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E-learning Acceptance Among Students: Evidence from UiTM Melaka City Campus

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Abstract
COVID-19 pandemic is a global issue that change the education system from face to face to fully online teaching and learning. These changes affected the whole education system and departments from the students, lecturers, management, and suppliers. Hence, to provide an efficient and effective online learning, an investigation on factors that affect the successful of e-learning in Malaysia is deemed to be necessary. The first objective for this study is to validate the measurement items for each variable used in this study. Second objective of this study to examine the effect of instructor, accessibility, and university support on e-learning acceptance among students. This study utilized a cross-sectional study and questionnaire is the main source of information. The population of this study is students from the Faculty of Business and Management, Universiti Teknologi MARA (UiTM), Melaka Branch. From the population, a complete response is 171. To answer the research objective, SPSS was utilized, and the analyses conducted including frequency analysis, exploratory factor analysis (EFA), reliability analysis and regression analysis. From the exploratory factor analysis, all items used in this study was above 0.40 and it consider acceptable. Next, based on the regression analysis, all variables used in this study were found to be significant towards the e-learning acceptance. Hence, this showed that, instructors, accessibility, and university support play an important role for the successful of e-learning. It is also suggested that to get a clear picture on the successful of e-learning, future research to increase the number of respondents across the university and states in Malaysia.

Keywords: E-learning Acceptance, Instructor, Accessibility, University Support, COVID-19

Introduction
COVID-19, a global public health emergency, was first identified as a novel coronavirus disease epidemic by the World Health Organization (WHO) in January 2020, and then as a pandemic in March 2020. Several schools and higher education institutions were forced to close due of the COVID-19 pandemic. Because of Covid-19 pandemic, numerous schools, universities, and colleges have discontinued face-to-face instruction. This will have a detrimental impact on educational activities because social distance is so important at this period. Educational agencies are trying to find alternatives ways to manage this difficult circumstance (Dhawan,
2020). This closure boosted the rise of online educational activities, ensuring that education would not be disrupted. E-learning is defined as learning activities that take place on a variety of electronic devices, such as computers, laptops, cellphones, and other devices that have internet access. Online e-learning could be a platform that makes the process of education more flexible (Singh and Thurman, 2019).

There is a lot of changing in education system nowadays, especially in higher education institution. This change gives the biggest challenge to the whole university including management team, lecturers, and students. Internet technologies and mobile applications have transformed the education system from the traditional structure to the modern method of teaching (Sankar et al., 2020). Hence, it is important for the university in preparing a good quality of instructor or lecturers that not only competence in subject knowledge but, they must be able to engage with the technology and make an interactive session with a student. Based on Lopez-Catalam et. al (2018), e-learning could bring more confidence, reduce stress, and enhance concern and empathy. Other than that, to develop a good environment on e-learning, university support and accessibility toward technology also play an important role. Based on the research conducted by Mazalan et al (2021), the factors such as instructor, accessibility and university support are perceived as important for e-learning acceptance.

As the e-learning system has become widely used among students. Hence, the main objective for this study is to explore the effect of instructor, accessibility, and university support toward students’ acceptance on e-learning. Although there might be difficulties or barriers that can negatively impact students’ use of e-learning, thus, it can be improved and overcome with the cooperation of various parties. During the COVID-19 epidemic, this study intends to quantify the effects of instructors, accessibility, and university support on e-learning among students. This study also revealed the most important elements impacting the acceptance of e-learning as a teaching instrument in higher education, which could aid future efforts targeted at using e-learning not just during the pandemic but also in non-pandemic scenarios throughout the teaching career.

**Literature Review**

There are many drivers being examined relating to e-learning acceptance among students. Based on a recent paper published by Pham and Tran (2020), there were six factors have been considered that could affect the e-book and e-learning acceptance among students. These factors include instructor/lecturer, computer competency of the student, content, and design of course, access ability, infrastructure, and university support. However, this study aims to examine the effect of instructor/lecturer, access ability and university support among students undertaking Strategic Management course at UiTM Melaka Branch.

**Instructor**

The COVID-19 pandemic has forced many organizations around the world to make full use of a variety of emerging online communication platform technologies (Al-Kumaim et al., 2021). All these changes required the universities to come out with a proper strategy to make sure the platform or technologies used are suitable with all parties involved such as student, lecturer, and management. According to Benta, Bologna, and Dzitac, (2014), a system designed that offer to students, teachers, and administrators must be efficient and effective to help them create an enhanced and customized learning climate. For example, Moodle is considered a web-based flexible learning environment that facilitates collaboration between
users. Hence, as an instructor, they must be flexible in using the platform of online teaching and learning process. As a result, establishing a digital learning community among teachers is critical to provide support mechanisms for their professional development (Izhar, Al-Dheleai, & Ishak, 2021). The creation of a team made up of people from diverse subjects looks to be able to assist teachers in identifying the areas that need to be considered when organizing technology-enabled lessons (Koh et al., 2017).

Further, to make sure the teaching and learning process at high quality, the integration of technology and support from the university and members are important. Through the platforms that subscribe by the university, teachers can upload and supply students with information and resources to which they would not have had access during face-to-face classes, and students can easily share information, state their difficulties, and receive feedback (Martín-Blas, & Serrano-Fernández, 2009). From that, universities should improve online assessment methods based on the time allocated to lecturers (Ilias et al., 2020). However, teachers' lack of familiarity with E-learning and the short time they had to adjust their teaching approach to the new circumstances (Coman et al., 2020). In this regard, the findings of a survey done by School Education Gateway at the start of the pandemic, which revealed that 66.9% of respondents said they had used online platforms for teaching for the first time, are instructive (School Education gateway, 2020). Hence, it is important for the university management to provide a comprehensive training for the lecturers to improve the skill and knowledge on online learning.

Access Ability
E-learning is the use of network technologies to create, foster, deliver, and facilitate learning, anytime and anywhere for empowering the individual learner so that the teacher/trainer/tutor is no longer the gatekeeper of knowledge, while the role of teachers is likely viewed as facilitators of knowledge process (Oye, Salleh, & Iahad, 2010). Hence, to improve the quality of teaching, there is a need to ensure a suitable medium for online learning, such as Microsoft Team, Google Meet and Zoom, that is provided by universities and effectively used by both lecturers and students (Ilias et al., 2020). In terms of obstacles encountered because of the transition from face-to-face learning to a fully virtual learning environment, students reported a decrease in wellbeing, a loss of motivation, difficulty concentrating on their studies, and Internet connectivity issues (Azlan et al., 2020).

E-Learning is one of the technical-based tuition and training platforms in telecommunication technology used to deliver information in education (Latip et al., 2020). Along with the progressive information and communication development, e-Learning is considered a paradigm in modern education. Furthermore, universities are among the organizations that have asked students, tutors, and lecturers to use several different online communication platforms to ensure the education process remains uninterrupted (Al-Kumaim et al., 2021). However, the COVID-19 pandemic has generated considerable challenges for the global higher education community while using such emerging technologies. Because these students are less rich and come from less tech-savvy households with limited financial resources, they may miss out on online classes (Sharin, 2021). They may be unable to participate due to the high costs of digital devices and online data plans. Inequality will widen because of this income disparity (Dhawan, 2020).
University Support

COVID-19 pandemic has changed the teaching and learning process for whole education system. The most challenges part in these changes is the accessibility. This is because, limitations in the form of technical issues, lack of Internet connection and insufficient data are common challenges related to online learning conducted outside the university campus (Ilias et al., 2020). A Learning Management System is seen as a software that operates and encompasses many services that are meant to aid teachers in managing their lectures and courses (Ouadoud, Nejjari, Chkouri, & El-Kadiri, 2017), and they were created to monitor and evaluate students, give grades, to monitor course attendance or additional administrative actions that can be demanded by educational institutions (Ninoriya, Chawan, & Meshram, 2011). Some of the challenges universities face, according to the Organization for Economic Cooperation and Development, include maintaining a balance between online courses, which may affect students' health due to their spending many hours in front of a screen, and non-digital activities, as well as analyzing and focusing on students' emotional health and providing them with support throughout the learning process (OECD 2020).

Further, it is important for all parties to give more attention on several aspect of the effectiveness of online and distance learning. According to Huang, Liu, Tilili, Yang, and Wang (2020), monitoring and expanding internet infrastructure to avoid delays, particularly during videoconferences; employing user-friendly tools to assist students in assimilation and comprehension of knowledge; providing dependable, interactive, and diverse electronic resources providing services that help students and teachers learn about the latest policies adopted by universities and the government, and encouraging collaboration between these institutions; using social networks to build online communities for students in order to reduce feelings of isolation; using various effective techniques such as debates or learning based on discovery and experience; providing services that help students and teachers learn about the latest policies adopted by universities and the government, and encouraging collaboration between these institutions. Technical issues are still the issues most difficult to solve, due to the capacity of the servers owned by universities. Surely, universities have made efforts to solve these problems and improve the way the E-learning platforms work (Coman et al., 2020). Still, students’ technical problems remain poor internet connections, signal loss, lack of adequate digital devices, especially for students living in rural areas or students from families with low incomes. Hence, it is important for the university management to come out with a comprehensive planning and strategies to support the successful of online learning. Other than that, universities could create programs to meet these types of needs and thus facilitate the learning process for students who find themselves in these situations.

E-learning Acceptance

Oye, et al (2011) defined E-learning as a unifying term used to describe the fields of online learning, web-based training and technology delivered instructions. E-learning courses are specifically delivered via the internet to somewhere other than the classroom for enhancing or supporting learning (Elfaki, Abdulraheem, & Abdulrahim, 2019). Past investigations shown that anyplace and whenever learning and access to data and correspondence are encouraged through e-learning (Kyzu et al., 2018); Yakubu, & Dasuki, 2019). Online learning, or e-learning, provides a virtual learning environment that engages students in various activities involving a multitude of subjects through the audio-visual platform (Al-Rahmi et al., 2018).
learning is used for delivering information, while the database system is used for managing, communicating content, interacting or facilitating teaching and learning activities (Anshari et al., 2016)

Online learning is essential for the teaching and learning process, besides face-to-face and other traditional methods (Mokhtar et al., 2020). There are several reasons for adopting online learning, as mentioned in previous studies. Studies have noted that online learning operates using the Internet and there is no limit to the number of participants (Ghazali, & Nordin, 2018). Indeed, it is difficult to ensure the reliability of the learning services provided (Schroeder et al., 2010). That is the reason it is vital to assess students' acceptance of the e-Learning method (Latip et al., 2020). In addition, fear of technology, lack of technical skills, lack of technical support for both students and lecturer may also cause some concerns (Ali & Magalhaes, 2008). Nevertheless, e-Learning enables students to produce high-quality work and to be actively involved in alumni community activities. Educational institutions to benefit from it, by gaining an exposure and adding values to their programmed around the globe, besides responding towards IR 4.0 (Schroeder et al., 2010).

Research methodology
This study used quantitative research and questionnaire was adopted to gather the information. Population of this study is students from University Teknologi MARA, Melaka branch and all of them experienced in e-learning, undertaking Strategic Management course between September 2020 to February 2021. The required sample size for this study is 109 as suggested by G-Power. However, the number of respondents that answered the questionnaire is 171. To answer the research objective of this study, SPSS was used for analysis of data that will cover the demographic analysis, exploratory factor analysis, reliability analysis and regression analysis. Online data collection was used to gather information from the respondents. The chosen of online platform because of the covid-19 pandemic. The measurement item of this study was adapted form Pham and Tran (2020) and each item used 5-point Likert-scale.

Research findings
Demographic Analysis
Table 1 present the analysis of demographic. Based on the analysis, most of the respondents are in between 23 to 25 years old that cover 77.8% or 133 respondents, follow by 20 to 22 years old and 25 to 26 years old. In term of gender, the higher is female with 152 respondents (88.9%) and follow by male respondents with 11.1%. Next is program of study that respondent’s registers. Based on the finding, the higher number of respondents are from Human Resource Management program with 36.8%, followed by Finance (28.1%), International Business (19.9%) and Office System Management (15.2%). All the respondents for this study from semester three students.
Table 1: Demographic Analysis

| Demographic Questions | Category | Frequency | Percent |
|-----------------------|----------|-----------|---------|
| Age                   | 20-22    | 30        | 17.5%   |
|                       | 23-24    | 133       | 77.8%   |
|                       | 25-26    | 8         | 4.7%    |
| Gender                | Male     | 19        | 11.1%   |
|                       | Female   | 152       | 88.9%   |
| Program               | Finance  | 48        | 28.1%   |
|                       | HRM      | 63        | 36.8%   |
|                       | IB       | 34        | 19.9%   |
|                       | OSM      | 26        | 15.2%   |
| Semester              | 3        | 171       | 100%    |

Exploratory Factor Analysis

Factor analysis is a technique for revealing correlations between variables and condensing inter-correlated variables into a few factors. As a result, the Kaiser-Meyer-Olkin (KMO) index is used to assess the suitability of factor analysis. However, value more than 0.60 is adequate (Pallant, 2001).

Table 2: Factor Analysis

| Variable | KMO and Bartlett’s Test | Total Variance Explained | Rotated Component Matrix |
|----------|-------------------------|--------------------------|--------------------------|
|          | Kaiser-Meyer-           | (Initial Eigenvalue)     | Component                |
|          | Olkin Measure of        |                          |                          |
|          | Sampling Adequacy       |                          |                          |
|          | (Bartlett’s Test of     |                          |                          |
|          | Sphericity) Sig.        |                          |                          |
| Instructor| 0.848                  | 0.000                    | Ins_1 4.407 62.955 Ins_1 0.77 5 |
|          |                        |                          | Ins_2 0.856 12.229 Ins_2 0.53 3 |
|          |                        |                          | Ins_3 0.564 8.063 Ins_3 0.83 8 |
|          |                        |                          | Ins_4 0.480 6.853 Ins_4 0.82 9 |
|          |                        |                          | Ins_5 0.294 4.202 Ins_5 0.85 6 |
|          |                        |                          | Ins_6 0.238 3.4 Ins_6 0.80 2 |
|          |                        |                          | Ins_7 0.161 2.298 Ins_7 0.86 8 |
Table 2 indicates the factor analysis result for each variable used in this study. Based on the result, the Kaiser-Meyer-Olkin (KMO) value for instructor is 0.848, access ability is 0.869, university support is 0.798, and the dependent variable which is e-learning is 0.859. Based on the result above, in indicated that the university support is moderate with the range value of 0.70 to 0.79 and the rest of variable is Meritorious with the range value of 0.80 to 0.89. In Bartlett’s test of Sphericity, a significant level 0.000 indicates that the p value is < 0.000. Therefore, the items in this variable have a strong relationship between each other.

Rotated component matrix in table 2 shown that the items for each variable load on to that individual variable only and there is no sub variable match created within variable. The result of this process, all the item loading that below 0.4 were deleted. According to Stevens (1992) and Field (2000), “recommends interpreting only factor loadings with an absolute value greater than 0.4, which means explain around 16% of the variance). Based on the result, represented all the factor loading for each item are above 0.4.
Reliability Analysis
Based on the Cronbach’s alpha analysis, all variables are considered reliable because they achieved an alpha value more than 0.7. The result showed in Table 3, instructors has the highest Cronbach’s alpha value with 0.900, followed by e-learning as a dependent variable where its alpha value is 0.885, then university support with the alpha value of 0.885, and access ability with 0.882. The items used to measure each variable were reliable and none of the items were deleted at this stage.

Table 3: Reliability Analysis

| Variable                | No. of Item | Cronbach’s Alpha |
|-------------------------|-------------|------------------|
| Dependent Variable      |             |                  |
| e-learning              | 6           | 0.886            |
| Independent Variable    |             |                  |
| Instructor              | 7           | 0.900            |
| Access ability          | 6           | 0.882            |
| University Support      | 4           | 0.885            |

Regression Analysis
The result in Table 5 indicates that $R = 0.783$, $R^2 = 0.613$, adjusted $R^2 = 0.606$, $F = 33.330$, $p<0.000$. The multiple correlation coefficient between the variables, in which comprise of Instructor, Access and University Support toward the e learning is 0.783. It is indicating that the independent factor considered in the regression model are highly positively correlated with the dependent variables. The three independent factors account for 61.3% of the variance in the green purchase intention that reflecting convergent validity on the independent factors on e-learning. Hence, 38.7% of the variations in the e-learning are due to other factors do not investigate in this study. The adjusted $R^2$ is 0.606 indicating the result of this study is generalizable to other population. Given that the adjusted $R^2$ is close to the $R^2$ value, it represented that no overfitting of the model to the sample occurred (Hair et al., 2006). Clearly, the regression model fit the data very well. The $R^2$ value drop by only 0.007 in the adjusted $R^2$ that signifies the acceptable cross validity of this model. The F-test is 88.330 at $p<0.000$ indicates a significant association between the variables. In viewing the $B$ (Beta) coefficients, the positive sign on all the independent factors is an indication of a positive relationship between independent and dependent variables.
Table 5: Regression Analysis

| Independent Variables | Unstandardized Coefficients (B) | Standard Error | t-Value | p-value |
|-----------------------|---------------------------------|----------------|---------|---------|
| (Constant)            | 0.240                           | 1.145          | 0.210   | 0.834   |
| Instructor            | 0.248                           | 0.051          | 4.858   | 0.000   |
| Access Ability        | 0.237                           | 0.060          | 3.938   | 0.000   |
| University Support    | 0.411                           | 0.101          | 4.078   | 0.000   |

R = 0.783
R² = 0.613
Adjusted R² = 0.606
F = 88.330
Sig. = 0.000

Dependent Variable: E-Learning

Based on Table 5, result represented the regression analysis. Firstly, the effect of university support toward e-learning shows the $\beta=0.411$, $t=4.078$, $p=0.000$. This indicated the highest standardized beta coefficient. Means that, university support is the most important factor in predicting e-learning. Secondly, the effect between instructors toward e-learning among student presents $\beta=0.248$, $t=4.858$, $p=0.000$. It shows that, instructors are significantly affect the e-learning acceptance among the students. Lastly, the effect of accessibility toward e-learning acceptance among student shows the beta value $\beta=0.237$, $t=3.938$, $p=0.000$. Hence, the analysis represents that, accessibility have a significant affect toward the e-learning acceptance among students. This implies, a better e-learning can be achieved or enhanced when the student has a good university support, instructor, and accessibility.

Discussions
The global landscape is becoming more muddled and uncertain leading to slow economic growth due to the COVID-19, however, this pandemic has forced global physical closure of businesses, sport activities and schools by pushing all institutions to migrate to online platforms. Based on the result above, there were three independent variables tested on e-learning among students in Melaka. University support is the most important factor in predicting e-learning while instructor and access ability show least factor.

Firstly, University support includes university library, digital and online materials, digital resources, training, academic tools, and others (Rapanta et al., 2020). This means digital and online materials are very important to ensure the successful of e-learning implementation. Students may retrieve information from digital resources which provided by the university library and others. The findings of this study revealed that, the university must ensure that the support in the form of online materials, digital resources, digital platform for online teaching and training tools are important to ensure the effectiveness of online learning.

Secondly, it has been reported that teaching quality of lecturers has a significance influence on student satisfaction (Martono et al., 2020). Thus, during online learning, instructor plays
important role in predicting e-learning interaction among students. The guidance and encouragement of the instructors can motivate students to use e-learning, by these means, they will indirectly embrace the system. Besides, engaging presentation, systematic teaching style, and friendly interaction are among the factors that encourage students to accept and encourage them to continue to use the e-learning system. This aligned with the study explored by Taat and Francis (2020) which found instructors have positive relationship towards e-learning. Thus, instructor is expected to display good and decent spirit while delivering online teaching. The positive behaviors embedded through the online learning process would influence the motivation experience by the students.

Lastly, this study also reveals that accessibility has a positive relationship towards e-learning. Universities, for example, have requested students, tutors, and lecturers to use a variety of online communication channels to guarantee that the educational process runs well (Al-Kumaim et al., 2021). The implementation of e-learning is about the accessibility and availability of internet connection and devices. Access to computers and internet connections, as well as preparatory training, are critical for teachers to begin integrating technology into their teaching and learning processes (Cheok et al., 2017).

Conclusions
Previous study has indicated that students’ satisfaction in higher education is impacted by variables such as learning facilities, teaching quality and administration (Arham et al., 2021). The current COVID-19 crisis has obliged most education systems to adopt alternatives to face-to-face teaching and learning. Many education systems moved activities online, to allow instruction to continue despite school closures. The e-learning approach is very important as means of diversifying teaching and learning methods among students. This study found that the level of e-learning acceptance among students was modest and influenced by factors such as university support, instructor, and access ability. Approximately, 61% of the variation in the e-learning is being influenced by the combination of independent variables represented in this study. The usefulness and convenience of students are influenced by the quality of the system provided by the university and the information provided by the lecturers. However, technical support should be taken into consideration by the university because of external issues such as sluggish internet access, low signal, sign-in problems, less user-friendly interface in digital materials, and less attractive e-learning websites that can cause students not to use the system. Other services such as internet and Wi-Fi should be improved, as the internet is at the heart of e-learning use and acceptance. Furthermore, this study encourages lecturers to use e-learning in helping to enhance their teaching process. Apart from that, this study also increased the amount of research in the field of e-learning and provided a source of reference for other researchers to conduct further studies. Recommendations for future research is to include additional variables and involve respondents from lecturers for more comprehensive and robust information and views. Also, future research needs to investigate potential moderating variables that might influence the direct relationship between the variables in this study. Perhaps, leadership role of lecturers, student’s interaction and engagement, technological literacy might be additional factors that could influence the E-learning acceptance.
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References
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*, 13(5), 2546.

Al-Rahmi, W. M., Alias, N., Othman, M. S., Alzahrani, A. I., Alfarraj, O., Saged, A. A., & Rahman, N. S. A. (2018). Use of e-learning by university students in Malaysian higher educational institutions: A case in Universiti Teknologi Malaysia. *IEEE Access*, 6, 14268-14276.

Ali, G. E., & Magalhaes, R. (2008). Barriers to implementing e-learning: A Kuwaiti case study. *International Journal of Training and Development*, 12(1), 36–53.

Anshari, M., Alas, Y., Sabtu, N. P. H., & Hamid, M. S. A. (2016). Online Learning: trends, issues and challenges in the Big Data Era. *Journal of e-Learning and Knowledge Society*, 12(1), 121-134.

Arham, A. F., Norizan, N. S., Ahmad, Z. F., Md Isa, H. D., Kamarulzaman, N. N., & Arham, A. F. (2021). Examining the relationship between facilities, teaching quality and administration towards student satisfaction. Proceedings of 8th International Conference on Advanced Materials Engineering & Technology (ICAMET 2020), 2347, 1-5.

Azlan, C. A., Wong, J. H. D., Tan, L. K., Huri, M. S. N. A., Ung, N. M., Pallath, V., & Ng, K. H. (2020). Teaching and learning of postgraduate medical physics using Internet-based e-learning during the COVID-19 pandemic – A case study from Malaysia. *Physica Medica*, 80, 10-16.

Benta, D., Bologa, G., & Dzitac, I. (2014). E-learning platforms in higher education. Case study. *Procedia Computer Science*, 31, 1170-1176.

Cheok, M. L., Wong, S. L., Ayub, A. F., & Mahmud, R. (2017). Teachers’ perceptions of e-learning in Malaysian Secondary Schools. *Malaysian Online Journal of Educational Technology*, 5(2), 20-33.

Coman, C., Țiru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: students’ perspective. *Sustainability*, 12(24), 10367.

Dhawan S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5-22.

Elfaki, N. K., Abdulraheem, I., & Abdulrahim, R. (2019). Impact of e-learning vs traditional learning on student’s performance and attitude. *International Journal of Medical Research & Health Sciences*, 8(10), 76-82.

Field, A. (2000). *Discovering Statistics using SPSS for Windows*. London – Thousand Oaks – New Delhi: Sage publications.

Ghazali, N. B., & Nordin, M. S. (2018). The perception of university lecturers of teaching and learning in massive open online courses (MOOCs). *Journal of Personalized Learning*, 2(1), 52-57.
Hair, J. F., Bush, R. P., & Ortinau, D. (2006). *Marketing research: within a changing information environment* (3rd ed.) New York: McGraw Hill international edition.

Huang, R. H., Liu, D. J., Tlili, A., Yang, J. F., & Wang, H. H. (2020). Handbook on facilitating flexible learning during educational disruption: The Chinese experience in maintaining undisrupted learning in COVID-19 outbreak. Beijing: *Smart Learning Institute of Beijing Normal University*, 1-54.

Ilias, A., Baidi, N., Ghani, E. K., & Razali, F. M. (2020). Issues on the Use of Online Learning: An Exploratory Study Among University Students During the COVID-19 Pandemic. *Universal Journal of Educational Research, 8*(11), 5092-5105.

Izhar, N. A., Al-Dhelei, Y. M., & Ishak, N. A. (2021). Education Continuation Strategies during COVID-19 in Malaysia. *International Journal of Academic Research in Business and Social Sciences, 11*(4), 1423-1436.

Latip, M. S. A., Noh, I., Tamrin, M., & Latip, S. N. N. A. (2020). Students’ acceptance for e-learning and the effects of self-efficacy in Malaysia. *International Journal of Academic Research in Business and Social Sciences, 10*(5), 658-674.

López-Catálan, L., López-Catálan, B., & Delgado-Vázquez, Á. M. (2018). Web promotion, innovation and post-graduate e-learning programs. IJERI: *International Journal of Educational Research and Innovation, 1*(11), 47–59.

Martín-Blas, T., & Serrano-Fernández, A. (2009). The role of new technologies in the learning process: Moodle as a teaching tool in Physics. *Computers & Education, 52*(1), 35-44.

Martono, M. S., Nurkhin, A., Pramusinto, H., Afsari, N., & Arham, A. F. (2020). The Relationship of Good University Governance and Student Satisfaction. *International Journal of Higher Education, 9*(1), 1-10.

Mazalan, M. I., Bogal, N., Arham, A. F., Abdullah, M. S., Hanapiyah, Z. M., Norizan, N. S., & Jamil, M. F. (2021). Students’ Perception towards E-Learning: A Descriptive Analysis at Uitm Kampus Bandaraya Melaka. *International Journal of Academic Research in Business and Social Sciences, 11*(9), 638–648.

Mokhtar, S. M., Adnan, N. A. A., Shazali, N. M., & Ahmad, N. (2020). Why are students involved in e-learning? A reasoning study at Universiti Kebangsaan Malaysia, *International Journal of Education and Pedagogy, 2*(1), 152-159.

Ninoriya, S., Chawan, P. M., & Meshram, B. B. (2011). CMS, LMS and LCMS for elearning. *International Journal of Computer Science Issues (IJCSCI), 8*(2), 644.

Kyzy, N. Z., Ismailova, R., & Dundar, H. (2018). Learning management system implementation: a case study in the Kyrgyz Republic. *Interactive Learning Environments, 26*(8), 1010-1022.

OECD. (2020). *Education Responses to COVID-19: Embracing Digital Learning and Online Collaboration*. Available online: http://www.oecd.org/coronavirus/policy-responses/education-responses-to-covid-19-embracing-digital-learning-and-online-collaboration-d75eb0e8/

Ouadoud, M., Nejjari, A., Chkouri, M. Y., & El-Kadiri, K. E. (2017). Learning management system and the underlying learning theories. In Proceedings of the Mediterranean Symposium on Smart City Applications. *Springer, 732-744*

Oye, N. D., Salleh, M., & Jahad, N. A. (2010). Holistic e-learning in Nigerian higher education institutions. *Journal of Computing, 2*(11), 20-26.
Oye, N. D., Salleh, M., & Iahad, N. A. (2011). Challenges of e-learning in Nigerian university education based on the experience of developed countries. *International Journal of Managing Information Technology*, 3(2), 39-48.

Pallant, J. (2001). *SPSS Survival Manual*. Buckingham: Open University Press.

Pham, Q. T., & Tran, T. P. (2020). The acceptance of e-learning systems and the learning outcome of students at universities in Vietnam. *Knowledge Management & E-Learning*, 12(1), 63-84.

Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university teaching during and after the Covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, 2(3), 923-945.

School Education Gateway. (2020). *Survey on Online and Distance Learning—Results*. Available online: https://www.schooleducationgateway.eu/en/pub/viewpoints/surveys/survey-on-online-teaching.htm

Schroeder, A., Minocha, S., & Schneider, C. (2010). The strengths, weaknesses, opportunities, and threats of using social software in higher and further education teaching and learning. *Journal of Computer Assisted Learning*, 26(3), 159–174.

Sharin, A. N. (2021). E-learning During Covid-19 A Review of Literature. *Jurnal Pengajian Media Malaysia*, 23(1), 15-28.

Singh, V., & Thurman, A. (2019). How Many Ways Can We Define Online Learning? A Systematic Literature Review of Definitions of Online Learning (1988-2018). *American Journal of Distance Education*, 33(4), 289-306.

Stevens, J. P. (1992). *Applied Multivariate Statistics for the Social Sciences* (2nd edition). Hillsdale, NJ: Erlbaum.

Taat, M. S., & Francis, A. (2020). Factors Influencing the Students’ Acceptance of E-Learning at Teacher Education Institute: An Exploratory Study in Malaysia. *International Journal of Higher Education*, 9(1), 133-141.

Yakubu, M. N., & Dasuki, S. I. (2019). Factors affecting the adoption of e-learning technologies among higher education students in Nigeria: A structural equation modelling approach. *Information Development*, 35(3), 492-502.