COVID-19 Outbreak: A Marketing Perspective on Student's Satisfaction Towards Online Learning.

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Abstract – This study aims to investigate the factors that may influence students' satisfaction on online learning platforms, the extent to which they are satisfied with their use of online learning platforms, and the effects of switching from traditional classroom instruction to online instruction on undergraduate students. This study employs a quantitative research methodology. Using a survey method, data were collected from voluntarily participating individuals. Using SPSS, the significance of the collected data was then determined. This study discovered that all variables (Internet Accessibility, University Facilities Performance, Discipline, Flexibility, and Teaching) have a positive, albeit weak, correlation with Student Satisfaction. All variables (IA, T, DP, F, and UFP) are positively significant with respect to the dependent variable (SS), but the relationship between the variables is weak. Internet accessibility (IA) and Teaching (T) were discovered to share a moderate amount of variance. Flexibility (F) and Discipline (DP) share a small degree of variance. In contrast, University Facilities Performance (UFP) has a high degree of common variant.
Keywords: Students' satisfaction, Internet availability, Teaching, Discipline, Flexibility.

1. Introduction

Although the level of student satisfaction is of critical importance in online education, very little research has investigated the factors that determine it in developing nations. In the midst of the COVID-19 pandemic, this study is to analyse and evaluate potential elements that influence students' academic performance as well as the degree to which they are satisfied with their use of online learning platforms. Besides, it also investigates the effects on undergraduate students of switching from traditional classroom instruction to instruction delivered online. When it comes to the COVID-19 pandemic, the process

should be thoroughly evaluated in order to develop efficient online education practices that possess high levels of communication and engagement in higher education. Furthermore, this study also used to investigate the amount of satisfaction and attitudes that undergraduate students at university have towards online learning and virtual classrooms amid the extraordinary conditions of the COVID-19 Crisis. On the other hand, this study is to determine the extent to which postsecondary students in the university were happy with the online learning platforms they used and the learning experiences they had during the pandemic caused by the COVID-19 pandemic.

Moreover, the level of contentment experienced by e-learners has a substantial bearing on the accomplishments of the e-learning process as a whole and plays a role in the enhancement of the quality of the e-learning infrastructure. As the pandemic of the 2019 coronavirus epidemic has caused most of the educational activities transferred into online classes that made use of web video conferencing (WVC). The purpose of this study is to identify the factors that affect students' satisfaction and performance regarding online classes during the pandemic period of COVID–19 and to establish the relationship between these variables. The study will be conducted among university students during the period of COVID-19 pandemic. During the current COVID-19 epidemic, the purpose of this study is to investigate the extent to which students are pleased with the online learning opportunities that are available to them at the higher education level. The objectives for conducting this research is to study the relationship between the Internet Availability, Teaching, University Facilities Performance, Discipline, and Flexibility to the students' satisfaction in online learning using online learning platforms during pandemic COVID-19.

2. Literature Review

2.1. Student Satisfaction of Online Learning

Satisfaction is a consideration or decision that provides a level of consumption against a particular feature of a product and service itself (Parahoo et al., 2016). In addition, learning satisfaction represents the construct of students' attitudes that measures effectively students' satisfaction with those who usually have positive experiences with online learning (Harsasi, et al., 2018). The key to the success of online learning is when the student feels satisfied with the learning method itself (Dziuban et al., 2015; Rios, Elliot & Mandernach, 2018). This is why satisfaction is one of the crucial things to determine the level of effectiveness of online learning.

There are various factors discussed by the previous researcher which influence student satisfaction. The most frequent factors used in determining the influence relationship towards student satisfaction are technology available (Fatani, T. H., 2020), and teaching (Yekefallah, L., et al, 2021). These factors were considered the most important factors in examining the study of Students' satisfaction using online learning platforms during pandemic COVID-19. Additionally, discipline also becomes one important factor.

However, there is a lack of studies discussing this factor in this research area (Irfan S., et al, 2021), and flexibility (Yekefallah, L., et al, 2021).

2.2. Internet Availability

The popularity of the Internet and recent advances in Information Technology generated new possibilities for training and education delivered through online learning or e-learning. (Venu Madhav Sunkara and Rajasekhara Rao Kurra, 2017). Moreover, Online learning is considered as an alternative learning method with the use of computers, laptops, tablets and mobile phones with internet access in synchronous and asynchronous environments. (Nor Azwahanum Nor Shaid, Fathiyah Mohd Kamruzaman & Nur Ainil Sulaiman, 2021). Nowadays, the Internet and World Wide Web have become useful tool of communication. Communication-based on the internet could be either synchronous or asynchronous (Venu Madhav Sunkara and Rajasekhara Rao Kurra, 2017).

However, internet technology has been widely used around the world, there are some individuals who didn't have internet accessibility along with a device to connect to for their online learning, Internet connection issues, expensive mobile data plans, quality and availability of devices, difficulties in preparing online assignments and facing exams, maintaining a good interaction between lecturers and students, etc. (Duraku & Hoxha, 2020). Moreover, inconsistent and unreliable Internet access significantly influences students' satisfaction (and teachers) in their use of online education, as is the necessary Internet bandwidth for online students to complete required course assignments (Kuo et al., 2013). One of the main technical difficulties students in many online learning environments have reported encountering is poor Internet connectivity, making it impossible for them to regularly attend synchronous sessions of online teaching (Sujeewa Hettiarachchi, et al, 2021). Mendoza et al. (2017) also reported that Internet connectivity limitations could be a barrier to successful online education in terms of both use and satisfaction. Furthermore, as reported in many studies on online learning, student demotivation is tied to the poor Internet connectivity and household environments that are not as learner-friendly as a classroom (Sujeewa Hettiarachchi, et al, 2021). Therefore, students and teachers should ensure reliable and sufficient Internet connectivity and an appropriate physical learning environment before the commencement of an online learning session (Nonthamand et al., 2021). There also needs to be a well-established internet infrastructure which is necessary to provide a comprehensive and successful online learning experience. (Zhou et al., 2020).

Hypothesis 1 (H1): Internet Availability have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.

2.3. Teaching in Online Learning

Online teaching is a subset of online education. The teaching content is delivered online and the instructors develop teaching modules that enhance learning and interactivity in the

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synchronous or asynchronous environment." (Singh & Thurman, 2019）In addition, J Ayub Med Coll Abbottabad 2020 indicates that some global institutions are considering online teaching frameworks, as hundreds of new online courses are added to the web each year, and even degree programs are now being taught online. Teaching online is a challenging task. Due to the many tasks and responsibilities of teaching online courses, faculty members may feel uneasy about doing so. In order to construct professional development programs for online teachers, online teaching skills and competencies must be defined. (Albrahim, 2020).

A few prior studies have researched the influence of online teaching on student satisfaction among university students. In the study of (Pedro, et al., 2018), the researchers were collecting the data through a survey applied to a final sample of 359 students by using Structural Equation Modelling technique (SEM), which is one of quantitative methods. The findings of his study postulate that satisfaction is significantly different when students are exposed to different teaching approaches. Apart from that, according to the (Ellen & Geetha ,2020), the study collected data from 399 students in two different online learning courses in Malaysia with SPSS. The finding indicated most respondents preferred online learning via pre-recorded lectures uploaded to Google Classroom and YouTube. In addition, (Nambiar,2020) used a description approach to collect the sample consisting of 70 teachers and 407 students from colleges and universities in Bangalore city through an online survey. The findings show that quality and timely interaction between student and professor, technical support availability, structured online class modules, and modifications to accommodate conduction of practical classes are important for teacher and student satisfaction. Moreover, in the study of (Tarah, 2020), the researcher collected the sample from 162 undergraduate medical students in pediatrics who completed the reduced Students' Evaluation of Educational Quality (SEEQ) survey. The results supported those of other studies that showed that instructor presence and an interactive teaching style were significant determinants of student satisfaction and the effectiveness of online learning environments. Based on (Al- Musharraf, 2020), 283 students enrolled at one higher education institution in KSA by using quantitative research and SPSS analysis. The research findings also showed that participants were highly satisfied with Google Hangouts the most for lecture delivery, followed by Google Classroom and LMS (Moodle) for course management and assessments.

Hypothesis 2 (H2): Teaching have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.

2.4. University Facilities Performance

Facilities within a higher education institution can be categorized as two types. Internal facilities are those found on university grounds, whereas external facilities are those found outside the university grounds. (Yusoff et al., 2015) Physical facilities include but are not limited to classrooms, lecture halls, exam halls, auditoriums, libraries, laboratories, parking lots, study areas, hostels and sport facilities. (Gruber et al., 2010; Olanrewaju et al.). Services such as electricity, water, maintenance services, cleaning services, health services,

computer services, counselling services are also considered as facilities. (Bella-Omunagbe, O.C. 2015).

According to Yusoff et al., (2015), students who have better academic performance are reported to have more satisfaction with the classroom environment and the student support facilities than students who have poorer academic performance. Moreover, physical facilities have a more significant impact on student satisfaction than the university's general infrastructure. The same could be applied to facilities related to students' core activities such as classrooms and laboratories for learning and support facilities such as transportation services respectively. (Karna and Julin, 2015). The study also notes that factors regarding public spaces, campus accessibility and a comfortable learning environment have a more significant impact on student satisfaction.

Hypothesis 3 (H3): University Facilities Performance have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.

2.5. Discipline

Discipline is recognized as an individual variable that is associated with perseverance in goal-oriented tasks (Su, C. Y., & Guo, Y., 2021). Bandura (1988) defined self-regulation in terms of three types of cognitive motivators: causal attributions, outcome expectancies, and cognized goals, each of which is based on its corresponding theory (Kuo, Y. C., et al, 2014). The degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning is defined as self-regulated learning (Kuo, Y. C., et al, 2014). Individuals with high self-discipline may successfully manage conflicts between short-term impulse-driven goals that provide tiny, satisfying short-term advantages and longer-term goals that take significant dedication and determination (Su, C. Y., & Guo, Y., 2021). Su, C. Y., & Guo, Y., (2021) also mentioned that some experts suggest that students need greater self-discipline in online education than in traditional classroom education since self-discipline is linked to the amount of effort put into educational activities.

According to Suswandari, M. (2021). For students who have a high learning discipline attitude, the learning outcomes obtained are also high, namely learning outcomes. The results of the research state that there is an effect of collecting daring tasks assisted by Edlink Sevima on learning outcomes. Furthermore, in the result of research by Su, C. Y., & Guo, Y., self-discipline had significant positive effects on both students' learning outcomes and satisfaction. During the epidemic, students engaged in online learning may confront external temptations or distractions at home, as opposed to students participating in face-to-face education. As a result, we believe that students' self-discipline influences their learning outcomes and happiness with online learning. Therefore, the following hypotheses have been formulated:

Hypothesis 4 (H4): Discipline have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.

2.6. Flexibility

The flexibility of implementing e-learning programs dramatically contributes to the satisfaction of students (Arbaugh, 2000). Flexibility is defined as the student's perception of the efficiency of the learning process and the ease of utilising the e-learning system (Arbaugh, 2002).

Flexibility is a defining element of online learning. As compared with face-to-face teaching, students participating in online learning may experience more flexibility in time, place and pace during the epidemic. However, flexibility is not the only variable that affects students' satisfaction during online learning, but flexibility enables students' flexibility in time, place and speed when watching web-based lecturers or searching materials to prepare for classroom setting. For example, students are able to pause, rewind and review lecturers using online learning tools, are able to tackle complex subject matter at their own pace as well as have more ease and accessibility to information online (González-Gómez et al, 2016). Therefore, flexibility was a positive factor and significant for students' satisfaction during online learning.

In many studies, flexibility has a substantial and significant impact on users' satisfaction (Arbaugh, 2002). Cheok et al. (2015), also found flexibility to be a predictor of student satisfaction in participating in e-learning. However, there is a lack of study done in Malaysia. Harsasi et al. (2018) emphasized the flexibility in the choice of learning strategies and the exchange of knowledge with peer students are positively related to learning achievements. The finding found that design of online learning, course structure and the flexibility of time become key to the success of online learning that can make participants achieve their competencies.

Hypothesis 5 (H5): Flexibility have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.

Figure 1: A Conceptual Framework for The Students' Satisfaction Using Online Learning Platform During Pandemic COVID-19
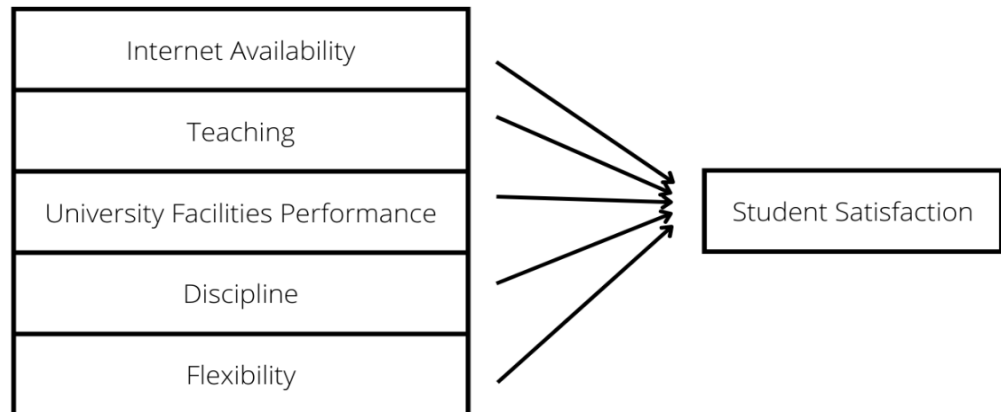
3. Methodology

Quantitative research was designed to examine the potential factors leading to students' academic performance on online learning platforms. This quantitative research employed the survey research method and collected data from AIMST University students. The sample framework for this research is students from AIMST University. The questionnaire consisted of 52 questions created by google forms and subdivided into the various sections of demographic, student satisfaction using online learning platforms, and factors that student satisfaction using the online learning platforms during COVID-19. We collect the survey data via the online survey. The satisfaction questions were preceded by a series of demographic questions that would allow the sample population to be segmented. The questions include gender, age, ethnicity, languages, monthly income, residential area, education level, mode of study, current semester, and primary device.

Participation in the survey was entirely voluntary and anonymous. We distributed the survey form to 85 respondents. However, there is one outlier which is respondent id 12 so the data was cleaned to 84 respondents. A five-point Likert scale was used to measure the measurement items (where 1 = strongly disagree, 5 = strongly agree). The study measure included the dependent variable which is student satisfaction and the independent variables

which are internet availability, teaching, university facilities performance, discipline, and flexibility. The questionnaires were analyzed using SPSS v. 22. conducted to analyze the descriptive, bivariate analysis, and multiple regression in order to determine those factors that affect the student satisfaction. Quantitative surveys have limitations when the small size of the data set means that it is impossible to obtain accurate information. In addition, there is a high probability of missing data and outliers in the data collected prior to the analysis.

Student satisfaction was adapted from (Parahoo et al., 2016); (Harsasi, et al., 2018); (Dziuban et al., 2015; Rios, Elliot & Mandernach, 2018); (Fatani, T. H., 2020); (Yekefallah, L., et al, 2021); (Irfan S., et al, 2021), the number of items for satisfaction is 8. Internet availability was adapted from (Venu et al. 2017); (Azwahanum et al. 2021); (Duraku et al., 2020); (Kuo et al., 2013); (Sujeewa Hettiarachchi, et al, 2021); Mendoza et al., (2017); (Nonthamand et al., 2021); (Zhou et al., 2020), the number of items for internet availability is 6. Teaching was adapted from (Singh & Thurman, 2019; (Albrahim, 2020); (Pedro,et al., 2018); (Ellen & Geetha ,2020); (Nambiar,2020) ; (Tarah, 2020); (Al-Musharraf, 2020), the number of item is 7. University Facilities Performance was adapted from (Yusoff et al., 2015); (Gruber et al., 2010; Olanrewaju et al.); (Bella-Omunagbe, O.C. 2015); (Karna and Julin, 2015), the number of item is 6. Discipline was adapted from (Su, C. Y., & Guo, Y., 2021); (Kuo, Y. C., et al, 2014); (Suswandari, M. ,2021), the number of item is 7. Flexibility was adapted from (Arbaugh, 2000); (González-Gómez et al., 2016); (Cheok et al., 2015); (Harsasi et al., 2018), the number of items is 5.

4. Findings

4.1. Descriptive Analysis

The respondent's demographic profile described the background of AIMST university students. The difference in gender did not show any big variance between male and female where male respondents at 51.2 percent compared to female respondents at 48.8 percent. The finding of frequency analysis shows that respondents aged between 21-23 years old are students of AIMST university. at 73.8 percent. In addition, the findings also show the respondents aged 18 – 20 years old at 16.7 percent followed by the respondents who are aged at 24 – 26 years old at 8.3 percent and also age 27 years old and above being 1.2 percent. Moreover, the findings also found out that the race of AIMST University students consists of those who are of Chinese at 71.4 percent while those who are Indian at 23.8 followed by those who are Malay 3.6 percent with the remaining of other races being 1.2 percent.

More information was collected in the survey from the respondents of AIMST university students for the language spoken. The data shows that the students are mostly multilingual which consist of respondents speaking English, Malay, Chinese that consist of 34.5. The

second most spoken language by respondents is Chinese which is 21.4 percent. The third most spoken language from the respondent is Tamil which is 15.5 percent and respondents that speak English and Chinese consist of 10.7. Next, there are respondents who speak English and Tamil which consist of 4.8 percent of respondents and 3.6 percent of respondents speak English, Malay, Tamil. Three of the spoken languages by respondents share the same percentage which is English, Malay, and English, Chinese and others. While the last two choices which are English, Malay and English, Malay, Tamil and others share the same percentage at 1.2 percent.

Respondents also were asked for their monthly household income. 58.3 percent of respondents earned below RM4,000. While 15.5 percent of respondents earn monthly household income of RM8,000- RM10,000, respondents who earn monthly household income above RM10,000 consist of 11.9 percent, 8.3 percent manage to earn RM4,000-RM6,000 monthly household income and 6.0 percent of respondents have earned RM6,000- RM8,000 monthly. Furthermore, the data above that have been collected from AIMST University Student show the residential area of respondents where 53.6 percent lives in Urban area, while 39.3 percent of respondents lives in the sub urban area and the rest of the respondents consist of only 7.1 percent lives in rural area.

The education level of respondents showed most of the AIMST University students are studying Bachelor degree level which consist of 79.8 percent, followed by Foundation/Diploma levels at 20.2 percent. From the survey that has been conducted, respondents were asked for mode of study in the university where it only consists of full-time study which is all from the 84 respondents. Continuing to current semester students of AIMST University studying now, 29.8 percent are currently at semester 6 while 17.9 percent of respondents are currently studying at semester 5 and next is semester 4 which consist of 15.5 percent of respondents currently studying. Besides that, 10.7 percent of respondents are currently still at semester 2 and there are students also studying at semester 7 which has 8.3 percent of the respondent. While semester 1 and 3 share the same percentage of which is 7.1 percent of respondents currently studying and 2.4 percent of respondents study at semester 8. The rest of the respondents are 1.2 percent in the other category.

Lastly, the last data collected for the research is the device used for online learning which shows that 79.8 percent of respondents from students of AIMST University are using laptops for learning online. While 15.5 percent are respondents who use PC (Desktop) while learning online and 3.6 percent of respondents are using tablets to learn and the rest of the respondents that consist of 1.2 percent use mobile phones as a device to learn online.

4.2. Correlation Analysis
The strength of the relationship between the variables can be determined by indicating the value of r. Pallant (2005) suggests the following: when the value is 0, it indicates there is no relationship, while a correlation of ±1.0 indicates that there is a perfect positive or negative relationship. In order to interpret the values between 0 (no relationship) and 1

(perfect relationship), Cohen's (1988) suggestion was used. When r = ±0.1 to ±0.29, the relationship is said to be weak, when r = ±0.30 to ±0.49, the strength is moderate while when r is ±0.50 and above, the strength is strong.

Meanwhile, Hair et al. (2006) have proposed the guidelines as correlation coefficients between ±0.91 and ±1.00 are considered "very strong", correlation coefficients between ±0.71 and ±0.90 are considered "high", and correlation coefficients between ±0.41 and ±0.70 are considered "moderate". Meanwhile, correlation coefficients between ±0.21 and ±0.40 are considered "small but definite relationships", and finally, correlation coefficients between ±0.01 and ±0.20 are considered "sight, almost negligible". On the other hand, Berry and Feldman (1985) argued that the correlation coefficients that exceeded 0.8 (very strong correlation) will likely result in multicollinearity.

Table 1: Correlation Analysis Result

Variable name	SS	IA	UFP	DP	F	T
Students' Satisfaction (SS)	1.00					
Internet Availability (IA)	.471[**]	1.00				
University Facilities Performance (UFP)	.717[**]	.536[**]	1.00			
Discipline (DP)	.366[**]	.419[**]	.541[**]	1.00		
Flexibility (F)	.368[**]	.447[**]	.350[**]	.577[**]	1.00	
Teaching (T)	.681[**]	.525[**]	.654[**]	.537[**]	.261[*]	1.00

From the result of Table 1, all the independent variables and moderator variables were positively significant with the dependent variable, student satisfaction. Referring to Table 1, although all the variables were positively significant with the dependent variable (SS), the Pearson correlation results depict the strength of the relationship was weak. Internet availability (IA) and Teaching (T) were found to be significant at p < 0.01, where r = 0.471 and r = 0.681 respectively. According to the rule of thumb highlighted by Hair, et al., (2003), the correlation coefficient falls between ±0.41 to ±0.70 signifies the degree of common variance is moderate. Another variable significant to each other is Discipline (DP) and Flexibility (F) which r = 0.366 and r = 0.368, p <0.01 respectively. This shows that both of those variables have a degree of common variance of small but definite relationship Only University Facilities Performance (UFP) was found to have high strength in the degree of common variance at r = 0.717, p < 0.01. Table 2 Summarize result of hypotheses testing.

Table 2. Summary of the results of hypotheses testing

Hypothesis	Result

H1: Internet Availability have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.	Accept
H2: Teaching have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.	Accept
H3: University Facilities Performance have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.	Accept
H4: Discipline have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.	Accept
H5: Flexibility have a positive relationship on students' satisfaction in online learning during pandemic COVID-19.	Accept

5. Discussions

Internet availability (IA) is a significant influence on student satisfaction. This finding is parallel with the previous study, (Zhou et al., 2020).) that indicates IA is an important variable in determining the student satisfaction with online learning during COVID-19. Teaching(T) is a significant influence on student satisfaction. This finding is parallel with the previous study, (Al- Musharraf, 2020) that indicates T is an important variable in determining the student satisfaction with online learning during COVID-19. University facilities performance (UFP) is a significant influence on student satisfaction. This finding is parallel with the previous studies, (Karna and Julin, 2015) which indicate that UFP is an important variable in determining student satisfaction with online learning during COVID-19. Discipline (DP) is a significant influence on student satisfaction. This finding is parallel with the previous studies, (Su, C. Y., & Guo, Y.., 2021) which indicate that DP is an important variable in determining the student satisfaction with online learning during COVID-19. Flexibility(F) is a significant influence on student satisfaction. This finding is parallel with the previous studies, (Arbaugh, 2002); Cheok et al. (2015) which indicate that F is an important variable in determining the student satisfaction with online learning during COVID-19.

6. Conclusions

In subsequent surveys, the respondent cap should be increased to 300 in order to obtain a dataset that is both more accurate and comprehensive. According to the findings, the dependent variable (SS) is positively associated with all of the variables (IA,T,DP,F,UFP), but the relationships between the variables are not very strong. It was discovered that the variables Internet availability (IA) and Teaching (T) share a moderate degree of common variance. Both the trait of Discipline (DP) and the trait of Flexibility (F) share a minimal

amount of common variance. University Facilities Performance (UFP), on the other hand, possesses a significant advantage regarding the degree of common variance. Nowadays, the market environment is more competitive than ever before because of the new product developments which increase the importance of the marketing strategies in the organizations. Today, all the higher education institutions including private and public universities transform their teaching and learning to online platform. This paper provides an insight for higher education management to look on important factors needed in order to fulfil student's need and satisfaction and achieve their own competitive advantages.

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