Challenges Impacting Students' Intention to Effectively Use E-Learning Method in a Virtual Learning Environment

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Article Info

Abstract

During the pandemic period, the education sector was heavily impacted involving transformations of instructional delivery from face-to-face to online mode. To date, we know that the virtual learning environment has been posing heavy demands particularly on the students. Learning from their own homes, they had to learn in isolation, deprived from the support of the instructor and peers as in conventional classrooms. As we continue to pursue online program offerings beyond the pandemic period, it is important to address students' sense of isolation and their efforts to stay engaged in learning. This study aims to identify the extent to which the challenges students faced in a virtual learning environment during the pandemic, have impacted their intention to effectively use the online learning method. Respondents for this study consist of students in one private university. This study employs a quantitative method. A set of questionnaire survey was administered online with a return of 367 respondents. The research data was analyzed using Structural Equation Modelling (SEM) and Smart PLS. The findings gathered indicate that self-regulation, students' sense of isolation and lack of learning resources significantly impact their intention to effectively use e-learning methods. It is thus evident that students' intention to learn effectively must be supported by factors outside of themselves, to keep them highly motivated, disciplined, as well as proactive through self-directed learning.

Introduction

One direct impact of the Covid-19 lockdown was on education where teaching and learning had to be transformed to adjust to the new normal. Schools, colleges, and universities were closed for more than a year. The pandemic lockdown had indeed brought a huge influence in the field of education around the world (Lekhraj Rampal, 2020). Education strategies had to be quickly devised and rolled out. Educators of all levels in all fields had to be actively involved in transforming physical classroom environment to a virtual space. Not only did teaching and learning approaches have to be altered, new e-learning policies and guidelines had to also be developed in the students' best interest in order to ensure continuity and quality of education. Despite these challenges, Nugraha *et al* (2020) argue that online learning has its key advantages. In particular, it minimizes time and effort for contact meetings with the students as well as other related processes. This allows educators to use time outside of scheduled lessons to for other academic-related tasks.

There are many different perspectives to define e-learning. The perspectives range from seeing e-learning as a teaching process that integrates any form of technology, to those who claim that e-learning represents a teaching solution for distance education, majorly facilitated by the internet as a form of communication (Bertea, 2009). Hadisi and Muna (2015) describe e-learning as an effort to make learning materials more accessible to students, and to further facilitate their interaction with lecturers and other students. With e-learning, students can also exchange information without having to be with each other. More conveniently, course instructors can also upload teaching materials and / or assignments on the web or an online platform, for students to access and use in their own time.

Despite these advantages, what is more important as a way forward, are for us to look into the many challenges faced by students and lecturers in online teaching and learning brought about by the pandemic. To date, various studies have attempted to address these challenges. Aini *et al* (2020) posit that the successful implementation of e-learning systems hinges upon addressing challenges faced by the ultimate end-users of online learning. Examining the challenges in e-learning in the context of the pandemic will help guide higher education institutions and policy makers to fulfil the needs of e-learning system users, particularly the students – thereby ensuring effective implementation of e-learning. At this point in time when the world has accepted Covid-19 as part and parcel of life, flu pandemic is far from over. New strains keep emerging every now and again, thus putting the world at risk for future major breakouts, posing socio-economic limitations should history repeat itself (Buheji, 2020). Given the importance of continuous learning in difficult times, this study seeks to investigate learner perceptions on the online education they have experienced. Further, this study sets out to investigate the extent to which the challenges students faced in the virtual learning environment during the pandemic, have impacted their intention to effectively use the online learning method.

Theoretical Framework

There have been numerous studies on user acceptance of online learning particularly during and post-pandemic. Such studies investigate a variety of factors, using various models and various methods of analysis. In this study, four aspects under social environment factors are measured to see how these factors affect students' intention to effectively use online learning. The factors are i) students' ability to self-regulate learning; ii) students' sense of isolation; iii) the availability of learning resources and iv) their own learning environments.

Self-Regulation

In conventional classroom learning, social interaction with the instructor and peers is plays a major role to motivate students to make progress. Therefore, the lack of it in online learning can be very demotivating. Online learning requires students to set their own direction, as well as their own pace in learning. For this, they need to be highly motivated, self-disciplined, and proactive. This has proven to be very challenging as self-regulation is not second nature to many. Self-regulation or having a strong self-determination to attain excellent academic performance requires students to study independently. Some studies have proven that when given more autonomy in learning, students often find themselves challenged by self-regulation issues that include low motivation to

study and ineffective communication with their fellow students (Rannastu-Avalos & Siiman, 2020). Wan Hassan *et al* (2020) studied challenges faced by Langkawi Vocational College Diploma students in using Google Classroom during the Covid-19 pandemic lockdown. The researchers identified self-regulation as a vital skill to master in 21st century learning. It includes being able to determine what to learn, to find information or materials to learn, to direct one's own learning, to be consistently motivated, and to be able to reflect on their learning through self-assessment or other means (Wan Hassan *et al*, 2020). Further, Biwer *et al* (2021) conducted a study on 1800 university students in America. In their study, students reported being less able to regulate their attention, effort, and time as compared to conventional classroom learning prior to the pandemic crisis. They also reported investing more time and effort in self-study to achieve desired results. On a different note, Usher and Schunk (2018) highlight individual differences in self-regulated learning. According to these researchers, self-regulated learning is governed by a social cognitive framework where learning is seen as an interaction between personal, behavioral, and environmental factors. Different students respond differently in the situation of emergency learning crisis: some students may find it difficult to concentrate and continue learning consistently, whereas others may double their efforts to cope with the new environment. Therefore, this study hypothesis that students' ability to self-regulate has an effect on their intention to effectively use online learning.

Student Isolation

In online learning, the challenge of self-regulation and lack of drive in the absence of mentors and peers further leads to a feeling of isolation. Lack of human contact and connection makes learning a lonely and boring endeavor. This feeling of isolation is compounded by the challenge of coping with new knowledge and obtaining a good grasp of it. Despite the numerous opportunities online education has to offer and its potential to overcome obstacles of time and space, students' sense of isolation can seriously hamper effective learning. Online learning's lack of social interaction causes feelings of isolation, a loss of motivation and confidence, and, to some extent, depression (Biwer, 2021). Blake *et al* (2021) highlight the need for online teaching techniques to promote student participation. This, they argue, can lessen the sense of social isolation the students experience in online learning. In addition, according to Muceldili et al. (2021), the feeling of social isolation can be lessened by incorporating fresh ideas for teamwork into online courses, measuring students' self-efficacy in teamwork, or by employing successful methods for developing a learning community. This includes involving participants as facilitators and supporting a worldwide, multilingual community of learners. Ultimately, these can be achieved by encouraging student participation in online forums and peer contacts. However, they further argue that making it mandatory would not always be successful as it is context dependent. Not all instances of dialogue are acceptable for learning (Hughes & Daykin, 2002). Thus, it is hypothesized in this study that students' feelings of isolation have an impact on how effectively they intend to use online learning.

Learning Resources

The advent of digital age has brought along with it reference materials online through massive search engines as well as, far-reaching access to quality online journals and reading materials. The use of physical textbooks for the delivery of course content has drastically dropped as they are now replaced with e-books that are cheaper and

more convenient to access. This has forced many authors and publishers to provide additional digital learning resources to accompany print textbooks. However, there is limited research on how digital textbook resources should be used to effectively facilitate e-learning (Lau *et al*, 2018). When the pandemic hit, students had to resort to e-learning materials with very little help. The abrupt pandemic lockdown has not only deprived students from contact with their lecturers and peers, it has also cut them off access to university libraries, labs and other learning facilities. Students doing technical subjects and other subjects that require practical tasks and assessments had to either defer some core courses or learn in various alternative modes. They had to resort to finding supplementary materials online with very little guarantee of quality. Thus, in this study, it is hypothesized that the lack of good quality learning resources impacts students' intention to effectively use online learning.

Learning Environment

The fourth but not the least important factor that affects students' intention to use online learning is their own learning environment. Students' home learning environment is found to affect their ability to regulate their own learning. Biwer (2021) reported students' difficulties in concentrating and focusing on learning due to distractions at home, trying to learn new things online, and not having access to the library or other study facilities to assist their studies. In addition, sustaining their efforts is perceived as harder. It is attributed to spending long hours in front of the computer screen, as well as problems of poor internet connection making online learning difficult. Despite the students' overwhelmed appreciation for studying in a comfortable space at home and saving travel time, maintaining a daily routine is claimed to be more difficult (Biwer, 2021). In another study, studying at home is found to pose various other challenges. In conducive home learning environment includes hot weather, small rooms and small learning spaces, noisy surroundings from within the home itself or from the neighbors and the housing area in general. There are also reports of having to help parents with house chores such as cooking and cleaning, as well as sending and fetching siblings from school. Further, students also report being disturbed by siblings, adding to the problem of lack of learning concentration. Every student has his/her own unique family backgrounds. Non-conducive learning environment are mainly reported by students with poor or moderate-income family background (Mahathir & Wardatul, 2021). These disruptions in the home add to the problem of lack of instructor and peer support that they would have in conventional contact classes. Lack of harmonious family environment and long-term emotional support is found to greatly affect students' learning engagement and self-efficacy in stay-at-home learning during the pandemic lockdown (Gao, 2021). This study hypotheses that home learning environment has an effect on the students' intention to effectively use online learning.

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is used in this paper to study students' intention to use e-learning effectively. The central idea behind TPB is that behavioral decisions are not made at the spur of the moment, but rather as the result of a deliberate process in which a person's behavior is influenced by their attitudes, norms and perceptions of control over their behavior. According to the idea of planned behavior, a person's intention to act reflects the possibility of doing so (Kinsky et al., 2015). Intention is the act of mentally deciding on a course of action or outcome. According to Ajzen (1991), intention is a key prelude to action. Subsequently, intention is seen

as the proximal determinant of behavior; the more intent one has to participate in a specific behavior, the more likely one is to do so. Ajzen (1991) adds that there are three predictors of intention in TPB. They are i) attitude (evaluations of performing a behavior), ii) subjective norm (perceived social pressure and expectations to perform or not perform a behavior) and iii) perceived behavioral control (perceived ease or difficulty of performing a behavior). TPB has is widely applicable and has a variety of empirical evidence. It has been used to research healthy eating (Conner, Norman & Bell, 2002), alcohol and cigarette usage (McMillan & Conner, 2003) and exercise behavior (Bozionelos & Bennett, 1999). Furthermore, the TPB has been used to predict pro-social behaviors such as blood donation (Giles & Cairns, 1995), volunteerism (Warburton & Terry, 2000) and the intention to contribute money to donations as well as the actual act of giving (Smith and McSweeney, 2007). However, there has been little research on the intention to effectively use online learning using the TPB. Thus, using an extended TPB model, this study investigates the TPB components of self-regulation, students' sense of isolation, the availability of learning resources and conducive learning environment as significant predictors to students' intention to effectively use online learning.

Related Studies

The number of research examining the "new normal" in education has multiplied in recent years. Various research studies have looked at students' particular learning experiences during the pandemic, while others focused on national policies, professional development, and the curriculum. These studies include Copeland *et al*. (2021) and Fawaz et al. (2021), who examined how COVID-19 has impacted college students' mental health and coping skills. Copeland *et al*. (2021) claim that the pandemic had a detrimental effect on students' behavior and emotional functioning, particularly with regards to externalizing problems like mood and wellness behavior, brought on by sense of isolation. Further, it also has effects on economy and health, brought about by feeling of uncertainty. According to Fawaz *et al*. (2021), students also expressed concerns about the methods employed for education and evaluation, heavy workload, technical difficulties, and feeling of confinement. To counter these uncertainties, students were reported to have actively dealt with them by approaching their professors and families for support, as well as by engaging in extracurricular activities to pass the time. These pupils' active-oriented coping skills are consistent with the self-regulation strategies examined by Carter et al. (2020).

In a separate study, Tang *et al*. (2020) looked at the effectiveness of several online teaching modalities among engineering students. Their findings show that students were generally unsatisfied with online learning, but mainly to do with communication and question-and-answer formats. However, the flipped classroom and online teaching methodology as a whole, enhanced student engagement, academic achievement, and course evaluation. Hew *et al*. (2020) conducted a parallel study in which they used a cloud-based video conferencing programme to convert traditional flipped classrooms into completely online flipped classrooms. According to their findings, these two categories of learning settings were equally efficient. The researchers also provided advice on how to successfully implement online flipped classes with videoconferencing support.

In contrast to these research studies, Suryaman *et al*. (2020), investigated how learning took place at home throughout the pandemic. Their research revealed that the numerous challenges students encountered when

learning at home, include lack of technological proficiency, expensive internet costs, and little student engagement and sociability. In a related study, Kapasia *et al*. (2020) investigated the effects of lockdown on pupils' learning performance. Their conclusions show that the lockdown seriously interfered with students' ability to learn as a result of encountering various difficulties while taking their classes online. These include social exclusion, sadness, bad internet, and negative home learning environments, which are made worse if children come from poor family backgrounds. However, on a positive note, Gonzales *et al*. (2020), in contrast to Kapasia et al. (2020), discovered that keeping pupils in their classrooms during the pandemic had a significant favorable impact on their academic performance. These outcomes were linked to the students' consistent application of learning strategies, which in turn increased their learning effectiveness.

Numerous research studies have also focused on the impact of the COVID-19 epidemic on students' overall online learning experiences. A study of this kind was carried out by Singh *et al*. (2020), whose quantitative descriptive technique suggests that students enjoyed the use of online learning during the pandemic. However, only half of them thought that the online learning environment was more efficient than the conventional classroom. It is noted that a more nuanced interpretation of the findings is impossible due to the quantitative character of their investigation. Khalil et al. (2020), adds a qualitative dimension. They investigated the effectiveness of synchronized online learning in a medical school in Saudi. The results demonstrate that, in general, students have positive opinions about synchronous online learning, particularly in terms of effectiveness and time management. However, issues continue to be a common topic as students noted difficulties with information delivery (methodological difficulty), individual personality (behavioral difficulty), internet connectivity (technical difficulty), and insufficient tool (usefulness). Their studies also show how the online learning environment fails to match the needs of courses that require hands-on practice, despite efforts to construct virtual laboratories. Adarkwah (2021) investigated Ghanaian students' online learning experiences using a narrative inquiry methodology. Due to poor academic outcomes, poor communication, lack of ICT tools, and lack of social involvement, Ghanaian students believed that online education to be unsatisfactory. Finally, Day *et al*. (2021) examined the impact COVID-19 had on students' educational experiences across six universities. It demonstrates that despite some positive encounters, the students encountered a dearth of appropriate equipment and, similar to the situation in Ghana, a poor learning environment. At this juncture, it can be deduced that alongside the many benefits of online learning with regards to ease of logistics, saving time, and various technological possibilities, students' learning experiences fall on the negative side with regards to students' engagement, motivation, self-regulation, sustained interest, technical difficulties, and long-term moral and social support. The following section describes the framework for this study.

Framework of Study

The proposed model for this study explores the intention to effectively use e-learning as a dependent variable. Meanwhile, the independent variables are self-regulation, students' sense of isolation, the availability of learning resources and conducive learning environment as factors that influence the intention to effectively use e-learning. This study also attempts to examine the relationship between the four variables and intention to effectively use e-learning. The framework is illustrated in Figure 1.
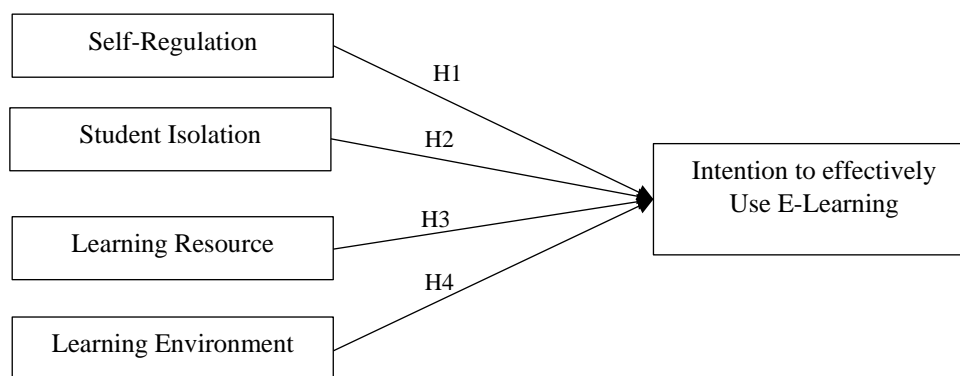
Figure 1. Proposed Research Model

Based on the conceptual framework, the four hypotheses are as follows:

    H1: Self-regulation is a significant influence on the intention to effectively use e-learning

    H2: Student isolation is a significant influence on the intention to effectively use e-learning

    H3: Learning resource is a significant influence on the intention to effectively use e-learning

    H4: Learning environment is a significant influence on the intention to effectively use e-learning

Methodology

According to Sekaran and Bougie (2016), a research design is a strategy or plan for data gathering, measurement, and analysis. In order to accomplish the study objectives, it is crucial to choose an acceptable research design, just as it is crucial to choose the type of data, the data collection method, and the sampling methodology. To measure the variables in this study, a survey was conducted. This quantitative study employs cross-sectional data approach. Student data were obtained from 861 university student respondents by random distribution.

Data Collection

Google Form questionnaire was used to gather data from the student. Google form questionnaire is deemed appropriate for this study for the following reasons: 1) It can increase response rates while being comparatively less expensive (Sekaran and Bougie, 2016); 2) the study does not entail any delicate topics; 3) the questions are uncomplicated and simple to comprehend; 4) the scale is simple to use and comprehend and 5) the written directions were succinct and unambiguous. The self-administered data collection has two benefits: first, it is affordable; and second, it quickly offers responses to questions. All questionnaires were distributed within one month.

Data Analysis Technique

The study's findings were generated using IBM SPSS Version 23.0. Further, to analyse the research model, Smart-PLS 3.0 was used in conjunction with the Partial Least Square-Structural Equation Modelling (PLS-SEM) approach.

Results

In accordance with the recommendation of Hult *et al*., (2018). PLS-SEM is preferred to CB-SEM (covariance-based SEM) because of the measurement philosophy and the analysis goal (i.e. to forecast rather than to confirm). By evaluating the measurement and structural model, the PLS-SEM technique was put into practise.

Measurement Model

Based on Figure 2 framework, the internal consistency reliability, convergent validity, and discriminant validity of the construct measures in the measurement model were examined. Reliability of the constructs was inspected using composite reliability. Table 1 shows the readings of composite reliability for self-regulation (0.932), student isolation (0.923), learning resource (0.910), learning environment (0.945) and intention to use e-learning (0.904) which all surpass the boundary of 0.70 (Hair *et al*., 2014), signifying strong reliability among the measures.

Figure 2. Measurement Model

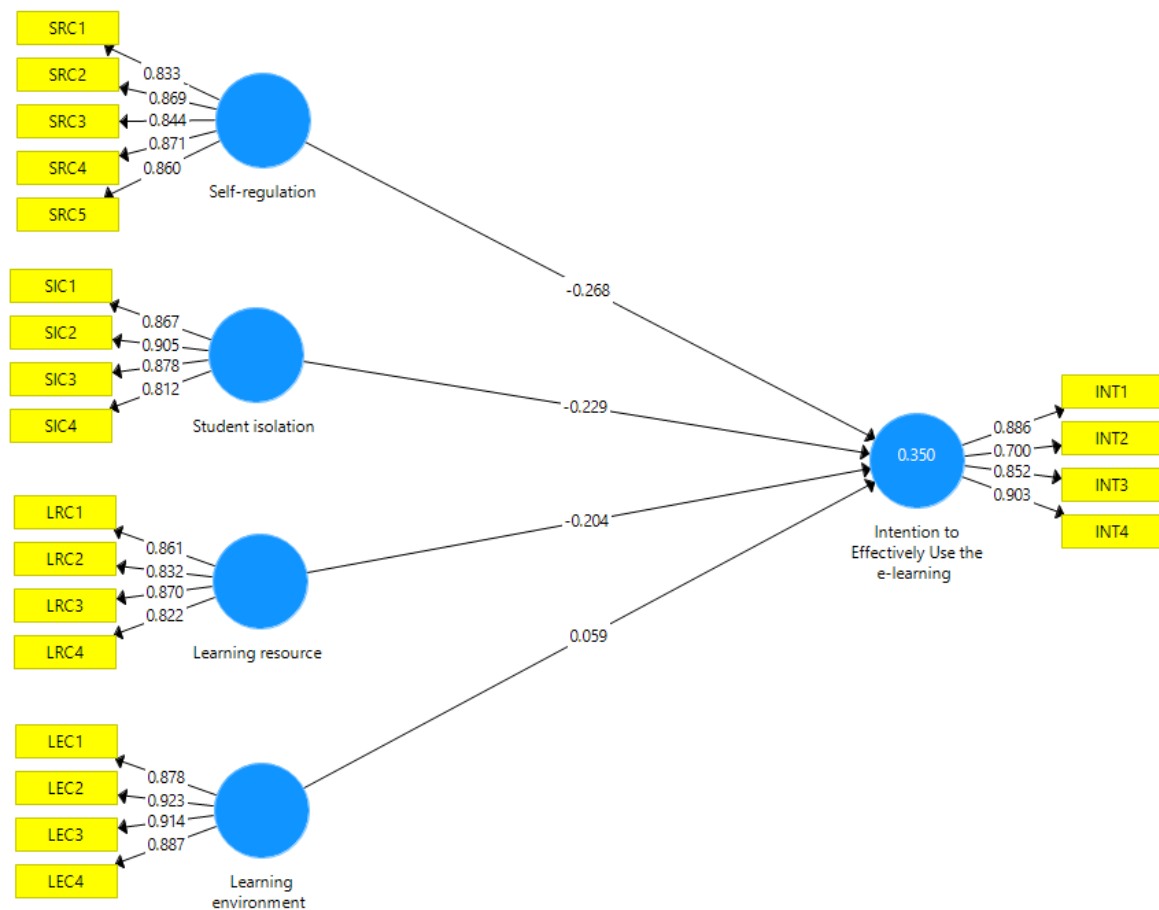Convergent validity was checked through factor item loadings, composite reliability, and average variance extracted (AVE). As seen in Table 1, the convergent validity was accomplished as the factor item loadings go beyond 0.60, the composite reliability exceeds 0.70, and the AVE is above 0.50 (Hair *et al*., 2014). In this study, all items have achieved the requirement for the convergent validity.

Table 1. Reliability and Validity Analysis

Constructs	Items	Outer Loading	CR	AVE
Intention to Use E-Learning	INT1	0.886	0.904	0.704
	INT2	0.700		
	INT3	0.852		
	INT4	0.903		
Learning environment	LEC1	0.878	0.945	0.812
	LEC2	0.923		
	LEC3	0.914		
	LEC4	0.887		
Learning resource	LRC1	0.861	0.91	0.716
	LRC2	0.832		
	LRC3	0.870		
	LRC4	0.822		
Self-regulation	SIC1	0.867	0.932	0.732
	SIC2	0.905		
	SIC3	0.878		
	SIC4	0.812		
Student isolation	SRC1	0.833	0.923	0.75
	SRC2	0.869		
	SRC3	0.844		
	SRC4	0.871		
	SRC5	0.860		

The Fornell-Larcker criterion, known as thresholds of 0.85, was used to evaluate discriminant validity (Henseler *et al*., 2017). Table 2 shows that none of the relationships between the components have readings that are higher than the threshold of 0.85. Additionally, each construct offers convincing evidence of discriminant validity.

Table 2. Discriminant Validity

	Intention to Use E-Learning	Learning environment	Learning resource	Self-regulation	Student isolation
Intention to Use E-Learning	0.839				
Learning environment	-0.481	0.901			
Learning resource	-0.507	0.692	0.846		
Self-regulation	-0.557	0.797	0.696	0.856	
Student isolation	-0.549	0.804	0.687	0.846	0.866

Structural Model

In Figure 3, the 95 percent bias-corrected and accelerated bootstrap confidence intervals with 5000 re-samples were used to identify the significance of path coefficients in the structural model. The basic assumption for accepting hypotheses is a t-value greater than 1.64 (p 0.05) (Hair *et al.*, 2017). The statistical results are presented in Table 3.
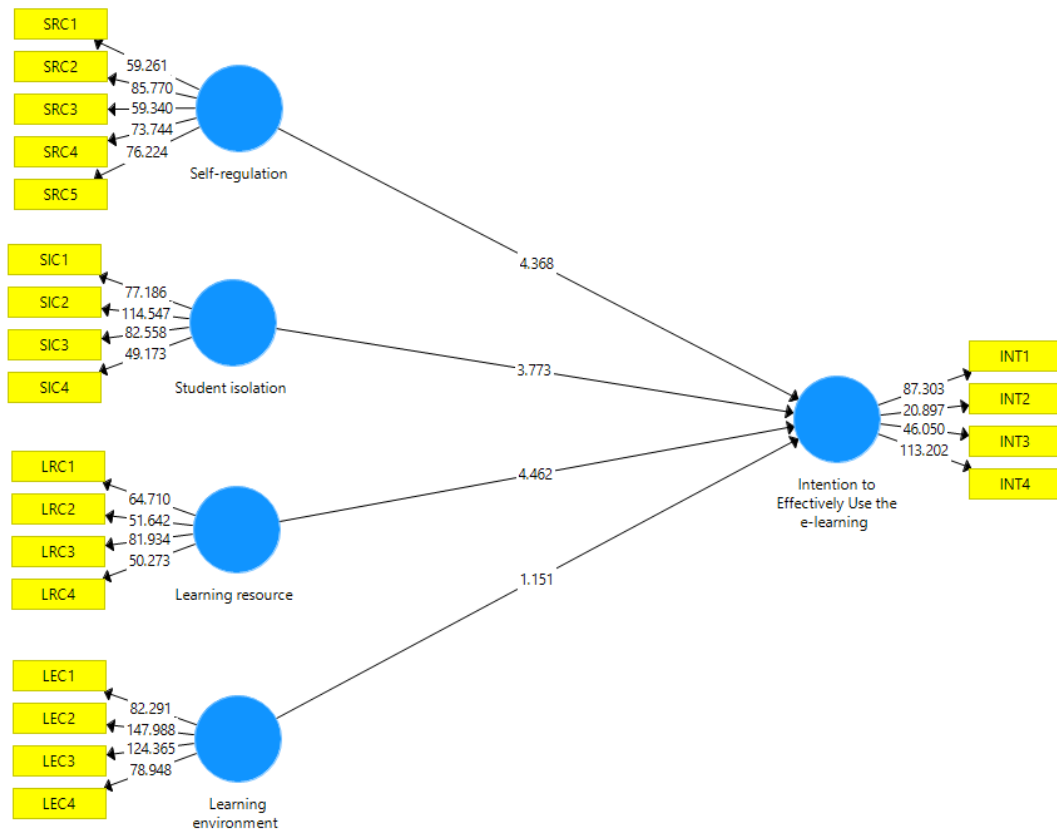

Figure 3. Structural Model

The bootstrapping result (see Table 3) shows that the direct effects of self-regulation (β = -0.268, t-value = 4.403, p = 0.000), student isolation (β = -0.229, t-value = 3.756, p = 0.000), learning resource (β = -0.204, t-value = 4.507, p = 0.000), are significant for the relationship between constructs (see Table 3). Thus, hypothesis H1, H2 and H3 are supported. Meanwhile, H4, learning environment does not significantly influence Intention to Use E-Learning (β = 0.059, t-value = 1.119, p = 0.132).

Table 3. Bootstrapping Result

Hypothesis	Beta	Std. Dev.	t	P	Decision
H1: Self-regulation -> Intention to Use E-Learning	-0.268	0.061	4.403	0.000	Supported
H2: Student isolation -> Intention to Use E-Learning	-0.229	0.061	3.756	0.000	Supported
H3: Learning resource -> Intention to Use E-Learning	-0.204	0.045	4.507	0.000	Supported
H4: Learning environment -> Intention to Use E-Learning	0.059	0.053	1.119	0.132	Not Supported

Discussion

The goal of the current study is to investigate the key predictors of student intention to effectively use online learning, including self-regulation, student isolation, learning resources, and learning environment. Based on the statistical findings for hypothesis 1, it is found that self-regulation does have a substantial impact on the intention to use e-learning efficiently and is therefore supported. This is in line with Fawaz *et al*. (2021) who found that students expressed concerns over the methods used for education and evaluation, excessive task load, technical difficulties, and learning confinement.

In order to deal with the situation, students took an active role by approaching their professors, parents, and family members as well as engaging in extracurricular activities. These pupils' active-oriented coping skills are consistent with the self-regulation strategies examined by Carter *et al*. (2020). In contrary to Carter's claim, findings in hypothesis 2 suggests that student isolation has a significant impact on students' intentions to use e-learning effectively. This present study found that the pandemic had a negative effect on students' behavior and emotional functioning, particularly attention and externalising problems (i.e., mood and wellness behavior), which were brought on by the pandemic.

Additionally, hypothesis 3 suggests that a considerable influence comes from the learning resource. E-learning was used with the intention of being effective, and it worked for the students. This finding is consistent with studies done by Elaish *et al*. (2019) and Garcia *et al*. (2018), which show that schools, teachers, and students are increasingly utilising e-learning tools that enable interactive education, seamless resource sharing, and enhanced student participation and involvement. Despite some difficulties the university of this study encountered during the lockdown, learning resources were effective for the students. Among factors that helped were the encouragement of students' own social contact, effective communication between the students and the lecturers, the provision of ICT tools, and good learning results. This finding is in line with studies done by Drane *et al*. (2020) and Suryaman *et al*. (2020) who reported that the quality of learning and students' accomplishment of learning outcomes have been highly impacted by the learning materials that are available to them, according to.

Lastly, hypothesis 4 is not supported. It reveals that students' learning environment is not a major impact on the intention to use e-learning effectively. This finding is unique as it is contrary to studies that have found online learning to be more difficult due to mobility limits and health rules (Gonzales *et al*., 2020; Kapasia *et al*., 2020). The transition to a new learning environment has resulted in several significant policies that take into account pedagogic, logistical, socioeconomic, technological, and psychosocial challenges (Khalil et al., 2020; Donitsa-Schmidt & Ramot, 2020; Varea & Gonzalez-Calvo, 2020).

During the pandemic, Suryaman et al. (2020) investigated how learning took place at home. Their research reveals that students have encountered numerous challenges when learning at home, including lack of technological proficiency, expensive internet costs, and little student engagement and sociability. Kapasia *et al*. (2020) explored the effects of lockdown on pupils' learning performance in a related study. Their conclusions show that the pandemic lockdown seriously interfered with students' ability to learn. The students also mentioned various

difficulties they ran into while taking their classes online. These include social exclusion, sadness, bad internet, and negative home learning environments, which are made worse when children already come from these backgrounds.

Limitations and Recommendations

In essence, the findings suggest a few issues that require further studies. The following are some restrictions and recommendations: This research focused only on four variables which are

    i) self-regulation;

    ii) students' sense of isolation;

    iii) learning resources and

    iv) learning environment.

The first three variables - self-regulation, students' isolation and learning resources – have demonstrated positive influence on the intention to effectively use e-learning. Therefore, other variables that may contribute to the factors that influence the intention to effectively use e-Learning should be explored.

Secondly, this study does not focus on mediator and moderator variables in testing the relationship between self-regulation, students' sense of isolation, learning resources, learning environment and intention to effectively use e-learning. It is thus recommended for future investigations to explore mediating and moderating variables.

Thirdly, this study focuses on Malaysian private university universities. A replication of this study is needed for other higher education providers comprising public institutions, community college, international private universities, private aided colleges, polytechnics or *Kolej Vocational* to determine whether the hypotheses of the present study, is supported in different settings. For future studies, the researcher could obtain various information and results by conducting the study in a variety of settings.

Finally, this study employs a quantitative research design methodology. A questionnaire survey is used to collect data. Due to the short amount of time available to complete this study, no interviews were done. It is suggested for future research to use mixed method to have multi-source. Incorporating qualitative data can generate more nuanced findings. Overall, data for this study was gathered at one point in time, applying a cross-sectional design methodology.

Conclusion

This study adds to our understanding of the difficulties students encountered when adopting e-learning approaches during the COVID-19 pandemic. The results have shown that e-learning influences one's intention to use it efficiently. Self-regulation, students' isolation, and learning resources are among the variables that were found to have an impact on how effectively students intend to use e-learning. However, unique to this study, it was found that the students' learning environment is not a significant factor that impacts on their intention to use online learning effectively. In summary, this study highlights the need for higher education institutions to strengthen

online teaching and learning processes so that students' intention to learn well in online mode can be better supported.

Acknowledgement

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