THE IMPACT OF FACILITIES ON STUDENT'S ACADEMIC ACHIEVEMENT

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Abstract: A new university is sometimes unable to provide enough facilities to students, which may affect their performance. This study described three factors that can impact student's academic achievement, which is System Management (E-Learning, Management Information System); Learning Environment (Classrooms, Teaching Aid, Library) and Infrastructure (Hostels, Sports Facilities, Parking & Transportation). It was conducted in the Universiti Malaysia Kelantan (UMK) City Campus because of its conditions of using shop lots as building the campus. Data were distributed to 500 students of 2016/17 academic calendar. A total of 364 returned and usable questionnaires were received, given a response rate of about 73%. The study runs correlation and regression analysis to analyse the data. The results of the study show that E-learning of System Management; Teaching Aids and Library of Learning Environment; Hostels, Sports Facilities and Parking and Transportation of Infrastructure were all significant to impact students' academic achievement. All the factors contributed about 51.5% towards the students' achievement. As this is the first attempt of looking at the issue in the UMK, it provides valuable findings of the factors which should be given attentions by UMK and other academic institutions to improve students' academic achievement.

Keywords: University, system management, learning environment, infrastructure, academic performance

1.   INTRODUCTION

Higher education system plays a vital role in the country's overall development which encompasses aspects such as social, economic and industrial progress [1]. It is a process that nurtures human abilities, skills and moral values which can improve standards of living as well as qualities of life. Since 1963, which witnessed the birth of the Malaysian Federation, higher education institutions (HEIs) have expanded tremendously in the range of number, enrolment of students, and the fields of study available. In fact, a research by [2] indicated that efforts taken by the Ministry of Education to bolster the education industry has led to a significant growth of the Malaysian higher education sector. His finding is based on the high national budget or allocation to run the education sector by the Malaysian government annually, which symbolises that the government provides the right support towards education.

Nowadays, more than a million students are studying at Malaysia's HEIs, in which about 540,638 of them are in public universities, 580,928 in private higher education institutions, 35,907 in institutes of teacher education, 96,069 in polytechnics and 18,529 in community colleges. Malaysia had six public institutions in 1985 and now, it has 20 public universities, where five of them have been categorised as research university, and the remaining other 15 public universities have been designated as either focus or comprehensive universities [3]. Currently, some world-class and prominent universities such as Johns Hopkins University School of Medicine, RMIT University and the Royal College of Surgeons, Ireland have established their collaboration and cooperation with the local HEIs [4,5]. Malaysia now ranks the ninth most popular destination for foreign students in a variety of fields and disciplines including information and communication technology, engineering and agriculture fields [6].

Malaysia aspires to achieve a high-income nation by the year 2020 under the Vision 2020 set by the government. One of the instruments to accomplish this goal is education and the development of high quality graduates, with a net tertiary enrolment ratio of 40 percent. In Malaysia, the management and operation of HEIs is under the authority of the Ministry of Higher Education. It is expected that by 2035, at least three Southeast Asian countries including Indonesia, Malaysia and Vietnam will enrol some of the world's largest number of university students. [7]

corroborated [8] view, stated that by 2035, these three countries will be among the World's Top 20, in terms of the number of university student enrolment. In this regard, lifelong and continuing studies especially for adults in Malaysia has been made possible by the setting and establishment of public and private universities, open universities, university colleges, private colleges, polytechnics and community colleges [9].

Ideally, HEIs can be regarded as one of the essential and vital investment and serve many purposes or rewards, for instance, career path preparations, centres of learning and personal development. It can be considered as a source to the growth and development of industry, and the development process of an individual through flexible education offerings [1]. [10] believe that there is a correlation between higher levels of education and higher income for both men and women. Thus, higher levels of education lead to lower levels of unemployment and poverty. [10] also believe that the society also gains benefits as higher levels of education are associated with higher levels of civic participation, including community service or volunteer work. [11] claimed that the university is synonymous with the growth of advanced civilisation. As indicated by a report by [12], universities and other HEIs can offer guidance on enhancing national education systems across various fields.

In general, research on higher education in Malaysia and worldwide has drawn a huge interest due to the importance of its contribution to the economy and society, for example the phase of globalisation and liberalisation of Malaysia's tertiary education were discussed by [13;14] described how Malaysia's system of higher education system ensured the future employment of its graduates. They further provide the set of governmental procedures to enhance graduate employability in the worldwide job market. A study conducted by [9] discussed some interesting factors in the current trends of Malaysian higher education and its effect on the education policy and practice. In a different study, [15] examined several variables for measuring the satisfaction of students in a Malaysian higher education institution. These variables included the campus services, technology and campus facilities. Similarly, [16] conducted a study in Pakistan universities about facilities and students' satisfaction. He considered sports facilities, transport facilities and accommodation facilities are key

factors for determining their satisfaction. However, only a few scholars (see [17; 18;[19] explored the relationship of the learning environment and academic achievement of students. [19] agreed that academic achievement of a student is closely related to many components of learning environment including facilities. Their study indicated that housing environment and school or teacher involvement are the two variables of the learning environment.

Hence, the objective of this study is to examine the contributing variables for the achievement of students in Universiti Malaysia Kelantan, Malaysia (UMK). UMK is the 19th public university in Malaysia and was established in the year 2006 to offer programmes that have significant entrepreneurship content in the curriculum. Located in the North East region of Malaysia, Kelantan state is considered as a cultural pot of the Malay culture [20]. This university has three campuses, where the main campus is in Bachok, the second campus in Jeli and the temporary campus in Pengkalan Chepa which is also known as the City Campus. On 1 July 2007, the temporary campus of UMK in Pengkalan Chepa officially began its operation with the registration of 295 pioneering students. In the beginning of July 2008, which was its second year of operation, it enrolled 332 students.

Generally, facilities such as libraries, hostels, shuttle buses, cafeterias, clinics, sports and cultural facilities, prayer room, security guards, computer labs, language labs and counselling centres (recently available in City Campus) and the spa lab (only in City Campus) can be found in each campus. However, several types of facilities provided to students at the City Campus are different from those at the main campuses of Jeli and Bachok (such as shop lots building). In this study, the City Campus was chosen because of its unique conditions of using shop lots as the campus building. [21] believed that the conditions of the school facilities are very crucial, and it gives impact to the students' achievement. Therefore, it is essential to measure the extent of the effects of facilities on their performance. Facilities play an essential role in providing conducive and comfortable equipment or other services to the students. [22] supported that, school or campus facilities are resources for teachers and students to improve their learning and teaching process to achieve a productive learning environment. For educational leaders to support reform that will boost student performance, they will need to understand the existing relationship between the campus facility and students' achievement. As noted by [23] greater performance or achievement of the students is the result of strong and effective facilities systems.

2.   Issues of University Facilities and Students' Academic Achievement

School facilities can be categorised into two types, permanent and semi-permanent structures; for examples, laboratory equipment, teachers' tools, machinery, teaching aid and other equipment and tools as well as consumables [24]. As noted by [25]; [26] school facilities systems range from the blocks of classrooms, libraries, workshops, laboratories, equipment, electricity, water, desks, chairs, audio-visual and visual aids, toilets and storage space that would likely motivate students towards learning. Meanwhile, [27] had classified school facilities into two types namely facilities for academic and non-academic. Some examples of non-academic are games and sports facilities, farms and gardens. Other non-academic facilities

include information and communication technologies (ICT), toilets, transportation and securities.

Furthermore, [27] stated that the purpose of providing a decent facility at school is to enhance the learning activity, and it is a booster to increase students' achievement [28]. Conditions of the school facilities are very crucial because it gives impact towards students' achievement [21]. Similarly, [28] and [29] stated that facilities promote effective learning and teaching at schools.

On the contrary, experience shows that insufficient physical facilities lead to some negative effect on students' interest to learn. Hence, their academic performance is adversely affected. It is observed that students have low performance when they are not having access to standard facilities such as library equipment and inadequate seats in the classrooms [26]. Therefore, all of these physical facilities will have an impact on the effectiveness of teaching and learning process.

Meanwhile, [30] found that achievements of students can be measured and defined in several ways and it has to be according to their age and grades. The previous study proved that by having inadequate facilities, it will lead to worse or poorer score test in schools [31; 32; 33; 34]. Poor lighting in the classroom, noise, low air quality and building conditions are some of the factors for poor performance [35; 21. 36] found that building conditions can influence students' achievement because it was discovered that students score better when they learn in well-built buildings compared with poorly constructed and equipped buildings. [35] mentioned that the design of classrooms is another important criterion that could improve students' achievement.

Furthermore, class layout or the arrangement of the furniture in class will also influence the achievement of students. It is necessary to make students feel comfortable during the learning activity. Previous research reported that female students feel more at ease when the classrooms arrangements are in clusters or rows [37; 38]. However, [39] argued that the arrangements in clusters and row sometimes can lead to a disruptive and off-task behaviour among students.

Furthermore, [30] are in the view that student accomplishment can be improved by enhancing several things such as the quality of teachers, size of the schools and programmes held by schools. In short, the improvement of facilities is crucial to facilitate student achievement and develop the competitive environment among them [35].

Besides that, [40] agreed that the students from newer and adequate school facilities perform better compared with of those in the older and inadequate facilities who are worse in their studies performance. Previous studies (see [41;42] found that there are significant relationships between school environment and students attitudes to schooling. [28] also reported that there is a better record of student performance if the schools are well coordinated and maintained. The conducive environment at schools also encourages the students' involvement in academic activities.

At the same token, [43] and [25] found that poor maintenance and inefficient management of the school facilities affect learning. This shows that the facility management such as managing building and technical system is vital to ensure the operation and the management

of facilities run smoothly and effectively [44]. [22] stated that the budget and maintenance cost must be allocated appropriately to ensure smooth running and to have an effective management on the maintenance of the facilities. In sum, a proper attention towards system management on school facilities is very important to help the organisation to accomplish the educational goals and objectives [27].

Another study conducted by [33] concluded that poor facilities lead to poor student attendance, which can result in lower student achievement in examinations. [45] also supported the view that poor school facility can give the negative effect on students' achievement and attendance. Lacking fresh air, glaring and hot or cool temperature are some aspects of school facilities that give negative impact to the students' education [46]. [47] found that schools which have poor indoor air quality will cause the inability of students to concentrate in the classrooms, drowsiness and lethargy. Some of the students have to miss the class because of their health condition [47].

[48] found that the students in the old and non-modernised school building score lower than those in the modernised or new school building. [49] discovered that the size of the school also influences the students' behaviour. Hence, the size must be small to reduce the violence and negative behaviours especially among students that have low socioeconomic status. Besides that, a building that has better quality in terms of having good air quality, advanced laboratories and libraries and new school buildings leads to significant positive impact on students' accomplishment [50].

Based on the above discussion, this research aimed to explore the core question, which is how the students perceive the effects of Malaysian universities' facilities in connection to their achievement?

3. Factors That Support Students' Academic Achievement

To assess the cause and effect of academic performance level of students, scholars consider certain variables of the school as the instruments that can tailor performance. The variables are the school size, school type, school structure, school location and school ownership, which are deemed relevant in influencing students' academic achievement. Hence, the school variables remain as significant aspects that should be studied and managed well to enhance the academic performance of students [51].

Others [52] identified that the main element to boost academic achievement in the school system is facilities. They include the school buildings, classrooms, laboratories, libraries, recreational equipment and others. Experience demonstrates that by having the availability of good physical facilities, students tend to have more interest in learning; this will definitely lead to higher performance [26].

Furthermore, [53] in his 2002 study acknowledged that components of successful teaching and learning are clean, comfortable, safe, peaceful and healthy environments. He pointed out some categories that can enhance academic outcomes such as indoor air quality, ventilation and thermal comfort; acoustics; lighting; school size and class size; building age and quality.

In general, the studies about the impact of physical facilities on students' achievement have been conducted in numerous different local universities and/or in different countries, however, the main focus of students'

achievement in the context of facilities for the UMK is presented in this study. The state of physical facilities in UMK today is of great concern to its students and academicians, for example, the campus is lacking sports facilities with only a futsal and a netball court available. Many classrooms are small to accommodate a large number of students. The classrooms only have basic facilities such as chairs and tables, a whiteboard, fans, a projector to connect to the laptop, a microphone and air conditioners. The internet connection in the classrooms is sometimes unreliable. Apart from that, parking spaces for staff and students are also limited where they need to compete with the public for the parking. The finding of this study may help UMK management in the City Campus to improve their facilities to address students' needs. This study is significant to UMK so that it can improve and provide better facilities to students. Besides, it can give a clear picture to the University of which facilities should be provided and improved to facilitate a better learning environment in the university and for the betterment of the students' achievement. This research also benefits other researchers in their research especially with regards to students' achievement. Researchers can use this study as a reference and information resource in determining the impact of facilities on students' performance.

A growing body of research addresses this question: Which facility features influence the achievement of students the most and in what ways and degree? This research explores three main categories: They include the system management (e-learning, management system information); learning environment (classroom, teaching aids and library) and infrastructure (hostel, sports facilities and parking and transportation).

A. System Management: E-learning and ICT

Nowadays, as the world is moving into digital media and information, the role of ICT in education is becoming more and more significant and its significance will continue to grow and develop in the 21st century [54]. ICT can be defined as technological tools to communicate with other people and also to create, store and manage information [55]. According to [56] there are many types of information systems for managing student affairs that can be utilised to make informed decisions which can improve the efficiency of operations.

To fulfil the latest high technology needs and expectations, higher learning institutions have been incorporating e-learning into their traditional class education. The application of e-learning or web-based learning provides the capability to share materials in a variety of formats such as word documents, videos, slideshows and PDFs [57]. Moreover, conducting live webinars, online classes and communicating via chat and message forums are also possible and available to students and lecturers.

E-learning is a cost-effective, affordable, and sometimes free solution which allows the learners to suit learning with their careers and lifestyles. It effectively facilitates even the busiest person to pursue a career and gain new qualifications concurrently. As a result, e-learning is remarkably significant nowadays as it can offer an alternative that is much faster, more economical and potentially better than traditional learning, which is more costly and takes a long time. At this point, the key element is the use of the Internet. The internet as the source of information and medium of communication have

empowered students, researchers, information professionals and business executives to access information to improve their work and communicate efficiently [58].

A study by [59] discovered that the common problems respondents encountered in the use of the internet are slow internet speed, long time for viewing or downloading web pages and frequent loss of signal. In the study conducted by [60] at Calicut University, they found that most students used the internet for studying; research scholars for doing research, and teachers or lecturers for teaching. [61] said that there are an increasing number of faculties that are at ease with the application of ICT for the instructional and educational purpose, and the use of ICT can also improve the effectiveness of the university, especially online teaching from lecturers to students. Apart from that, it could boost the level of motivation and academic performance of the students.

Similarly, [62] found that the usage of the internet is approaching 100 percent among university and college students and the internet also becomes a part of students and college life around the world. It found that 36 percent of the students spent about 1 to10 hours using the internet per week and this includes browsing the internet either for the academic or non-academic purposes. According to [63] faster broadband by internet service providers in Malaysia leads to a significant growth of the internet users. [64] stated that ICT is considered as one of the main elements in transforming the development of Malaysia in the future.

However, there are many challenges and obstacles regarding the integration of ICT particularly in developing countries, where high opportunity costs are involved in establishing institution-wide ICT systems compared with developed countries [65]. Moreover, slow speed of computers, signal problems of the internet, virus threat, poor working condition of computers, load shedding and lack of internet access are the problems faced by the majority of the students. In the modern institutions like universities, they are very dependent on the smooth operation of ICT and uses of the internet [66]. A current study carried out by [65] concluded that the ICT should be firmly embedded into learning environments so that the teaching and learning process may be upgraded with the help of the modern technology. [67] examined the relationship between student performance in higher education and the utilisation of ICT. [26] agreed that the level of motivation and academic performance of students can be strengthened using the internet.

B. Learning Environment

Conceptually, the learning environment refers to diverse components and activities within which teaching and learning occur. Hence, it takes into consideration several variables that directly and indirectly affect students [68]. Productive teaching and learning require the blending of many factors which include the classroom seats and sitting arrangement, painting and lighting, classroom climate, air quality and ventilation. [68] had evaluated the mathematics achievement of students with regards to the learning environment. The study proved that learning environment is a vital key factor for their academic accomplishment. [69] pointed out that high achievers are likely to have undergone curriculum content under a conducive and ideal environment. [70] found that the essential factors for a healthy and positive environment are school climate conditions such as the structure of the school building and

the relationship between students and teachers. Apart from that, [21] said that a good learning environment must have good features of facilities itself. According to [71] research has proven that schools with the friendly and conducive environment will have students achieve higher in comparison to schools with the dull and poor learning environment.

Classroom

[72] points out, classrooms are where students develop what they aspire for their future, as well as knowledge and skills necessary to reach that aspiration. [73] indicates that classroom management refers to all matters that an educator does to organise students, space, time, and materials so that student learning can proceed effectively. Her study suggested that classroom management strategies could influence their achievement.

Based on the previous research, the performance of students will increase when the size of the classroom is minimal [74]. Furthermore, [75] discussed how classroom environments affect the learning process of students in relation to the physical environment, time and instructional management, behavioural management, and teaching efficiency. She further pointed out reviews from several researchers indicates that the physical setting environment of a classroom includes designating areas for specific activities, choosing and arranging furniture, arranging proper seating to facilitate learning, decorating areas for specific purposes and organising materials and providing easy access. [76] claimed that creative physical arrangement of classrooms facilitates effective instruction and encourages smooth teaching-learning process. Thus, providing adequate physical facilities is prudent as they can enhance the overall performance of the school.

[77] argue that an organised and comfortable environment can boost positive behaviour and increase the level and quality of student interactions, so teachers and students can engage in activities effectively without interruption or excessive noise.

Teaching Aid

[78] discovered that EFL textbooks are often viewed as motivation in the classroom instruction when it is combined together with the technology and effective methodology. The teaching aid is also a common thing that teachers will use it to make their classroom become more exciting as it is necessary for the teaching-learning process [78].

The use of technology is more productive and relevant when teachers utilise it for delivering lessons in classrooms. [79] also said that the technology will create a more collaborative learning environment. On the other hand, [80] found that not all teachers will use technology in their classrooms because they do not have some technical know-how and not expert in using the technology. [80] also mentioned that teachers who are not well-versed in using technology will experience difficulty using it and they also do not have sufficient time to gather all the information about their lessons that will be presented.

In Saudi Arabia, technological developments have given a big impact on language learning environment and also improve their language skill [78]. In addition, some teachers also believe that applying technology for language teaching will influence the decision of other teachers in using the technology [81]. In certain cases, teachers are not aware of the various projected aids that can be used in the classroom [81. Some [82] found that the use of gadgets

such as computers, smartphones and the internet search engines become more popular nowadays and more than half of the world's population is using it as their social networking. [82] further noted that teachers and students must also use the new technology in their classrooms. In a different study of the teaching aids, others [83] examined the use of teaching aids and other supportive factors in learning to read among remedial students at under enrolment school. They finally concluded that the failure of teachers to utilise and apply the teaching aids will result in undermining students' achievement. Thus, the application of teaching aids in the process of teaching-learning can definitely facilitate effective learning and able to draw the interest of students to pursue classroom activities.

Library

For decades, the main information sources for faculties and students alike are libraries [58]. Libraries can provide access to abundant information that users need or require. As noted by [84] the main aim of a university library is to provide support services for the university in areas of learning, teaching and research. It plays a vital role in assisting the university to fulfil its basic functions such as performing the collection of books or articles, and collecting modern information like e-books, e-journals and e-thesis. Libraries also are able to provide the best service to students, faculty members and also the departments of the university if the academic libraries and teachers collaborate with each other [85]. Therefore, libraries are regarded as the hubs of any academic institutions. Basically, such information or sources must be easily accessed and retrieved by users. [84] investigated the students' effectiveness, their satisfaction levels and expectations with the use of library resources for their learning. [86] argues that over the past 30 years, researchers worldwide have built an extensive body of evidence indicating that higher academic achievement in students is linked to good school library programmes. [87] found that students who gain better academic success (e.g. course grades, grade point average (GPA), retention) used libraries in some ways compared with students who did not use the library and achieve less. Other researchers also did similar studies (see [58] [88]) and their studies indicated a positive, statistically significant correlation between school library services and student academic performance.

C. Infrastructure

Effective teaching and learning in schools require adequate infrastructure. The goal of school infrastructure in secondary school education is to boost school attendance of students, enhance staff motivation and improve academic accomplishments of the students. The infrastructure includes classrooms, laboratories, halls, open fields, games equipment, dormitories and sanitation facilities. School infrastructure is, therefore, an essential component in ensuring successful education. Research by [23] found that improved academic achievement is associated with adequate space for classrooms, ample spacing in the libraries, properly equipped science laboratories, adequate water and sanitation facilities and active participation in co-curricular activities. In Kenya, a study by [89] states that the classrooms are overcrowded and they should be equipped with doors and windows, painted, plastered, floors cemented and well lighted as well as have adequate desks. Therefore, substandard facilities and unconducive learning environments would significantly affect the

academic performance of students or may lead to low performance.

Hostel

The most important criteria that determine the satisfaction of students with their dormitory is the cost of rent, the distance of the university facilities, security rooms, size of the rooms, dormitory safety, and other boarding facilities. Normally, on-campus hostels students demonstrated higher satisfaction with the provided transport facility. Other satisfaction variables for hostel facilities include the library, clinic, conference hall and book store, among others [90]. Somewhere else [91], concluded that the private developers should involve in a partnership arrangement with the school management to construct more hostels on campus with the latest state of the art facilities which will meet the needs of the increasing population of the students. In [91] authors further suggested developing more hostels for both genders, male and female students to accommodate the growing population.

Meanwhile, [92] believed that students can gain academic benefits by living on campus. Living on campus will likely cause students to progress better academically, and they will be more capable of achieving a high level of academic performance. Their study [92] also proved that, by living on campus, the student would improve their GPA. However, a recent study by [93] revealed that, the majority of the students involved in the research face obstacles or challenges in their hostels or halls (lack of water and electricity supply, lack of ventilation, inadequate sleeping mattress and bed sanitation and lacking other necessities provided by the hostel administration). In Malaysia, [94] seek to assess the satisfactory level of students about living spaces and conditions at one of the leading universities in Malaysia. The results indicate that most students were satisfied with the provided study-bedroom. However, they were unsatisfied with the wireless internet access in their rooms. Hence, a study at another university in Malaysia such as UMK is necessary to ensure that Malaysian universities would provide on-campus student housing of the world-class standard.

Sport Facilities

[95] highlights the importance of the sports infrastructures including sports facilities and sports programme in the city where it is unlikely to change individual factors such as gender and age distribution of the population. The reason why people cannot engage in sports activities is due to lack of facilities, high cost, mobility issue and lack of gears, while university students can freely engage in sports because they have a lot of time [96].

Meanwhile, [97] examined the construction and design trends of recreational sports facilities in the United States colleges. He observed that many important campus functions such as academic, sports, health and wellness have been integrated into many new and renovated facilities. Unique features such as rooftop playing fields, climbing walls, food service, counselling centres, campus police stations and convenience stores have been incorporated into these recreational sports facilities.

Although the studies and education of the students are the main focus of any educational institutions, there is also a need to provide the students with extracurricular activities which inculcate and polish the students' extra skills and knowledge as well as their talents. These activities require the universities to provide the required good facilities to

them [16]. [98] carried out a study titled 'A Study of Sports Facilities in the Colleges of Nashik City'. He further recommends that college management establish sufficient funds whether in the form of grants or other alternative ways to build good indoor and outdoor facilities. Besides that, [99] who based on his study of an American university pointed out the importance of creating a safe environment in indoor sports facilities of the university including clear signage for indoor sports. Besides that, [100] surveyed the satisfaction among students in regard to sports facilities. His study found that recreation and sports facilities play a significant role in the students' satisfaction in universities. Furthermore, [101] did a research to determine ways to improve sports facilities in universities. He discovered that there were very few sports facilities at some of them. They were lacking proper sports facilities, well-trained coaches, separate areas for female sports activities and insufficient sports budget.

Meanwhile, [102] conducted a study on the construction of sports facilities in Malaysia. They observed that even though sports and sports facilities development has been making progress significantly over the past years in Malaysia, such progress is not on par with the overall development of sports at the global level. Their study was based on the expert opinions of town planners, who are the key decision makers in the Malaysian context. The findings from the research showed that although the emphasis is placed on creating a sports culture among Malaysian in the Ninth Malaysia Plan (2006–2010), sports facilities have not gained a new role as the global trends have. The researchers believe that a new insight and approach are needed to enhance the existing sports facilities and its future development.

Parking and Transportation
Certainly, parking space is one of the most common and exasperating issues happening at all colleges and universities. Its availability on the campus is limited during peak times. The increasing number of students is one of the main reasons why so many institutions are facing parking shortage. The demand for parking is also caused by the necessary hiring of new faculties and support staff [103]. [94] summarised that sufficient parking places for students are needed to avoid them using parking lots for lecturers. Hence, the university must have a strategy to accommodate and address the campus growth, loss of existing parking lots and the future parking needs of the campus.
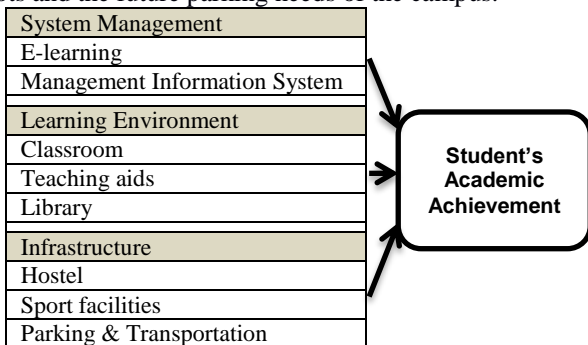

Figure 1: Conceptual Framework of the study

Moreover, for the students who live a distance away from the university in the same city, transportation facilities are necessary for them. Since most students cannot afford to commute to university from the distant location on the

everyday basis, the university should take responsibility to provide them transportation facilities [100]. By providing the extra amenities, it can develop more values and more comfortability to the life of the students.

Based on the discussions of the previous studies, the following model is developed for this current study. As illustrated in Figure 1, the independent of the study include; the system management (such as e-learning and Management Information System); learning environment (such as classroom, teaching aids and library) and infrastructure (such as hostel, sports facilities, parking and transportation).

4.   Research Methodology
This study employed a survey-questionnaire to gather data concerning the facilities provided by UMK. The population of this study is the UMK students in PC campus. The population is obtained from the Academic Administration Division of UMK and there are about 4,000 students from Faculty of Entrepreneurship and Business and Faculty of Hospitality, Tourism and Wellness. The unit of analysis for this study is the students from the two faculties. The questionnaire involves three sections. The content of Section A is about the demographic profile of respondents; Section B is regarding the facilities and Section C asks about their academic results. A random sampling method is used to select the target respondents. By using this method, each unit in the population has an equal chance to be selected [104]. From the total population, 500 targeted respondents were sampled for the study, only 364 or 72.8% of questionnaires were returned and used for the final analysis. For the purpose of analysing the data, SPSS version 24 was used to run the distribution, correlation and regression analyses.

5.   Findings
Pilot tests were conducted to refine the questionnaire before the actual distribution took place. By performing a pilot study, any potential problems in the pro forma questionnaire can be identified and corrected or modified prior to the main administration of the survey instrument [105]. This process is important to improve the quality of the questionnaire by increasing the clarity of the questions. In this study, the questionnaire had been distributed randomly to 10 students in UMK City Campus; they were removed from the actual study for pre-testing purposes.

Descriptive Statistics
Demographic Statistic
Table 1 shows the profile of the respondents in the study. There are about 42% male and 58% female respondents in the study. The majority (64%) of them are between 23 to 24 years old and about 28% are between 21 to 22 years of age. In terms of race, the majority are Malays with 74% from total respondents, followed by Chinese (about 17%) and Indian (about 8%). More than 44%% of the respondents are in their final year of studies, another 29% in the third year and 20% in their second year of studies. There is a roughly equal in terms of current resident between staying in the rental house (50.5%) and the hostel (48.6%). Out of the total respondents, 64% are getting cumulative grade point average (CGPA) between 3.00 to 3.49, about 21 % with CGPA above 3.50 and the remaining of about 15% getting CGPA below
2.99.

Table 1: Profile of respondents

Gender	N	%	Age	N	%	Race	N	%
Male	152	41.8	19–20	20	5.5	Malay	270	74.1
Female	212	58.2	21–22	103	28.3	Chinese	61	16.8
Total	364	100	23–24	233	64.0	Indian	28	7.7
			24–26	8	2.2	Others	5	1.4
			Total	364	100	Total	364	100
Year of Study	N	%	Current Resident	N	%	CGPA	N	%
1	24	6.6	Hostel	177	48.6	Below 2.99	53	14.6
2	74	20.3	Rental House	184	50.5	3.00–3.49	233	64.0
3	105	28.9	Others	3	0.9	3.50 and above	78	21.4
4	161	44.2	Total	364	100	Total	364	100
Total	364	100						

Test of Relationships

Pearson product-moment correlation coefficient (r) analysis is used to describe the strength and direction of bivariate relationships and thus show early signs of potential interrelationships in the various relationships. The test is to check the relationship between all of the eight independent variables with the dependent variable. The results of the tests of relationships are presented in Table 2. Overall, it shows that all relationships in the study have positive and statistically significant correlations between independent variables and the dependent variable. In this study, teaching aid and hostel show the highest positive and statistically significant correlations of 0.587 and 0.501 respectively, suggesting quite a strong relationship between both independent variables and the dependent variable. The other variables have medium strength relationships with student academic achievement.

The correlation between each independent variable is also important because the value of relationship should not be 0.70 or more [106]. If this situation exists, omitting one of the variables should be considered. The results in Table 2 show that the highest value between independent variables is 0.547, which is the correlation between sports facilities and classroom. This value is less than 0.70, therefore all variables are retained.

Table 2: The Correlation Coefficient (r)

	E-learning	MIS	Classroom	Teaching Aid	Library	Hostel	Sport Facilities	Parking / Transportation	Student Academic Achievement
E-learning	1	.413**	. 349**	.447**	.314**	.281**	.336**	.242**	.368**
MIS	.413**	1	.442**	.404**	.419**	.304**	.381**	.450**	.406**
Classroom	.349**	.442**	1	.537**	.443**	.251**	.547**	.495**	440**
Teaching Aid	.447**	.404**	.537**	1	.485**	.428**	.304**	.336**	.587**
Library	.314**	.419**	.443**	.485**	1	.277**	.342**	.380**	.481**
Hostel	.281**	.304**	.251**	.428**	.277**	1	.268**	.300**	.501**
Sport Facilities	.336**	.381**	.547**	.304**	.342**	.268**	1	.552**	.412**
Parking / Transportation	.242**	.450**	.495**	.336**	.380**	.300**	.552**	1	.449**
Student Academic Achievement	.368**	.406**	.440**	.587**	.481**	.501**	.412**	.449**	1

**correlation is significant at the 0.01 level; * correlation is significant at the 0.05 level (2-tailed)

Test of Reliability and Validity

To test the internal consistency, Cronbach's alpha coefficient (α) is used. It can measure the scale reliability of the collected data. Table 3 shows the values of Cronbach's alpha coefficient with all values for the variables being above 0.70, suggesting very good internal consistency reliability for the scale in this sample, except for hostel with only 0.647 which is still acceptable.

Table 3: The Cronbach's Alpha

Variables	Items	Cronbach's Alpha
E-learning	4	0.700
Management Information Systems	4	0.788
Classroom	4	0.847
Teaching Aid	4	0.824
Library	4	0.781
Hostel	4	0.647
Sport Facilities	4	0.879
Parking & Transportation	4	0.805
Student Academic Achievement	4	0.837

Hypothesis Testing

Multiple regressions are used to assess the impact of facilities provided by the UMK to predict student achievement, in this case, the academic performance of UMK students in City Campus. The results from Figure 2 below show that the beta path coefficient between e-learning and student achievement (H1) is positive and statistically significant at p-value 0.10 (β = 0.076; t = 1.653). The coefficient originating from management information systems (MIS) is positive but insignificant to the student academic achievement (H2) (β = 0.071; t = 1.465). Another insignificant result is between classroom and achievement of the students (H3) (β = 0.014; t = 0.264). The results show a positive and a statistically significant relationship between teaching aid and student academic achievement (H4) at p-value 0.01 (β= 0.290; t= 5.675). In terms of the library, the coefficient linking the construct with the dependent variable (H5) is also positive and statistically significant at p-value 0.01 (β= 0.146; t= 3.203). All the independent variables of infrastructure have positive and statistically significant results impacting student academic achievement, which is as follows: hostel to student academic achievement (H6) at p-value 0.01 (β = 0.243; t = 5.741); sport facilities to academic achievement (H7) at p-value 0.05 (β = 0.149; t = 2.904); and parking and transportation to student academic achievement (H8) at p-value 0.01 (β = 0.161; t = 3.282).

All the eight constructs in the study explained 51.5% of the variance of student academic achievement, the academic achievement of the students.
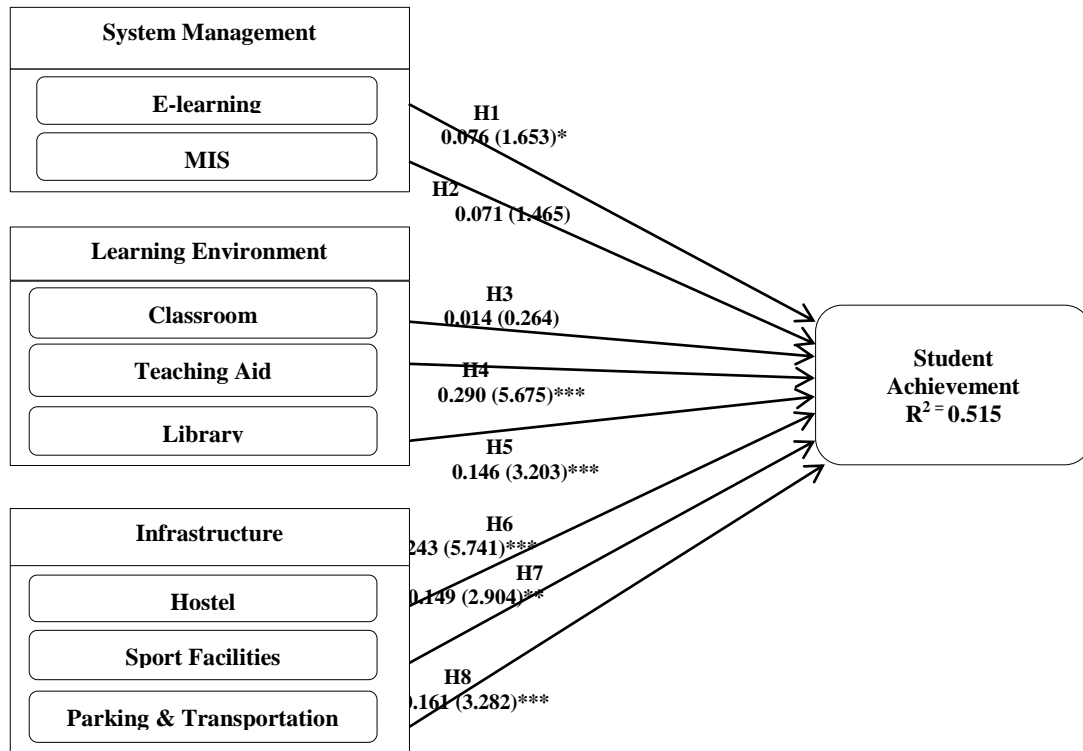
Figure 2: Results of Multiple Regression Analysis
*** significant at p-value < 0.01; ** significant at p-value < 0.05: * significant at p-value < 0.10

6. DISCUSSION

This study examined eight independent variables of e-learning, MIS (system management); classroom, teaching aid and library (learning environment) and hostel, sports facilities and parking and transportation (infrastructure); and their impact on student academic achievement, in UMK City Campus. The first independent variable of e-learning has a strong correlation with student academic achievement. It also significantly influences academic achievement at p-value < 0.10. UMK students found that e-learning is good and benefited them, even though the internet connection in the classrooms is unreliable, however, the lecturers have not limited the use of e-learning during the class time only but increase the flexibility of using it to students outside the classroom. This result is in line with the findings from the previous study by [62] where he found that the usage of internet is approaching 100 percent among university and college students and it was important to student's life around the world. Other studies (e.g. [63] [64]) also found the important of the internet to its users in Malaysia.

The second independent variable of MIS, in this case, refers to the use of ICT by UMK as a medium to connect to the students, and to deliver information to students has a strong positive correlation with academic achievement. The better the MIS provided by UMK, the better could be the academic results of the students. MIS, however, was insignificant to influence to academic achievements of the students. The students cannot rely on the MIS to register the subjects, to check for their examination results, to verify student's data and to deal with the treasury department especially regarding their fees. Thus, they found that the MIS in UMK is not helping them in their learning process to achieve academic excellent. UMK need to improve its efficiency in using MIS and to reduce the use of papers and bureaucracy in its operations. Information should reach the students quickly and accurately.

The third factor is classroom which is under learning environment. The result of the correlation shows a positive and significant relationship with the academic achievement. The regression result, however, shows insignificant influence to impact academic achievement, which is in

contrast with the findings from the previous study (e.g. [73] [75] [76]) where they found that classroom management, size, environment and physical conditions affect student's academic achievement. In this study, the students claimed that they are not satisfied with the classrooms facility provided in UMK. The size of the classrooms, cleanliness and comfortability, noise interruption from outside and overall environment of the classrooms in UMK is not satisfied by the students to achieve their academic achievement. UMK need to give attention to the classrooms facilities by improving and manage them regularly.

Teaching aid, the fourth factor has the largest relationship with academic achievement. The better the teaching aid provided by UMK and uses in the teaching and learning, the bigger will be the academic achievement of the students. Teaching aid is also significantly impacts academic achievement, which is in line with the study by [83]. The beta value for teaching aid is the largest in the model, which means that this variable makes the strongest unique contribution to explain the dependent variable. Thus, more concern about teaching aid should be given by academic institutions to help achieve academic achievement.

The library has a medium relationship with academic achievement and is also has a statistically significant in impacting academic achievement at p-value < 0.01. Students in this study found that the library is important for their academic achievement. The important of the library to students is acknowledged as reported by previous studies (see [58,84]) and the library is also impact academic success [87,58,88].

In this study, the hostel has quite a strong relationship with academic achievement and it significantly contributes to influence the academic achievement of the students. The hostel is important to all students because the hostel is a vital necessity for all students throughout their studies. In term of safety, the hostel is better than a rental house. Thus, the students found that UMK hostel is satisfied to influence their studies and performance. This study has supported the findings of the previous study (see [92,94]).

Next is sports facility, it has a moderate positive relationship with academic achievement, and is also statistically significant to influence academic achievement at p-value < 0.05. Even though sport facilities in City Campus is very limited, with only a futsal and a netball courts, however, the City Campus is situated in a strategic location which is within three to five minutes of walking distance to a few public secondary and primary schools, boarding school, public and private colleges, which all have good sports facilities that can be used by UMK students with permission. UMK City Campus also is a 10-minute drive to town centre, 4-minute drive to the airport, 5-minute drive to the closest beach and many other places are within a 20-minute drive. Thus, students are accessible to many places with either private or public transport. They can have their sports activities in many ways. UMK should, however, provided better sports facilities to students to support healthy life among students. The students are deserved to get all sports facilities as provided by the main university campus.

The last and final variable is parking and transportation, the correlation result shows a positive and significant moderate relationship with academic achievement. It is also significant to impact academic achievement a p-value <

0.01. Majority of the students are satisfied with the parking and transportation provided in UMK. Although there are certain days where parking is critical because of the need to scramble with the public, most students use motorcycles, for which parking for motorcycles is a lot and controlled by the UMK's security. In terms of transportation, the buses provided by UMK to students are enough and more importantly, they are following the time schedule. This situation helps the students to plan for their class time and other activities.

7. CONCLUSIONS AND RECOMMENDATIONS
This study has revealed important insights into the facilities that influence the students' academic achievement. The results found that teaching aid and hostel are the most important facilities to influence academic achievement of UMK students in City Campus. Insufficient attention had previously been given to the factors that impact students in achieving academic achievement in higher education, especially in temporary campus such as UMK City Campus that uses shop lots as their building campus. In conclusion, it is possible for students in temporary campuses to achieve good academic achievement as those in the main campus if the institution paid enough attention and provide facilities as well as those in the main campus. The academic institutions should be aware of the facilities that crucial and most important to students in the teaching and learning and also campus life that directly influences them in achieving excellence in academic. Overall, this study provides guidelines to academic institutions to provide facilities to achieve the brilliant academic performance of the students.

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