET has grown in importance and significance to the country. TVET has become a government priority because of its connection to

eISSN 2600-9374

unemployment and economic and industrial growth. TVET is an integral aspect of the economic landscape in most countries, particularly highly industrialized ones. Based on this article, we could conclude that technology could be the greatest challenge if the government is not adequately utilizing them. We could see that technology has become one of the emergences that everybody needs to adapt to, especially the students for their remote and online learning experiences

Lastly, a suggestion for future study is that upcoming researchers who want to do research related to quality education in Malaysia need to look at various aspects that focus on public universities, private universities, TVET and others. They are suggested to look out on other aspects too such as the management, the technology and many more. Future researchers can also see examples from other countries by looking at their methods to ensure quality education in their countries. Looking at their concept might help our education system get better from time to time, thus increasing the quality of the education system. The study must be worldwide by looking at other foreign countries because their critical thinking is different from ours. We can set an example by ensuring the education system in the country is of good high quality.

References

Abdullah, D. (2017). Public Universities and Budget Cuts in Malaysia. *International Higher Education*. https://doi.org/https://doi.org/10.6017/ihe.2017.91.10129.

Abu Mansor, N. N. (2021). *Way Forward Driving TVET Education in Malaysia*. Universiti Teknologi Malaysia. https://business.utm.my/blog/2021/04/30/way-forward-driving-tvet-education-in-malaysia/.

Adilah. (2021). *How Quality of Education can be Improved in Malaysia*. MyPrivateTutor. https://www.myprivatetutor.my/blog/how-quality-of-education-can-be-improved-in-malaysia.

Ahmad, A. R., Farley, A., & Naidoo, M. (2017). Impact of the Government Funding Reforms on the Teaching and Learning of Malaysian Public Universities. *Higher Education Studies*, *2*(2). https://doi.org/10.5539/hes.v2n2p114.

Ahmad, J., & Okon Essien, E. (2021). Training and Retraining: A case of TVET Teachers in Malaysia. *Asia-Africa Journal of Academic Research and Review*, *1*, 2021.

Ahmad, N., Ismail, R., Abdul-hakim, R., & Hakim, A. (2019). Assessing the Malaysia ' S Higher Education Funding Model : Scandinavian Versus the Anglo-. *Journal of Islamic, Social, Economic and Development*, *4*(21), 87–103.

Albelbisi, N. A., & Yusop, F. D. (2020). *SWOT Analysis on the Implementation of MOOC In Malaysia*. *June 2021*, (p.27-40).

Al-Kumaim, N. H., Alhazmi, A. K., Mohammed, F., Gazem, N. A., Shabbir, M. S., & Fazea, Y. (2021). Exploring the Impact of the COVID-19 Pandemic on University Students' Learning Life: An Integrated Conceptual Motivational Model for Sustainable and Healthy Online Learning. *Sustainability (Switzerland)*, *13*(5), 1–21. https://doi.org/10.3390/su13052546.

Anis, A., Islam, R., & Abdullah, N. A. (2018). Challenges Faced by Malaysian Private HLIs in Providing Quality Education: A Thematic Analysis. *Quality Assurance in Education*, *26*(3), 349–373. https://doi.org/10.1108/QAE-10-2015-0039.

Anizaim, A. N. (2020). 3D Animation Workshop: The Implementation of 3d Printing In The Classroom. *International Journal of Education and Pedagogy*, *2*(3). https://myjms.mohe.gov.my/index.php/ijeap/article/view/10948.

Arifin, M. A., & Rasdi, R. M. (2017). The Competent Vocational College Teacher: A Proposed Model for Effective Job Performance. *International Journal of Academic Research in Business and Social Sciences*, *7*(2), 829–837. https://doi.org/10.6007/IJARBSS/v7-i2/2719.

Arumugam, T. (2021, November 1). Improving the Quality of Education. *New Straits Times*. https://www.nst.com.my/news/nation/2021/11/741635/improving-quality-education.

Ayub, E. (2018). Redesigning Learning for Greater Social Impact. *Redesigning Learning for Greater Social Impact*, *August*. https://doi.org/10.1007/978-981-10-4223-2.

Azman, N., & Abdullah, D. (2021). A Critical Analysis of Malaysian Higher Education Institutions' Response Towards Covid-19: Sustaining Academic Program Delivery. *Journal of Sustainability Science and Management*, *16*(1), 70–96. https://doi.org/10.46754/jssm.2021.01.008.

Azmi, T., & Salleh, D. (2021). a Review on TVET Curriculum Practices in Malaysia. *International Journal of Education, Psychology and Counseling*, *6*(40), 35–48. https://doi.org/10.35631/ijepc.640003.

Babulal, V. (2020, June 20). EduCoop: Aid Private Education Institutions. *New Straits Times*. https://www.nst.com.my/news/nation/2020/06/597741/educoop-aid-private-education-institutions.

Bernama. (2021). *12MP Formulated Holistically to Strengthen Higher Education - Noraini | Astro Awani*. https://www.astroawani.com/berita-malaysia/12mp-formulated-holistically-strengthen-higher-education-noraini-322749

eISSN 2600-9374

Bidawatka, N. (2020). Factors Influencing Use of Technology by Higher Education Teachers and Impact of Covid-19. *Journal of Emerging Technologies and Innovative Research*, *7*(6), 243–256.

Chung, C. (2020, June 8). Private Institutions Seeking Govt Help. *The Star2*. https://www.thestar.com.my/news/nation/2020/06/08/private-institutions-seeking-govt-help.

Chung, R. M. (2021). *Are We On The Right Track?* News Straits Times. https://www.nst.com.my/opinion/letters/2021/10/734611/are-we-right-track

Darusman, D. M. S. (2020, September 27). Graduate Mismatch in Labor Market. *The Star Online*. https://www.thestar.com.my/news/nation/2020/09/27/graduate-mismatch-in-the-labour-market.

Dzof, A. (2020). *Top in Tech: Wrong Leadership Structure Cripples Malaysia's TVET*. Digital News Asia. https://www.digitalnewsasia.com/business/top-tech-wrong-leadership-structure-cripples-malaysias-tvet.

Economic Planning Unit, P. M. D. (2015). Strategy Paper 9-Transforming Technical and Vocational Education and Training to Meet Industry Demand. *Eleventh Malaysia Plan,2016-2020:Way Forward*, 18. rmk11.epu.gov.my/pdf/strategy-paper/Strategy Paper 09.pdf.

Farisha. (2020). *Ministry of Higher Education (Kementerian Pengajian Tinggi) Malaysia*. Malaysia Central. http://www.malaysiacentral.com/information-directory/ministry-of-higher-education-kementerian-pengajian-tinggi-malaysia/.

Frances, D. (2021). *Ideas: Youth Unemployment and the Need to Create 4IR-ready TVET Graduates*. The Edge Markets. https://www.theedgemarkets.com/article/ideas-youth-unemployment-and-need-create-4irready-tvet-graduates.

Free Malaysia Today. (2021a). *Is Higher Education Ministry Focusing on Quantity Over Quality, Asks Rafidah*. Free Malaysia Today. https://www.freemalaysiatoday.com/category/nation/2021/07/07/is-higher-education-ministry-focusing-on-quantity-over-quality-asks-rafidah/.

Free Malaysia Today. (2021b). *Stop Misleading Govt with TVET Job Placement Numbers, Warns Minister*. Free Malaysia Today (FMT). https://www.freemalaysiatoday.com/category/nation/2021/11/16/stop-misleading-govt-with-tvet-job-placement-numbers-warns-minister/.

Goh, P. S. C., & Abdul-Wahab, N. (2020). Paradigms to Drive Higher Education 4.0. *International Journal of Learning, Teaching and Educational Research*, *19*(1), 159–171. https://doi.org/10.26803/ijlter.19.1.9.

Hilmi, M. F. (2018). *Innovative Ecosphere in Higher Education Institutions: An Exploratory. Study*.

https://www.researchgate.net/publication/328596534_Innovative_Ecosphere_in_Higher_Education_Institutions_An_Exploratory_Study

Inayatullah, S., & Milojevic, I. (2016). Leadership and Governance in Higher Education 2025: Can Malaysian Universities Meet the Challenge? *Foresight*, *18*(4), 434–440. https://doi.org/10.1108/FS-03-2016-0011.

Isa, R. M., IPPTN, & USM. (2021). Higher Learning Institutions (HLIs) Finances Perspectives. *National Higher Education Research Institute Research Institute*, *11*. https://ipptn.usm.my/images/Updates/11_IPPTN_Updates_HE-Malaysia.pdf.

Ismail, J. bin, Chik, C. T., & Hemdi, M. A. (2021). TVET Graduate Employability: Mismatching Traits Between Supply and Demand. *International Journal of Academic Research in Business and Social Sciences*, *11*(13), 223–243. https://doi.org/10.6007/ijarbss/v11-i13/8522.

Jabatan Audit Negara Malaysia. (2019). *Laporan Ketua Audit Negara 2019 Siri 2*.

Jamil, H. (2018). *Teacher Professional Development in Malaysia: Issues and Challenges*. 85–100. https://cice.hiroshima-u.ac.jp/wp-content/uploads/2014/03/4-2-81.pdf.

Jie, C. Y., & Ali, N. M. (2021). COVID-19: What are the Challenges of Online Learning? A Literature Review. *International Journal of Advanced Research in Future Ready Learning and Education*, *23*(1), 23–29.

Kasim, R. (2019). *Building Agility of the Malaysian Higher Education System*. Universiti Teknologi Malaysia. http://akept.mohe.gov.my/images/publication/files/ALTS_II_2019_tentative_programme.pdf.

Khan, H. U., & Smuts, R. G. (2019). Comparison of change management guidelines to address technology adoption barriers: A Case Study of Higher Educational Institutions. *Journal of Theoretical and Applied Information Technology*, *97*(7), 1999–2020.

Krishnan, D. B. (2021, December 10). Sharp Rise in Dropouts Unless Govt Intervenes. *New Straits Times*. https://www.nst.com.my/news/nation/2021/12/753002/sharp-rise-dropouts-unless-govt-intervenes.

Lim, B. (2022). *Coronavirus Disruptions to the Private Higher Education Sector in Malaysia*. 92–103.

Manipal International University. (2021). *Cyber Security Threat Analysis in Higher Education Institutions during Covid-19 Pandemic | Manipal International University, Malaysia*. https://miu.edu.my/events/cyber-security-threat-analysis-higher-education-institutions-during-covid-19-pandemic.

eISSN 2600-9374

Marimuthu. (2018). *The Role of the Private Sector in Higher Education in Malaysia*. https://www.researchgate.net/publication/226519604_The_Role_of_the_Private_Sector_in_Higher_Education_in_Malaysia.

MOE, M. of E. (2019a). *MOE - Maklumat Umum TVET*. https://www.moe.gov.my/en/maklumat-umum-tvet.

MOE, M. of E. (2019b). *MOE - Maklumat Umum TVET*. https://www.moe.gov.my/en/maklumat-umum-tvet.

MOHE. (2021a). Ministry of Higher Education. https://www.mohe.gov.my/en/corporate/about-us/ministerial-message?view=category&id=21.

MOHE, M. of H. E. M. (2021b, August 31). Letter | Immediate problems to be addressed by MOHE. *Malaysia Kini*. https://www.malaysiakini.com/letters/589345.

Muniandy, L., Muniandy, B., & Samsudin, Z. (2017). Cyber Security Behaviour among Higher Education Students in Malaysia. *Journal of Information Assurance & Cybersecurity*, *July*, 1–13. https://doi.org/10.5171/2017.800299.

Rajaendram, R., & Menon, S. (2021). *Threat to Online Learning*. The Star. https://www.thestar.com.my/news/nation/2021/12/05/threat-to-online-learning.

Salleh, K. M., & Sulaiman, N. L. (2020). Reforming Technical and Vocational Education and Training (TVET) on Workplace Learning and Skills Development. *International Journal of Recent Technology and Engineering (IJRTE)*, *8*(5), 2964–2967. https://doi.org/10.35940/ijrte.e6553.018520.

Sani, R. (2020a). *Curbing Cyber Threats in Online Learning*. News Straits Times. https://www.nst.com.my/education/2020/05/592083/curbing-cyber-threats-online-learning.

Sani, R. (2020b). *Curbing Cyber Threats in Online Learning*. https://www.nst.com.my/education/2020/05/592083/curbing-cyber-threats-online-learning.

Sharif. (2020). University-led Intellectual Property Commercialization: Cases of Malaysian Universities. *International Journal of Psychosocial Rehabilitation*, *24*(1).

Siregar. (2021). Optimization of Facilities and Infrastructure Management in Improving the Quality of Learning. *Jurnal Tarbiyah*, *28*(1).

Suriati, A. (2017). *Employability in Malaysia: Selected Works*. Ministry of Higher Education.

The Asia Foundation. (2022). *Recommendations Towards Improving Technical and Vocational Education and Training in Malaysia* (N. Subramaniam & R. Bush, Eds.).

The Star. (2020, October 29). Private colleges: Give us funds for growth. *The Star Online*. https://www.thestar.com.my/news/nation/2020/10/29/private-colleges-give-us-funds-for-growth.

Wahab, J. A. (2018). Strategic Management in National and Chinese Primary School in Malaysia. *Asian School Sciences*, *9*(12). https://www.researchgate.net/publication/286509124_Strategic_Management_in_National_and_Chinese_Primary_School_in_Malaysia.

Wan, C. da. (2018). *Education in Malaysia Towards a Developed Nation*. https://www.iseas.edu.sg/images/pdf/ISEASEWP2018-4Wan.pdf.

Williams, G. (2021a). *Merge and Reform Private Universities Post-Covid-19*. Malay Mail. https://www.malaymail.com/news/what-you-think/2021/09/20/merge-and-reform-private-universities-post-covid-19-geoffrey-williams/2006924

Williams, G. (2021b, September 21). Merge, Reform Universities Post-Covid. *The Sun Daily*. https://www.thesundaily.my/home/merge-reform-universities-post-covid-GA8376080

Xavier, J. A. (2021). *Attitudes to TVET die hard in Malaysia*. News Straits Times. https://www.nst.com.my/opinion/columnists/2021/10/733678/attitudes-tvet-die-hard-malaysia

Yeap. (2021). Issues, Challenges, and Suggestions for Empowering Technical Vocational Education and Training Education during the COVID-19 Pandemic in Malaysia. *Creative Education*, *12*(08), 1818–1839. https://doi.org/10.4236/ce.2021.128138

Yeap, C. F., Suhaimi, N., & Nasir, M. K. M. (2021). Issues, Challenges, and Suggestions for Empowering Technical Vocational Education and Training Education during the COVID-19 Pandemic in Malaysia. *Creative Education*, *12*(08), 1818–1839. https://doi.org/10.4236/ce.2021.128138.

Zaidi, N. (2018). *Enhancing Teaching and Learning Practices in Malaysia*. Uk Essay. https://www.ukessays.com/essays/education/enhancing-teaching-and-learning-process-in-malaysia-education-essay.php.

Zain. (2017). Challenges and Evolution of Higher Education in Malaysia. In Norliza Mohd Zain, Velantina Aspah, Nor Aina Mohmud, Normazni Abdullah, Mansoureh Ebrahimib Md Noh, N. H. (2017). Challenges and Evolution of Higher Education in Malaysia. International. Inter. *International Journal of Islamic and Civilizational Studies*, *4*(1–1), 78–87.

Zalat, M. M., Hamed, M. S., & Bolbol, S. A. (2021). The Experiences, Challenges, and Acceptance of E-Learning as a Tool For Teaching During the COVID-19

eISSN 2600-9374

pandemic among university medical staff. *PLoS One*, *16*(3 March), 1–12. https://doi.org/10.1371/journal.pone.0248758.

Zulkifli, N., Hamzah, M. I., & Bashah, N. H. (2020a). Challenges to Teaching and Learning Using MOOC. *Creative Education*, *11*(03), 197–205. https://doi.org/10.4236/ce.2020.113014.

Zulkifli, N., Hamzah, M. I., & Bashah, N. H. (2020b). Challenges to Teaching and Learning Using MOOC. *Creative Education*, *11*(03), 197–205. https://doi.org/10.4236/ce.2020.113014.

Zulkiflie. (2022). *The Malaysian Higher Education System - An Overview*. StudyMalaysia.Com. https://www.studymalaysia.com/international/the-national-education-system/the-malaysian-higher-education-system-an-overview.

Acknowledgements

The authors acknowledge Faculty of Administrative Science and Policy Studies Universiti Teknologi MARA (UiTM), Malaysia

Funding

The study received no funding from any institutions or offices either public or private.

Author contributions

All the authors significantly contributed in the publication of this article.

Conflict of interest

There is no conflict of interest associated to this publication.