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THE RELATIONSHIP BETWEEN ONLINE TOOLS FOR E-LEARNING AND STUDENT SATISFACTION

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ABSTRACT

The advancement in communication technology impacts many sectors, including education. Many tertiary institutions have implemented e-learning in their teaching and learning process in the education sector. E-learning is becoming a new norm in teaching and learning, especially during the pandemic. Besides, e-learning has also become one of the marketing tools for the education institution to attract working adults to pursue their studies at a higher level. E-learning is perceived as the best alternative to help working adults get better education levels for a job promotion. In addition, e-learning is preferred because it is convenient and flexible, easy to update subject content, and increases student skill and knowledge using technology. Furthermore, the fees are cheaper than the physical class. The study conducted an online survey for 343 respondents to measure the research instrument reliability before the actual data collection. The study used a quota sampling approach to collect the response. The research instrument is considered reliable because the reliability analysis indicated more than 0.8. The pre-analysis indicated that the studied online tools, namely an email, social network, and the web portal, showed moderately related student satisfaction. The study indicates that KUPTM students are leaning toward using social networks as a preferable e-learning platform than web portal and e-mail.

1.0 INTRODUCTION

According to The Economics Times, e-learning can be defined as a learning system based on formalised teaching. However, with the help of electronic resources, the Internet itself forms its major component (What is E-learning, n.d.). Online learning can also be said to learn virtually using multiple online platforms (ezTalks, n.d.). Indeed, having a face-to-face class is always better and a classic way to keep the educators and students focused during lectures. However, having classes through virtual platforms can also ease both students and educators as they can still actively interact with each other. Not just that, it can be said to be more flexible for students, especially with the current pandemic that is hitting the country right now.

Online learning can be considered an alternative method for the face-to-face class even though it is a bit different from the usual traditional classes. Some of the advantages of having a web-based class are that it can help reduce travel costs for students, fast content updates, increase overall convenience and flexibility, and improve student knowledge towards technology (Anna, 2020). However, despite the mentioned advantages, online learning can also negatively affect students and educators. With that being said, online learning and giving enough flexibility for them to be carried on also require high self-discipline and a well time management skills. Moreover, it lessens social interaction between students and educators, and also, some of the subjects are not convenient to be learnt through it like mathematics (Anna, 2020).

The current covid-19 pandemic has affected every sector, including education's as well. It has become a hassle for everyone, especially students. Almost all universities and schools have to temporarily close because of the situation. In a normal condition, students are practically attending classes physically. However, with the current situation, they somehow need to change it in order to fit with the situation as the learning needs to be resumed. Due to limited solutions because of the pandemic, the learning system needs to be amended, resulting in an online learning system. According to Berita Harian Online, Movement Control Order (MCO) has shifted the learning system from traditional physical classes to online learning classes (Sedia hadapi kelas, 2020).

In order to make sure this new learning method can fulfil the needs of students and lecturers, the electronic services of the university itself should be up-to-date and easy to be used. This is because ensuring that the services are effective for the whole e-learning process can somehow indirectly satisfy the students as it can be considered one of the key factors of student satisfaction towards e-learning indeed (Al Azmeh, 2019). There are misbeliefs with the complication of learning through online which includes the access of technologies to keep up with online instructions, in need of high-quality educators and necessity of online students in creating challenges for the objectives and planning documents (Kim and Bonk, 2006). As reported in Sinar Harian Online, Profesor Datuk Dr. Raduan Che Rose said that not every institution is fully ready to fulfil the requirements for the services that need to be used for e-learning, and thus making it harder for the students to mentally and physically prepare for the online classes (Hibrahim, 2020). Thus, conducting this research, can help in identifying the best e-learning services to satisfy the students during online classes. This research focuses on the questions which are:

1.   What is the relationship between e-mail and student satisfaction?

2.   What is the relationship between the social network and student satisfaction?

3.   What is the relationship between the web portal and student satisfaction?

Thus, the objectives of this research are as follow:

1.   To determine the relationship between e-mail and student satisfaction.

2.   To determine the relationship between the social network and student satisfaction.

3.   To determine the relationship between the web portal and student satisfaction.

This paper is considered significantly important because it will provide a great contribution in knowing the relationship between online tools for e-learning and student satisfaction. Having classes online can be difficult for the lecturers. They need to monitor students' attention, give instructions, have discussion, and communicate and require feedback virtually and

not on the spot. Moreover, the abilities and behaviours of students during the online learning process will influence the overall educators' teaching method and strategy. Hence, a well-managed system has resulted in an effective e-learning process for both students and educators. The compatibility of e-learning tools also plays a huge role in the success of the online learning process. Thus, with the help of this research, it will indeed lead the university to be aware of the best approach and effective online learning tools that can be used during the learning process itself to satisfy the students' needs. Therefore, new predictive factors to determine student satisfaction with e-learning may be attained.

2.0 LITERATURE REVIEW

2.1 E-mail

An e-mail has become one of the most prominent tools for online learning. E-mail which is shortened from "electronic mail" is one of the crucial features that can be used from the Internet. It allows anyone to send and receive multiple electronic mails with the help of an e-mail address (E-mail, 2014). Students' satisfaction and loyalty towards the services have become a concern for the universities, directly impacting the learning system. It is essential to have good academic-technology initiatives to reduce working students' time and distance barriers and those who could not attend classes on campus (Levy, 2017). Hence, to allow both students and educators to communicate easily, e-mail can be an important service for them to use during online classes. The usage of e-mail can also generate effective discussions among students and educators to exchange information and knowledge on certain subjects (Al Azmeh, 2019).

The online learning tools used in the study platforms must meet the requirement. Moreover, it has to be informative for it to fulfil students' satisfaction. Having said that, an informative tool can be said as an instrument where digital knowledge is being put in various formats and work as a system that permits the educators and students to communicate beyond the physical barrier through the e-mail services, which can also fulfil students' satisfaction (Hamat & Amin, 2010). Plus, e-mail can be said to be the most reliable and inexpensive tools for online learning as it requires less technical skills and allows private conversation between educators and students (Online Learning Tools: Asynchronous Communication Tools, 2021).

Because e-mail allows various formats to be sent, including files, videos, and audio, it surely can encourage students and educators to communicate during online classes flexibly. To make sure e-mail fulfils the student satisfaction, it is equally important to have an accurate service while delivering the information. Hence, it will meet the students' expectations and needs to provide an effective lesson for them throughout the "classes from home" (Al Azmeh, 2019). The e-mail has been proven to be accurate, fast, convenient and permanent. One of the advantages of using e-mail is that electronic files like documents or photos can be quickly and easily sent (Benefits of e-mail, 2020). Indeed, with that being said, throughout the online learning journey, e-mail surely can be the platform that acts as a key role in attaining students' satisfaction. Thus, the study hypothesised that,

H1: There is a relationship between e-mail usage and student satisfaction.

2.2 Social Network

As online learning has become more prominent in higher education, universities must understand students' needs which could be achieved by providing high-quality service in applying to online learning (Al Azmeh, 2019). Since students nowadays are more leaned towards the usage of social networks, universities should consider using the social media platform as one of the e-learning tools for them to communicate with each other comfortably (Norman, 2019).

A social network can be defined as an Internet-based platform whereby it can help people stay connected and socialise with each other (Kenton, 2020). It can also provide multiple purposes especially enhancing the online learning process. In this essence, online learning requires students and educators to actively and effectively communicate with each other. In this case, the usage of social networks itself can surely fit into those criteria. It is pointed out that since students are anticipating in online learning classes, a positive and reassuring response by the educators may encourage introverted students to be involved in the class effectively using the platform that they, especially comfortable with (Levy, 2017). This may increase

their satisfaction in overall online learning courses, just as been mentioned previously. Furthermore, an asynchronous online interaction will provide students with flexibility, help to produce more innovative ideas, and facilitate learning even more (Heng & Jih, 2003). Students are more attracted using social network platforms to communicate, including WhatsApp, YouTube, Facebook, and Twitter application.

It is undeniable that the education field has quickly adapted to digital transformations during the last decade. In the digital world, it is technically certain that social media holds a very important position and can be said to be the most prominent platform (Norman, 2019). Students' satisfaction with online learning through social network usage is important and results in high self-efficacy. The platform that the students are comfortable using during online classes will help them facilitate their ability to learn, engage, perform, and complete their task successfully, resulting in a higher self-efficacy indeed (Alqurashi,2019). Not only that, for students to experience the actual globally connected world, social networks can prepare them to connect freely and collaborate beyond the traditional classroom which indirectly gives them enough closure before stepping into the workforce (The University of Arizona Global Campus, 2020).

According to Al Azmeh (2019), students are more receptive to incorporating Facebook into their daily online classes rather than other platforms. Therefore, it can help them enhance their communication, interaction, and flexibility in finishing their course tasks and improve student satisfaction. To ensure the overall students' satisfaction in adapting to the online learning process increases, universities must fully utilise social network platforms for students to use. Thus, the study hypothesised that,

H2: There is a relationship between the social network and student satisfaction.

2.3 Web Portal

A web portal is a web-based platform that accumulates all related information and data from various sources (What is a Web Portal?, n.d.). That information will be gathered into a single user interface. Users will be presented with information that is relevant to their context. The portal is a site that acts as a gateway to other sites on the internet where it will bring any information from various diverse sources (Sheikh & Basharat, 2017). Additionally, users and organisations could access a wide range of information from e-learning portal, which can help them achieve information for learning and training resources. Hence, with this various information that a web portal could offer, students' satisfaction can be attained during the e-learning period.

A modern society needs a current higher education system. Besides, Aditia et al. (2018) also mentioned that the university is one of the centres of knowledge that should have an exemplary implementation from the university's management. Thus, a web portal is one of the technologies and information (IT) mediums that management should consider developing in the university. Furthermore, as a web portal will be a place that gathers all kinds of academic resources and services, a university needs to design and customise the portal according to students' preferences. This will maximise student satisfaction, whether they are still in the university or an alumnus.

E-learning courses can be said to reflect the adjustment of learning materials in the basis of interaction, method of communication, presentation, collaboration, and how each courses comply with students' characteristics and requirements (Bozidar , Dusan, Zorica, Aleksandar, & Branislav, 2011). The article also mentioned that a web portal requires easy access for students and lecturers to have a diversity of useful information related to the university. It also works as an instrument to create a connection and interaction among them.

According to Akanmu and Bahaudin (2018), the variety of services and activities that a web portal could offer has been a major concern for students, including receiving grades that they believed from the research. It can be more convenient and time-saving. Moreover, with these various technologies and systems, learning nowadays is formerly limited in class, with the lecture as the only medium of transferring the knowledge (Azeta, Oyelami & Ayo, 2008). Therefore, the web portal is an e-learning tool that has the flexibility and can adapt to online and offline learning for students and lecturers and fulfil student satisfaction Thus, the study hypothesised that,

H3: There is a relationship between web portal and student satisfaction.

2.4 Student Satisfaction

As university students, their satisfaction can be indicated by how much they are satisfied with the university's system and how well their expectations and career goals are met (Kumudini & Hiroshi, 2019). Student satisfaction can be explained by many elements such as perceived value, university image, available facilities, and service provided by the academic and administrative staff. In the e-learning environment, universities must continually improve the quality of e-learning services to satisfy students (Pham et al., 2019; Lee, 2010). According to Weerasinghe et al. (2017), students' satisfaction is a short-term attitude triggered by the judgment of the students' educational experiences. Student satisfaction also can be said as a basis of the relative level of experiences and perceived performance about education services during the learning period.

It is equally important for universities and researchers to inspect student satisfaction with web-based learning systems (Sanja, Snezana, & Michael, 2014). The inspection is crucial to maintain the effectiveness of the online learning process itself. Besides, an inspection can also guarantee students' reliability and keep up with college's reputation and performance even after graduates.

The conceptual study is developed based on the empirical finding from the previous research. The study consists of e-mail, social network, and web portal for the independent variables, while student satisfaction as the dependent variable (refer to figure 1).
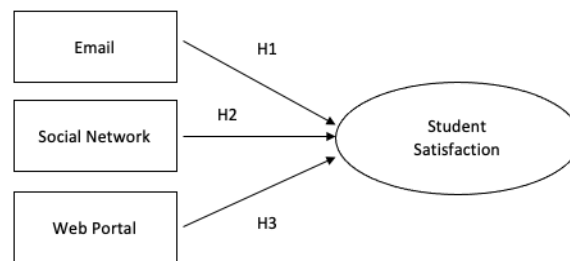

Figure 1: The conceptual research framework.

METHODOLOGY

The study used an online survey method to gather data to satisfy the research objectives. The questionnaire was distributed through online platforms, WhatsApp and Twitter applications. This is because the potential respondents can easily access the questionnaire through those online platforms. Respondents were collected from KUPTM students with random courses and levels of education.

The questionnaire was being developed with the help of Google form because it was faster and more effective for the students to answer the questions provided. It was divided into sections A and B. Section A was for general questions, and section B consisted of 40 questions. The questions are based on a previous study in the same area of study and adapted from previous research, Al Azmeh (2019). The study applied the Likert scale from 1-Strongly disagree, 2-Disagree, 3-Somewhat agree, 4-Agree, and 5-Strongly agree.

For the study, the researcher has collected 343 responses via both applications. However, based on the sample size on the Israel table, the number of responses relevant to the 2000 population is only 333 (Israel, 1992). The unit of analysis for this research is the students from KUPTM. The researcher selected KUPTM students as the respondents because all of the

students are currently having their classes online due to pandemic. One of the reasons the study is open to any students at KUPTM is that every individual has different perspectives in answering the questionnaire. The study used a quota sampling method to gather the respondents. The Quota sampling method allows reasonable, quick, and easy to select respondents, which can save time. This method is proven to be useful for market research (Crossman, 2018).

Before the actual data collection, the research conducted a preliminary study to minimise errors in validity and reliability during the data collection process. A validity test can be described as a concept that measures the quantitative study accurately (Roberta & Alison, 2015). Hence, this research has been sent to propose the items from a content expert. This was to ensure the items listed in the questionnaire were accurate to measure the variables.

Whilst the reliability test is conducted to ensure consistency of the items to measure selected variables. Cronbach's alpha reliability coefficient will range between 0 and 1.0, which some professionals suggest reliability of 0.7 (or 70%) as it will show that the closer the result to 1.0, the greater the internal consistency (Buelow & Hinkle, 2008). Therefore, the reliability test value from the questionnaire is greater than 0.8, and the ideal level of reliability is when it is close to 1.0. Hence the questionnaire is considered reliable. In addition, Watson (2018), Hair et al. (2010), and Bryen (2010) examined that the data is considered to be normal and reliable if the skewness valued between -2 to +2 meanwhile the kurtosis, between -7 to +7.

The study used Statistical Package for the Social Science (SPSS) to analyse the data, and the result was presented in frequencies. In this study, a simple statistical analysis was performed descriptively. The hypothesis was tested using a correlation test.

3.0 FINDINGS AND DISCUSSION

Table 1: Respondent demographic

Measurement	Items	Percentage
Gender	Female	73.8%
	Male	26.2%
Age	21-23	72.3%
	24-26	16.9%
	18-20	9.9%
	27-29	0.9%
Program	Degree	65.9%
	Diploma	32.9%
	Master	0.9%

	Foundation	0.3%
Faculty	Faculty of Business, Accountancy and Social Sciences (FBASS)	49%
	Faculty of Education, Humanities and Arts (FEHA)	23%
	Faculty of Computing & Multimedia (FCOM)	28%
Have you ever experience online learning?	Yes	100%
	No	0%
Do you use e-learning platform for every subject?	Yes	98.5%
	No	1.5%

Table 1 indicates the respondent's demographic analysis. The findings from this study showed that only 26.2% of males participated in this research. In comparison, the percentage of females was 73.8% higher than the males. The age range from 21-23 years old was 72.3%. As for the educational level, most of the respondents are from degree level, which carries 65.9%. This is because undergraduates students average in public institutions are between 18 and 24 years old (Khairul, Sairudin, Ibrahim, & Yusuf, 2020; The Hamilton Project, 2017). Nearly half of the respondents are from the Faculty of Business, Accountancy, and Social Sciences (FBASS), with 49% as shown from the findings. This is due to the reason that the researchers are from the same faculty. All respondents are experiencing an online learning platform while 1.5% or 5 of them are not using e-learning in every subject. This can be explained where some of the respondents were in their last semester or internship; hence they might still be experiencing e-learning platforms but from the previous semester only.

Table 2: Descriptive Analysis of Email

Email	%					Mean	Standard Deviation
	1	2	3	4	5		
(E1) Email is considered as an official channel to communicate with my lecturer.	0.6	5.8	25.1	26.5	42.0	4.03	.979
(E5) Email will provide a good service without any technical problems to the student.	1.2	5.8	21.9	42.9	28.3	3.91	.913
(E3) Email is less of problem to me when communicating with a lecturer.	1.2	7.6	25.1	34.7	31.5	3.88	.981
(E2) Email design is easy to use.	1.2	5.2	16.9	61.2	15.5	3.85	.785

(E10) Email usage is helping me to communicate online, and it improves my learning.	2.3	5.0		25.9	39.7	27.1	3.84	.957
(E9) Email is an appropriate medium for me to develop understanding towards the subject and course activities.	2.3	5.8		27.4	35.9	28.6	3.83	.988
(E8) Email is easier to use to understand the standard of work given by the ecturer.	2.3		6.1	24.2	44.3	23.0	3.80	.942
(E4) Email will advertise any new news to the student.	1.7	6.7		28.3	38.8	24.5	3.78	.952
(E7) Email usage helps me to develop the ability to communicate clearly about the subject with the lecturer.	1.7	9.9		24.2	38.8	25.4	3.76	.998
(E6) Email is effective for me to interact with the lecturer by asking questions or regarding the course activities.	3.2	7.2		27.4	38.8	23.3	3.72	1.005

It can be seen from Table 2 of the Email item, most of the respondents agreed that Email platform can be considered as an official channel that provides less trouble or any technical problems to communicate with their lecturer. This can be explained by the feature of email designated to ease users, especially when sending files and documents. The findings indicated that it is equally important to have a service that can ensure the accuracy of the information, which email itself fits into the criteria (Khairul, Sairudin, Ibrahim, & Yusuf, 2021).

Table 3: Descriptive Analysis of Social Network

Social Network	%					Mean	Standard Deviation
	1	2	3	4	5		
(S1) Based on my experience, the usage of social network can be considered as an important medium for students.	0.6	3.5	13.1	32.4	50.4	4.29	.865
(S8) Based on my experience, the usage of social network is easier to use in order to understand the standard of work given by lecturer.	0.9	5.2	14.6	37.0	42.3	4.15	.916

(S10) Based on my experience, by using social network to communicate online with lecturer and other student, it will help in my learning process.	0.6	5.3	14.3	38.5	41.4	4.15	.894
(S3) Based on my experience, most of the times my lecturer will inform students with any new news through social network.	0.6	5.2	15.7	37.3	41.1	4.13	.903
(S4) Based on my experience, the social network page is always up to date and attractive to use.	0.9	4.1	16.3	40.2	38.5	4.11	.883
(S5) Based on my experience, to be compared with other medium, social network is the most flexible e-service.	0.9	5.0	13.7	43.4	37.0	4.11	.880
(S6) Based on my experience, it is easier to interact with lecturer and other students through social network in regards to the course activities.	0.9	5.8	14.6	40.2	38.5	4.10	.914
(S7) Based on my experience, I am able to communicate clearly about the subject through social network.	0.6	5.0	16.6	40.2	37.6	4.09	.887
(S9) Based on my experience, I can tell that social network is an appropriate medium to be used in developing student understanding when it is used in different field of studies.	0.6	4.7	14.0	46.4	34.4	4.09	.846
(S2) Based on my experience, social network does help to facilitate students with quick answer upon any queries given by lecturer.	0.9	8.7	10.8	53.6	25.9	3.95	.892

It can be seen from Table 3 of the Social Network item that most of the respondents acknowledge that the usage of social networks can be said as an important medium for students to communicate effectively with the lecturers. The findings indicated that considering the essential of having Social networks as one of the e-learning platforms will surely elevate students' performance during the online learning phase. To excel in the online learning, the student must be as effective as in physical class. Thus, an effective social network can enhance the student communication skills and their interpersonal skills (Al Azmeh, 2019). However, based on the previous study, the opinion of students towards the social networks as an important medium was inconsistent and had a contrast which the respondents mostly did not agree with it. This can be presumed as the world is currently adapting to the endemic state. Therefore, social networks are vital for humans to connect.

Table 4: Descriptive Analysis of Web Portal

Web Portal	%					Mean	Standard Deviation
	1	2	3	4	5		
(WP1) My university official web portal design is clear.	1.5	6.1	15.7	37.9	38.8	4.06	.959
(WP5) My university official web portal can be accessed at any time and any places, can receive instructions, composes and submit assignments.	1.2	5.5	19.0	49.9	24.5	3.91	.869
(WP8) My university official web portal is easier to use in order to understand the standard of work given by lecturer.	1.7	4.4	21.9	45.8	26.2	3.90	.898
(WP9) My university official web portal is an appropriate medium for me to develop understanding towards the subject and course activities.	1.5	7.0	18.7	46.6	26.2	3.89	.922
(WP10) My university official web portal usage is helping me to effectively communicate online.	2.3	6.4	20.7	44.3	26.2	3.86	.958
(WP7) My university official web portal usage helps me to develop ability to communicate clearly about the subject with the lecturer.	2.3	5.8	20.7	45.5	25.7	3.86	.944
(WP3) My university official web portal provides a separate section for advertising news	1.2	6.1	24.5	42.3	25.9	3.86	.914
(WP4) My university official web portal is always up to date.	1.7	5.5	25.4	41.7	25.7	3.84	.931
(WP6) My university official web portal is effective for me to interact with lecturer by asking questions or regarding the course activities.	2.6	7.0	21.3	43.1	25.9	3.83	.981
(WP2) My university official web portal facilitates reaching any information that I need.	1.2	7.0	22.2	58.9	10.8	3.71	.796

It can be seen from Table 4 of the Web Portal item most of the respondents agreed that their university's official web portal design is clear. The findings indicated that the university's web portal design elevates the effectiveness of online learning as it can be used by students easily. Web portal's design should be easy to navigate, interact with, and function well (Palmer, n.d.). This can help the student to sort their subject or courses systematically. The first question from this variable has a

contrasting result from the previous research. In the previous study, respondents believed that their university web portal was unclear. Compared to the current findings, most of the respondents agreed otherwise. Two factors can explain this; the first one is that the previous study's respondents are from various universities which the opinion of the web portal design could be inconsistent. The improvement of the university itself can clarify the second factor.

Table 5: Descriptive Analysis of Student Satisfaction

Student Satisfaction	%					Mean	Standard Deviation
	1	2	3	4	5		
(SS1) I was very satisfied how quickly one of the selected medium loads pages.	0.6	5.2	11.7	34.7	47.8	4.24	.896
(SS7) I was very satisfied with the ability to communicate with other students through one of the selected mediums.	1.2	3.5	14.0	43.4	37.9	4.13	.865
(SS5) I was very satisfied with the accuracy of the information from one of the selected mediums.	0.6	4.1	14.3	44.0	37.0	4.13	.845
(SS9) I was very satisfied with the ability to communicate with the instructor through one of the selected mediums.	0.9	3.8	13.4	46.4	35.6	4.12	.841
(SS10) I was very satisfied to receive the information periodically through one of the selected mediums.	0.6	4.4	14.6	44.0	36.4	4.11	.853
(SS4) I was very satisfied with the sufficient information provided in one of the selected mediums.	0.9	3.8	15.7	46.9	32.7	4.07	.844
(SS8) I was very satisfied to receive the feedback from instructor on my works through one of the selected mediums.	0.6	6.1	13.7	45.5	34.1	4.06	.880
(SS3) I was very satisfied with the speed from one of the selected mediums.	0.6	7.0	17.5	37.9	37.0	4.04	.937
(SS6) I was very satisfied with the accuracy of the information from one of the selected mediums.	0.6	5.0	17.8	43.4	33.2	4.04	.873
(SS2) I was very satisfied with the speed from one of the selected mediums.	0.6	6.4	14.6	53.9	24.5	3.95	.836

It can be seen from table 5 of the student satisfaction item, the findings indicated that most of the students agreed that one of the online learning platforms satisfy them as it can loads pages quickly and can be used effectively. Thus, the current finding proves that e-learning tools have been improved from time to time. This is because email, social networks and web portal platforms are essential for students to finish their subject task effectively.

Table 6: Guildford Rule of Thumb table

Value, r	Strength
< 0.2	Negligible Relationship
0.2 to 0.4	Low Relationship
0.4 to 0.7	Moderate Relationship
0.7 to 0.9	High Relationship
> 0.9	Very High Relationship

Correlation analysis evaluates the significant relationship between email, social networks, and web portals use with student satisfaction of the learning courses in Kolej University Poly-Tech MARA. The relationship's strength between variables is determined by using Guildford's Rule of Thumb. Table 6 shows the Guildford Rule of Thumb.

Table 7: Results of correlation test between email and student satisfaction

	p value	*r*
Email → Student Satisfaction	.000	.641

Table 7 indicates the finding for the correlation test between email and student satisfaction. The analysis shows a statistically linear relationship ($p>0.01$); hence H1 is supported. The direction of the relationship is positive because email is correlated with students' satisfaction during the e-learning process. Therefore, both variables tend to increase. Email and student satisfaction correlated with a moderate relationship (0.641) based on the Guildford Rule of Thumb. The possible explanation for this relationship is that email is an important medium for students to communicate with the lecturers during e-learning to improve their understanding. Thus, the respondents believe email allows a communication channel for students to connect with the lecturers and university.

Table 8: Results of correlation test between the social network and student satisfaction

	p value	*r*
Social Network → Student Satisfaction	.000	.848

Table 8 indicates the finding for the correlation test between the social network and student satisfaction. The analysis shows a statistically linear relationship ($p>0.01$); hence H2 is supported. The relationship direction is positive because the social network is correlated with students' satisfaction during the learning process. Therefore, both variables tend to increase. The correlation between the social networks and student satisfaction shows a high relationship (0.848) based on the Guildford

Rule of Thumb. The possible explanation for this relationship is that social networks increase students' interaction during e-learning. The respondents believe that students are tremendously satisfied with social networks as an online learning tool for communicating with lecturers and universities.

Table 9: Results of correlation test between web portal and student satisfaction

	p value	*r*
Web Portal → Student Satisfaction	.000	.717

Table 9 indicates the finding for the correlation test between the web portal and student satisfaction. The analysis shows a statistically linear relationship ($p>0.01$). H3 is supported. The relationship direction is positive because the web portal correlates with students' satisfaction during the learning process. Therefore, both variables tend to increase. The correlation between web portals and student satisfaction shows a high relationship (0.717) based on the Guildford Rule of Thumb. The possible explanation for this relationship is that the web portal helps transmit and exchange information regarding the course and subject activities between students and lecturers. Therefore, the current study suggested that the university web portal must be straightforward clear to fulfil student satisfaction.

4.0 CONCLUSION

The research concludes the following points from the discussions and evaluations of the results obtained. The study indicates that email, social networks and web portals satisfy students in adapting to online learning. However, the social network is preferable and meets students' satisfaction as the flexibility and various vehicles that social network offers help them complete the tasks and assignments. The findings indicate that social network is easier to use and meet the standard work given by the lecturer. The study aims to determine which e-learning tools can meet students' satisfaction.

The limitations in this study are that researchers should expand the range of data collection process platforms used to distribute the questionnaire other than Google Form, WhatsApp, and Twitter. There are many different options, such as Facebook and LinkedIn. Therefore, the future study may observe various students from other courses with the wide range of platforms. Besides, this study only focused on Kolej University Poly-Tech MARA students. Therefore, it is suggested that future studies include other universities and expand the range of respondents including administrative staff and lecturers because they also use online tools to communicate. This will result in a better purpose of using e-learning tools among people in university.

This data analysis focuses on the mean where the correlation test results were described using Guildford Rule of Thumb. Hence, the data from this study can be significant for future researchers to analyse the use of e-learning tools with student satisfaction. Furthermore, the independent variables in this study are only limited to three variables despite the many other platforms that students can use for online learning. Thus, additional e-learning tools such as virtual class and whiteboard applications could be added to the current study by future researchers because it meets the university nature better than the existing tools.

Furthermore, e-learning tools help students in their learning process, as proven from the respondents' answers based on the study's independent variables. Indeed, having such flexibility help and elevate the interaction between students and the university. The social network can be considered the most elementary platform used by students. As it does not rely on a specific area, students can choose from various communication platforms such as WhatsApp, Twitter or Google Meet to interact with the lecturers. .

Apart from that, Web Portal usage mostly relies on the speed and the interaction of the website design itself. Plus, most of the time, certain Web Portal cannot accommodate all users, which can cause lag, especially if a huge number of students and lecturers are accessing the website simultaneously. Email has the slightest relationship with student satisfaction. This result can be explained by seeing the common usage of email. It is usually used for formal interaction, including sending a finished assignment or letter. To conclude, the three (3) hypothesis that has been mentioned early are supported. This is explained by the result of the correlation test for independent variables with the dependent variable, which is significant.

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