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DESIGNING A PEDAGOGY FOR HIGHER EDUCATION SUCCESS-AN EMPIRICAL STUDY IN MALAYSIA

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ABSTRACT

The purpose of the present study is to develop a conceptual research model and test its applications to educationalists to design the pedagogy for higher education success particularly for higher education institutions in developing nations. Earlier studies have lesser dimensions on student-centered-learning whereas the current study exposes most of the potential predictors while conceptualizing the model and is highly suitable during the turbulence period of COVID-19. The findings of the study revealed that smart classroom, user-friendly technology, and partnership have a positive influence on higher education success. The present article considered the perceived benefits namely language skills, computing abilities, and rational thinking as a mediating variable and enact its important role in higher education success. The proposed model is useful for educationalists to design the course curriculum for higher education institutions. The significant findings obtained in the present study can be applied and customized to higher education institutions in the globe for long term sustainability to orient towards students' career development. In the digital era with online education in force during an unforeseen situation like COVID-19, user-friendly technology will be the ultimate alternative in higher education teaching and learning as it emerges as the result of this study.

Keywords: Smart Classroom; Partnership; User-Friendly Technology; Governance; Peer Support; Perceived Benefits; Higher Education Success, COVID-19.

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1. INTRODUCTION

Malaysian graduates' employability in higher positions depends on the quality of education in higher education institutions. As students pay a premium for Higher Education, they expect employability immediately after education which is an issue for higher education institutions (Poon, 2018). Students enrol in higher education not only to receive their certification but also to gain knowledge, skills and abilities which are important in the labour market (Bhalla & Meher, 2019; Donald et al., 2019). Despite this, there has been a gap between industry expectations and the higher education systems in Malaysia (Hanapi & Nordin, 2013; Chan, 2013). Suleman and Laranjeiro (2018) remarked that employers are not satisfied with the quality of graduates as they lack technical skills which add extra costs to the internal training. Factors that affect higher education success are; courses offered, facilities provided, environment and university image. University image plays a significant factor in affecting students' perception of selection criteria (Zamri Bin Khairani et al., 2013). Alemu and Cordier (2017) conducted a study in Korea, found that students' satisfaction and higher education success has a high impact on academic quality, living and support service experiences. In response to the changing needs of the labour market, it is important that graduates must be exposed to the necessary skills (Teng et al., 2019). There has been consistent growth of students perusing their studies in higher education especially in Asia in the past two decades (Shahijan et al, 2016; Miyahara, 2015). In context of this study, Malaysia has consistently gained recognition for its strong higher education system which helps to achive its goal to become a global education destination by 2025 (Chin, 2019). According to Rahman (2016), around 120,000 international students are currently present in Malaysia whereas 30,000 are pursuing a postgraduate degree. The main stand for students is to influence the world and communities in the educational network (Boone, 2015). The higher education system in Malaysia can be developed in terms of quality when there are international collaborations (Shahijan et al., 2016).

This scenario arises when there are immense demands in terms of learning environment, facilities and flexibility (Wells & Daunt, 2016; Visser-Wijnveen et al., 2016). Malaysia's international education has been booming and ranked 25th in the world in the higher educational system (Rahman, 2017). E-learning integration of technology and education has emerged as a powerful medium of learning particularly using Internet technologies (Al-Fraihat et al., 2020). The growing availability and the ease of access to online education have significantly increased the popularity of higher education over time (Guzman et al., 2019). In the light of new normal during the turbulence period of Covid 19, online learning technology becomes the order of the day and students are able to continue with their studies (Shahzad et al., 2020). The question remains unanswered on what is the relationship between the predictors of Student-Centred Learning namely; Smart Classroom, Peers Support, User Friendly Technology, Partnership, and Governance on Higher Education Success with a mediating effect of Perceived Benefits (Language Skills, Computing Skills, and Rational Thinking). Therefore, the present study focuses on the construction of a research model for Higher Education Success (HES) and to determine the potential predictors for HES.

2. LITERATURE REVIEW

In the detailed literature search, it was found that the conceptual research framework proposed by Jayaraman et al. (2019) is the latest article to study higher education success and other frameworks have lesser dimensions. The present study uses the conceptual research framework proposed by Jayaraman et al. (2019) with several additional features. A mediating variable namely the perceived benefits of students namely language skills, computing abilities, and rational thinking have been newly introduced in this study. The earlier study was restricted to a small sample concerned with only one Private University in Malaysia. Hence, there is a need to determine if the conceptual framework can be generalized to all private universities and is the motivation of the present study. As many as 411 respondents were considered in the present study to analyse the potential predictors for higher education success. These selected universities in this study are QS ranked universities and the students from these universities are the best judges to comment on predictors for higher education success. The data analysis of the present study uses the robust Structural Equation Modelling (SEM) as compared to Multiple Regression Analysis in Jayaraman et al. (2019). The proposed generalized model is supported by Social Cognitive Theory (SCT) which highlights the importance of social environment on self-regulation, motivation and learning (Schunk & DiBenedetto, 2020). SCT includes the dynamic interaction between the determinant factors which are environmental, behavioural and personal (Bandura, 1986). The interaction between these factors influences self-efficacy which is defined as a person's perceived ability to perform an activity to achieve its goal (Bandura, 1977). Given the fact that students learning influence the environment, SCT plays a crucial role in Higher Education success. Further, the cause-and-effect relationship between the predictors of higher education success is discussed in the present study using SCT theory.

2.1. The relationship between smart classroom and higher education success

The introduction of Information and Communications technology (ICT), in recent years, has encouraged the development of smart classrooms (SC). With the goal of enriching universal education and teaching prospects, smart classrooms remain as study coliseum amplified with up-to-date technologies and amenities (Chen et al., 2015; Hanssen & Solvoll, 2015). The encouragement of the students to become independent academics instead of bringing up facts in a linear one way takes place as these technologies safeguard student-teacher, student-student and teacher-student relations (Jo et al., 2016). Various web-based tools can be used to achieve the highest impact of a smart classroom, for instance learning analytics (Naidu et al., 2017). Basically, analytics in the smart classroom promotes the incorporation of research-based learning in the classroom. It is a blended learning mechanism that incorporates the technology, student, and the lecturer (Connelly & Miller, 2018). Reflection analyzes reasoning and maximizes critical thinking (Mamede et al., 2008). Reflection in a way links the divide between thought and action which allows students to illustrate their actions and activities, evaluate their challenges, and recognize their victory (Allan & Driscoll, 2014). In this study, Ownership refers to the wide knowledge control and experience that students have gained. It not only teaches individual responsibility and helps demonstrate the intrinsic talents and skills of students to lift their morale, but also requires deep thinking. Hence, this study proposes hypothesis that:

H1:*Smart classroom has a positive effect on higher education success.*

2.2. The relationship between peers support and higher education success

Peer support is related to respect, joint responsibility and common agreement of what is beneficial, (Howe & Mercer, 2007). The main concern faced by the international students and local lecturers is language issues (Yee et al, 2013). According to Ali et al. (2016), the characteristic of curriculum and academic staff including the delivery and system of high education programs are the important means of creating knowledge value. Student-student and student-teacher interaction can further use these materials (Visser-Wijnveen et al, 2016; Smart & Marshall, 2013). Peer support will enable learners with ever-changing knowledge, abilities, and skills to share their judgments with the people surrounding them (Zepke, 2018). It was indicated by Woodall et al. (2014) that good sense-making in higher education is a continuous inspired effort to comprehend the links between places, people and events which support the establishment of situational understanding and mindfulness and helps students put an end to doubts. Therefore this study includes the hypothesis that:

H2: *Peers support has a positive effect on higher education success.*

2.3. The relationship between user-friendly technology and higher education success

User-Friendly Technology (UFT) denotes connection, control and convenience claiming to drive the factor towards Net Generation's building Communication and information technologies and it is shaping up rapidly (Abachi & Mohammad, 2014; Kong & Song, 2015; Park, 2009). Samokhvalova (2017), points out that Malaysian Education online promotion should be more focused since the Internet is becoming an essential tool for student's intake. In the circumstance of the system approach model, the efficient performance appraisal denotes that efficient managerial systems practices, system support, and system design are critical perceptions affecting employees' perceived fairness of effective performance appraisal (Chong et al., 2014). In this scenario, User-Friendly Technology integrates four dimensions, which are accessibility, application, customization, and innovation. Both students and instructors must regularly update the e-learning systems offered by the higher education institutions for continuous improvement (Al-Samarraie et al., 2017). Application is an action that operates and is used for a specific purpose or in a different way. For instance, its effective use of technology promotes impulse communication in higher education (Hollman et al., 2018). Nowadays, the importance of user-friendly technology is immense to encourage distance learning education (Netanda et al., 2019). The uncertainty associated with timing, origin and virulence of pandemic strains and the possibility of unprecedented spread of the contagious and deadly virus such as COVID-19 caused increased fear, stress (Abugre & Debrah, 2019) and therefore study from home with user-friendly technology is an effective way of learning. Risk perception towards a pandemic like COVID-19 (Kwok et al., 2020), is a blessing in disguise for online teaching and learning opportunities. In this study, customization denotes creating or changing to an individual or personal specifications. Hardware and Software applications applied at universities may be adjusted to blend relevant needs of the end-user, which can be faculty members, management, students or other staff. Hence, this study proposes that:

H3: *User-friendly technology has a positive effect on higher education success.*

2.4. The relationship between partnership and higher education success

The educational institution should support jovial integrity and rapport which is essential as it not only acquires mutual responsibilities but also for self-development. To maintain a partnership (P), there are four dimensions emphasized which are potential training, industry linkages, social media and research publications. According to Rahman (2017), Malaysia Industry linkage in advance should sign memorandums of understanding. It should blend the depth and value of collaborating between the universities and industry, which directs innovation, grants, joint research, product commercialization and as well as providing students with job placements. Higher education has proliferated in recent years; not only how to admit a greater diversity of students but also how to support their future success (Cook-Sather, 2018). McCaffery (2018) highlighted that the outcome of higher education success will be more affluent if the institutions advocate foreign partners. Similar findings were suggested by Bordogna (2018), where partnership meliorate the quality of faculty members and facilitate them to embrace meaningful pedagogy for classroom teaching. One among the seven National Key Research Areas (NKRAs), proposed by the Government Transformation Program (GTP), focused on the improvement of student outcomes. Youth education through the Student-Centered Learning Research model as discussed above will be effective to match the objectives posed by NKRA and develop the Malaysian Universities' World Rankings. Hence this study proposes that:

H4: Partnership *with students and education institutions have a positive effect on higher education success.*

2.5. The relationship between Governance and Higher Education Success

Governance is a key factor for higher education and has influenced teaching and research activities (Huang, 2017). Winterton and Turner (2019) highlighted the importance of considering the needs of different stakeholders to ensure the success of graduates in the job market. Malaysian faculty members' are dissatisfied with the institutional governance in the form of university bureaucracy (Wan et al., 2017). The government made dynamic changes in the private and public higher education institutions' governance, establishing MQA (Malaysian Qualification Agency) for checks and balances. The government is convinced that excellent education is given to students in higher education institutions in Malaysia with qualified lecturers (Grapragasem et al., 2014). With a strong conviction to produce more young youths with better-equipped knowledge and skills for coping with the challenges of the globalizing economy, many governments in the Asia and Pacific region have increased higher education enrolments (Mok et al., 2016). Universities "cannot be sustainable without being socially responsible", particularly in terms of adequate funding and aid higher education flexible to access to students of all socio-economic backgrounds (Weiss, 2016). The primary aspects of CSR are to maintain green aspects in and around higher education (Chong et al., 2014; Alemu & Cordier, 2017). Student discipline is an essential factor for higher education Institutions. Students and staff should maintain to obey rules and regulations of the higher education institutions and must sustain proper dress code, punctuality, sincerity, and honesty. Hence this study proposes that:

H5: *Governance has a positive effect on higher education success.*

2.6. The relationship of Perceived Benefit on Higher Education Success as a mediating variable

A study by Huang and Turner (2018) show that the perceived benefit of Chinese students studying in UK universities is assisting them to get a job after graduation. Basic use of a computer such as a word processor, sending emails, using the internet effectively and spreadsheet software are essential skills which are required in most of the current jobs. Cidral et al. (2018) probe that learner-perceived interaction is related to the success of e-learning. It improves the cognitive ability and thinking of the learner. Many employers value the ability to think effectively to solve the problem and make wise decisions in the working environment. Hence this study proposes that:

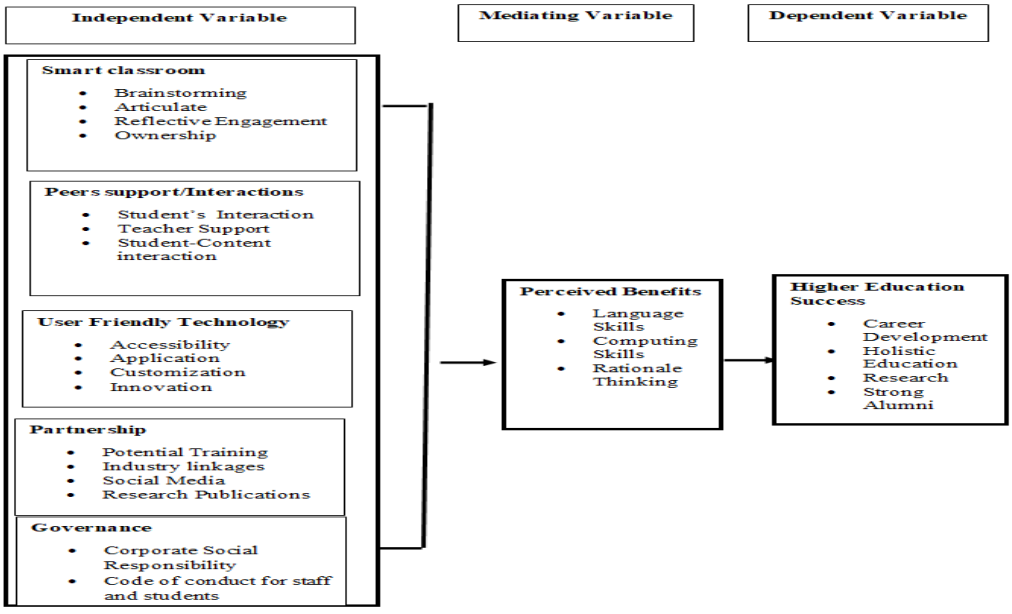
H6: *Perceived benefit positively influences on higher education success.*

H7 (a-e): *Perceived benefit mediates on the relationship between smart classroom, peers support, user-friendly technology, partnership, governance and higher education success.*

3. CONCEPTUAL RESEARCH MODEL

The proposed conceptual research Model is displayed in Figure1 with the identified predictors (independent variables) as discussed in sections 2.1-2.5 with the response variable as the higher education success and mediating variable discussed in section 2.6. As mentioned earlier, the conceptual framework is supported by social cognitive theory (SCT) (Bandura, 1986). SCT states that educational program needs to include cognitive skills and environmental changes (Lee et al, 2016). SCT permits students to construct knowledge, strategize and stay motivated to accomplish their tasks. Such positive attitudes contribute to the development of independence in thinking. This is precisely what the student-centred model attempts to achieve in this study. The model is aligned with 21st-century learning that requires people to think and employ the knowledge for individual and social purposes and not for solely memorizing and recalling facts. As such, developing students' critical thinking is crucial in helping them to master knowledge from different content areas. Another theory that supports the proposed research model is expectation disconfirmation theory (EDT). EDT permits that higher education service quality such as non-academic/academic aspect, access, reputation and program issues lead to greater satisfaction meaning a better Image of University and students' loyalty.

Figure 1: Conceptual Research Model



4. RESEARCH METHODOLOGY

The unit of analysis for the present study is the student at a private university who has met the following criteria:

1. A student who has passed an undergraduate or post-graduate degree (Alumnus).
2. Final year under-graduate or post-graduate student of a private higher education institution in Peninsular Malaysia.

The Justification for this selection criteria is that these students are aware of their experiences with the academic, administrative, and technical activities of the university. Hence, allowing them to provide insights on the factors of Higher Education Success is appropriate.
In the final phase, the questionnaires were successfully administered to 411 respondents using the online survey. The minimum target was fixed at 400 students with 100 students from each of the top four private universities in Malaysia, a total of 411 students finally participated in the survey. The data collection took three months, and it ensures no missing data since it was carried out with repeated follow-up activities. The questionnaire items are based on the conceptual framework, experts' opinion and literature review (Jayaraman et al., 2019). However, the mediating variable question items which are added in the present study are given in Appendix.

5. SIGNIFICANT FINDINGS AND RESULTS

The pilot study was conducted initially with 36 respondents to identify the consistency of the survey instrument to reduce measurement error and respondents' bias. The Cronbach's Alpha for all the identified variables in the conceptual framework was above 0.7 in the pilot study, fulfilling the threshold value (Hair et al., 2014). Out of 411 respondents, 193 (47%) were males and 218 (53%) were females. With regard to age distribution, 349 (84.9 %) belongs to the 18-24 years age group followed by 54 (13.1%) who falls in the category of 25-29 years. As far as occupation is concerned, 372 (90.5 %) were students and is expected since the research is about them. About 302 (73.5 %) respondents are non-income group. Chinese dominate the target sample with 226 (55%) followed by others 108 (26.3 %). Malaysia has three racial groups namely Chinese, Malays and Indians but the above-stated other group respondents belong to the international student's category from other countries. Malaysians dominate Non-Malaysians with 279 (67.9%) and 132 (32.1%) respectively.

5.1. Factor analysis and Reliability analysis

The factor analysis and reliability analysis were used to test the goodness of data (Hair et al., 2012). The factor analysis and the reliability analysis were separately carried out for the set of independent variables, a mediating variable and the dependent variable. This study used exploratory factor analysis using SPSS 26 version and there were six independent variables loaded first in the study. The Kaiser-Meyer-Olkin (KMO) measure was 0.929 and the Barlett's test of sphericity was significant at $p<0.001$ which ensures the sample size is adequate and factor analysis fits well to the data. The total variance explained by the six factors was 68.447. There were 8 questions (SC2, PS1, G1, G2, G4, G8 G9, and G10) that were removed in the process of exploratory factor analysis for independent variables. After removing 8 questions from 3 Independent variables, the Cronbach's Alpha was 0.789 which is more than the thumb rule value of 0.7 (Hair et al., 2012), ensuring the reliability of data. For the dependent variable Higher Education Success (HES), Kaiser-Meyer-Olkin (KMO) measure was 0.851 and the Barlett's test of sphericity was significant at $p<0.001$. The total variance explained by HES was 59.577 and the Cronbach's Alphas was 0.834. On the other hand, for the mediating variable Perceived Benefit (PB), Kaiser- Meyer-Olkin (KMO) measure was 0.881 and the Barlett's test of sphericity was significant at $p<0.001$. The total variance explained by PB was 57.071 and the Cronbach's Alphas was 0.741. However, there were no question items removed for the mediating and dependent variables. Hence, the data set exhibits the validity and reliability of scale measurements of all constructs considered in this study.

5.2. Descriptive Statistics and Correlation

The study examines descriptive statistics for the independent variables, mediating variables and dependent variables that have been measured based on a 5- point Likert scale. The respondents of the current study rated the average scores from 3.483 to 3.692 for the independent variables; the mediating variable has an average of 3.815 and an average of 3.498 for the dependent variable (Table 2). Among the variables measured on a Likert scale 1-5, User-Friendly Technology (UFT) has the highest mean score of 3.692 with a standard deviation of 0.736, which reflects the e-learning, digital library and sharing knowledge through convenient IT system enrich students to adapt learning environment. On the other hand, Partnership (P) has a mean score of 3.687 with a standard deviation of 0.640, indicating that having an industry partnership is important to enrich

students' careers in the Job market. The dependent variable, higher education success (HES) and mediating variable perceived benefits (PB), has a mean value of 3.498 and 3.815 respectively. In this study, they were 6 independent variables and the VIF for each variable is less than 5 as shown in Table 1 and therefore multicollinearity does not exist (Hair et al., 2012). In addition, it is clear from the correlation matrix then none of the correlations is above 0.7 which further strengthens the absence of multicollinearity in the data.

Table 1: Descriptive Statistics and Correlation Matrix (n=411)

Variables	Mean	SD	HES	P	PS	SC	G	UFT	VIF
HES	3.498	0.610	1						
P	3.687	0.640	0.636	1					1.714
PS	3.683	0.624	0.457	0.444	1				2.005
SC	3.483	0.623	0.520	0.377	0.619	1			1.852
G	3.536	0.675	0.463	0.570	0.513	0.452	1		1.813
UFT	3.692	0.736	0.391	0.428	0.443	0.424	0.466	1	1.796
PB	3.815	0.598	0.571	0.511	0.552	0.529	0.484	0.454	1.822

All correlations are significant at 5% level of significance

HES- Higher Education Success; P- Partnership; PS- Peers Support; SC- Smart Classroom; G- Governance; UFT- User-Friendly Technology; PB- Perceived Benefits

5.3. Measurement model of the SEM

The two-stage structural equation modelling (SEM) method using AMOS, was used in this study as a proper analysis technique to be utilized to validate the proposed model and examine the research hypotheses. In the current study, the first stage of the SEM (measurement model) model and goodness of fit were all tested. Then, validation of the conceptual model and testing of the research hypotheses were targeted in the second stage: the structural model.

Model fit

A number of highly recommended indices [Chi-square/degrees of freedom (CMIN/DF), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Normed-Fit Index (NFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA)] are considered to evaluate the model fitness. As seen in Table 3, the initial fit indices (CMIN/DF = 2.345, GFI = 0.747, AGFI = 0.725, NFI = 0.733, CFI = 0.826, and RMSEA = 0.057) of the measurement model were not found to be within their recommended level, and this indicates that the measurement model does not adequately fit the observed data, and accordingly, the model should be revised. Factor loading for each construct item and modification index was carefully checked. Then, it was possible to figure out the most problematic items, and these items were removed from the model. The revised version of the measurement model was tested without problematic items, and all fit indices (CMIN/ DF = 1.986, GFI = 0.901, AGFI = 0.930, NFI = 0.940, CFI = 0.913, and RMSEA = 0.041) at this time were found to be within their suggested values, as presented in Table 2.

Table 2: Results of the Measurement Model

Fix Index	Cut-off Point	Initial Measurement Model	Modified Measurement Model
CMIN/DF	≤3.000	2.345	1.986
GFI	≥0.90	0.747	0.901
AGFI	≥0.80	0.725	0.930
NFI	≥0.90	0.733	0.940
CFI	≥0.90	0.826	0.913
RMSEA	≤0.08	0.057	0.041

5.4. Structural Equation model

As for the main research hypotheses, the results indicated that there were three direct effects which were positively and significantly influencing on Higher Education Success and they are smart classroom ($\beta = 0.324$, $t=3.143$, $p < 0.01$), User-Friendly Technology ($\beta = 0.117$, $t=2.200$, $p<0.05$), and partnership ($\beta = 0.432$, $t=6.425$, $p < 0.01$). Whereas, the other direct effects Peers Support (PS) and Governance (SG) were not significant. As such, H1, H3 and H4 are supported, whereas H2 and H5 are not supported. On the other hand, the mediating variable perceived benefit (PB) influences positively on Higher Education Success ($\beta = 0.302$, $t= 4.085$, $p < 0.01$) indicating that the hypothesis H6 is supported.

Table 3: Results of Standardized Estimates of the Structural Model-Direct Effects

Hypothesis	Path	Beta	Std. Error	t-value	Decision
H1	**SC →HES**	**0.324**	**0.103**	**3.143****	**Supported**
H2	PS → HES	-0.148	0.098	-1.508	Not Supported
H3	**UFT→ HES**	**0.117**	**0.053**	**2.200***	**Supported**
H4	**P→ HES**	**0.432**	**0.067**	**6.425****	**Supported**
H5	SG →HES	-0.081	0.090	-0.901	Not Supported
H6	**PB→ HES**	**0.302**	**0.074**	**4.085****	**Supported**

** p<0.01; *p<0.05

With regards to the mediating effect of perceived benefits, the following indirect paths are highly positively and statistically significant (Table-4). The mediating variable perceived benefits (PB) partially meditate on the relationship between smart classrooms (SC), partnership (P), and User-Friendly Technology (UFT) on Higher Education Success (H7a, H7c, H7d are supported). However, there is no mediating effect of perceived benefits (PB) on the relationship between Peers Support and Governance on Higher Education Success (H7b, H7e are not supported).

Table 4: Results of Standardized Estimates of the Structural Model-Indirect Effects

Hypothesis	Path	Beta	Std. Error	t-value	Decision
H7a	SC →PB→HES	0.097	0.008	12.125**	Supported
H7b	PS → PB→HES	-0.045	0.031	-1.452	Not Supported
H7c	UFT→ PB→HES	0.035	0.004	8.750**	Supported
H7d	P→ PB→HES	0.131	0.005	26.200**	Supported
H7e	SG →PB→HES	-0.024	0.021	-1.143	Not Supported

** p<0.01

6. DISCUSSIONS AND IMPLICATIONS

The purpose of this study is to design a business model for higher education success based on four major private universities and to test its applications, particularly in developing nations. As employers face skill gaps among potential recruits, it is important for higher education institutions to provide a curriculum that must cater to the demand of the industry (Hanapi & Nordin, 2013; Chan, 2013). Therefore, the present study provides a business model which comprises five dimensions namely Smart Classroom, Peers Support, User Friendly Technology, Partnership and Governance. The findings of this study revealed that Smart Classroom, User Friendly Technology, and Partnership have a positive effect on Higher Education Success. On the other hand, Peers support and Governance did not have a significant relationship on higher education success. Peers support is expected to be inculcated in the system and is prevalent among students as teacher-student interaction which is understandable towards higher education success. Furthermore, every institution has its own Governance, therefore students are not much concerned with the system and nor does it contributes to their career development. Besides this, the present study proposes a mediating relationship between the predictors and higher education success. This study found that Perceived Benefits as a mediator has a positive relationship on Higher Education Success.

6.1. Smart Classroom has a positive relationship on Higher Education Success (H1 is supported)

Smart Classroom was found to have a significant relationship on Higher Education Success. Students believe that smart technology in the classroom such as interactive sessions and multimedia technology and advanced classrooms facilities aids them to improve their skill set leading to higher education success and is supported by Neo and Neo (2004). The current trending technology which is entrancing students is the extensive virtual or augmented reality, as devices rapidly deal with a greater sense of absorption and the education cost becomes expensive. The rise of these technologies aims to boost student learning. In addition, it is eminent that an educational proposal that includes the use of virtual reality have faced high acceptance among students and improved their process of learning and skill set (Molina-Carmona et al., 2018).

6.2. User Frendly Technology has a positive relationship on Higher Education Success (H3 is supported)

The present study reveals that User-Friendly Technology (UFT) has a positive significant relationship with Higher Education Success in Malaysia. This finding is aligned with past literature which provides evidence that User-Friendly Technology helps students to improve their performance and effectiveness in learning, rather than on the actual usage of technology (Al-Adwan et al., 2013; Jayaraman et al., 2019). As the Covid 19 pandemic arises, the usage of online technology is essential in higher education institutions (Shahzad et al., 2020). These technologies ensure students remain consistent in their studies at home during the pandemic spread. In addition, the results demonstrated that Perceived Benefits has partial mediation on the relationship between Higher Education Success and User-Friendly Technology. Covid-19 posits a greater threat due to the unpredictability of the spread and dangerousness of the virus (McKay et al., 2020). Therefore, determining the psychological risk factors is essential in comprehensively acknowledging various approaches for educationalists to enhance e-learning interfaces and user-friendly technology through regular user engagement during future teaching

and learning exercise. This outcome will aid students to identify the benefits of e-learning and find opportunities that cultivate to improve their performance. Consequently, this will motivate with a greater response in e-learning with a creative and positive attitude. Students believe in the implementation of BYOD (Bring Your Own Device) approaches and practices in the education set-up. Research undertaken in secondary schools highlights the importance of relationships between parents, students, teachers, IT technicians, principals, and the wider community in contributing to a successful mobile-learning program (Ng & Nicholas, 2013).

6.3. Partnership has a positive relationship on Higher Education Success (H4 is supported)

The partnership was found to be significant in Higher Education Success, an institution that maintains a strong partnership system that implies job prospects for students since the institution forms broad contacts with many industries. The growth of higher education institutions has led to a restructuring of higher education institutions. This encourages the growth of strategic partnerships between industry and higher education institutions (Lee et al., 2017). Therefore, fostering students to various partnerships and creating a bridge between the business community and university aids to improve career plans, educational direction and provide graduates to high opportunities to be involved in broad labour markets (Stăiculescu et al., 2015).

7. CONTRIBUTIONS OF THE STUDY

7.1. Theoretical Contributions

From a theoretical perspective, the present study expands the knowledge of social cognitive theory (SCT) on Higher Education Success. SCT considers factors that are personal, behavioural and environmental which have a significant influence on students' motivation (Bandura, 1986; Schunk & DiBenedetto, 2020). To ensure students' learning is successful, education programmes must be related to environmental skills and cognitive changes (Lee et. al., 2016). As the present study found that Smart Classroom and User-Friendly Technology have a positive relationship on higher education success, it indicates that a stimulating learning environment plays a critical role in ensuring that the students are equipped with the needs of the education industry. Now, that students move to the online environment due to the effect of covid-19, a stable and accessible online platform is necessary to ensure students can receive a quality education without disruption (Alvino et al., 2020) and should enhance students the confidence to pursue higher education.

7.2. Practical Contributions

The present study reveals that user-friendly technologies are significantly beneficial for the success of higher education. The incorporation of blockchain as a tool of technological advancement will embrace web 2.0 in higher education institutions and is suitable during this turbulent period of the pandemic. The adaptation of digital technologies is ironically slower in higher education than in other industries. Since the study provides significant positive evidence on the adaptation of digitalization to achieve higher education success, policymakers can acclimate technological advancement in higher education institutions. The results of the study strongly encourage partnership between academic institutions and industry organizations. A partnership between higher education institutions and organizations could be made at the faculty

level, for instance, engineering faculties will sign mutual agreements with firms operating in R&D industries. Malaysian higher education institutions could emphasise dual award programs, where the students will be benefited by getting recognition from two institutions.

7.3. Limitations of the study

First and foremost, this study is limited to only four leading private universities located within Peninsular Malaysia. Since these private universities are top-ranked in Malaysia, it is timely to study higher education success from the students of these universities which will be a guide to other universities in future. In addition, the unit of analysis for this study is limited to only final year students and students who have graduated from the selected private universities. However, the study sample size is relatively large and highly representative, this limitation does not matter much.

7.4. Future Scope of the Study

This study can be expanded to other private universities located in a bigger region of South East Asia. In addition, future studies can also be undertaken in public universities. A comparative study of private and public universities on higher education success will lead to policy recommendations to the higher authorities. This will enable the universities to monitor and intervene in students who may intend to drop out from higher education institutions.

8. CONCLUSIONS

The purpose of this study is to highlight the significance of Higher Education Success for the top four private higher educational institutions in Peninsular Malaysia. The proposed conceptual research model has five dimensions as predictors via smart classroom, peers support, User-Friendly Technology, partnership, and governance and mediating variable as perceived benefits. Each of these variables along with their question items is extensively elaborated with an exhaustive literature review. The structural equation modelling analysis results show that User-Friendly Technology signifies a positive relationship towards Higher Education Success. It implies that higher education institutions have to maintain User-Friendly Technology both offline and online education which helps students to improve their performance and effectiveness in learning. In particular, during the pandemic periods of COVID-19 like now, there is no other option but to resort to online teaching and learning. Other determinants which affect positively Higher Education Success are smart classrooms and partnership. The high infrastructure facilities combined with informal and formal activities will enhance knowledge sharing among private higher education institutions in Malaysia. The proposed research model can be used as a guideline to other universities to design the course curriculum and to plan for their higher education institutions' success. The discussed scope and vital results in the current study can be practised and customized to any higher education institution in the globe for long term sustainability towards a student's career development.

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Appendix: Question Items for Perceived Benefits (PB)-Mediating Variable

Perceived Benefits (PB): My higher education Institution	**Strongly Disagree**	**Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
PB1: helps me able to seek relevant information through internet	**1**	**2**	**3**	**4**	**5**
PB2: helps me able to seek relevant information through many software's/ database	**1**	**2**	**3**	**4**	**5**
PB3: improves my command in communication in writing and reading	**1**	**2**	**3**	**4**	**5**
PB4: helps me become confident in conversation	**1**	**2**	**3**	**4**	**5**
PB5: helps me to gain skills to solve potential problems	**1**	**2**	**3**	**4**	**5**
PB6: helps me to be responsive in giving new ideas	**1**	**2**	**3**	**4**	**5**
PB7: helps me to generate new thinking	**1**	**2**	**3**	**4**	**5**
PB8: helps me to gain subject knowledge	**1**	**2**	**3**	**4**	**5**