

# THE INFLUENCE STUDENT ATTENDANCE MANAGEMENT SYSTEM ON ACADEMIC PERFORMANCE

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## Abstract

*Student Attendance Management System is designed to manage the student's attendance record. This project is about to study the influence of student attendance management system in order to verify their attendance on. The foremost reason this system is being proposed is to overcome the current manual attendance process that is happening in all Universiti. The cutting-edge technology world has led to the idea for transforming the manual attendance by provide faster, accurate, and efficient system. With attendance system, it can eliminate some problems such as buddy signing, loss of attendance sheet, and control student skip class rate. That is how Student Attendance Management System is being developed. The purpose of constructing this system is to increase the efficiency and performance of the attendance process besides minimizing the overall time, work and paper used. The target user that will be using this system is student and lecturer. The major functions that Student Attendance Management System performing is add and manipulate attendance record, automated calculation on number of absent and percentage present of the student based on subject and flexibility to generate complete attendance documents (attendance list, attendance report, warning letter) any time in need.*

*Abstract should include a brief content of the article such as, background, research objective, research design, findings, and conclusion. Please minimize the use of abbreviations and do not cite references in the abstract. This should state the objectives of the work, but should not contain a detailed summary of the results*

**Keywords:** Student Attendance Management System, Edge Technology, QR Code

**Abbreviations:** NIL



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## INTRODUCTION

In 1888, the first attendance system was introduced to record the time when worker enter to the workplace and the time a worker exit the workplace. Nowadays, attendance system is used to track absenteeism of students during lectures, laboratory

sessions, or examinations. It is very important because it will give bad impact to the students from gaining knowledge as well for their academic performance. This research is focusing on the student attendance system through the biometric system for confirmation of their attendance. Student Attendance Management System is a system that developed for recording and managing in everyday of student attendance. Currently, majority all universities are still practicing old method which is by using the sheets of paper to take the student attendance to be signed.

Smartphones play an important role in our daily lives. It became more preferred companions to users than desktops or laptops. Smartphones also known as a most popular with users at the age around 20, to speed up the process of taking attendance by university instructors would save lecturing time and hence enhance the educational process by using a smartphones. This research proposes a system that is based on a QR code system, which is the code only being displayed for students during or at the beginning of each lecture. The students will scan the code in order to confirm their attendance by using their own smartphone. The emergence of mobile application that has been affected by the convergent factors such as high-speed data network, relatively cheap devices, high-performing devices, easy-to-use market places for apps, and the need for simple, targeted applications while mobile.

By using a QR Code system, the use of smartphones are widely among university students, addresses the problem of such a take more on lecture time and suggests a system that offers to reduce it. The problem can be solved by using a QR code for the students to scan it by using a specific smartphone application. The code that is provided from the lecturer along with the student identity taken by the application will confirm the students' attendance. By using the system, it will not only save time but also the efforts that were supposed to be put during each lecture. It will save more time for the process of taking attendance and give more time for the lecturer to lecture.

Last but not least, by using the system in taking student attendance can help in improving the student academic performance as well as provide the accurate and efficient information regarding the student attendance. As a conclusion, using an electronic based system like qr code system is better than using a paper-based system in order to collect, process, store, and produce the attendance results and perform long-term analysis.

Majority all institutions are still using the traditional attendance system which requires student to sign on a bundle of paper every time they attend a class throughout the whole semester. The class has less students but the attendance list is full, the problem that lecturer always faced. It is because students will have full attendance on the first

few weeks but after that they will ask their friend to sign the attendance for them. Students will take advantage since lecturers are always busy in lecturing in front of the class and have no time to check the attendance of the student one-by-one.

When using the manual attendance system, all the lecturer will record and evaluate the student performance based on their attendance through a piece of attendance sheet. The student attendance will be key-in to the current system by lecturer in order to generate the bar-list report in the last few weeks before the semester end, but once the lecturer accidentally lost the attendance paper, it will be no backup for the attendance records that could lead to heavy consequences to both lecturers and students regarding the proof of attendance especially attendance list that stores all the attendance from day 1 of the semester. Designing and developing a student attendance system manages records for attendance will be hassles-free, accurate and save valuable time of students as well as teachers for conducting the classes (Md Mijanur Rahman, 2018).

It is important for the lecturer to review back their attendance record in evaluating an individual student based on their academic performance. Lecturer may easily get to know whether the student with poor performance is result from poor attendance factor or due to another factor through the attendance record. It will help in improving the academic performance of students as well as the teaching environment of the lecturers by using student attendance management system. According to C.O. Akinduyite et al (2013), an effective and secure identity management system plays an significant role in the successful deployment of an attendance management system. The important of carrying out this research is to prevent unwanted situation occur and to find out the solution from the problems that causes these problems as well as to overcome these problems. Nowadays, majority all the lecturers in every institute are still using the manual attendance system which requires student to sign on a piece of paper every time they attend a class throughout the whole semester. Using the traditional attendance system, we can obviously see that there are few problems such as it will be no backup for the attendance records once the lecturer accidentally lost the attendance sheet, course mate help those who did not attend the class sign the attendance which also known as buddy-signing as well and hard in analysing and tracking student academic performances based on attendance factor. According to Dhanashree A. G. (2011), knowing that to reduce processing time, cost of the paper by using the manual attendance system and all the problems occur, the attendance system software is required to replace the traditional attendance system. From the above statement, researcher have 3 main questions to study, which are;

1. What are the factors of student absenteeism to class?

2. What is the different between manual attendance system and QR Code in monitoring method?
3. What is the effect of student attendance system on academic performance?

## LITERATURE REVIEW

### ATTENDANCE MANAGEMENT

Attendance Management is divided into two categories namely conventional and automated methods. Conventional methods include time sheet, attendance register and time clock (Dr. Mansi Verma, 2016). For time sheets can be identified as a document, electronic or otherwise that record what time was spent by the employee on what their need to do. Next, attendance register is an official list of people who are present at an institution or organization. Lastly, the time clock can be clarified as a mechanical (or electronic) time piece used to assist in tracking the hour worked by an employee of a company. According to Ononiwu (2012), he mentioned that the automated methods are including a Barcode system attendance system, magnetic stripe attendance system, Radio Frequency Identification (RFID) and also a biometric attendance system.

Attendance is very important for certain purposes such as record keeping, assessment of students, promotion of optimal and consistent attendance students in the class (Adelman, 2011). Nowadays, in a developing country there are the various challenges in the present of method in taking attendance presents. One of the existing systems is manual entry of student's name in the attendance sheet. The manual attendance system will be carried out by the hand written registers which is the human effort are more use to record the information of the attendance.

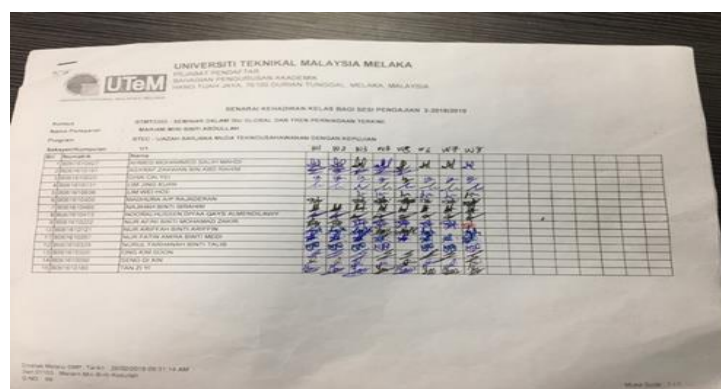


Fig. 1. Manual Attendance Sheets

The manual attendance sheets could easily allow for impersonation and the attendance sheet could be stolen or lost (Allen, 2017). By taking the attendance using this manual attendance system need to take time to sign and can interrupt and loss focus while lecturer is teaching in the class. So, there is an important for a system will

be develop to eliminate all of these trouble spots. According to a journal "Student Attendance Management" (2011), it had stated that attendance system based on electronic is needed to replace the manual attendance system in order to save the time and the cost of paper work. This study illustrates the disadvantage of using manual attendance system compared to the proposed system which is based on electronic. In addition, in this research are providing a characteristic of the proposed system.

By using the proposed system, it can provide a simple application that will cut the cost with some features that allow the users to manage their student attendance more efficiently and effectively. In making the software work, it only needs a basic equipment such as a set of desktop computer or laptop which is the proposed system only requires the users to install the code to their laptop or desktop for managing their student attendance. There are two modules introduced which are the admin module to manage the classes and the report module for generating the attendance report (American College Testing, 2010).

#### **FACTORS INFLUENCING STUDENTS' CLASSES ATTENDANCE DECISIONS**

Engaging of people in any activity are cause of its inherent satisfaction which is intrinsic motivation or to attain some separable outcomes which is extrinsic motivation. Motivation can be identify as an inner of burning passion caused by the need, wants and desire which propels an individual to exert his physical and mental energy to achieve desired goals (Arredondo, 2015). To know the effective an individual is depends on his or her performance which is product of high of ability and motivation. They need to learn any changes that occurs whenever there is change in motivation or goal. Garavalia et al, (2002) examined variation in self-regulated learning strategies and motivation among the first and third year of the professional curriculum. Indicating that the intrinsic motivation may increase as the student progresses through the program as they found that students in the third year had greater intrinsic motivation than students in the first year. Not only that, they also found that students in the third year had greater value for learning tasks than students in the first year.

According to Hasting et al, (2005), he mentioned that whether there is a shift in students' motivation for learning during their professional education. The study demonstrated the students that take a course in pharmacy had mastery goal orientation and they found that students shift slightly away from this orientation to academic alienation during their first- professional year. According to Westrick et al, (2009), he examined the reasons for pharmacy students' attendance and absenteeism in large lectures and determined certain student characteristics that affect students'

absenteeism. It was concluded that teacher behavior and examination schedules that give an impact to the class attendance.

Students can be motivated in attending to the classes by modifying class schedules, examination pattern, and their own teaching style (Astin, 2017). A number of studies have observed a positive significant relationship between student attendance and academic performance (Becker, 2015). According to the Levital et al, (2012), he observe that a negative association between the number of lectures hours missed by students and their academic performance in specific courses. This paper aims to identify factors for students' classes' attendance and their opinion on whether rate of class attendance affects academic performance. By the global firms in attaining competitive advantage, this can be particularly important in today business setting where the business training is giving more attention.

Some students continue to be absent from lectures despite the evidence that there may be a positive relationship between attendance and academic performance (Behar , 2010). Researchers have identified several possible reasons for this absence. These are the reasons which are vary from the more "valid" reasons, such as illness and part-time work while for the less "valid" reasons, such as sleeping late and engaging in various forms of merrymaking (Berger , 2016).

#### *Factors' student absenteeism of health problem*

The cause of sick absence is a fact that an employee is not feeling well and where the employee is incapacitated there exist a stage of being unfit for work (Blackwell, 2013). It is because of either serious or minor illness or sick that makes them not doing a work well. In this study, health problems of the student are refer which the student do not come to the class due to their illness. It is also can be find whether health problems are the factors that can lead to students' absenteeism that affect to the academic performance of the student. An effective health education curriculum possesses several characteristics which if followed religiously by the practitioners of health education. It will bring about transformation in the healthy lifestyle and academic achievements of the adolescent in our system of educational (Schiller, 2010).

Unhealthy environments can also affect students attendance, concentration, and performance in the class, as well as lead to time-consuming clean up and remediation activities (EPA, 2017). Poor indoor environments have been associated with a variety of health symptoms and a decline in student performance. Several studies in a past have found that health, attendance with the academic performance improve when there is an increasing on maintenance of university's facilities. For instance, institution that have a better physical condition report improved academic performance while



institution with a fewer janitorial personnel and higher maintenance backlogs report poorer academic performance.

By improving the indoor air quality can increase productivity and performance of mental tasks in both adults and children. In improving the student and lecturer on performance, increase exam scores, and reduce airborne transmission of infection by improving outdoor air ventilation rates that are suggested from growing evidence. Students in class with higher outdoor air ventilation rates scored higher on standardized examination than student in class with lower outdoor air ventilation rates.

Other than that, gender and age which is in demographic risk also can give an effect to the student academic performance in the class because of past surveys have demonstrated that gender inequality in student institution's subjective health; low subjective health has long been more prevalent among girls than the boys in most place (Credé, M, 2011).

#### *Factors' Student Absenteeism in Nature of the Lectures*

Lecturer is someone who works in different institutions that can deliver a lecture in a professional way. Every lecture needs a skill to teach their student in their creative way. The type of teaching style of the lecturer as well as the amount varies between subjects and universities. The attendance may effect on the organisation of courses, the amount of teaching and other mandatory tasks (O'Sullivan, 2017).

Students that interested in the course content that have been delivered from the lecturer in the class session is also a motivating factor that controlling classes' attendance (Nancy Fjortoft, 2012). Although it is not the only factor, research shows that class attendance is positively related to subsequent academic performance. In particular, attendance of the student is related to the higher performance on exams and also to the final course grades. Indeed, some researchers from the past research have found that student attendance has a stronger effect on exam scores than tutorial attendance and that these effects are stronger for underperforming students. Most important is attendance which is a controllable aspect of student behaviour and self-regulation that can have an effect on student academic performance.

Students in the class participation and its engagement takes a significant role over today on higher education. The association between students attendance in the class and academic performance had been the subject of several studies in a wide variety of courses (Nur Hidayah Md Noh, 2018). Attendance is about more than showing up to class or an event it can provide indications of student motivation, participation, time management, and adherence to program or institutional expectations (Slanger, 2014). It is also worth noting that it has a relatively weak relationship with general student

characteristics, such as conscientiousness. So, while the student with the poor attendance may signal broader issues such as challenges with motivation and self-regulation it is not necessarily an indicator that any particular student is not contentious.

### *Factors' Student Absenteeism in Transportation*

The major problem that students facing when attending their classes at specific time due to distance where the university's allocated is transport (Sternberg, 2016). It is difficult for students to get to class in the morning as adult people because of not enough sleep(Onyango, 2016). Transport has consistently caused problems for students although the government is trying to make effort to improve it by providing the bus or any transportation that cost a cheap price. In every institution have a buses to the student that have no transportation to the class (Tinto , 2013). But if the student did not follow the schedule of the bus, the student will tend to not coming to the class because have no transportation to the class.

Transport for the student is very important although there is little attention by government which has led to significant impact on transport demands for students. As a result according to Lurdes (2003), it can facilitate drop out in university for students from poor families that do not have any transportation. There are numbers of studies in past stated that poor student attendance is an important predictor of students failure in their studies (Wieman Schelew, 2011). Achievement that are get from education are determined to a great degree by time-on-task and time allocated for learning (Tolman, 2011). Students who are spend more time on task tend to get more achievement gains than the students who are spend a less time on task (Gamson, 2011).

The student will have an ability to attend includes free from barriers such as transport accessibility and to meet the transportation cost while motivation contains intrinsic and extrinsic in which a student attracted to attend to the class to get achievement in academic performance (Grabe, 2015). To avoid the disadvantages of long journeys and transportation cost for students to acquire education the transportation must indicate the quality and cost implications of location and transport decisions (Friedman, 2011).

### **QR CODE**

In Japan, the QR code (abbreviated from Quick Response Code) system is the trademark for a type of matrix barcode which has two-dimensional bar code first designed for the automotive industry (Wiley, 2015). Bar codes in the qr code system are optical machine-readable labels that attached to items that record information related to the item which is by using a smartphone. It was initially patented in a



different code, however its patent holder has chosen not to exercise those rights (Woodfield, 2014). Recently, due to its fast readability and greater storage capacity compared to standard barcodes, the QR Code system has become popular outside of the automotive industry. The code consists of black modules that is a square dot and be arranged in a square grid on a white background. The information encoded may be made up of four standardized types which are the modes of data in numeric, alphanumeric, byte / binary, kanji or through supported extensions of virtually in any type of data (Reisen, 2013).

A QR code, as shown in Fig. 2 below is read by an imaging device, such as a camera in smartphone device, and formatted algorithmically by underlying software using Reed-Solomon error correction until the image of the code can be appropriately interpreted (Rodger, 2015). Data from the qr code will be extracted from patterns present in both horizontal and vertical components of the image. The characteristic of the QR are listed in table I. Figure shows a sample of an unencrypted QR code that will be needed by the proposed system in this study.



Fig. 2. Quick Response Code

The system based on qr code lies between online learning and traditional learning as a facilitation for the attendance record-keeping process are the way to reduce the lecture time, so that it can better be utilized in giving useful materials rather than wasting the time taking attendance of the students in a big hall of class.

The system gives a simple login process by the class instructor through its Server Module to generate an encrypted QR code with specific information of the student attendance. This system which are using qr code can be done at any time before or during the class session. During the class, or at its beginning, the instructor displays an encrypted QR code to the students in front of the class to make the student easy to scan the code. The students can scan the displayed QR code using the system Mobile Module which is smartphone that have a camera.

Student captured of the code by the mobile application at the time in scanning on qr code system, the Mobile Module will then give the information collected to the Server Module to confirm the student attend to the class. The whole process of the system

based on qr code will take less than a minute for any student as well as for the whole class to complete their attendance confirmation. By using the smartphones may communicate with the server which admin in every institution via either the local Wi-Fi coverage offered by the institution or through the internet.

### QR CODE ADOPTION

The opportunities of QR code use by individuals is not widely spread worldwide except for Japan and Korea but was well established in there (Sasaki et al., 2017). However people that showed the interest in QR codes system which is want to use it were highly likely to use them in the future. Similar results were obtained at the past research in more recent work from Ozkaya et al. (2015) which also found that even individuals who considered themselves as an innovative person were not very likely to use QR codes. The findings in these studies and also in Okazaki et al. (2012) and Jung et al. (2012) indicated that the perceived usefulness and ease of use of QR code as well as perceived attractiveness may influence positively user attitude towards QR codes; a relationship between the type of product being marketed and expected QR use was identified by Narang et al. (2012).

QR development has focused on improving their appeal by addressing in part the noticeable lack of increase in customer adoption of QR use and current advances. A novel image mix the method on improving the QR code visual importance for marketing purposes is proposed by Baharav and Kakarala (2013). It improves a QR code has an aesthetics and visual significance by embedding images such as brand logos in full colour, without a negative impact the error correction. Besides that, in proposing a systematic QR code beautification framework that allows an individual user to personalize the QR code they create (for example a QR code containing contact details meant to be printed on a business card) by selecting visually meaningful patterns(Lin et al., 2013). Unfortunately, all of these advances from QR codes can more appealing to end users that may make them more appealing to hackers and those that want to use the code on the card in a harmful and menacing ways.

### ADVANTAGES OF QR CODE

According to the Narayanan (2012), described that there are a number of other use contexts that involve creating as well using QR codes by individuals as a tool to transfer information. Examples of the qr code that been used by individuals are including an encoding personal details. In a QR code, scan and decode on their devices or scanning someone's QR code to load their details on the reader's phone such as on using the QR code as a machine readable personal card, sending and receiving invitations such as encoding detail about an event including location in a QR code which can be posted

on Web pages, or printed in other media, to be scanned by people who want to obtain the invitation (Quinton, 2013).

As an overview of advantages, it include the following which are can decide the action that want the customer to take, follow the ISO standards, it completely measurable, instant information that available to the consumers, can reduces reprints of advertising materials, and last is an established marketing tool (Styron, 2014).

### DANGERS OF QR CODE

Not only for attracting to the businesses, but the criminal element as well in the ease with which one can create and distribute QR codes (Gradous, 2011). The code are seem like many other mobile applications used that have been developed with little forethought to security (Merrill, 2017). Before the code been scanning, most of the people will think twice about opening a questionable email or visiting an uncertain website, we often have no qualms about scanning a QR code. Most people are not aware in scanning an unknown QR code offers serious security concerns (Statistic Solutions, 2013).

Even though the using of QR code itself is not dangerous, there is no opportunity to evaluate the site it will lead to such as the case with an email or website (Higbee, 2013). If the barcode application displays in the URL, an observant user may announce a suspicious-looking URL. However, the shorteners of the URL can make it more difficult for users that using it to evaluate the legitimacy of a URL (Vidas et al., 2012). Typically, the end user will read the code without evaluating any risks and then suffers the consequences if there are security problems (Tharp, 2014).

It is quite easy for a code to be printed that are containing a malicious QR code and then attached over the legitimate code, a type of attack that is known as at tagging (Vidler, 2011). QR codes are the perfect vehicle for malicious attacks, facilitating phishing attacks and redirecting users to malicious websites that has a host viruses and worms (Shanbhag, 2012). Malicious embedded URLs can lead to malware being installed on mobile devices and result in the loss of sensitive personal data and even damage to software and hardware (Narayanan, 2012). QR codes are seen in magazines, on billboards, and on storefronts which they seem to be anywhere and everywhere (Torpey, 2013). Many of the consumers will forget that QR codes pose the same dangers as emails and websites that can have the ability to capture personal information because of the unique ability of QR codes to bridge the gap between virtual reality and actual reality (U.S. Census Bureau, 2016).

Anyone can replace legitimate codes with an illegitimate one by using a sheet of QR coded stickers by general design of QR codes makes it impossible to distinguish one

from another with the human eye (Kaprolet, 2012). Cybercriminals are used imposter QR codes to siphon cash and personal information from hundreds of owner of the smartphone in 2011 and were refining their methods to dupe even more users in Russia (Mason, 2013).

### ACADEMIC PERFORMANCE

The academic performance can be defined as a students' reporting in past semester by using a CGPA/GPA and their expected in GPA for the current semester. The grade point average or known as a GPA is now used by most all of the tertiary institutions as a convenient summary measure for evaluating the academic performance of their students. By using a GPA is better to be measured than using the others thing because it gives a greater insight into the relative level of performance of individuals and different group of students. Hanson (2012) reported that student performance is affected by different factors such as learning abilities, gender and race which is in demographic risk. The benefits that will student get in attending to the class session have lead the researchers to hypothesise that class attendance should positively correlate with academic performance (Durben, 2013). These researchers have generally confirmed that the correlation are right, although cautioning the link could be no more than a casual one as students who attend to the class may already be more success in academic achievement (Romer, 2012).

### PROPOSED RESEARCH FRAMEWORK

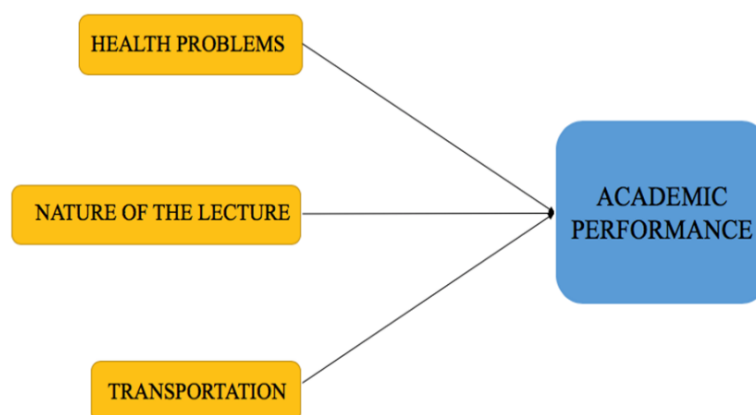


Fig. 3. Framework

In this research, the factors of the student absenteeism are independent variables which is the variable that can change and control in specific experiment to test the effect in the dependent variable. The construct under this variable includes data collection, information protection and records management.

On the other hand, academic performance is a dependent variable which is the variable that being tested and measured in a specific experiment. This variable is including personal information of the students, student's academic and administrative. Under

the ideal condition, the constructs under student attendance system should change into appropriate maintenance of students record. However this ideal system condition are rare and this can be as a result of host of intervening variable which is cultural, human, and organizational among others. The discussion of the finding of this research is based on the conceptualization of these variables of the study.

## METHODOLOGY

### RESEARCH STRATEGY

Generally speaking, research strategy is an action plan to achieve a goal. It is a plan to respond to your research question, as stated by Saunders et al. (2016). Several research strategies exist with qualitative studies such as this thesis (Kumar, 2014). Strategies including case studies, focus groups, participant observation and action research are often linked to as part of qualitative research. However, the case study could be used as a key strategy for collecting the primary data in this research.

### SELECTION OF RESPONDENTS

Interview respondents with the background in the Universiti Teknikal Malaysia Melaka (UTeM). The university focuses on the manual attendance system which is by using using a sheets of paper to take attendance of the students. The researcher will be conducted in Melaka which are near with the researcher's place. The sample of respondents focuses on two respondents from variety of faculty, both are male and female, because they have differing views.

In addition, respondent are inferior management and middle management because they seek different conception, experiences and opinions. All these factors were used to prevent the prejudice ad error. They can provide more comprehensive and reliable sharing of information that can used in this research, which are related to the student attendance management system that are related to the academic performance.

### ANALYSIS PHASE

Once the data has been collected, the analysis or validation phase must be carried out from the raw data to the relevant data. For precise purposes, the analysis data categorize the collected data into themes and sub-themes so that it is easy to compare them (Moore & McCabe, 2015). In this research, the appropriate technique is the construction of deductive approaches involving incremental attempts to test and refine predetermined proposals.

#### *Deductive Approach*

Step in the development of explanations are followed by a few steps (Yin, 2014). The first being the development of a theoretical proposal that must be tested in this

research, the conceptual framework of Student Attendance Management System toward the academic performance tested through an interview. In order to compare the relationship between the findings and the theoretical proposal, collect data through an initial, purposeful case study data to redesign the theoretical proposal.

In this study, data collected from the first respondent of student in Universiti Teknikal Malaysia Melaka (UTeM) will be compared with the theoretical framework to seek research coherence. The second case study was followed by further round of data collection to compare the revised proposal and continue to amend the revised proposal if necessary. The process is repeated until there is a satisfactory explanation. Three case studies therefore need to be compared and amended in this study unless the proposed framework is needed.

### *Transcribing Data*

Changhyun and Heesang (2016) stated that coding and data analysis were carried out by merging manual analysis in a Computer-Assisted Qualitative Data Analysis Software (CAQDAS), to own the analysis. Qualitative data analysis software is designed to more competently organize the data administratively and therefore should be fully exploited. For instance, it is faster and easier to code text on the screen than to cut and paste different text pieces relevant to a single code on paper and store them in a file. NVivo's qualitative data analysis software transcribed, de-identified and analysed digital recording (QSR International, 2018). Regarding the collection of data both the interview transcript and the documents were entered into the QSR NVivo data management program and a comprehensive data coding and thematic identification process was carried out.

Information from the respondents among the organization interview session should be transcribed into such a written document. In this research, the transcription of audio recording data or even the reference to notes however that the researcher includes verbal and nonverbal communication during an interview enables the researcher to obtain an overview of coherent data with the theoretical framework. After each interview session, the researcher transcribed the data to the data to the respondents among the organizations by typing it into a word file. The researcher will translate the transcription data from (Malay-English-Malay) because of the precise meaning of the interview in Malay. In order to be more satisfactory in this study, the researcher has also summarized the data for any further reading session during the analysis.

## **DATA ANALYSIS AND FINDING**

## INTERVIEW FLOWCHART

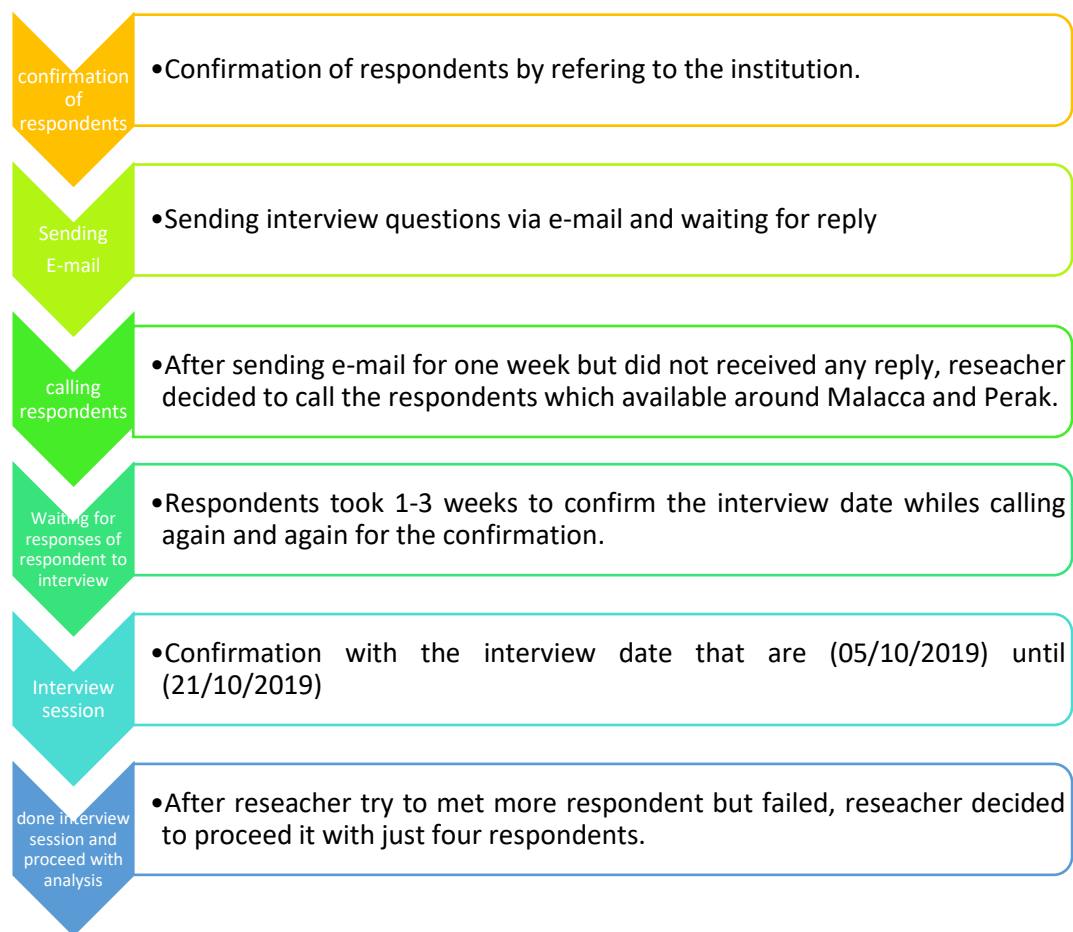


Fig. 4. Progress on How Researcher Contacted Companies

## RESPONDENTS BACKGROUND

### *Respondent 1*

Respondent 1 is a student from business related field and undergo her study in Universiti Teknikal Malaysia Melaka. Respondent full name is Nur Syafiqah binti Mohamad Yusof and preferred to be called Syafiqah. She is female and aged 23 years old. She is from Kedah and study in Faculty of Technology Management and Technopreneurship in UTeM, Melaka. She rent house around Bukit Beruang Area which are about 18km from campus. The distance to go and back from campus to respondent rent house is approximately in 40 minutes. She using a car as her transportation to the class. Respondent current CGPA is 3.4 and respondent is on fourth (4th) year. Campus that respondent currently studying is using the most basic attendance system, which is manual attendance system whereby signing manually on printed attendance sheets. Respondent is a full time student whereas respondent undergo a full time study and only committed to study for 14 weeks for every semester. Respondent course require at least 75 % from attendance to class to be considered pass to seat for final examination at the end of the semester.



### *Respondent 2*

Respondent 2 is a student from engineer related field and undergo her study in Universiti Teknikal Malaysia Melaka. Respondent full name is Muhammad Amirul Haziq Bin Azman and preferred to be called Haziq. He is male and aged 22 years old. He is from Rawang and study in Faculty of Mechanical Engineering in UTeM, Melaka. He rent house around Taman Tasik Utama Area which are about 8km from campus. The distance to go and back from campus to respondent rent house is approximately in 25 minutes. He using a motorcycle as his transportation to the class. Respondent current CGPA is 3.33 and respondent is on fourth (4th) year. Campus that respondent currently studying is using the most basic attendance system, which is manual attendance system whereby signing manually on printed attendance sheets. Respondent is a full time student whereas respondent undergo a full time study and only committed to study for 14 weeks for every semester. Respondent course require at least 75 % from attendance to class to be considered pass to seat for final examination at the end of the semester.

### *Respondent 3*

Respondent 3 is a student from business related field and undergo her study in University Technology Petronas (UTP). Respondent full name is Wan Sofina Binti Azmei and preferred to be called Sofina. She is female and aged 22 years old. She is from Rawang and study in Bachelor of technology (hons) information system in UTP, Perak. Respondent live in hostel that located 0.8km away from the class. The distance walking to go and back from campus to respondent hostel is approximately in 20 minutes while when she drive a car is about 10 minutes. Respondents often use cars instead of walking to class because can save more time. Respondent current CGPA is 3.67 and respondent is on fourth (4th) year. Campus that respondent currently studying is using QR code system which are not allowing the student to help their absent friend. Respondent is a full time student whereas respondent undergo a full time study and only committed to study for 14 weeks for every semester. Respondent course require at least 75 % from attendance to class to be considered pass to seat for final examination at the end of the semester.

### *Respondent 4*

Respondent 4 is a student from business related field and undergo her study in Universiti Teknologi Petronas (UTP). Respondent full name is Hanis Sophia binti Shaufi and preferred to be called Hanis. She is female and aged 22 years old. She is from Sentul and study in Bachelor of technology (hons) information system in UTP, Perak. Respondent live in hostel that located 1km away from the class same like the

respondent 3. The distance walking to go and back from campus to respondent hostel is approximately in 25 minutes while when she drive a car is about 12 minutes. Respondents often use cars instead of walking to class because can save more time. Respondent current CGPA is 3.6 and respondent is on fourth (4th) year. Campus that respondent currently studying is using QR code system which are not allowing the student to help their absent friend. Respondent is a full time student whereas respondent undergo a full time study and only committed to study for 14 weeks for every semester. Respondent course require at least 75 % from attendance to class to be considered pass to seat for final examination at the end of the semester.

## RESULTS AND DISCUSSIONS

### FACTORS THAT CAN CONTRIBUTE TO NOT COMING TO THE CLASS SESSION

From the interview session with the selected respondent, there are few factors that the researcher can identify. In this study, the factors that affect student attendance system on academic performance are from health problems factors, nature of the lectures factors and transportation factors.

#### *Health Problems*

Nowadays, majority students are missing too much from the class because of their health conditions and other reasons. Student that misses the class is a lost learning opportunity that may be important in that course. This problem will affect the student's academic performance. Missed days of class means missed learning, leading to lower midterm scores and a reduced the student on graduating from University that effect on academic performance. According to the Kerry Norton (2014), chronic absenteeism, which leads to lower academic performance, is a predictor of worse lifetime health.

#### *Respondent 1*

Respondent 1 start studying in Universiti Teknikal Malaysia Melaka (UTeM) around in year 2016 until 2019. Respondent have absent several times in every one semester because of health problems but respondent will give a letter to the lecturer, mentioned that she had a health problems like high fever, headache and other problems that can prevent on going to the class session.

Respondent mentioned that when the student have a health problems frequently may be affect their attendance to the class session. When the student are often not coming to the class may be affect to their academic performance which is the student are not followed what the lecturer have teaches the other students in the lectures. Respondent said;

*"... the poor sleep was among the most unexpected and definitive causes of poor academic performance of students. This is because, majority of the students like to stay up to study or chatting with their friends until late night. This may cause the student do not coming to the class at tomorrow morning or get sick like headache. Most children need at least nine hours of restful sleep each night and for student like us may receive less than the recommended amount. There is evidence that this will effects on academic performance."*

Respondent advise other students to get enough sleep because it may affect to the buddy signing. When the student sleep late, he/she will ask help to their friends that came to the class for signing attendance for them. This will give a bad impact to the student and their performance in a class. Often, the student that always asked help from another student to sign their attendance is always happen in university that still used a manual attendance system which is using a paper of sheets to sign the attendance. This will encourage the students to fraud about their attendance in every semester.

The respondent said that the environment may also affect the student to not coming to the class. The level of cleanliness and hygiene in a building has a significant effect on the mind set of students. Respondent said;

*"A dirty environment can increase stress levels and therefore impact negatively on concentration and retention that may affect our academic performance in the class."*

An unhygienic environment can cause illness amongst students, but also to lecturers, which causes disruption to the course. Other than that is social among the student that getting sick, will infect the others students that can affect their academic performance.

### *Respondent 2*

Respondent is still study in Universiti Teknikal Malaysia Melaka (UTeM) around 2015 until 2019. Respondent have several times in absent because of illness and sickness. This is because, he scared that he do not following what the lecturer give and teach in the class session. Besides that, respondent want to meet up with the 75% compulsory in attending the class session. If the student get below than 75%, there will be barred from the course or not allowed to attend to the final examination. This are followed at the discretion of the lecturer.

*"I believe that breakfast is a must in starting our day. When we do not consume enough food, it not only can affect our ability to learn and focus on the lectures, but also can affect our health which is can get stomach ache. Breakfast gives the first boost of energy that will carry throughout the day and help overcome feelings of grogginess"*

*upon first waking up and also can increased concentration and helps to retain and recall information more efficiently. In maintaining a healthy breakfast is an effective means to improve academic performance, stay active and focus in a class session."*

The breakfast are compulsory in starting a day but there are some student take a breakfast during or before the class are started until the class end. It will to "buddy-signing" which is helping to sign their friends' attendance when their having breakfast. The students need to make sure to wake up early and get a time for breakfast so that their did not have to come late to the class or miss the class session. This will affect the academic performance when the student missed the class.

Other than that, respondent said that student' male in the class always not coming to the class because of the amount of the student male are low. So that will affect the student attendance to go to the class.

### *Respondent 3*

Respondent is studying in University Teknologi Petronas (UTP) around 2015 until now. In UTP, there are using qr code that will not allowed their student to cheating in their attendance. Every human must get ill even one day in their whole life, so that the respondent. Respondent will always keep her attendance full because respondent scared if any emergency occur that make she will not coming to the class session.

This is because by using the student attendance system in qr code system will not allow the student to cheat about their attendance. The attendance can be trusted to evaluate the student attendance on academic performance. In week 3 on this semester of 2019, respondent do not able to come to the class because had a contagious skin disease. If the respondent go to the class session, the other student will get affected to the disease. The respondent must be quarantine in 1 weeks in her house. It will affect to the academic performance because not coming to the class in second week of the semester. Early of the semester must be important because to understand the course of the subject must be start with the simple lesson.

*"We need to make sure our body in hygiene by making a right step in hand washing that also been shown to reduce the incidence of other diseases such as skin disease that can affect to other students. Other than that, always change your bed sheet one a week to avoid the unexpected disease. If your roommate get a skin disease, make sure all the cloth are wash in a hot water to prevent the disease affected in our body"*

Prevention of illness among university students is important in enabling access and participation in learning. Educational achievement can be attributed to healthy behaviour, healthy bodies and a healthy living environment. There is a need to ensure

that the university maintains good hygiene so that students can stay in university and continue to learn and focus at the lectures. Quality education requires students to have holistic learning that includes emotional, physical and academic aspects. Students should take responsibility for their well-being and beyond the university and need to strive to maintain good hygiene.

Last but not least, respondent mentioned that gender and age will also affect the student attendance in factors of health problems. This is because, the more the ages, the more we getting a disease because of eating style.

#### *Respondent 4*

Respondent is studying in Universiti Teknologi Petronas (UTP) around 2016 until 2019. Respondent is using qr code in his university, so he never absent due to the health problems reason. Respondent always been cheating by asking his friend to sign the attendance when using the manual attendance system before the qr code system are established. Respondent not achieve a good result in first semester due to the cheating his attendance.

The respondent have a friend that frequently not coming to the class because of stress on having a lot of assignments and get a bad result in previous semester. So when the student get stress, they will not coming to the class. The factors of stress includes change in sleeping habits, change in eating habits, increased work load, and new responsibilities. The higher stress levels among students can result in a decreased performance in the academic performance and can affect both the physical and mental health of students (M. Maajida Aafreen, 2018).

*"We need to prevent stress that will affect our academic performance in class by finding a way to handle stress, take a good care of ourselves in get enough sleep, eat well and exercise regularly and also reach out to family and friends when times get hard. This all may can prevent us from stress that may lead to depression. If need, find somebody to cure the stress. If you wait, it could get worse."*

Students' academic success is linked to their emotional stability. Experienced negative emotional effects can influence the academic performance of nursing students as indicated by the Grade Point Average (GPA) and active attendance of students. Low GPA among students is associated with negative reactions such as anxiety and depression. When students experience high levels of stress, it will lead to more anxiety, anger, and depression. Literature in this area highlights the effects of increased anxiety and depression. These experienced anxieties can also affect their ability to prepare well for the exam to achieve satisfactory achievement in their examination which may lead to low GPA achievement. On the other hand, low GPA achievement may lead to further

anxiety, anger, and depression, indifference, absenteeism, and even withdrawal from college and / or the profession, transitional transition, fatigue, and poor job performance. Respondent said that ;

*"I think most students neglect to care for their mental health because they may think that they don't need it, and that they won't benefit from it."*

By gender and age may also affect the student performance because of majority female difficult to get sick because of the healthy lifestyle. The past research mentioned that female quick to cure the sick than male.

### NATURE OF THE LECTURES

A good nature of the lectures is important to every university to encourage the student to come in every class session. Lecturing can go on for any amount of time on any topic. They are versatile in that sense but quite limited in others (Kelly, M., 2019). The negative reputation of lectures can be attributed to their non-transactional nature, it do not allow for much discussion or other forms of student involvement. Lectures simply offer a way for teachers to carefully execute their teaching according to a precise plan (Schmidt, Stephanie & Wagener, 2015). Lecture do not assess learning, may offer varied perspectives, lead to differentiate instruction, or allow students to self-direct. Hence, the nature of lecture is very important to attract students for coming to class.

### Respondent 1

Thus, Fig. 5 is the summarization of factor from nature of the lecture context toward student attendance management system on academic performance:

Please tick [✓] in the column appropriate to you.

S/N	REASONS FOR ATTENDING CLASSES	Main Reason	Moderate Reason	Minor Reason	Not A Reason
1	To write note	/			
2	I am interested in the course content	/			
3	I want to know the area of concentration for my examination				/
4	Teaching style of lecturers	/			
5	To stimulate my seriousness				/
6	To meet up with the 75% compulsory attendance	/			
7	The fear of impromptu class test by the lecturer		/		
8	To meet my friends in class				/
9	Lecturers' level of expertise				/
10	Likeness for lecturers' teaching style	/			
11	The course content is difficult	/			
12	Make the course content easier to understand?	/			
13	To get information that may not be in the note	/			
14	Perceived relevance of course content to pharmacy		/		
15	Not to waste my school fees		/		
16	To occupy my time		/		

Fig. 5. Factors from nature of the lecture context affect the student attendance of respondent 1

Respondent 1 stated that it is important for every student to attend physically to class because the information that is gained from the lecture is far better than having it by student-owned through online teaching. It is not that the material that uploaded for online teaching is not quality enough, it is just the environment the students experience during physical class session is more attachable than having it in online class. Other than that, respondent thought that by attending physically to class session will give student a better benefits and privilege as it is easier to get fast answer and discussion upon a question is issued.

The nature of lecture in respondent 1 university is quite attractive according respondent's view.

"I think nature of lecture in my university is so overwhelming. There is time where my lecturer cannot stop me from giving my opinion on the discussed topics. He is so encouraging in expanding the idea and issue and that makes me love to in his class."

Respondents are encourage to learn something during class session as there is an open space for discussing and sharing information among groups, classmates and lecturers. The scenario that respondent 1 picture about the nature of lecture in respondent's university prove that students attendance to class also depend on nature of the class either it is boring or not to be participate of. Other than that, the amount of the student also make the respondent to decide when to go or not to the class. If the lecturer need to combine the class with another section, the amount of the students in class will more that make us not pay attention due to the big hall.

### *Respondent 2*

Please tick [✓] in the column appropriate to you.

S/N	REASONS FOR ATTENDING CLASSES	Main Reason	Moderate Reason	Minor Reason	Not A Reason
1	To write note	/			
2	I am interested in the course content		/		
3	I want to know the area of concentration for my examination	/			
4	Teaching style of lecturers	/			
5	To stimulate my seriousness		/		
6	To meet up with the 75% compulsory attendance	/			
7	The fear of impromptu class test by the lecturer	/			
8	To meet my friends in class			/	
9	Lecturers' level of expertise		/		
10	Likeness for lecturers' teaching style	/			
11	The course content is difficult	/			
12	Make the course content easier to understand?		/		
13	To get information that may not be in the note	/			
14	Perceived relevance of course content to pharmacy		/		
15	Not to waste my school fees			/	
16	To occupy my time			/	

**Fig 6.** Factors from Nature of the Lecture Context Affect the Student Attendance of Respondent 2



"It is not that online material differ from class discussion. Why bother to trouble yourself when you can get it from home. This is technology era, somehow this not relevance anymore."

Respondent 2 do not think it is a good choice to attend to physical class when online teaching material can be easily access by everyone, at any time and at anywhere. Respondents said it quite a loss if students neglect the function of technology and get benefit from it.

Other than that, online teaching materials gives students more flexibility. Students can study and fit other work scheduled during class time. Respondent also enjoy learning from online material as respondent is not tied to specific time and have to be at exactly specific place to learn. Despites live session with classmates and lecturer, respondent prefer to interact at respondent own pace through the discussion forum.

Respondent also thinks that documentation through online class is more convenience because all the information that respondent need will be safely stored in an online database. This includes things like live discussion documents, training materials and emails. This means that if there is ever anything that needs to be clarified, respondent will be able to access these documents fast, and can save respondent's time.

### *Respondent 3*

Please tick [✓] in the column appropriate to you.

S/N	REASONS FOR ATTENDING CLASSES	Main Reason	Moderate Reason	Minor Reason	Not A Reason
1	To write note		✓		
2	I am interested in the course content	✓			
3	I want to know the area of concentration for my examination				✓
4	Teaching style of lecturers	✓			
5	To stimulate my seriousness			✓	
6	To meet up with the 75% compulsory attendance	✓			
7	The fear of impromptu class test by the lecturer	✓			
8	To meet my friends in class				✓
9	Lecturers' level of expertise	✓			
10	Likeness for lecturers' teaching style	✓			
11	The course content is difficult	✓			
12	Make the course content easier to understand?		✓		
13	To get information that may not be in the note	✓			
14	Perceived relevance of course content to pharmacy		✓		
15	Not to waste my school fees	✓			
16	To occupy my time	✓			

**Fig .7.** Factors from nature of the lecture context affect the student attendance of respondent 3

Respondent 3 describes the nature of class as moderate and depend on the subject that respondent enrol itself.

*"Some class is exciting, some are not. Most of my evaluation is based on the human behaviour in each class. Some can cooperate good with me, some just act as free-rider and make me want to quit the class."*

Despite the ambiguous statement stated, respondent still believe that having physical class session is more valuable to students if we are evaluating from the inputs and value added. Respondents said it is easier for respondent to fully understand a topic if there is physical class session compared to respondent has to dig additional information online.

Based on respondent experience, internet that provides a huge amount of information will only causing information overload. In due course, respondent can easily get confused with this infinite amount of titles, texts and personal opinion. And because of the overwhelming information available on the internet, respondent end up cannot decide what is the most relevant answer to question that respondent had. Therefore, getting information from book or from various other printed sources in the library and directly from classmates and lecturer can guarantee that it is of high standard, peer reviewed and the most close answer depends on the subject that respondent enrol.

#### *Respondent 4*

For respondent 4, respondent is actually comfortable with the nature of class in respondent university.

*"...class environment is good, the layout is comfortable, the seats are ergonomic, classmates are my friend since my first year, even the lecturers are friendly and that what make student to regularly attend to class."*

Respondent 4 said the most important and crucial element that make the class alive is the lecturer approach itself. Respondent is attached to class because the bonding create in relationship between student-lecturer. Lecturer has to be a person that is easy-going for a student to be comfortable to communicate with them.

In respondent's university, the online teaching is held by schedule. Online forum is provided throughout the class period. Most of the classmates commit to the online forum even though they are not physically together. Respondent said it is not what characteristic of the class that matter for student to regularly coming to class, it is the bonding created and willingness to share information for each other benefits'.

Please tick [✓] in the column appropriate to you.

S/N	REASONS FOR ATTENDING CLASSES	Main Reason	Moderate Reason	Minor Reason	Not A Reason
1	To write note	✓			
2	I am interested in the course content			✓	
3	I want to know the area of concentration for my examination			✓	
4	Teaching style of lecturers	✓			
5	To stimulate my seriousness			✓	
6	To meet up with the 75% compulsory attendance	✓			
7	The fear of impromptu class test by the lecturer				✓
8	To meet my friends in class			✓	
9	Lecturers' level of expertise		✓		
10	Likeness for lecturers' teaching style	✓			
11	The course content is difficult	✓			
12	Make the course content easier to understand?		✓		
13	To get information that may not be in the note	✓			
14	Perceived relevance of course content to pharmacy			✓	
15	Not to waste my school fees	✓			
16	To occupy my time	✓			

Fig. 8. Factors from nature of the lecture context affect the student attendance of respondent 4

## TRANSPORTATION

Transportation is important to every student to bring them go to the class. Without transportation, student will not able to come to the class so this will affect to the student attendance management system on academic performance. Transportation can be classified as cars, motorcycle, bicycle and also bus that provided in every university. Wright (2012) found a the transportation may be effect on the student attendance. The campus population is much more than the amount of campus buses which really affects the students' class attendance.

### Respondent 1

Respondent is 4th year student in UTeM and will graduating on year 2020 December. For UTeM regulation, student year 3 and 4 are allowed to bring their own transportation but must have a sticker that provided from university. This is because the problem of parking space are limited. So the transportation are only limited for students in year 3 and 4. For student year 1 and 2, their need to stay in hostel that provided from university and also use a bus by following the schedule of the bus arrived at their hostel. Respondent said ;

*"When there have a regulation in institute stated, for student year 3 and 4 need have a sticker at the transportation to be able parking in the institute. The student need only one transportation either motorcycle or car. When the student use motorcycle to cut*

*the cost of transportation, this will make the student are difficult to choose the transportation for cut the cost”.*

Respondent have only motorcycles to go to the class session. If there were a problem occur like her motorcycle break down or there are heavy rain outside. Respondent will make initiative not to go to the class or go with her housemates. This is why the transportation is an important in every student that stay far away from the their institute. This will affect the student attendance that will lead to the their academic performance.

### *Respondent 2*

Respondent is 3th year student in UTeM and will graduating on year 2021 December. Respondent have only motorcycle to go to the class session. if there is a heavy rain, respondent need to wait until the rain stop. So, it will make the respondent late to come to the class or will not attending to the class. Even the class are not far from his house, around Taman Tasik Utama about 8km. This is because all his housemate also have motorcycle to go to the class. If only there were emergency, that compulsory to the respondent to come. The respondent will come even the heavy rain.

The respondent will take a grab car by mobile application to take the respondent to go to the class session. The application are easy to use for the beginner that have no experience in using grab car application. The respondent mentioned that;

*“...riding a motorcycle in the rain is potentially more dangerous than riding a motorcycle on dry roads in the sunshine. Probably the most dangerous thing with riding in the rain is the permanent fear of a crash. It makes you stiff and unrelaxed and this seriously impacts your ability to ride properly. Motorcycle riders can reduce the risk by taking a grab car to the class are more safe.”*

By having a car is make our life easy to move in any place without any problem. But need to aware about the traffic, the cost of petroleum of a month and others. Traffic in a highway will affect the student coming late to the class or not able to come to the class. So this problem will effect on academic performance of the students. By having a motorcycle are more worth than having a car because the service when the transportation are break down, the car are the expensive price in service. But when we have only motorcycle, this will make us difficult to move to another place and we need to spend money to take a grab car.

### *Respondent 3*

Respondent is the last year student in UTP and able to drive a car in her institute. Respondent have a car as her transportation to the class. If there is a problem that

occur on her car, the respondent will take a walk to the class that not far from her hostel. UTP students stay in hostel provided from it institute that make the student easy to go to the class. Respondent will walking about 10 minutes from his hostel to the class.

Even there is no problems with respondent' transportation, she will take a walk to the class if respondent get prepared herself early before the class start. Respondent mentioned that the benefit of walking for maintaining good health;

*"Walking is a great way to improve or maintain your overall health. Unlike some other forms of exercise, walking is free and doesn't require any special equipment or training. In maintaining the good health. This will make us to more focus on what lectures in a class and will affect our academic performance"*

Respondent mentioned that by having a car in university is expensive because of we need to aware the cost of petroleum, service and other than that. Respondent said that;

*"One month are on having a car need almost RM500 including the cost of petroleum."*

#### *Respondent 4*

Respondent is the last year student in UTP and able to drive a car in her institute. Respondent does not have any transportation to the class and only follow her friend by sharing a car to the class. If her friend do not able to the class, the respondent will asked another friend to sharing a car to go to the class session. this is because the UTP using qr code that will affect the student attendance. Respondent said that;

*"...by carpooling. There are many benefits that we can get, such as allows you to share the cost of gas and parking, cutting your expenses and improved the air quality. Air pollution are caused by the vehicular travel that linked to a number of death. By sharing a car can reduce these health risks for yourself and everyone else. Having a bad air quality will make our body get sick that will affect us to not coming to the class."*

## CONCLUSION AND RECOMMENDATION

Throughout this research, researcher knows that there is the most critical factors that influence to the academic performance that are environment and unhealthy lifestyle factors. The other factors also influence to the academic performance but most of them are not significant as environment and unhealthy lifestyle factors. These can be seems from the conversation of respondents that who repeated the words about environment and unhealthy lifestyle factors most frequently.

**Table I.** The Summary of the Health Problems Factors that Influence the Academic Performance

No	Effects	Respondent 1	Respondent 2	Respondent 3	Respondent 4
1.	Environment	✓	✓	✓	✓
2.	Social Exclusion	✓			
3.	Demographic Risk		✓	✓	✓
4.	Unhealthy Lifestyle	✓	✓	✓	✓

Student absenteeism will be affect to the academic performance because of all the factors that stated in the table I. An unhygiene environment are affect to the student attendance to the class. For an example, dirty environment at the area of the house like stagnant water in flower pots, dirty containers and so on may can cause aedes mosquitoes to breed and will cause dengue fever. Dengue fever is a mosquito-borne disease that has been a major issue in international public health in recent years. The most dangerous type of dengue fever is dengue fever. It is the leading cause of childhood death in most countries today. The dengue virus is transmitted by Aedes mosquitoes to humans through its bite. When the student get dengue fever, it will make the student not coming to the class around 2 weeks and also can influence to their academic performance. From the past research, Unhealthy environments can also affect attendance, concentration, and performance, as well as lead to expensive, time-consuming clean up and remediation activities (EPA, 2017).

Student that practicing a healthy lifestyle may not tend to get ill and sick. A healthy lifestyle has both short and long term health benefits. With long term by eating a balanced diet, taking regular exercise and maintaining a healthy weight can add years of life and reduce the risk of certain diseases including cancer, diabetes, cardiovascular disease and obesity. In the short-term it can also make us feel and look the best, give more energy and help in maintaining a healthy weight that can improve the focus of the student in the class. It will affect to the performance of the student. From the past research, an effective health education curriculum possesses several characteristics which if followed religiously by the practitioners of health education, will bring about transformation in the healthy lifestyle and academic achievements of the adolescent in our educational system (Weed and Ericksen, 2017).

For the demographic risk are related to the health problem that lead to the academic performance of the students. It include gender, age, income and occupation. In this research, the gender and age are most factors that affect to the student absenteeism. From the past research, Large-scale cross-national surveys have demonstrated gender inequality in schoolchildren's subjective health; low subjective health has long been more prevalent among girls than among boys in most industrialized countries (Torsheim et al., 2016). For the social exclusion is the least that respondents choose because that is the minor factors of the healthy problem and there no research from

the past research that mentioned the social exclusion can influence to the academic performance.

**Table II.** The Summary of the Nature of the Lecture Factors that Influence the Academic Performance

No	Factors	Respondent 1	Respondent 2	Respondent 3	Respondent 4
1.	Lecturer teaching style	✓	✓	✓	✓
2.	Interested in the course	✓	✓	✓	
3.	Participation in class	✓		✓	✓
4.	Amount of student attend	✓	✓		
5.	Lecturer' level of expertise			✓	✓

From the interview session with four respondents, they keep repeated the lecturer teaching style will make the student want to come to the class or not. This is important that lecturer give a lectures in a unique way to attract the student to always come to the class. The nature of the class is the factors for the student attendance and also can effect student academic performance. From the past research, The type of teaching as well as the amount varies between subjects and universities. The organisation of courses, the amount of teaching and other mandatory tasks might affect attendance (O'Sullivan, 2015).

Not only that, majority respondents choose the interested in the course as a factors of nature of the lecture that can influence to the academic performance. In this research, the student need to choose wisely to the course that related to them, so that their will interested to learn more about the course that their took. It will not lead the student not coming to the class session. From the past research, students interest in the course content is also a motivating factor to get the full classes' attendance (Fjortoft, 2005). It same like participation in the class, when the student like to discuss in the class about what their learn with the others student. It will encourage the student coming to the class, when the class have an assignment in a group of students. From the past research, Students' class participation and engagement takes a significant role over today's higher education. The association between students' class attendance and academic performance had been the subject of several studies in a wide variety of courses (Nur Hidayah Md Noh, 2018).

**Table III.** The Summary of the Transportation Factors that Influence the Academic Performance

No	Factors	Respondent 1	Respondent 2	Respondent 3	Respondent 4
1.	Distance of location		✓	✓	✓
2.	Financial	✓	✓	✓	✓
3.	Transport problem	✓	✓	✓	✓
4.	Weather condition	✓	✓		
5.	Regulation in institution	✓	✓		



In this research, all the respondents said that the distance of location from home to the class will affect the student attendance that lead to the academic performance. When the location far from the class may lead the student not coming to the class and there is no transportation to go to the class. If the system attendance like qr code system applied in every institute, it will make the student come to the class with no reason. From the past research, transportation must indicate the quality and cost implications of location and transport decisions to avoid the disadvantages of long journeys and transportation cost for students to acquire education ( Joseph, 2010).

Besides, the transport problem is always occur even the time when to go to the class. This will make the student not attend to the class because have no transportation to the class. When the transportation broke down, it will make the service to cure it very expensive. So, it lead to the financial factors of transportation of the student that may affect the student attendance in academic performance. From the past research, the ability to attend includes free from barriers such as transport accessibility and to meet the transportation cost while motivation contains intrinsic and extrinsic in which a student attracted to achieve in education (Kottasz, 2015).

To compare monitoring method in different attendance system

#### RESPONDENT 1

Respondent 1 using manual attendance system in her institute which is Universiti Teknikal Malaysia Melaka(UTeM). Respondent mentioned that by using the manual attendance system will take more time to finish signing the attendance that be passed from one to another students. Respondent said;

*"...by signing the attendance using the paper in the lecture will destruct attention from the lecturer that teach in front of the class and also can make we loss focus on the lesson that need to pay attention."*

Other disadvantage by using the manual attendance is the data attendance may loss because it a sheet of paper that easy to loss. The lecturer need to handle more class attendance and more paper need to hold. It will may the paper attendance loss because of many of paper that lecturer mix it.

#### RESPONDENT 2

Respondent 2 studying at Universiti Teknikal Malaysia Melaka (UTeM) also using manual attendance system that using a paper sheets to sign the attendance class. If the data attendance loss, it will make the lecturer need to take again the attendance from the student. So the data attendance are not reliability to evaluate the student academic performance.

Besides that, before the lecturer start the class, the lecturer will calling the name of the students one by one to make sure that the sign of attendance are not lie. This will make the time of the lecture become less and the lecturer has no time to finish the lecture. Besides of wasting time and taking efforts for preparing sheets and documents, other disadvantages may be visible to the traditional one due to loss or damage to the sheets-sheet could be stolen(Karwan Jacksi,2018).

### RESPONDENT 3

Respondent 3 from Universiti Teknologi Petronas (UTP) that been using qr code system as the student attendance system. Respondent mentioned that qr code need less time to take as it need to scan the qr code that appear in front of the class by using the student' smartphone. The cost to make the qr code are not expensive as the manual attendance system need to use many more sheets of paper.

Qr code system will make the student to come to the class because the system not may the fraudulent among the student occurs like manual attendance system. Manual attendance system may easily cheat by helping their friend to sign the attendance for them.

### RESPONDENT 4

Respondent 4 also from the Universiti Teknologi Petronas (UTP) that are using qr code system as to take the student attendance. Respondent said that;

*"...by using the qr code system will make the lecture going smoothly that not bother the student to focus in the class. Qr code system make the cost needed low in using the paper rather than using manual attendance system."*

The data attendance will keep in a system and also it easy to evaluate the student academic performance based on student attendance. The attendance management is important to every single organization because it can decide whether or not an organization such as educational institutions, public or private sectors will be successful in the future (Karwan Jacksi, 2018).

### COMPARISON IN MONITORING METHOD BY USING A DIFFERENT ATTENDANCE SYSTEM

Table IV shows that the comparison between manual attendance system with qr code system in using a different monitoring method.

**Table IV.** Comparison in Monitoring Method by Using Manual Attendance System and QR Code System

Manual Attendance System	QR Code System
Need to be sign by the student during or before class start	Need to scan qr code that appear in front of the class

Personally marked the attendance sheet one by one by calling out student name	Using an individual smartphone to scan the qr code
Attendance sheet can be lost and the whole attendance process is tends to human mistake	Low cost needed (paperless)
Data loss may happened and the data in attendance list might be inaccurate due to deception	Data attendance will keep in a system and easy to evaluate the student academic performance
Manually calculate the percentage of present to make sure student can take their final examination	Data attendance automatically registered to system

### RESEARCH OBJECTIVE 3

To study the effect of student attendance system on academic performance. In this research, the respondents' cumulative grade point average are related to the student attendance system which is manual attendance system and qr code. Student's GPA and the attendance percentage are the most significant factors in determining the grade attained in a specific class (Bashir, 2012). This is because when using the qr code system, the student participation in the class will increase as their need to fulfil the percentage of student attendance in every semester. In the preparation of syllabus of before final examination is also the effect of student attendance system. The student will be more confident to come to the final examination with full of knowledge that lead the student attend to the class. From the past research, the study demonstrated a positive correlation between lecture attendance and final exam performance (Fadelelmoula, 2018).

**Table V.** The Effect of Student Attendance System on Academic Performance

No	Effects	Respondent 1	Respondent 2	Respondent 3	Respondent 4
1.	Preparation on syllabus on final examination	✓	✓	✓	✓
2.	Cumulative grade point average (CGPA)	3.4	3.33	3.67	3.5
3.	Have a good relationship with the lecturer	✓		✓	✓
4.	Get a deeper information in every course		✓	✓	

In this research, the good relationship with the lecture may affect from the student attendance system. Student always come to the class may make the lecturer know them and make a good relationship in the class. This will make the lecturer easy to evaluate the student performance when their know the student always come to the class. From the past research, There was little interaction between lecturers and students resulting in the average relationship, the prevailing relationship did not

directly or not strong enough to influence high academic and high level attainment but rather encouraged high self- esteem (Sylvester, 2015).

The most important factor for students in schools and universities is regular attendance. Students who are absent from lectures will experience issues obtaining additional instruction and information from their lecturer. As a result of significant absenteeism, students may more likely to be unemployed, homeless, or involved in justice system. Students with high rates of absenteeism can affect other students who have regular attendance in the same class. High rates of absenteeism may cause students to fail in a specific class and they may have to enrol another school or university. Therefore, universities should provide a system that helps students to improve attendance

### CONTRIBUTION OF THE STUDY

This research are providing a factors that may lead to the student absenteeism to the class which are health problems, nature of the lectures and also the transportation that will affect to the academic performance of the students. This will make the student to aware on surrounding that will lead to drop the performance of the student in the class.

Other than that, this research also include all the advantage and disadvantage by using the manual attendance system and qr code system in taking student attendance. So it will make the future researcher easy to make the decision which the better method between manual attendance system and qr code system.

Last but not least, the research help the future academic researcher to have a deeper understanding about the important of student attendance management system on academic performance. This is because majority of student does not aware about the important student attendance to their academic performance.

### THE EMERGENT FRAMEWORK

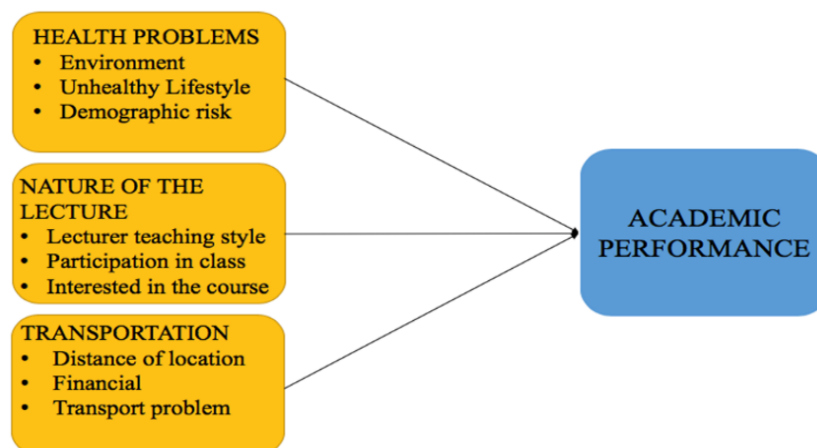


Fig. 9. The Emergent Framework

## LIMITATION OF THE STUDY

There are few limitations to this research. First, the research was conducted in very short and strict time, where the researcher gave 8 months to complete their research and this will result in a lack of generalizability.

First of all, alluding to the limitations of this study, it's unrealistic to precisely evaluate the impression of respondents (student from UTeM and UTP ) at the time of academic performance in the study, which would be a common constraint in survey research, especially in this particular context (Al-Qirim, 2007). By approaching the respondents for their perceptions preceding academic performance, the researcher attempted to address this issue. However, it is predicted that their responses will still be affected by the university with student attendance management system.

This research focuses solely on student views, so this research only focuses on the effectiveness of the student attendance management system among the students behaviour of academic performance. Similarly, the selective selection of the study's explanatory variables and other inherent methodological weaknesses (e.g. focusing on the student attendance management system on academic performance) tend to pose some limitations to the study's generalizability.

Finally, some respondents who participated in the interview session appear to be lacking in knowledge and therefore will result in lack of accuracy in responding to the interview questionnaire. That is why the data collection to be used in this study is invalid and will make the result difficult for the researcher to interpret.

## RECOMMENDATION

This research is multiple case studies but researcher able to do for only 4 students due to the rejection of too many student and lecturer with the excuse of busy. However, researcher encourages if someone wish to continue this research, he/she may try to contact them as soon as possible as they need some time to arrange and it is quite hard for searching. The more the respondent interviewed with, the level of trustable of data will be higher. Since all the data needs the support from respondents through interview session.

Other than that, researcher suggests the next research can be done through quantitative methods or mixed methods. Through quantitative method, researcher only needs the responses from Google form by just sending the questionnaire to them and no needs to have an interview. Although the amount of data collected through quantitative methods will be huge, but this is another way to solve the problem that there are refusing to have an interview with us. Whiles, for the mixed methods, researcher may give respondents a questionnaire after the interview session to enable

researcher to have some more to elaborate but not only based on the interview session.

Last but not least, I suggest the follow researcher can use this research as a reference and try to add on extra element such as the challenges that institutions faced when they apply for student attendance management system by using qr code system. This enables him/her to have a very clear research question and research objective.

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