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**EDUC580: Educational Research:
Designs and Procedures**

Module Assignment: Action Research Paper/Report

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**The Impact of E-learning Study on the Education System:
The Case Study on the Covid-19 Outbreak in Myanmar**

Abstract

This study aims to study the following objectives which are to identify the factors that affect the effectiveness of the e learning process, to analyze the impact of e-learning on the students' learning efficiency during the Covid-19 outbreak in Myanmar, and to find out the challenges and obstacles of e-learning during the Covid-19 crisis encountered by learners and give appropriate recommendation. The Covid-19 pandemic has affected every aspect on global society. Education sector has no excused. Myanmar had its first Covid-19 case on 23 March 2020. Since then, the face-to-face classes were changed to online classes. Myanmar, a country with poor network infrastructure, lack of ICT knowledge, weakness of content development and other many other technological issues, has been facing many challenges as well to implement e-learning platform. This study identifies six factors of e-learning process effect on student's learning efficiency. This study verifies these factors through descriptive statistical analysis. The outcome of the research aims to contribute to the education sector, in particular e-learning sector. It aims to the government as well as education institutions of Myanmar in deciding to improve education sector.

KEY WORDS: E-learning, Students, Covid-19, Myanmar, Six factors Theory

Rationale of the Research

Throughout the world, people are becoming more aware of the Covid-19 outbreak, which has risen to epidemic proportions. The pandemic has a substantial impact on a variety of elements in the countries, including the economy, social conditions, tourism, and education (Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., 2020) From an economic standpoint, the Covid-19 reduces the national revenue while simultaneously increasing the unemployment rate owing to a lack of entrepreneurs who are capable of operating their own businesses. In addition, the tourist and transportation sectors have seen a decline in recent years, which has been attributed to the execution of a strategy of social separation or physical distancing (Hoque,A.,Shikha, F.A., Hasanat, M.W., Arif, I., & Hamid, A.B.A., 2020)

In the education sector, the Covid-19 epidemic has compelled the government to relocate school-based teaching and learning activities to home-based learning programs that are part of a remote learning program (e.g., web-based learning, e-learning, m-learning). On the plus side, this transformation encourages all educational institutions to incorporate technology into the learning process, which is a great development. In general, a thorough online course necessitates a design that includes audio and video content that is appropriate for the learning materials in a certain area. Since the quick spread of the epidemic, academia has been confronted with a slew of unexpected obstacles, including a lack of prior online teaching experience, a lack of preparation for the situation, and a lack of educational technology support (COVID-19 and online teaching in higher education, 2020, pp. 113-115)

Electronic learning (e-learning) is defined as an information system that incorporates multiple education aspects such as learning material, audio, video, text, discussion, quiz, and assignment according to (Basak, K.S., Wotto, M., & Belanger, P., 2018)The most significant benefit for students is that e-learning enables them to achieve higher levels of academic achievement, professional growth, and social contribution (Alsabawy, A.Y., Cater-Steel, A., & Soar, J., 2016). Furthermore, because the e-learning system is strongly related with digital media and communication, difficulties that arise in e-learning might have an impact on the level of discontent experienced by users. For now, at the university level, the growth of e-learning requires an extensive support structure that includes the lecturer, students, and technology professionals. E-learning is becoming increasingly popular as a learning tool, and it is becoming increasingly important in the learning process.

But Myanmar, which is now one of the least developed nations in the world in 2018, faces several obstacles in the higher education sector, particularly in the area of institutions.

There is restricted access to education, particularly to university education, and this lack of access contributes to significant inequalities in higher education across all socioeconomic groups. (Po, P.T.W, 2015) The government of Myanmar recognizes that traditional education alone will not be able to meet all of the needs for education, and that e-learning will play an essential role in developing human resources across all sectors of the economy, especially in Covid-19 outbreak.

In contrast, as internet use rises in popularity in Myanmar, colleges in the country have a better opportunity and greater potential to improve the quality of the education they deliver to students. Consider the fact that the number of internet users is fast expanding due to the large number of network subscribers, such as those from Telenor, Ooredoo, and MPT. Because of the fantastic internet speed, Myanmar students may now use the internet at any time and from any location. E-learning, in addition, is one of the viable answers for enhancing not just Myanmar's higher education, but also the country's economic development. However, while the majority of Myanmar institutions have shown an interest in distance learning, there may be specific obstacles to its implementation. (Khaing, S.S., Win. A., Aung T. N., 2016) (Hla, 2016) Furthermore, e-learning benefits universities that do not have enough faculty members and stimulates cooperation between professors and students; as a result, it can ease the exchange of information among Myanmar university students. (Tariq, B. M., Ahmedb, M & Jan, T.R., 2014) (Fayiz, M., Aldhafeeri, Badrul, H.K., 2016) By utilizing the internet, up-to-date instructional resources are made available to students at any time and from any location. So Myanmar universities have the ability to guarantee equitable access to higher education amongst institutions situated in the country's rural and urban locations. However, before deploying e-learning in Myanmar institutions, it is necessary to establish the usefulness of e-learning for Myanmar students in a controlled environment.

Furthermore, the availability of energy is uneven throughout the day and night, and this continues to be a major concern. Because of the constraints of technology, infrastructure, and educational policies, as well as the intellectual property rights of learning materials, the adoption of e-learning education in Myanmar institutions must be done with caution, as previously stated. As a result, prior to implementing e-learning on campus, Myanmar institutions must first develop pilot e-learning courses that are aligned with their educational structure and curriculum. In light of the aforementioned concerns, the authorities should develop an e-learning system, noting that quizzes are extremely useful for their pupils when preparing for the academic test. (Mon Mon, 2018)

Research Question and Research Objectives

Research Objectives

This study aims to study the following objectives:

- 1) To identify the factors that affect the effectiveness of the e learning process,
- 2) To analyze the impact of e-learning on the students' learning efficiency during the Covid-19 outbreak in Myanmar,
- 3) To find out the challenges and obstacles of e-learning during the Covid-19 crisis encountered by learners and give appropriate recommendation.

Research Questions

This paper is objected to give an answer to the following questions:

- What are the factors that affect the effectiveness of the e learning process?
- What are the major impacts of online learning on undergraduate students' learning efficiency during Covid-19 Outbreak in Myanmar?
- What are the challenges occurred by the undergraduate students during the sudden change from traditional learning to e-learning?
- What are the best suggestions to improve the e-learning process and educational performance in Myanmar?

Literature Review

E-Learning Process

E-learning is a learning method that is based on formalized instruction but that also makes use of electronic resources to supplement the learning process. The use of computers and the Internet is a significant component of E-learning, despite the fact that instruction can take place in or outside of the classroom. E-learning may also be defined as a network-enabled transfer of skills and knowledge, in which the delivery of education is delivered to a large number of receivers at the same time or at various times during the day. Previously, it was not accepted wholeheartedly since it was considered that this method lacked the human factor that is essential in the learning process.

However, as a result of the quick expansion of technology and the advancement of learning systems, it is now being welcomed by the general public. The arrival of computers served as the foundation for this transformation, and as we become more reliant on our smartphones, tablets, and other mobile devices, these technologies have come to occupy a prominent position in classrooms for educational purposes. Electronic instructional resources, such as optical discs or pen drives, are progressively taking the role of printed textbooks. Knowledge may also be transferred over the Internet, which is available 24 hours a day, seven days a week, from any location at any time.

Impact on Educational Sector

In a similar vein, the education industry will confront new problems. Considering that the crisis began at the conclusion of the 2019/20 Basic Education academic year and at the conclusion of the first semester of the 2019/20 higher education academic year, it has not yet disrupted learning to the same extent as it has in many other nations.

Alternative learning and training modalities across all sub-sectors, as well as effective planning to ensure the safe re-opening of education institutions when safe sanitary circumstances permit, are urgently required in this environment. Its responsibilities include ensuring the health and well-being of students, teachers/trainers/professors and education professionals in Myanmar as well as ensuring that teaching, learning, and research are developing and that academic standards are being met by the Ministry of Education (MoE). As a result of the COVID-19 crisis, the Ministry of Education and its partners have devised a coordinated course of action that allows for both emergency response strategies and longer-term interventions to ensure continuous learning for all, the safety and well-being of learners and education personnel, and

the preservation of educational gains made in previous years. No one will be left behind and no one will be discriminated against, as the Ministry of Education continues to strive to achieve this goal across all of its key programs in response to covid-19.

A national response and recovery plan for the education sector has been established by the Ministry of Education in partnership with UNESCO, partners for the Education and TVET sector Coordination Group, and the Education in Emergencies Sector in response to this situation. This plan is comprehensive, covers all states and regions in Myanmar, as well as all education sub-sectors under the Ministry of Education, and provides an overall framework of strategies and interventions that aim to: i) ensure education continuity for all learners in Myanmar despite the likely scenario of education facility closures lasting beyond June, ii) ensure proper planning for the reopening of education institutions, and iii) contribute to safer and more resilient education environments in the country. Aiming to "improve teaching and learning, vocational education and training, research and innovation, and leading to measurable improvements in student achievement in all schools and educational institutions," the current National Education Strategic Plan (NESP) (2016-2021) provides an opportunity to inform priority setting for the ongoing preparations for the next NESP.

Myanmar Students are experiencing unprecedented levels of disruption to their education: on July 21, following a slowdown in new local transmissions of the virus, the Ministry of Education announced the reopening of high schools in a phased manner, beginning with the primary level of education. The COVID-19 epidemic is likely to have a disproportionately negative impact on Myanmar's most disadvantaged children and youth, aggravating the country's already-existing educational inequities.

School is no longer in session. Unfortunately, a second wave of locally transmitted COVID-19 cases put a stop to this highly calibrated solution: at the end of August, the previously reopened high schools were promptly instructed to lock their doors and send their pupils home, putting an end to the properly calibrated system. Aiming to close the learning gap as much as possible, the Ministry of Education is collaborating with the United Nations Children's Fund (UNICEF) and other partners on the development of home-based learning resources for children and teachers. This will assist youngsters in remaining interested in their studies and facilitating their easy transition to the next school level by UNICEF, with assistance from the Japan International Cooperation Agency.

Six Factor Theory

Electronic learning is a sort of information system that incorporates a number of distinct technological and social components into a single entity. A successful e-learning system may be seen of as an emergent idea that includes both "social concerns" as well as "technological difficulties," and it is dependent on a variety of factors rather than a simple black-and-white formula, as shown in the diagram below. This type of system is an open system, which means that it is impacted by the environment as well as influenced by the people that use it. However, because these systems are also goal-driven, it is possible to evaluate an e-learning system by concentrating on whether or not the system helps to the attainment of the system's goals. Therefore, the literature on e-learning has been divided into two sections: (1) social difficulties and (2) technological issues, which are discussed in more detail in the following paragraphs.

The E-Learning System as a form of Social Entity

Previous study has demonstrated that the quality of an instructor is a critical factor of the effectiveness of a learning management system. According to Liaw, the 'teacher' is the most important part of e-learning. Teachers in learning settings should be given sufficient opportunity to interact with students during the course of the course of the course. The significance of the 'teacher' is stressed by Gilbert in addition to the notion that it is not the technology itself, but rather the instructional use of that technology that determines its impacts on learning. The attitudes of instructors toward technology, their teaching techniques, and their ability to govern the technology, according to Webster and Hackley (1997), have an impact on the learning results. Furthermore, while evaluating distant learning systems, it is recommended that teachers' views about technology-mediated remote learning systems be taken into consideration. Several researches believed that the perceived efficacy of a learning management system (LMS) was a significant indication of a successful LMS.

Other considerations, such as trends, ethical and regulatory difficulties, environmental considerations, i.e. technology advancements, and the popularity of LMS tools, all have a substantial impact on the success of a learning management system. Khan stressed the relevance of ethical and legal problems in the success of LMS initiatives as supportive issues.

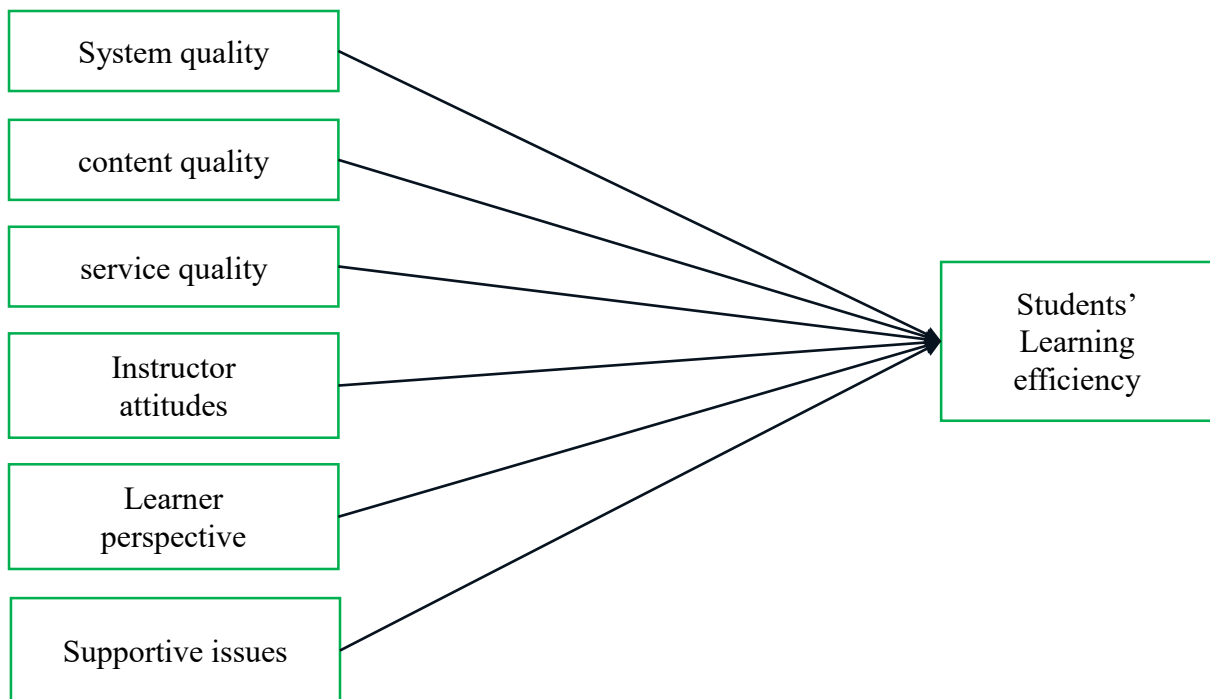
The E Learning system as a form of Technological Entity

In addition to the social difficulties, there are technological issues such as system quality and Internet quality that have a substantial impact on the success of a learning management system, as well. System quality is comprised of two parts: the LMS software and the peripherals, which are comprised of the hardware. Stability, security, dependability, speed, responsiveness, simplicity of use, user-friendliness, well-organized design, and personalization are all characteristics of high-quality software. The use of microphones, ear buds, electronic blackboards, electronic mail, online threaded discussion boards, synchronous chat, and desktop videoconferencing are all examples of peripherals that contribute to the overall quality of the system. The better the quality and dependability of the technology being utilized, the greater the likelihood that learning effects will be observed.

Other issues that arise when delivering courses through an LMS can be categorized as service quality issues, which include administrative affairs such as student tracking, course/instruction authorization, providing LMS design tools, course management, budgeting, institutional funding, and resources for delivering and maintaining the course content and infrastructure.

Conceptual Framework

The conceptual framework of the study is constructed as below.



Source: Own complications based on previous research

The conceptual framework of this study consists of two main components, independent variables and dependent variables. Instructor quality, service quality, information content quality, service quality, learner's attitude and supportive issues are treated as independent variables. The dependent variable will be the students' learning efficiency.

Methodology

In this methodology section, it will discuss how researcher approaches to the study and discuss on research design, data and information collection methods, the design of the questionnaire, sampling design. All the types and sources of the information are based on primary data.

Description of Participants of the Study

There are 151 respondents participated in this survey collection to explore the effect of six factors on student's learning efficiency through e-learning during the Covid-19 outbreak in Myanmar. The respondents were informed about the objectives of the study and all participants were informed that all the survey data will be kept confidential and used only for academic paper. This section describes the demographic characteristics of the respondents such as age, gender, educational level, types of university they attend, duration of using e-learning, other characteristics related with e-learning. The below table presents the demographic data of the respondents.

It is found out that as this survey is intended to collect data from undergraduate respondents, the percentage of aged between 19- and 21-years respondents are the most in this survey. For the education level, respondents who attends first year and second year students are the most. However, due to the Covid-19 outbreak and political situation happening in Myanmar, universities have not opened for about one year. Therefore, it can be assumed that the year they answered in this survey may be pending university year in the previous year. Mostly are students from government universities. As the closure of all education institutions on 2020, the duration of using e-learning is around 1 and 2 year. Not all students are able to change to e-learning immediately as there are poor network infrastructure, lack of ICT knowledge. Some may take time to adapt to this new situation. In Myanmar, technological tool, learning system, using most by the students in Myanmar is Zoom with used by 100 respondents out of 151. Mostly are using e-learning about one or two years, they rated their e-learning experience as an intermediate level. Almost all participants, 94.7% think that e-learning is a helpful solution during Covid-19 outbreak in Myanmar. It is found that students from cities

where can access internet well use more e-learning. By looking this, good internet infrastructure is the important thing for the students for e-learning.

Demographic Characteristics

No.	Particular	No. of Respondents	Percentage (%)
	Total	151	100
1	Gender: Male	57	37.7
	Female	94	62.3
2	Age: 16-18 yrs	37	24.5
	19-21 yrs	107	70.9
	22-24 yrs	7	4.6
	26-27 yrs	0	0
	Above 27 yrs	0	0
3	Education Level: 1 st year	67	44.4
	2 nd year	56	37.1
	3 rd year	15	9.9
	4 th year	13	8.6
	Graduated	0	0
4	Types of University: Government	127	84.1
	Private	24	15.9
5	Duration of using E-learning: Less than six months	31	20.5
	1 year	52	34.4
	2 years	34	22.5
	Above 2 years	34	22.5
6	Learning system types: Zoom	100	66.2
	Skype	0	0
	Website/ University	16	10.6
	Platform	12	7.9
	Google Classroom	3	2.0

	Google Drive	20	13.2
	Others		
7	E-learning experience rating: Beginner	24	15.9
	Intermediate	84	55.6
	Experienced	43	28.5
8	Helpfulness of E-learning during Covid outbreak:		
	Yes	143	94.7
	No	8	5.3
9	Students who use more on E-learning:		
	Cities where can access internet well	97	64.2
	Affordable family background	13	8.6
	Prestigious Universities	0	0
	Have sufficient time to learn	22	14.6
	Have enough knowledge on technology	19	12.6

Description of Invention (Data collections)

When testing a hypothesis or analyzing a result, data collecting is a systematic strategy to precisely collect information from numerous sources in order to give insights and answers. In order to collect high-quality information that can be examined and utilized to support choices or offer proof, the primary goal of data collection must be achieved. There are two sorts of information gathered: quantitative information and qualitative information. Numbers and measures are used in quantitative data collecting, such as percentages and statistics, among other things. Qualitative data gathering includes descriptions, such as descriptions and views, as well as other types of information. (Egnyte, 2021)

The techniques of data collecting are divided into two main categories: primary and secondary data collection. Primary data collecting techniques capture information directly from the source, which is why it is referred to as source data. Secondary data gathering methods rely on information already available in current repositories to complete their tasks. It might be derived from a third-party source or be the result of an investigation. The cost of secondary data is lower than the cost of primary data due to the fact that it is essentially secondhand information.

Detailed and descriptive data collection procedure

When doing primary data collection, it is critical to begin by determining the categories of information that are sought, the sources, and the fundamental techniques, which might include in-person, internet, phone, mail, or a combination of these methods. For a variety of reasons, in-person data collecting through in-person interviews produces extremely high-quality data. In addition to obtaining detailed information, it allows interviewers to record verbal and nonverbal indicators such as body language, tone of voice, and emotional expressions during the interview. In-person data gathering is particularly well suited for engaging people at a point of service, conducting neighborhood surveys, and seeking their thoughts. Observational data collecting should be documented in order to assess the validity of the responses. For example, interview notes may indicate that a person provided one point of view, but a study of the video may show tiny subtleties in body language that indicate a different point of view was provided. Online data collecting provides a variety of advantages over traditional data collection methods. It is quite simple to implement, and because the data has already been digitized, it is much quicker to begin analyzing and reporting. The freedom of answering questions at their convenience, as well as anonymity, depending on how the survey is performed, might result in more honest responses from survey participants in online surveys. Product or service feedback, fast testing of communication and imaginative assessments are just a few examples of how online surveys may be put to good use. Online interviews may also be used to measure the amount of interest in a certain issue and to obtain information for reports or info graphic. Phone-based data collecting is also a valuable source of information for data scientists. Moreover, it gives a means of reaching practically any audience. One of the most difficult challenges is persuading respondents to pick up the phone and engage in the survey. When contemplating phone-based data collection, it is critical to ensure that the target market is available to be contacted by phone throughout the survey timespan. Surveys of customer satisfaction, market research, political polls, and sociological research are all excellent candidates for data collecting using a phone. All of the questions asked during a phone survey should have a specific answer. Mail Mail-based data gathering can be aimed at practically anyone, depending on the circumstances. People are generally eager to put in the effort to participate in a paper-based survey since it is a refreshing contrast from the constant assault of digital media. For addressing elderly audiences who are less acquainted with internet technologies and are often afraid to talk to strangers, mail-based data collection is an extremely successful method of gathering information. When it comes to mail-based data gathering, it is critical that the envelope is tempting and contains a teaser that will entice the receiver to open

the envelope. Furthermore, the survey should be extremely simple to understand, both aesthetically and semantically.

For this study, the data is collected by surveys since it is the most suitable and the most convenient way of collecting the required data. The respondents will have much freedom and convenient since they can easily select and answer the questions within around 5 minutes. In this study, both primary and secondary data will be used. Primary data collection will be carried out with structured questionnaires by distributing online platform such as Facebook, telegram and email. Secondary data will be obtained on relevant data from the previous research papers, journals, articles and government publications.

For primary data, the structured questionnaire is used for data collection. The questionnaire is distributed to the samples and collects the data in a given period of time. The questionnaire includes mainly three parts. Part I includes the demographic information and e learning experience of the respondents. Part II includes the six factor categories as instructor quality, service quality, information content quality, service quality, learner's attitude and supportive issues. For each factor, there are at least 5 related questions. And for part III, the questions related with students' learning efficiency is included.

The data collection is conducted by online survey on randomly selecting 150 undergraduate students by distributing online survey form with the structured questionnaire to measure the effectiveness of online learning with a five-point Likert scale.

Data Analysis

Analysis on the Effect of Six Factors on Student's Learning Efficiency

Regression analysis is performed so as to determine the correlations between two or more variables having cause-effect relations, and to make predictions for the topic by using the relation. The regression using one single independent variable is called univariate regression analysis while the analysis using more than one independent variable is called multivariate regression analysis. In multivariate regression analysis, an attempt is made to account for the variation of the independent variables in the dependent variable synchronically. Multivariate regression analysis model is formulated as in the following.

$$y = \beta_0 + \beta_1 x_1 + \dots + \beta_n x_n + \mathcal{E}$$

$y =$ *dependent variable*

$X_1 =$ *Independent variable*

$\beta_1 =$ *Parameter*

$\mathcal{E} =$ *Error*

The assumptions of multivariate regression analysis are normal distribution, linearity, freedom from extreme values and having no multiple ties between independent variables.

Effect of E-learning on Student’s Learning Efficiency

Variable	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.216	.315		.684	.495
System Quality	.402	.080	.388	5.004	.000
Content Quality	-.045	.078	-.047	-.580	.563
Service Quality	-.001	.091	-.001	-.008	.994
Instructor's Attitude	.139	.079	.123	1.756	.081
Learner's Perspective	.170	.088	.142	1.929	.056
Supportive Issue	.280	.083	.284	3.378	.001
R	.706				
R Square	.499				
Adjusted R Square	.478				
Durbin-Watson	2.080				
F Value	23.903				

Based on the no standardized coefficients, the following equation is obtained.

$$y = .216 + .402 x_1 - .045 x_2 - .001 x_3 + .139x_4 + .170x_5 + .280x_6$$

As shown in above Table, the model could explain some extent about the variation of the six factors of e-learning effect on student’s learning efficiency since the value of R² is 70.6 percent. The model can explain 47.8 percent about the variance of the independent variable and dependent variable because Adjusted R square is .478. The value of F test, the overall significance of the model is significant at 1 percent level. This specified model can be said valid. Content quality and service quality are negatively significant with student’s learning efficiency as the results shown in table (4.4). System quality, instructor’s attitude, learner’s perspective and supportive issues are significant. System quality has the positive sign and highly significant. The positive relationship indicates that the increase in system quality leads

to more student's learning efficiency. An increase in system quality by 1 unit will also increase the effect on student's learning efficiency by .402 units.

Correlation coefficient R measures that the linear relationship between independent variables and dependent variables. At above Table (4.4), R [the correlation between the leadership six factors of e-learning and student's learning efficiency is 0.706 which lies between 0 and 1. It indicates that the level of six factors of e-learning and the level of student's learning efficiency are correlated. The Durbin-Watson $d = 2.080$, which is nearly 2 and therefore we can assume that there is no auto-correlation in the data.

When regression analysis is conducted on original and unstandardized variables, unstandardized coefficients are the raw coefficients obtained. Unstandardized coefficients have units and a scale of real life contrasting with standardized coefficients, which are normalized unit and less coefficients. The variation of change in a dependent variable Y caused by a change of 1 unit in the independent variable X is represented by an unstandardized coefficient (Stephanie, 2019). The interpretation and understanding of unstandardized coefficients is usually intuitive. They can be utilized immediately in computations and analysis since they describe the relationship between raw data. When only one measurement scale is utilized, they can also be used to create comparisons within the regression equation. When comparing multiple measurement scales, standardized coefficients are recommended. When the measurement scales of the independent variables differ, unstandardized coefficients are less relevant for direct comparison. In these circumstances, a bigger value may still indicate a smaller influence, and you may want to normalize your coefficients first to pinpoint the effect size of factors (Stephanie, 2019).

A standardized beta coefficient is used to compare the impact of each independent variable on the dependent variable. The greater the effect, the larger the beta coefficient's absolute value. Standardized beta coefficients are the results of converting all of the variables in the regression to z-scores before running the analysis. The relative relevance of each coefficient in a regression model can be compared after standardizing coefficients (Stephanie, 2016). As shown in Table 4.4, content quality and service quality have negative standardized coefficients which mean they have the greatest effect than the other variables. The standardized coefficient (Beta) of system quality has the largest value (.388) among six explanatory variables indicating that system quality variable has the greatest contribution to the effect on student's learning effect when the variance explained by other variables is controlled for. The overall evaluation reveals that models explain the variation in student's learning efficiency well because the estimation produced expected signs with significant coefficients for most variables. The

increase of system quality, instructor's attitude, learner's perspective and supportive issues have significant and positive effect on student's learning efficiency. The increase of content quality and service quality have also significant and negative effect on student's learning attitude.

It can be noted that there may be a response bias which is a bias when affects the response get from the respondents. This can impact the quality of survey results. Response bias from respondents is unavoidable (Prins, 2019). Among the seven types of response bias in survey, acquiescence bias and dissent bias and personal bias may have in this survey. For the reason of individual perceptions may influence each dimension, implying that perception bias might have a variety of implications on the results. Respondents that think positively may report every dimension more accurately, resulting in positive correlations between X and Y. In summary, the results show that most factors have significant value and the main determination of student's learning efficiency using e-learning to be content quality and service quality which have the greatest impact on learning efficiency of students.

Conclusion, Implications and Recommendations

Conclusions and Implication on Findings

This section aims to give an overview of the implications of our results and then suggestions to improve the e-learning process and educational performance in Myanmar. This study examines e-learning processes through six factors and its effect on learning efficiency of undergraduate students. In this study, it shows that all six factors: system quality, content quality, service quality, instructor's attitudes, learner's perspective and supportive issues, are the factors affecting on student's learning efficiency through e-learning. Among them, content quality and service quality are the factors that affect most the effectiveness of the e-learning process. The major impacts of online learning are the improvement of technological knowledge and the e-learning has the impact on academic achievements of undergraduate students along with gaining more confident in using e-learning systems and communication tools.

The study found out that the challenges occurred by the undergraduate students during the sudden change from traditional learning to e-learning are low range internet infrastructure all over the country and only big cities can mostly have the internet access, the universities cannot provide the service effectively and it has still poor service management such as lack of staffs to provide the service and lecturers need to be more educated related with technological systems.

Recommendations

The outcome of this research can provide the suggestions to the management level of the country that to build and expand the coverage of the internet infrastructure not only at the cities but also rural areas and all over the country. The educational institutions and the government should make the policy to provide learning tools to the undergraduate students who cannot afford to buy technological products such as computers. And also the lecturers should be provided the technological guidance as this changing is sudden and new to them so that they can provide the lectures in a well-organized procedure with effective course outline. Lecturers should also be trained to be a lecturer who can offer effective e-teaching method as mostly students claimed that they cannot focus on lectures while studying by e-learning than face-to-face learning method. These are the fundamental needs and most important factors to the educational system of the country. All universities should build official websites and should offer the courses on the websites and students can only be accessed with their students ID. The management should collaborate with universities of other countries and should offer joint lectures so that lecturers in this country can gain more experiences in teaching method and can adapt to the students nature of the country. This research is essential for the development and implementation of e-learning in Myanmar universities in the future. Fundamentally, this research shows that e-learning process has the great positive impact on education and should improve and support e-learning process by all sectors, the government, and educational institutions.

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7. How do you rate your e-learning experience?

Beginner

Intermediate

Experienced

8. E-learning is a helpful solution during Covid-19 outbreak in Myanmar

Yes

NO

9. Which students use more on e-learning?

Cities where can access internet well

Affordable family background

Prestigious Universities

Have sufficient time to learn

Have enough knowledge on technology

Part II: E Learning

1=Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

Sr. No.	Statement	1	2	3	4	5
System Quality						
1	Students' ease of access to computing technologies.					
2	Lecturers are offered the tools to facilitate the design and development of instructional materials for e-learning					
3	The e -learning system is very reliable in providing anytime access.					
4	The e -learning system is very secure in protecting personal data.					
5	The e-learning system supports uploading and downloading of e-learning resources.					
Content Quality						
6	Clearly stated course module knowledge required by the student before undertaking module					
7	General knowledge of the topics, including amount of material to be covered.					
8	Module well –written in an understandable language and good					

	use of examples to explain concepts.					
9	A coherent progression of the module from beginning to the end					
10	A clear, complete course overview and syllabus are chronologically organized into units and lessons allowing for assessing students' mastery of content					
Service Quality						
11	Students are got all necessary support and advice on developing e-learning course content.					
12	There is on -demand support readily available for me whilst interacting with the e-learning systems.					
13	We receive all the necessary ICT literacy training whenever required.					
14	University appoints a member of staff to mentor and encourage the use of e-learning systems.					
15	The e-learning system service is not periodically updated and improved.					
Instructors' Attitudes						
16	Lecturer's teaching Method is important in e-learning process					
17	Online course can take place without teachers.					

18	Lecturers use instructional strategies that promote diversity in learning such as self-paced learning.					
19	Lecturers participate in e-learning staff webinars to promote knowledge sharing and discussions on e-learning.					
20	Lecturers get e-learning induction trainings.					
Learners' Perspective						
21	The teachers' performance is still excellent after switching to an online learning.					
22	I am more comfortable with e-learning than face to face learning.					
23	My psychological feeling was changed suddenly while switching to an online learning.					
24	I believe that using e-learning systems require a lot of effort and time					
25	I think that having well-organized teaching and learning activities such as lectures, seminars, labs and coursework are necessary.					
Supportive Issues						
26	The course provider offers orientation training to both lecturers and students using the e-learning systems					

27	Staff are offered technical support and advice needed to develop course content.					
28	There is readily available support to students and staff whilst interacting with the system					
29	Promote knowledge sharing and discussions on blended e learning.					
30	Staff and students are offered ICT literacy trainings whenever needed					

Part III: Students' Learning Efficiency

1=Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

31	I feel confident using e-learning systems and its communication tools.					
32	I think using e-learning has impact on the student academic achievement					
33	I can focus more on my lectures while studying by e-learning.					
34	I complete assigned work with accurate computation/detail with the help of e learning.					
35	My technological knowledge improved after using e-learning system.					