

COVID-19 PANDEMIC: FACTORS AFFECT RETENTION
AMONG STUDENTS DURING ONLINE LEARNING?

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
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LIST OF ABBREVIATIONS

BC	Behavioral Characteristics
DV	Dependent Variable
IS	Institutional Support
IV	Independent Variables
QFSI	Quality of Faculty and Student Interaction
SPSS	Statistical Package for the Social Sciences
SR	Student Retention
UTAR	Universiti Tunku Abdul Rahman

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PREFACE

This research project was submitted for the Bachelor of Business Administration (Honours) from Universiti Tunku Abdul Rahman (UTAR). The study duration was approximately 28 weeks. Our research topic is " COVID-19 pandemic: Factors affect retention among students during online learning?". The dependent variable of the study is student retention, and the independent variable is institutional support, behavioral characteristics and quality of faculty and student interaction.

Student retention is a topic that needs to be taken seriously, especially in the education industry. The decline in student retention is due to institutional support, personal character, and the influence of faculty. Therefore, this study aimed to investigate the impact of institutional support, behavioral characteristics, and quality of faculty and student interaction on student retention.

Also, student retention is more of a concern, especially due to the increase in Covid-19 cases in Malaysia as online classes become more practical during the pandemic and students' performance becomes different as they are affected by other entertainment. This study also helps to provide future recommendations for readers to better understand the relationship between independent variables and student retention.

ABSTRACT

The purpose of this study was to determine the impact of institutional support, behavioral characteristics, and quality of faculty and student interaction on student retention. This study was also used to verify whether the student retention rate would increase due to the influence of these three independent variables.

The study was conducted by distributing online questionnaires to students at Universiti Tunku Abdul Rahman, Monash University, INTI University Nilai and Taylor University via google form questionnaire. The data retrieved from the online surveys will be processed with the aid of Microsoft Excel and Statistical Package for Social Science (SPSS) in order to produce accurate results for the purpose of analysis and interpretation. In this case, the data will be analyzed according to reliability tests, descriptive analysis, Pearson correlation, and Multiple regression analysis.

Finally, institutional support, behavioral characteristics, and quality of faculty and student interaction had significant effects on student retention, and an increase in any of these independent variables would increase student retention. There are a few studies that are consistent with the results and are therefore further elaborated in Chapter two of our study.

CHAPTER 1: RESEARCH OVERVIEW

1.0 INTRODUCTION

Students play essential role in this society as students can strengthen and enhance society as a whole. The roles of students are like attending classes, completing their studies, and applying what they have learned into their daily life. Moreover, students are essential because they can shape the future generation. This is because students are to engage themselves with proper skills and knowledge to create a better society in the future. This study is to identify how factors like institutional support, behavioral characteristics, and quality of faculty and student interaction can increase the retention among private university students in West Malaysia during online learning. Chapter one starts with the research background, problem statement, research objectives, followed by research questions, the study's hypothesis, and the significance of the study.

1.1 RESEARCH BACKGROUND

The outbreak of Covid-19 in Malaysia leads to a dramatic change in everyone's routines, including the students. This pandemic has caused all educational institutions to conduct learning through online platforms to reduce the transmission of Covid-19. According to Azman et al. (2020) students in Higher Education institutions are to continue learning through an online platforms like Zoom and Microsoft Team. However, the sudden shift from physical learning to online learning has led to a few difficulties, including the speed of internet connection, technical issues, and bad experiences in dealing with online platforms. During this Covid-19 pandemic, some students claim that they have lower engagement during online learning, 67.1% of students feel stressed, and 71.4% of students mentioned that their high workload caused them to feel depressed (Al-Kumaim et al., 2021). According to Bezanilla and Ribbe (2013) difficulties in balancing high workload and low engagement among the students during online

learning seem to be significant to students' withdrawal rates. The continuous this issue will eventually lead to more withdrawal rates as it will affect the students' mental health and academic performance. Thus, education institutions can retain the students by helping them to overcome all these obstacles.

Students play an essential role in society because students are the ones who can strengthen and enhance society. This is because students enrolled in educational institutions to learn and prepare themselves for their future and to create a better future for society. Thus, education institutions must focus on increasing student retention. When education institutions pay greater attention to this issue, they can see a significant improvement in students' academic performance and a decrease in the withdrawal rate.

Student retention is critical for all universities in Malaysia as many factors will cause students to withdraw from online learning. Factors that will lead to withdrawal will be technical issues, financial difficulties, communication barriers, and many more. Students' motivation and academic performance will be improved if they are retaining the students most effectively. This means that it is vital for universities to retain students. Thus, the education institutions in Malaysia should retain students to reduce the withdrawal rate of students (Harun et al., 2021).

In our study, we identified three IVs which are institutional support, behavioral characteristics, and quality of faculty and student interaction that can increase retention among private university students in West Malaysia during online learning. Institutional supports are where the institution provides students with appropriate academic and social support during the university. Therefore, the university should provide full support for students especially during the online learning period, so that students will fully adapt to the online learning pace. Then, behavioral characteristics are self-efficacy and self-discipline while the quality of faculty and student interaction is where the faculty provide academic advising or guidance to the students.

The reason for conducting research on private universities and not public universities is because private universities are self-funded which will lead to a

higher student's fees in compare to public university that are funded by the government. The transfer of physical learning to online learning has impacted students from poor families. During Covid-19, businesses are forced to shut down, affecting everyone's income. For the poorer family, they might have hard time paying for their children school fees and the cost to purchase laptop for them to continue their online studies. Meanwhile, students who stay in rural areas will also have trouble in accessing internet, affecting their online learning (Looi, 2021). Thus, we are conducting research on private university and to provide education institution on factors to retain students during online learning.

Moreover, private universities have more international student because public universities are more local students oriented. According to the education ministry, as of September 2019, the private higher education in Malaysia was enrolled 92,415 international students, compared to 39,099 in public institutions (Sharma, 2020). The percentage of international student from private universities is quite high. Therefore, we would like to see the perspective from the international student who study in private universities.

In our research, we found that Malaysia is a significantly advanced country in Asia and has achieved far well results in the educations industry. It can be observed that the government of Malaysia has been providing students loan while some public authorities are providing scholarships for the students so that they can afford to pursue tertiary education. Financial aid, can retain the students as some students are forced to drop out due to financial problems. However, providing financial aid alone might not be effective enough to prevent students from dropping out of education institutions. In Malaysia, there is just a little research on how to retain students. Thus, we will be studying three factors to see whether they can affect the retention among private university students in West Malaysia during online learning.

1.2 RESEARCH PROBLEM

Student retention is a challenging issue in higher education. All institutions need to propose strategies to support students' success from enrolment to graduation without compromising academic or certification standards. Especially in terms of online learning, this is undoubtedly another challenge for higher education (Manyanga, Sithole, & Hanson, 2017). According to the report conducted by Carrasco (2021), one-third of first-year students reported that they often encountered computer problems during online learning, and 21% of students said that they are often unable to access the Internet, which hinders their learning. In the report, ACT Chief Executive, Janet Godwin, said that the online academic year can be one of the most challenging in college life, especially for needy and first-year college students, compared with their peers, access to technology and the internet is very limited.

However, the withdrawal rate in online learning is higher than that of the traditional learning environment, which is also the problem of declining student retention in Malaysia. A study conducted by Friðriksdóttir (as cited in Muljana & Luo, 2019) on 43,000 students enrolled in Icelandic Online in 2018 once again confirmed that the completion rate of the mixed learning model is substantially further than that of else virtual models. With the advancement of technology and the continuous transformation in online learning, education researchers are eager to study this to retain students. Based on the online education system, researchers have extra efforts to find learning materials and factors suitable for students (Estacio & Raga Jr, 2017).

In foreign countries, strategies to improve student retention include institutional support, student behavioral characteristics, and quality of faculty and student interaction. Drab-Hudson, Whisenhunt, Shoptaugh, Newman, Rost, and Fondren-Happel (as cited in Muljana & Luo, 2019) commented that today's students live in a technologically comfortable environment. Therefore, this encourages students to have behavioral characteristics of continuing learning because online learning can have various learning modes and methods. For example, introverted students may be more willing to participate in online discussions instead of speaking in face-to-face courses. This is also supported in the quality of faculty and student interaction. Online students will also get more guidance and more comprehensive

feedback from professors while studying to improve grades. Therefore, institutional support can increase student retention (Gaytan, 2015).

If student retention declines, students may not be able to get academic support and help to understand the college's expectations to succeed (Milman, Posey, Pintz, Wright, & Zhou, 2015). According to Moy and Ng (2021) the depression, anxiety, and stress level among student during online learning have increased. Prior Covid-19, the level of depression was ranged between 13.9% to 29.3%, anxiety was 51.5% to 55.5% and stress level was 12.9% to 21.6%. However, the level of depression, anxiety and stress among the student during online learning have increased to 29.4% follow by 51.3% and 56.5%. According to Al-Kumaim (2021), more than two-thirds of college students (69.5%) feeling overloaded while following up on their online courses, and 30.5% of the students said they did not feel overloaded. When students were asked about the main source of overload, 71.4% mentioned having a lot of online tasks, and nearly 20% felt that they were overloaded with learning information while studying online. Meanwhile, 51.6% and 20.6% of students respectively, said that being with their families while studying online brought difficulties and challenges for them to focus on online learning. In addition, if students are not familiar with information technology, it will hinder students from fit well to the virtual education, and thus causing in high academic pressure. Furthermore, in this study, about 80% of the participants agreed with academic research by scholars that e-learning may not be as effectual for students as physical classes under the influence of the COVID-19 pandemic, and more than 50% of the participants believed that online education is influenced by the internet access in their location, which makes it difficult to acquire knowledge smoothly (Moy & Ng, 2021).

Despite extensive research across the country, many institutions in Malaysia are still looking for solutions to this matter. Although many foreign researchers have investigated this research, there are very few studies on this issue in Malaysia. Based on the above basic principles, we need to study factors that will affect retention among West Malaysia's private university students during online learning. This research mainly addresses a question: what is the influence of

institutional support, behavioral characteristics, and quality of faculty and student interaction on student retention in West Malaysia during online learning?

1.3 RESEARCH OBJECTIVES

Research objectives are to explain all variables to be studied clearly. The objective is to outline the goals that researchers wish to achieve. There are two types of research objectives. General objective summarises the study's central idea and what the researchers expect to achieve. Specific objectives are short-term, and the focus is narrow where its breakdown general objective into small logically. According to the problem statement above, there are few objectives this study aims to investigate:

1.3.1 General Objective

To examine the factors that will affect retention among private university students in West Malaysia during online learning.

1.3.2 Specific Objectives

1. To examine whether institutional support will affect retention among private university students in West Malaysia during online learning.
2. To examine whether behavioral characteristics will affect retention among private university students in West Malaysia during online learning.
3. To examine whether quality of faculty and student interactions will affect retention among private university students in West Malaysia during online learning.

1.4 RESEARCH QUESTIONS

The subsequent research questions are targeted to be found out by conducting the study:

1.4.1 General Research Question

What are the factors that will affect student retention in West Malaysia during online learning?

1.4.2 Specific Research Questions

1. Do institutional support affect retention among private university students in West Malaysia during online learning?
2. Do behavioral characteristics affect retention among private university students in West Malaysia during online learning?
3. Do quality of faculty and student interactions affect retention among private university students in West Malaysia during online learning?

1.5 HYPOTHESES OF THE STUDY

H_1 : Institutional support will affect retention among West Malaysia's private university students during online learning.

H_2 : Behavioral characteristics will affect retention among West Malaysia's private university students during online learning.

H_3 : Quality of faculty and student interaction will affect retention among West Malaysia's private university students during online learning.

1.6 RESEARCH SIGNIFICANCE

In this study, we are to evaluate factors that will affect retention among private university students in West Malaysia during online learning. Through this study, we can provide guidance to the education industry so that they can apply the best and the most suitable approach to retain private university students in West Malaysia during online learning. As a result, the education industry are encouraged to retain university students who are having online learning in Malaysia. Moreover, this research may provide future researchers who study in this field with valuable information for future research purposes.

1.7 CHAPTER LAYOUT

This research is extraneous to five chapters, which are as follows:

Chapter 1: Research Overview

It introduces the general background of factors that will affect retention among private university students in West Malaysia during online learning. The background study, statement of the problem, specific goals, research questions, hypotheses, implications, chapter arrangement, and the summary were also included.

Chapter 2: Literature Review

Its research and compile all published papers and journals on the topic. The denotations of the IVs and DV variables and their relationships are covered too,

along with the conceptual framework, theoretical frameworks, and hypothesis development.

Chapter 3: Methodology

The research design and data collecting technique that researchers apply to gather information are discussed in Chapter 3. Following that, sampling design contain target demographic, sample size, sampling location, sampling technique, and sampling elements. It also covers measuring scale types, data analysis, data processing, and conclusion.

Chapter 4: Data Analysis

Outcomes and investigations of the data that are related to the study issues and hypotheses offered are exhibited in this chapter. To ensure the study's validity, a variety of analyses will be conducted, including descriptive analysis, scale measurement, and inferential analysis.

Chapter 5: Discussion, Conclusion and Implications

Chapter 5 will go through the conclusion and final discussion, which consist of discussions of key result, study's implication and limitation, and recommendations for further study.

1.8 CHAPTER SUMMARY

Chapter 1 depicts an outline of the understanding of our academic work. According to the dependent and independent variables in this study, three hypotheses have been presented. This research has discovered a research gap that allow a significant study to be conducted to add to the existing literature. Furthermore, current study contributes greater knowledge of the factors that will

affect retention among private university students in West Malaysia during online learning.

CHAPTER 2: LITERATURE REVIEW

2.0 INTRODUCTION

We provide foster explanation regarding the variable proposed in Chapter 1 to have a enhance knowledge of this research. We will review, analyse and to provide a clearer idea about how institutional support, behavioral characteristics and quality of faculty and student interaction can increase the retention among the private university students in West Malaysia during online learning. This chapter consists of three parts. First part is the review of the theoretical studies in online learning. The second part is clarification of independent variables and dependent variable by using a conceptual framework, while the last part is the hypothesis development based on supporting literature.

2.1 UNDERLYING THEORIES

2.1.1 Geometric Model

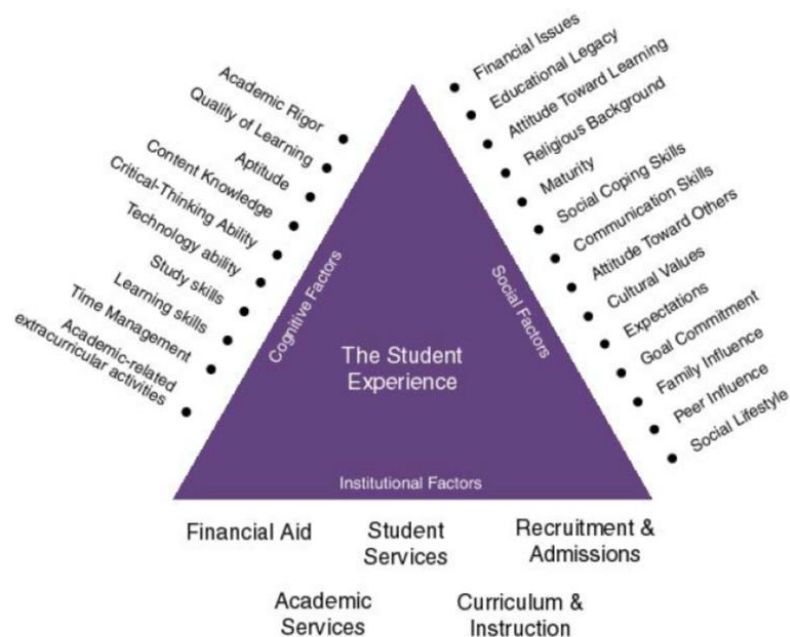


Figure 2.1: Swail's (2004) Geometric Model of Student Persistence and Achievement

This model is to examine the dynamic relationships between cognitive, social, and institutional factors, with student persistence, growth, and development. According to Monfort (2017) Swail's geometric model was applied to understand better how students perceive institutional, cognitive, and social factors. Moreover, the geometric model is the determinant of student retention. Therefore, it is a must for all the institutions to have all the necessary resources to determine whether the students will stay or not (Claybrooks & Taylor, 2016).

Firstly, institutional factor is related to our first IV, institutional support. Institutional factor is associated with the ability of institution to provide students with appropriate academic and social support during the university. An example of institution supports are financial aid and student services. Financial aid is money given or lent to pay students' education fees. Monetary aid is one of the significant elements for the students to persist studies especially students who are from lower-income family. For example, most of the students' family deal with financial problem during Covid-19 which cause the students unable to continue their studies as the pandemic affected the ability of the family to pay for their school fees. Therefore, universities that provide institutional support like financial aids can increase student retention.

Next is cognitive factor, which is related to the second IV, behavioral characteristics. Cognitive factors are linked to academic abilities, attitudes, and behavior toward learning that students have. When students have strong academic abilities, it will positively influence student academic performances and student retention. For example, students who enjoy learning and have self-discipline will have excellent academic performance and more likely to continue their studies. Therefore, students with positive behavioral characteristics are more likely to continue their education.

The third factor is social factor which are related to our third IV, quality faculty and student interaction. Social factor is about how students balance their social life and studies which include the interaction between faculty and students. According to Montfort (2017) Swail's geometric model, it is important to create and maintain the relationship between faculty and students during online learning. This is because online learning students prefer to have more interaction with faculty as lack of interaction will cause them to feel unhappy and unsatisfied. Therefore, faculty that engage and guide the students can assist them in developing their social factors and cognitive factor better. Thus, having strong faculty and student interaction will have great influence towards student retention.

2.1.2 Tinto's Model

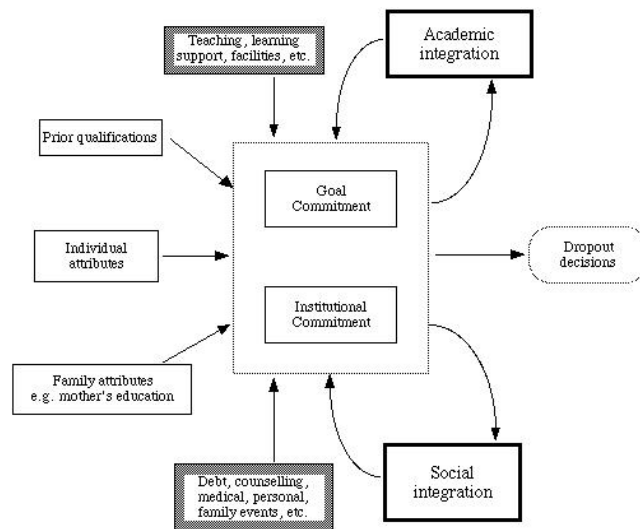


Figure 2.2: Tinto's Model of Student Retention (Tinto, 1975)

Adapted from (Tinto, 1975).

Vincent Tinto is the first and most influential author to propose the complexity of this phenomenon as he developed an explanatory, vertical, and persistent extraction process model called the student integration model, which is primarily on the basis of the degree of suitability between individual students and the institutional environment (Radovan, 2019). In

connection with this, Tinto believes that student experience is also marked by these stages. Manyanga, Sithole, and Hanson (2017) also suggested that the "good fit" between student intentions and institutions is a critical factor in increasing student retention. The three general aspects of the model include students have different academic preparations and attributes during learning; develop various degrees of consolidation into the intellectual societal scheme of the institution, including grades and attitudes towards their academic progress; develop different levels of social integration into the institution, including how they interact with faculty.

Tinto claims that before entering new education patterns, college students need to be separated from their previous community groups, which have dissimilar morals, patterns, and behaviors to the recent community of their educational facility (Aljohani, 2016). Tinto also pointed out the connection of student behavioral traits and student retention (Xu & Webber, 2018). Therefore, the intelligence, knowledge, and academic ability that students bring to the online educational setting is associated with behavioral characteristics, and students with strong academic abilities must have a positive and eager attitude towards online learning. So, we know that creating right values, norms and behaviors during online learning is essential because it directly affects and relates to students' capability to understand and accomplish the academic part of online courses.

The ultimate interpretation of the model composed of two systems: the academic system and the social system which will affect student retention. Academic integration can be deliberate by student's grades and intellectual development, and students should have a correct and positive personality and behavioral to get good grades and intellectual development. The model also shows that students must have academic goals and commitments, while social integration can be assessed by the interaction between students and the university society, for example, interaction with faculty (Aljohani, 2016). The substance of the model is that students necessary to interact with peers and faculty in a benevolent academic setting and have great hopes for student accomplishment (Tinto, 1999).

In online learning, students who unable to meet the faculty directly will pay more attention to effective interaction and information given by the faculty, so that students can better complete the academic process.

In academic integration, teaching, learning support, facilities can affect student retention which is related to institutional support. Tight (2020) acknowledges that universities or institutions play an essential role in ensuring high student retention rates and this can observe from Tinto's model, which focuses on the contributions of institutions to ensure support provided by institutions can help students better complete courses and graduate in online learning. Tinto also specifically pointed out that extracurricular activities provided by institutions can provide students with opportunities to communicate and establish repeated contacts with each other, including faculty staff and instructors while integrating into university life to increase student retention (Forrester, McAllister-Kenny, & Locker, 2018). Furthermore, problems correlated with course attainability, subject, and teaching can influence student perseverance, as do supporting services like academic counselling, guidance, and job counselling provided by institutions. It is here that institutions can identify and match the needs of individual student and student groups.

In accordance with this paradigm, the student's academic and social integration at the university will constantly undermine or reinforce their initial goals and commitment level (Aljohani, 2016). This model ensures the correct participation of students, provides opportunities to develop relationships with faculty and staff, and provides academic support. This model has also been proven to improve the quality of learning effort, which in turn contributes to success and graduation, increasing the chances of student retention (Tinto, 1975).

2.2 REVIEW OF VARIABLES

2.2.1 Student Retention during Online Learning

Student retention is a measure of students who enroll, continue, and complete their studies at the same institution. In the first 40 years, almost all studies were done in North America, but it lacked theory, methodology, and statistics (Dewberry & Jackson, 2018). With the rising of students number and the diversification of education, the problem of student retention also arises (Seidman, 2012). About 40 years ago, when student retention topics first appeared, they were usually viewed through a psychological lens. From a psychological point of view, students who are unable to stick to the end are considered to have inadequate ability, lack of motivation, and are not willing to accept the benefits of college graduation. However, this view began to change in the 1970s (Tinto, 2006).

With the coming of digital technique and the continuous modifications in web-based and distance learning, education researchers and practitioners are becoming more interested in retaining students because this is an ongoing challenge faced by all education stakeholders (Muljana & Luo, 2019). We use the definition proposed by Pascarella and Terenzini (2005) in which student retention is determined as progressive re-enrollment, whether it lasts from one semester to the next or is momentarily disrupted and then resumed, till the degree is obtained. Student retention is also related to the ability of a particular college or university to enable students to graduate successfully (Seidman, 2012). Park and Choi (2009) also found that organizational support and curriculum relevance are finer indicators than demographic variables, and greatly forecast student perseverance and drop-out in online courses.

Tresman (2002) stated that situations of low student retention include students who have not completed a course or study plan, drop out of university after they start studying, as well as stop participating in the study. Under the situation of low student retention, numerous higher

educational institutions have talked about the significance of rising student retention, but few institutions actually achieve this goal (Tung, 2012). It will affect the probability of students completing their academic and personal goals. Still, we can know that the importance of student retention even extends to the fact that many companies are working to increase student retention in institutions (Tinto, 2006). In this way, students who are not retained will not use existing learning opportunities to learn new skills. If they do not learn new and diverse forms of doing things, their future development may be stagnant. To increase student retention, although many universities have created many additional courses and services, the retention rate and graduation rate from the year 1 to year 2 have not increased over time (Seidman, 2012).

Research by Carruth, Broussard, Waldmeier, Gauthier, and Mixon (2014) has found that online courses can effectively improve student retention and the overall learning experience. Meanwhile, Nash (2005) found that most students drop out of school as a result of inadequate time management and absence of time to finish their homework when studying online. Therefore, when encountered with the actual study tasks at hand, they found that they cannot equalize their personal time and study (Tung, 2012). Kember (1995) puts forward the hypothesis that the attrition rate and persistence of learning will be highly influenced by different variables, many of which influence each other, but in fact, few factors have been empirically tested. Even so, in recent years, extensive research has been conducted to identify the factors affecting student retention, especially in the context of online learning (Lee & Choi, 2011).

It is important to identify factors that increase student retention because they will help inform efforts aimed at increasing student retention rates and increase their potential in all areas to help students expand in the future (Bowles & Brindle, 2017). According to Simpson (2004) the problem of student retention in online learning can be a significant issue for the financial costs of dropping out. Although there are no decisive data on the completion rate of online learning, few researchers and practitioners

in the area declared that compared with usual face to face tutoring, virtual teaching seems to have a higher drop-out rate, and it is more difficult in the process of completing assignments and complying with deadlines (Park, Boman, Care, Edwards, & Perry, 2008; Wilson & Allen, 2011). Over time, the college will lose future funds in the form of tuition and ancillary services. So from here, we can see that increasing student retention has become more critical (Murray, Ireland, & Hackathorn, 2016). According to research, students in online courses have an 82% possibility to complete the course, while students in face-to-face courses have a 90% chance to complete the course. Since the definition of the term "student retention" has evolved over time and its impact on online education has also evolved, we should increase the probability of student retention during online learning (Tung, 2012).

2.2.2 Institutional Support

Support programmes or requirements that an institution establishes as norms, procedures, or criteria for student involvement to fulfil the specified prerequisites for graduation are examples of institutional factors (Dixon, 2015). Individual institutions must pay attention to support service problems that frequently become obstacles to achieving specified objectives as they seek to make their distance education programmes effective. According to Au, Li, and Wong (2018) stated that a successful remote-education programme requires substantial institutional support to promote the quality of online teaching and learning. Amoozegar, Daud, Mahmud and Jalil (2018) found that as the number of support services rose, so did the degree of student happiness. In addition, Muljana and Luo (2019) mentioned that the efforts and services aimed at influencing student retention were referred to as institutional support. Those factors related to support services concerning the significance of technical, administrative, and university support in the distance learning environment.

Firstly, one of the most important aspects is technical support, which is provided by specialist people on software and hardware-related goods when they are needed (Alshammari, Ali, & Rosli, 2016). Technical support is defined as help provided to a student in the use of technology environment in which they are enrolled (Amoozegar, Daud, Mahmud, & Jalil, 2017). Technical support has been recognized as a significant element in student happiness by researchers. Students' experiences in adopting or rejecting an information system are significantly influenced by technical support (Amoozegar, Daud, Mahmud, & Jalil, 2018). The fact that users get little to no assistance when confronted with a difficulty or issue may lead them to believe that working with the system is a waste of time, and they may thus give up. A distance-education program's success must be enhanced and ensured by fostering this kind of attitude. Although technical assistance is one of the crucial factors that encourages and persuades students to take particular attitude toward technological advances, but it is not the only one (Alshammari et al., 2016).

Besides, administrative support is another kind of institutional element to consider. Professional measures taken or approved by the building principle or principal's agent to assist counselling programmes are referred to administrative support (Amoozegar, Daud, Mahmud, & Jalil, 2018). This is because administrators offer services like learner registration, record keeping, training, as well as technical assistance for their students. According to Amoozegar, Daud, Mahmud, & Jalil (as cited in Moses et al., 2012) mentioned that the support of administrators is critical in influencing the usage of mechanism in the teaching space. Administrators who promote the use of technicality should do it not just verbally, but also in ways that foster cultural acceptance and adoption. Although not often explicitly stated, administrative assistance includes professional measures taken or approved by the principal's agent to support counselling services at a facility. As a result, the absence of administrative assistance will make it challenging to adopt new technologies (Selim, 2007). Hence, administrators are becoming more dedicated to delivering high-quality

experiences for students because of the administrative problem, which is a major source of student concern and retention decreased.

The tools, techniques, facilities, people, and services provided by the educational institution to help and encourage students in their study are referred to as university support (Amoozegar, Daud, Mahmud, & Jalil, 2017). Students who are enrolled in online learning programmes may benefit from the university's support in maintaining their enrolment. Students' ways of thinking, problem-solving techniques, and interest in life objectives are influenced by the university's support for them. In organizational science and communication, a lot of studies shown that university assistance is a critical element that has a significant impact on a variety of characteristics of students' intellectual and emotional results (Amoozegar, Daud, Mahmud, & Jalil, 2018). According to Cho and Yu's (2015) research, since students feel more support from their institutions, they are happier and less worried due to their participation. As a result, it is critical to recognize the importance of university support in the effective teaching-learning practice that occurs via distant learning.

2.2.3 Behavioral Characteristics

Behavioral is defined as the way how people behave and react to their environments. Behavioral characteristics can be observed, including the action they make, the way they speak and the way they respond to others. According to Cochran et al. (2014) behavioral characteristics contributed to sustainable determination, which possesses excellent influence on the students' educational attainment and significantly influences student retention. There are many behavioral characteristics, including self-efficacy, self-discipline, and many more (Muljana & Luo, 2019). Behavioral characteristics are one of the most important elements to increase student retention because it is linked with the self-efficacy of the students themselves. When students have high self-efficacy, it will

motivate them to perform their responsibility within their capabilities, achieve goals and willing to take in more challenges.

Firstly, self-efficacy is a behavioral characteristic that is beneficial to all students during online learning. Self-efficacy is defined as the evaluation of own ability to accomplish their task (Tseng et al., 2020). According to Fitzgerald (1991) self-efficacy is a belief of the individual himself in his very own capability to perform and achieve the desired achievement that he had worked hard for. There were also shreds of evidence from previous studies that mentioned self-efficacy would lead to positive school performance (Doménech-Betoret et al., 2017). Self-efficacy influences how an individual act, feels, thinks, and even increases motivation (Zulkosky, 2009). Self-efficacy will influence university students where students with high self-efficacy will perform better and achieve higher scholastic achievement as against those with lessen self-efficacy. As an example, a prior study shows that student self-efficacy will have significant impacts on the learning experience and academic performance (Doménech-Betoret et al., 2014).

Besides, self-efficacy is a behavioral characteristics that can boost the students' motivation level to perform better and to achieve better achievement. When the students have self-efficacy, it will motivate them to perform their responsibilities within their capabilities, attending classes and score well in their examination. This is because self-efficacy will influence their decision-making, motivational level, and efforts in coping with their academic life. According to Mulvaney (2020) some researchers mentioned that there is a connection between self-efficacy and online learning where behavioral characteristic has positive impacts on student retention. Thus, students must have self-efficacy from the very first day of learning, especially when they are dealing with a new learning environment like online learning.

Moreover, students with self-efficacy tend to be persistent. According to Hart (2012) students with persistence are highly possibly to finish their

curriculum, while students without persistence are highly potentially to not accomplish their studies and withdraw from their studies. Persistency is one of the behavioral characteristics and was defined as the factor that can result in the completion of studies. Thus, positive behavioral characteristics can strengthen motivation and determination which increases the retention among all students who are having online studies.

Furthermore, behavioral characteristics like self-discipline are critical among all individuals including students. Self-discipline was defined as the ability to do what one needs to regardless of other reasons (Zhao & Kuo, 2015). Self-discipline can be seen in many forms. For example, individuals who think before performing an action or decision making. Self-discipline is important because it prevent one from performing harmful acts and overcome laziness. It enables an individual to stay focus on their goals, right track and continue to do what is right. According to Gorbunovs et al. (2016) self-discipline is classified among primary drivers that can influence learning outcomes positively, allowing them to achieve their goals effectively.

2.2.4 Quality of Faculty and Students Interaction

A faculty is a group of people like teachers, professors, lecturers, and tutors that share the same duty, which is to share knowledge and skill with their students. Faculty members have got different academic experiences, and so they will have different academic ranks, from lecturer to professor and to doctors. There are many types of faculty like faculty for arts, faculty for business and finance and more. Different faculty have got the different specialized fields, but they share the same responsibilities, which are to share knowledge and teach their students. Then, students are those who are enrolled to pursue studies in university. All students share the same duties, which is to study and to achieve high academic performance.

Quality of faculty and student interaction plays an important role in the university. According to Hoffman (2014) strong relationship between faculty and students will lead to a positive outcome where it can motivate the students to continue their studies until fully completed. To have a good relationship between the faculty and students, the faculty must come out with ways that can provide the student with a good online learning environment. Firstly, computer technology is a must for online learning, and faculty must always educate and inform all students about the latest skills and technology proficiency (Lau, 2003). By doing so, it can increase the level of satisfaction among students who are having online learning. Moreover, faculty must incorporate the use of technology in online teaching (Jackson et al., 2010). It is best when the faculty upload all the class materials and information like lecture notes on a platform that can be easily accessed through the Internet. With that, students can access all the class materials easily and to studies whenever they want.

Besides that, the actions of faculty during online learning will influence the satisfaction and retention level of the students. According to Scoff et al. (2008) faculty that is accessible and responsive are linked to student retention. Thus, students will remain to have online learning as they can feel that they are being valued and welcomed by the faculty and university as a whole (Keeffe, 2013). Faculty that have constant in-class and out of class interaction with students tends to increase the self-efficacy and motivation level of the student, making them to enjoy their learning process even more (Hoffman, 2014).

According to Gaytan (2015) quality of faculty and student interaction is ranked as the secondary influential element that can increase retention among students who are having online learning. To achieve positive student retention, interaction between faculty and students must be high in quality and persistent. In agreement with Tatum et al. (2013) high quality of faculty and student interaction was linked to positive academic self-esteem. Apart from that, it is essential to have a faculty evaluation so that the students can provide honest feedback regarding the performance of the

faculty throughout the semester. With faculty evaluation, the faculty can evaluate their performance and the satisfaction level among the students (Jackson et al., 2010). Furthermore, faculty evaluation can also help faculty come out with better faculty development to better satisfy the student, which can increase student retention and the quality of the faculty at the same time.

2.3 PROPOSED CONCEPTUAL FRAMEWORK

It is the relationship between the IV and DV. Student retention during online learning is dependent variable which will influenced by three independent variables, institutional support, behavioral characteristics and quality of faculty and student interaction.

The framework proposed is to study the factors of three IVs, which are institutional support, behavioral characteristics and quality of faculty and student interaction that will increase student retention during online learning in West Malaysia's private universities.

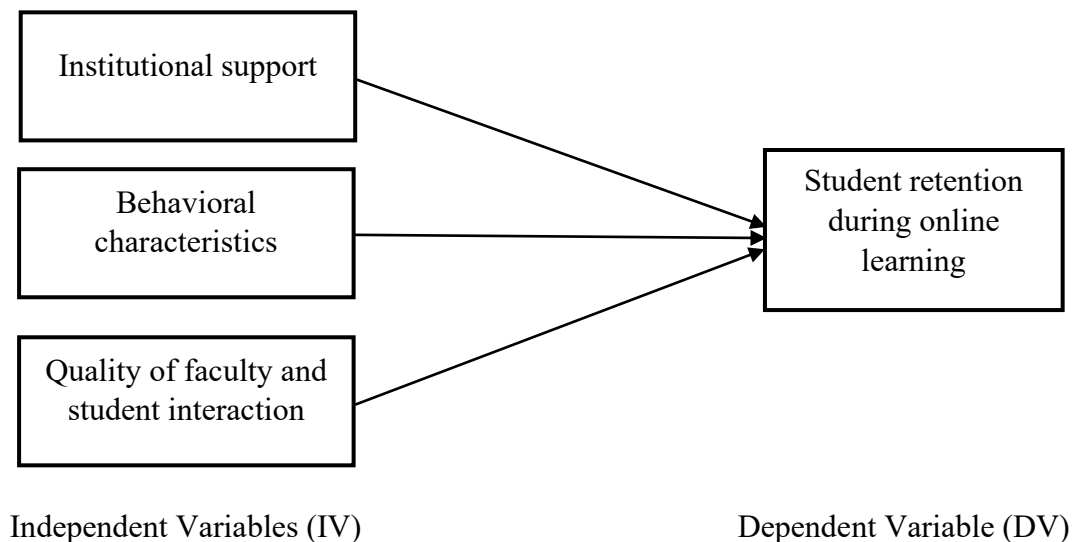


Figure 2.3: The Research Framework

2.4 HYPOTHESES DEVELOPMENT

2.4.1 The Relationship between Institutional Support and Student Retention during Online Learning

Among the factors, Tinto found that students are more likely to persist in an environment that can provide clear information and effectively advise students on future career development (Tinto, 1975). Therefore, students who are rejected by the education or academic system may not be able to use the existing learning opportunities to develop themselves (Seidman, 2012). Herbert (2006) reported that the most critical institutional variable related to student retention is the institution's response to student needs. Experts believed students need enough institutional support for registration, financial aid, tutoring, courses, rules, and processes. Students cannot continue online learning without complete institutional support, particularly in technology assistance, hence institutional support is critical for student retention.

In short, when students feel that the educational institution does not support them, they are more likely to abandon online courses, especially online course registration, financial assistance, and tutoring (Stanford-Bowers, 2008). In the study of Sorensen and Judy (2017), 75% of the students said that the main reason for stopping their studies was because they did not get the necessary support from teachers and consultants. Students need to feel supported, and in general, teachers are the first line supporters of online classrooms. So from here, we know that institutional support may be a key factor in affecting student retention.

H_1 : Institutional support will increase retention among West Malaysia's private university students during online learning.

2.4.2 The Relationship between Behavioral Characteristics and Student Retention during Online Learning

Positive behavioral characteristics are significant among all university students who are having online learning. Behavioral characteristics are one of the key factors for student retention and high academic performance. There are many types of behavioral characteristics like self-efficacy, self-discipline, and persistence (Muljana & Luo, 2019). According to Gaytan (2015) self-discipline was being ranked as the main factor that will affect student retention during online learning. It is important for students to have positive behavioral characteristics because it can improve their academic performance, student retention, improve self-discipline, and self-efficacy. When students have positive behavioral characteristics, they will be determined to complete their studies which improve student retention.

According to Muljana & Luo (2019) retention rates and the academic performance among all university students during online learning will increased by fostering positive behavior because behavioral characteristics of students are the determinants of positive retention. There is a researcher who mentioned that some of the university students are having a tough time balancing their lifestyle during online learning. This is because some students are required to study and go for a part-time job at the same time. However, there is a researcher who argues that most students prefer online learning more because it is more flexible, and so they can attend the classes at any location of their choice (Ilyas & Zaman, 2020). This means that the behavioral characteristics of the students are linked to student retention. This is because students with good behavioral characteristics like self-efficacy, self-regulation and self-discipline will be able to cope with online learning as they will try their very best to perform their responsibility and to achieve goals. Thus, behavioral characteristics can increase the retention rates of university students during online learning.

H_2 : Behavioral characteristics will increase retention among West Malaysia's private university students during online learning.

2.4.3 The Relationship between Quality of Faculty and Student Interactions and Student Retention during Online Learning

Student retention is heavily influenced by the quality of faculty and student interaction. When faculty and student interaction is of high quality, student retention increases at the same time (Hoffman, 2014). This is because students prefer to studies in university that show care and support. According to Leeds et al. (2013) active participation of faculty during online learning will have positive influence on student retention. Thus, faculty can create better learning environment to motivate the students to self-regulate their behavior.

Students retention during online learning can be improved in many ways. With the right step, it can effectively increase student retention. According to Seery et al. (2021) faculty that provide academic advising and feedback to their students can have a positive influence on student retention. Moreover, Lau (2003) had also stated that the faculty should always be there to provide guidance or to work one-on-one with students that required more guidance. It is important for the faculty to truly understand and care about their student on how they are performing during online learning to prevent dissatisfaction. According to Salim Muljana and Luo (2019) the faculty must always be there to check, guide and provide suggestions for the students, especially the new students, as they need more support. Thus, the quality of interaction between the faculty and students can improve retention as it provides the students with a favourable experience.

H_3 : Quality of faculty and student interaction will increase retention among West Malaysia's private university students during online learning.

2.5 CHAPTER SUMMARY

In conclusion, Chapter 2 analyze all appropriate publications on the dependent variable, which are institutional support, behavioral characteristics and quality of faculty and student interaction. We had conducted a comprehensive review of the literature contingent on the literature of previous researchers, using journals and articles. The research methodology will be carried out in Chapter 3 as the conceptual framework and hypotheses were constructed.

CHAPTER 3: METHODOLOGY

3.0 INTRODUCTION

It acquires reliable evidence to figure out an issue. It is significant to follow a systematic process to evolve solid proof knowledge (Callaghan, 2019). This chapter explains in what way the study is conducted about research design, the way to collect data describing, sampling design, operational definitions of constructs, measurement scales, and data processing.

3.1 RESEARCH DESIGN

It is a thorough provision approach to assure the evidence gathered facilitates us to meet the primary question. This is a technique of gathering and illustrating data to raise awareness of the research question (Rahi, 2017). This research design includes processes like data collection and measurement to answer all the research questions.

Research design has been classified into quantitative and qualitative research. In this study, we used quantitative research which addresses the statistical, mathematical, or numerical analysis of data, because we used statistical data to aggregate the overall survey results by distributing questionnaires to respondents.

Moreover, it consists of 3 types of research, exploratory, descriptive, and causal research. Exploratory research is to provide insights by collecting more research-related information to provide researchers with a better understanding. Descriptive research is to elucidate the features or functions of the problem situation. Causal research is to determine the hypothesis of causality and test the hypothetical relationship (Malhotra, 2010). In this research, we will determine the assumption of causality and where we will investigate whether retention among West Malaysia's private university students during online learning will be increased by

institutional support, behavioral characteristics and quality of faculty and student interaction.

3.2 DATA COLLECTION METHODS

It is a procedure of collecting and analyzing, providing solutions, and evaluating results. The data will be adopted to respond to the research questions.

3.2.1 Primary data collection method

It is data gathered by researchers for the first time. In our research study, the questionnaire is to be developed and distributed to the respondents to collect all the raw data. To collect primary data, the questionnaire is to be created and given to the respondents and we use the result collected from respondents to measure specific variables of the research.

3.2.2 Secondary data collection method

It is knowledge evidence obtained by various researchers that have been collected or generated. A person has the right to use data that is previously collected by other researchers to conduct broader research (Hox & Boeijs, 2005). Researchers who choose to use the secondary data collection method need to obtain all the main data that other researchers have analysed (Boslaugh, 2007). Due to the ongoing Covid-19 during our research period, we are collecting and analyzing data that we accessed through online resources including the online library of Universiti Tunku Abdul Rahman to obtain previous research or journal articles that other researchers have collected and analyzed.

3.3 SAMPLING DESIGN

3.3.1 Target Population

It is a beginning determination of the sampling design. Population denotes circumstances and targeted individuals as a whole, which will be investigated (Sekaran and Bougie, 2010). Our target population is students from private universities in West Malaysia who are currently undergoing online learning. To reduce the time needed during the pandemic, the study will be limited to students from four private universities in West Malaysia, namely Universiti Tunku Abdul Rahman, INTI International University Nilai, Monash University Malaysia and Taylor's University. The total student population of each four private universities are UTAR (approximately 20,000 students); Taylor's University (approximately 12,000 students); INTI International University Nilai (approximately 13,000 students); and Monash University Malaysia (approximately 8,400 students). Thus, our total target population are 53,400 students from four private universities who are undergoing online learning.

3.3.2 Sampling Frame And Sampling Location

It is a set of components from which samples able to be obtained. (Sekaran & Bougie, 2010). In our research, our target respondents are 381 students from four private universities in West Malaysia. Due to the Covid-19 pandemic, we use online methods to distribute our questionnaires, so our sampling frame is larger and can attain more people. For this reason, our sampling location is private universities in West Malaysia.

3.3.3 Sampling Elements

It is a situation from which the data is gained. This lays the foundation for the study of the research (Babbie & Earl, 1998). Our target respondents are students from private universities in West Malaysia who are having online, and students who do not have online classes are not included. The private universities selected for this study are Universiti Tunku Abdul Rahman, INTI International University Nilai, Monash University Malaysia and Taylor's University.

Universiti Tunku Abdul Rahman (UTAR)

UTAR is a non-profit private university which provides affordable and high-quality education that was established on August 13, 2002. It was ranked top 600 in the 2021 Times Higher Education World University Rankings and ranked second in Malaysia only after the University of Malaya.

INTI International University Nilai

INTI International University, as the flagship campus, provides interdisciplinary industry-related courses and residential campus experience. The pursuit of quality and excellence has always been the hallmark of INTI University, and now it has been 30 years. In these 30 years, more than 70,000 students have passed through it to seek high-quality higher education and career prospects.

Monash University Malaysia

Monash University campus in Malaysia was started in 1998 in Bandar Sunway, Selangor, Malaysia. It provides a variety of undergraduate degrees through its schools of arts and social sciences, business, medicine, pharmacy, and much more. The campus also offers graduate master's and doctoral programs.

Taylor's University

Taylor's University is a private university in Selangor which was created in 1969. According to the QS World University Rankings, it is generally classed as the best private university in Malaysia.

3.3.4 Sampling Technique

It consists of probability and non-probability sampling (Hair, Money, Samouel and Page, 2007). In our research, we choose non-probability sampling as our sampling technique. We used convenience sampling in our research. Convenience sampling is a techniques employed by researchers who collect data from a readily population of respondents. Based on our research we use google form to distribute our questionnaire. We used online distribution to conduct our survey, so we can reach more students who are in online learning, and also due to the ongoing pandemic, we are unable to distribute questionnaires in the physical location.

3.3.5 Sampling Size

Malhortra (2007) and Zikmund (2003) pointed out that the larger the sample size of the study, the more precise the data produced, but the sample size may vary as a result of various circumstances. A valid sample size is needed, in our study we distributed 430 sets of questionnaire and we have to collected at least 381 questionnaires from private universities student in West Malaysia. However, 30 questionnaires were utilised for pilot testing before the real questionnaire survey. In order to determine an effective method for determining sample size while avoiding non-response bias in quantitative survey design, we will use Figure 3.1 to measure the definite sample size in all cases (Krejcie and Morgan, 1970).

Figure 3.1: Table for determine sample size from given population

Table 3.1
Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

3.4 RESEARCH INSTRUMENT

It is to obtain initial data from target respondents. We use fixed alternative questionnaires and closed-ended questions to scheme the questionnaire and provide multiple-choice answers in the questionnaire. The objective of using a fixed alternative questionnaire is to facilitate the respondents to fill out and not deviate from our research goals.

3.4.1 Questionnaire Design

Table 3.1: Questionnaire Section A, B, C, D and E

Section	Components/Variables
Section A	Demographic Profile
Section B	DV: Student retention
Section C	IV: Institutional support
Section D	IV:

	Behavioral characteristics
Section E	IV: Quality of faculty and student interaction

Note. Developed for the research

Our questionnaires have 5 sections: A, B, C, D and E. Part A is respondents' demographic information. All the questions in parts B, C, D, and E, together with Likert's Five-point scale ranking, alternating to strongly disagree to strongly agree. Section B contained nine items linked to dependent variable. And in section C, D and E, it contains three independent variables, namely institutional support, behavioral characteristics and quality of faculty and student interaction. The C, D, and E sections are respectively composed of nine questions, six questions and ten questions.

Section A: Demographic Question

In this section, it comprises of 7 fixed-alternative questions that were used to access to the personal particulars of respondent, for example, sexual orientation, age, race, name of the university, and etc. Fixed alternative questions are also called closed-ended questions. They are standardized and easier for respondents to read and answer.

Section B: Student retention

The questionnaire of student retention is adapted from Gopal, Singh, and Aggarwal (2021). It is measured by using 9 items with a Five-Likert scale to evaluate the retention of the student during online learning.

Section C: Institutional support

The institutional support questionnaire was assessed by using 9 items scales. Each item had a Five-Likert scale which is adapted from Gopal, Singh, and Aggarwal (2021).

Section D: Behavioral characteristics

The Behavioral characteristics questionnaire is adapted from Al-Dossary (2008) and Harbrecht (2019). The section consists of 9 items, and each item has a Five-Likert scale for respondents.

Section E: Quality of faculty and student interaction

Quality of faculty and student interaction questionnaire was assessed by using 10 items scales. Each item had a Five-Likert scale which is adapted from Gopal, Singh, and Aggarwal (2021).

3.4.2 Pilot Study

It is an experimental project designed to evaluate testing methods, data collection tools, and other research techniques to train researchers for further research. In our study, 30 questionnaires were given to students from private universities in West Malaysia via Google Form.

Table 3.2: Schedule of Pilot Study

Date	Activity
13 August 2021	Send out 30 survey questionnaires to targeted respondent by Google Form
13 August 2021	Obtain all the questionnaires result by the respondent and review all the result
13 August 2021	Run pilot test in SPSS software

Note. Developed for the research

On 13 August 2021, we sent out 30 questionnaires to students in private universities in West Malaysia. On the same day, we have obtained all the results of the questionnaire and started to review and analyze all the results. At the same time, we reorganized the collected questionnaires so that we can use the Social Science Statistical Package (SPSS) software for pilot testing.

Table 3.3: Reliability Analysis for Pilot Study

Variables	Number of Item	Cronbach's Alpha
Student retention	9	0.886
Institutional support	9	0.904
Behavioral characteristics	9	0.722
Quality of faculty and student interaction	10	0.882

Note. Developed for the research

In Table 3.3, coefficient alpha value of student retention is 0.886; institutional support is 0.904; behavioral characteristics is 0.722; quality of faculty and student interaction is 0.882. All of the variables are reliable because all the variables have alpha values greater than 0.6.

3.5 CONSTRUCTS MEASUREMENT (Scale and Operational Definitions)

3.5.1 Origin of Construct

Table 3.4: Origin of Construct

Variable	Adopted From	Scale of Measurement
Student retention (DV)	Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. <i>Education and Information Technologies</i> , 1-25.	Interval
Institutional support (IV)	Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. <i>Education and Information Technologies</i> , 1-25.	Interval
Behavioral characteristics (IV)	Al-Dossary, S. (2008). A study of the factors affecting student retention at King Saud University, Saudi Arabia: Structural Equation Modelling and Qualitative Methods. Harbrecht, I. (2019). <i>Entering Society–The Adolescence, Identity and Development of Vocational Education Students in Shanghai</i> . Würzburg University Press.	Interval

Quality of faculty and student interaction (IV)	Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. <i>Education and Information Technologies</i> , 1-25.	Interval
---	---	----------

Note. Developed for the research

3.5.2 Scale of Measurement

It involves assigning numbers or symbols according to a set of prefix rules to the object characteristics. The reason for assigning numbers to study is in view of the fact that numbers allow investigators to perform statistical analysis and examine hypotheses that have been cultivated. Scale is used to distinguish variables. Dimension scales are classified into 4 types, including nominal, ordinal, interval and ratio scales.

3.5.2.1 Nominal Scale

It is the lowest evaluation standard for non-numeric variables. It is also the smallest degree of estimation scale. It classify objects into contradictory and exhaustive groups in collective. This grading only stipulates some fundamental, categorized, gross, and individual information, such as gender.

Example of nominal scale:

<p>4. What is your gender?</p> <p><input type="radio"/> Male</p> <p><input type="radio"/> Female</p>
--

Note. Developed for the research

3.5.2.2 Ordinary Scale

It is used to report ranking and sorting the data without determining the degree of change between them (Zikmund, Babin, Carr, and Griffin, 2013). In addition, the ordinary scale has certain nominal scale characteristics.

Example of ordinary scale:

<p>5. What is your age?</p> <ul style="list-style-type: none"> <input type="radio"/> Below 18 year old <input type="radio"/> 18-21 year old <input type="radio"/> 22-25 year old <input type="radio"/> Above 25 year old
--

Note. Developed for the research

3.5.2.3 Interval Scale

The creator of the interval scale is Rensis Likert, which was introduced in year 1932 as a method of measuring attitudes or opinions. Unlike ordinary scales that do not display interval values in rankings, interval scales allow scholars to seize object differences. In a nutshell, the interval scale combines changes in the magnitude, ranking, and modification of the equation variables.

Example of nominal scale:

Level of agreement: 1 – Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 – Strongly Agree						
No.	Questions	1-SD	2-D	3-N	4-A	5-SA
1	Online classes were valuable.					
2	Online classes has sharpened my analytic skills.					
3	Online classes improved my understanding of the subject.					

Note. Developed for the research

3.6 DATA PROCESSING

To produce accurate and valuable results, researchers must collect data from respondents. These data must be analysed after the data is collected to produce reliable results. The process of integrating and processing data in order to turn it into valuable information is known as data processing. Data checking, data editing, data coding, and data transcribing are the four data processing procedures.

3.6.1 Data Checking

It is a process of confirming questionnaire collected from the respondent. Some responses to questions may be partial due to respondents' lack of understanding of the question.

3.6.2 Data Editing

This procedure comes after data verification stage. Technique of examining and fixing errors in surveys with missing, confusing, nonsensical, and illogical responses is known as data editing. Therefore, this process is to assure that the details and response are factual.

3.6.3 Data Coding

It is the third process by which investigators assign numbers to each alternative to all questions. The numbers are allocated to allow researchers to enter data into the database quickly and regularly.

In section A, the answer of each question is coded as:

Q1	Are you a Malaysia private university student?	Yes=1 No=2
Q2	The name of your university	Universiti Tunku Abdul Rahman (UTAR)=1 INTI International University Nilai =2 Monash University Malaysia=3 Taylor's University=4
Q3	Are you having online learning now?	Yes=1 No=2
Q4	What is your gender?	Male=1 Female=2
Q5	What is your age?	Below 18 years old=1 18-21 years old=2 22-25 years old=3 Above 25 years old=4
Q6	Ethnic group	Chinese=1

		<p>Malay=2</p> <p>Indian=3</p> <p>Other=4</p>
Q7	You are in Year _____ student.	<p>1=1</p> <p>2=2</p> <p>3=3</p> <p>Above year 3=4</p>

Note. Developed for the research

In section B, C, D, and E, the answer of each question is coded as:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

3.6.4 Data Transcribing

This is procedure through which researchers must transliterate all data recorded in the SPSS for data analysis. After coding all the answers to each question, the researcher will run the process.

3.7 DATA ANALYSIS

It is to describe and clarify, compress and shorten, and examine data in a systematic manner (Zikmund et al., 2013). The computer program we use to interpret and analyze the collected data is the SPSS.

3.7.1 Descriptive Analysis

It is a statistical analysis, including methods of systematizing and recapping information. It also includes the organisation of tables, charts, and graphs, as well as the calculation of descriptive metrics like variance, percentage, and average to evaluate data (Loeb et al., 2017). In our questionnaire, descriptive analysis tools classify the personal demographic data of the target respondents, that is, private university students, in a graphical format. After receiving enough information from the target population, the demographic data will be constructed in a graphical format of bar graphs, histograms, or pie charts.

3.7.2 Reliability Analysis

A reliability test verifies the research idea being proves by the instrument's stability and consistency. In this research analysis, the reliability of each dimension has been examined by the Cronbach alpha test, so the survey results will be consistent. Our research used SPSS software to calculate reliability coefficient on the basis of Cronbach's coefficient α .

Table 3.5: Cronbach's Alpha Range

Level of Reliability	Coefficient Alpha ranges, α
Poor Reliability	< 0.60
Fair Reliability	0.60 – 0.70
Good Reliability	0.70 – 0.80
Very Good Reliability	0.80 – 0.95

Table 3.6: Reliability Test for Pilot Study

Variables	Coefficient Alpha Value	Level of Reliability
Student retention	.886	Very Good Reliability
Institutional support	.904	Very Good Reliability
Behavioral characteristics	.722	Good Reliability
Quality of faculty and student interaction	.882	Very Good Reliability

Note. Adapted from SPSS for research

As shown in Table 3.7, the outcome of the pilot test of this study displays that institutional support shows coefficient alpha value of 0.904, behavioral characteristics is 0.722, quality of faculty and student interaction is 0.882. The coefficient alpha value of our DV, which is student retention get a result of 0.886. Generally, the reliability outcome is favourable, which is adequate.

3.7.3 Inferential Analysis

Multiple Regression Analysis

It is to determine predictability or the contribution of IV to DV. As a result, we devised a five-point Likert scale to investigate the relationship between variables in the questionnaire and measure the degree of agreement with the answer.

The variables in our research are treated as indicators. Multiple linear regression analysis is operated to probe whether institutional support, behavioral characteristics and quality of faculty and student interaction will increase retention among West Malaysia's private university students

during online learning. Furthermore, the IV in multiple linear regression might be metric or non-metric, but the DV must be metric.

Multiple Regression equation:

$$Y = \alpha + b_1IS + b_2BC + b_3QFS$$

Where, Y= Student retention

IS= Institutional support

BC= Behavioral characteristics

QFS=Quality of faculty and student interaction

In our study, multiple linear regression is exercised to test the following hypotheses:

H_1 : Institutional support will increase retention among West Malaysia's private university students during online learning.

H_2 : Behavioral characteristics will increase retention among West Malaysia's private university students during online learning.

H_3 : Quality of faculty and student interaction will increase retention among West Malaysia's private university students during online learning.

3.8 CHAPTER SUMMARY

In summary, Chapter 3 examine the research methods practiced in our research. Research methodologies involve research design, data collecting, sampling, research tools, construction measures, and data processing. All hypotheses will also be examined using multiple regression analysis to see if IV and DV have a significant connection. In Chapter 4, we will provide a detailed view of all the findings by the SPSS programme.

CHAPTER 4: RESEARCH RESULT

4.0 INTRODUCTION

The studies to be performed in this chapter are descriptive analysis, reliability analysis, Pearson correlation coefficient, and multiple regression analysis. The overall results were collected and analyzed using the SPSS. In our study, the online questionnaires which we conducted by using google form are our raw data, and 389 sets of questionnaires were collected from respondents who are studying in private university Malaysia which we studied to.

4.1 DESCRIPTIVE ANALYSIS

It assists in portraying, displaying, or abridge data points in a productive manner so that patterns that satisfy each situation of the data may emerge. There are 7 questions about respondents' demographic profiles. Questions included are whether they are Malaysian private university students, are the student having online learning now, gender, name of their university, age, ethnic group, students' year of university.

4.1.1 Respondent Demographic Profile

4.1.1.1 Are you a Malaysian private university student?

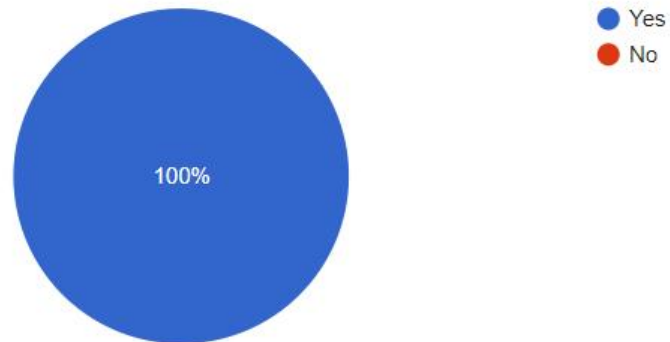
Table 4.1: Statistics of are you a Malaysia private university student?

Are you a Malaysian private university student?	Frequency	Percent (%)
Yes	389	100

Figure 4.1: Statistics of are you a Malaysia private university student?

1. Are you a Malaysian private university student?

389 responses



According to Table 4.1 and Figure 4.1, all respondents are private university students in Malaysia as 389 respondents stand the percentage of 100%.

4.1.1.2 Are you having online learning now?

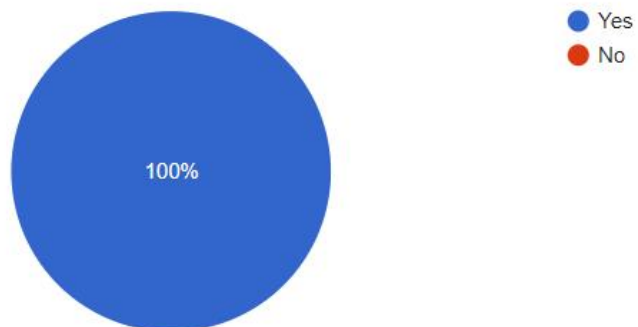
Table 4.2: Statistics of are you having online learning now?

Are you having online learning now?	Frequency	Percent (%)
Yes	389	100

Figure 4.2: Statistics of are you having online learning now?

2. Are you having online learning now? (If YES, then proceed)

389 responses



Through observation in Table 4.2 and Figure 4.2, all respondents are having online learning now as 389 respondents stand the percentage of 100%.

4.1.1.3 Gender

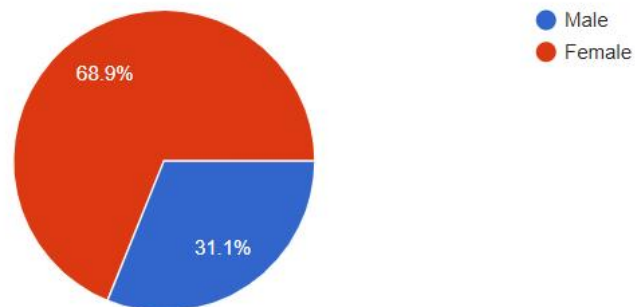
Table 4.3: Statistics of Respondents' Gender

Gender	Frequency	Percent (%)
Male	121	31.1
Female	268	68.9

Figure 4.3: Statistics of Respondents' Gender

3. What is your gender?

389 responses



Based on Table 4.3 and Figure 4.3, most of the respondents are female university students with an amount of 268 female respondents (68.9%) while there are only 121 male respondents (31.1%). The results showed that the number of female respondents was absolutely upper than that of male respondents.

4.1.1.4 The name of your University

Table 4.4: Statistics of respondents' university name

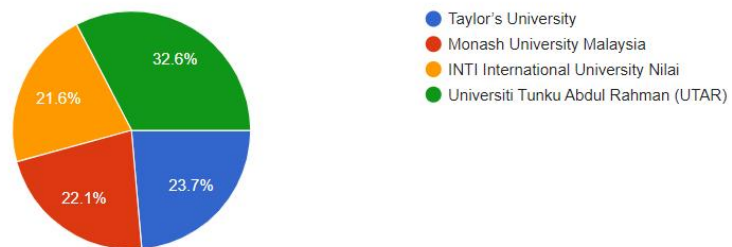
Name of university	Frequency	Percent (%)
Taylor's University	92	23.7

Monash University Malaysia	86	22.1
INTI International University Nilai	84	21.6
Universiti Tunku Abdul Rahman (UTAR)	127	32.6

Figure 4.4: Statistics of respondents' university name

4. The name of your university

389 responses



There are four universities listed in our questionnaire, most of the respondents are from UTAR, 127 respondents (32.6%), followed by 92 respondents from Taylor's University (23.7%), Monash University Malaysia with 86 respondents (22.1%) and INTI International University Nilai with 84 respondents (21.6%).

4.1.1.5 Age

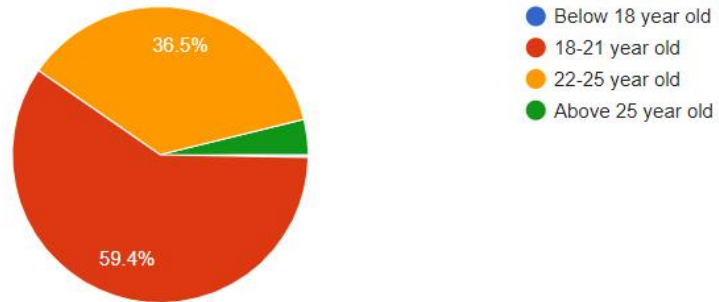
Table 4.5: Statistics of Respondents' Age

Age	Frequency	Percent (%)
Below 18 years old	1	0.3
18-21 years old	231	59.4
22-25 years old	142	36.5
Above 25 years old	15	3.9

Figure 4.5: Statistics of Respondents' Age

5. What is your age?

389 responses



According to Table 4.5 and Figure 4.5, the majority of respondents are between the ages of 18 and 21, with a total of 231 respondents (59.4%). 142 respondents (36.5%) in the age group between 22 to 25 years old, 15 respondents (3.9%) are above 25 years old and the age range below 18 years old has only 1 respondent (0.3%).

4.1.1.6 Ethnic Group

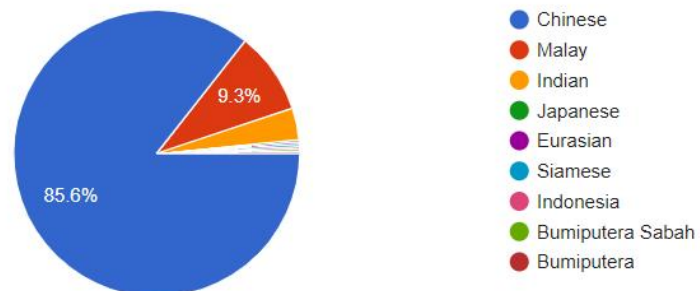
Table 4.6: Statistics of Respondents' Ethnic Group

Ethnic Group	Frequency	Percent (%)
Chinese	333	85.6
Malay	36	9.3
Indian	14	3.6
Others	6	1.5

Figure 4.6: Statistics of Respondents' Ethnic Group

6. Ethnic group.

389 responses



According to the Table 4.6 and Figure 4.6, respondents are categorized into four ethnics groups, in this research project, the main contributor is Chinese with a total of 333 respondents (85.6%) while second contributors are from Malay respondents with 36 respondents (9.3%) followed by Indian respondent with 14 respondents (3.6%). The lowest contributors of respondents are from others with 6 respondents (1.5%).

4.1.1.7 Students' year of university

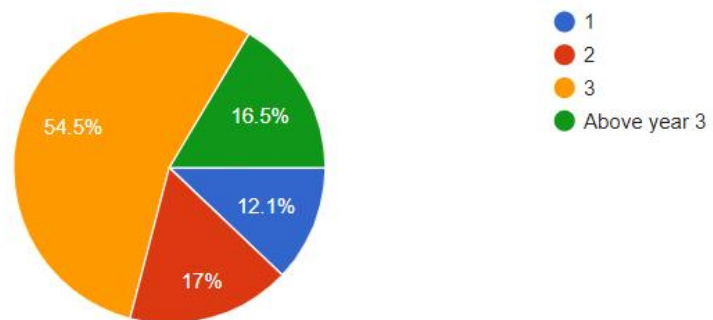
Table 4.7: Statistics of students' year in university

Year	Frequency	Percent (%)
1	47	12.1
2	66	17.0
3	212	54.5
Above 3	64	16.5

Figure 4.7: Statistics of your year in university

7. You are in Year ____ student.

389 responses



As regards Table 4.7 and Figure 4.7, university students can be categorized into 4 different years. The vast majority of the respondent are year 3 students with an amount of 212 university students (54.5%), followed by 66 university students (17%) who are year 2 students, 64 university students (16.5%) are students more than 3 years while 47 (12.1%) of them are year 1 student.

4.1.2 Central Tendencies Measurement of Constructs

In this chapter, the mean and standard deviation figures are utilised to highlight the major patterns of the questionnaire's five interval scale items. The mean and standard deviation of each question were calculated using the SPSS system's test results.

4.1.2.1 Student Retention

According to the result, the statement "Online classes were valuable" had the highest mean at 3.8972, indicating that it was highly recognized by the majority of respondents. It then ended with the statement "Taking online classes increased my interest in academic participation" with the a lowest mean of 3.4730 and a highest standard deviation of 1.26915.

Table 4.8: Central Tendencies Measurement of Constructs: Student Retention (DV)

No.	Statement	Mean	Mean Ranking	Standard Deviation	Standard Deviation Ranking
SR 1	Online classes were valuable.	3.8972	1	.90799	9
SR 2	Online classes has sharpened my analytic skills.	3.6761	6	1.05174	8
SR 3	Online classes improved my understanding of the subject.	3.6144	7	1.11706	5
SR 4	Online classes have improved my written skills.	3.6812	5	1.14477	3
SR 5	Taking online classes increased my interest in academic participation.	3.4730	9	1.26915	1
SR 6	We are generally given enough time to understand the things we have to learn.	3.8226	2	1.06582	7
SR 7	As a result of doing online classes, one feels more confident about	3.7326	3	1.13541	4

	tackling unfamiliar problems.				
SR 8	The online class really tries to get the best out of all its students.	3.7275	4	1.08542	6
SR 9	Overall, online learning is the best learning experience I have ever had.	3.5398	8	1.22961	2

Note. Adapted from SPSS for research

4.1.2.2 Institutional Support

From Table 4.9 the majority of institutional support has a mean of around 4. With a mean score of 4.1928 percent, the statement "The teacher employed online learning resources such as Microsoft PowerPoint, Microsoft Word, or video aids to construct instructive" was selected as the highest. We may deduce from the Table 4.9 that the vast majority of respondents agree with this survey statement. As a result, we may assume that institutional support will help students stay in institutions longer during online learning. Meanwhile, the highest standard deviation of institutional support belongs to the question "Online learning helped me to learn more quickly and effectively." with a value of 1.07489.

Table 4.9: Central Tendencies Measurement of Constructs: Institutional Support (IV)

No.	Statement	Mean	Mean Ranking	Standard Deviation	Standard Deviation Ranking
IS 1	The course was well organized.	3.8997	7	.86616	5
IS 2	The course was designed to allow assignments to be completed across different learning environments.	3.9100	6	.89364	3
IS 3	The instructor facilitated the course effectively.	3.9177	5	.83938	8
IS 4	The instructor used good examples to explain during the online classes.	3.9229	4	.86108	6
IS 5	The instructors are extremely good at explaining things to us.	3.9280	3	.89094	4

IS 6	The instructor used online learning tools (e.g. Microsoft PowerPoint, Microsoft Word or video aids) to design instructional materials that were understandable.	4.1928	1	.77749	9
IS 7	Online tools were used to create an efficient learning environment.	4.0643	2	.83942	7
IS 8	The assignments for online classes were of appropriate difficulty level.	3.8972	8	.98427	2
IS 9	Online learning helped me to learn more quickly and effectively.	3.7429	9	1.07489	1

Note. Adapted from SPSS for research

4.1.2.3 Behavioral Characteristics

As can be seen from Table 4.10, one of the IV's as a behavioral characteristic included the statement "It is important for me to graduate from university", which had the highest mean of 4.5039. This was followed by the statement "I study because exam grades are important", with a mean score of 4.2853 and a standard deviation of 0.83005. Additionally, "I study because I like to learn" had the lowest mean score at 3.8049 and the highest standard deviation at 1.00148.

Table 4.10: Central Tendencies Measurement of Constructs: Behavioral Characteristics (IV)

No.	Statement	Mean	Mean Ranking	Standard Deviation	Standard Deviation Ranking
BC 1	I study because I like to learn.	3.8046	9	1.00148	1
BC 2	I study because exam grades are important.	4.2853	2	.83005	8
BC 3	I can set goals and deadlines for myself.	4.1131	3	.87788	4
BC 4	I am able to actively communicate online via e-mail or discussions.	4.0437	4	.86492	5
BC 5	I would classify myself as someone who is self-disciplined to get things	3.9177	8	.96774	2

	done on time.				
BC 6	I have performed academically as well as I anticipate I would.	3.9871	6	.83564	7
BC 7	My academic experience has had a positive influence on my intellectual growth and interest in ideas.	4.0077	5	.85098	6
BC 8	It is important for me to graduate from university.	4.5039	1	.66045	9
BC 9	Online classes have encouraged me to develop my own academic interests as far as possible.	3.9486	7	.95918	3

Note. Adapted from SPSS for research

4.1.2.4 Quality of Faculty and Student Interaction

From the Table 4.11, we note that a statement in the quality of faculty and student interaction data shows that the highest mean is 4.0694 and the lowest standard deviation is 0.78176, which is "The instructor used online learning tools to create a comfortable learning space". While the highest standard deviation for the quality of faculty and student interaction falls under "My non-classroom interaction with faculty has a positive influence on my career goals and aspirations" with a value of 0.97987.

Table 4.11: Central Tendencies Measurement of Constructs: Quality of Faculty and Student Interaction (IV)

No.	Statement	Mean	Mean Ranking	Standard Deviation	Standard Deviation Ranking
QFSI 1	The instructor responded promptly to my question about the use of online learning tools.	3.9434	6	.88042	6
QFSI 2	The instructor responded promptly to my question about general course requirements.	3.9820	3	.82311	8
QFSI 3	The instructor responded promptly to my question about	4.0129	2	.81376	9

	the course assignment.				
QFSI 4	The instructor used online learning tools to create a comfortable learning space.	4.0694	1	.78176	10
QFSI 5	The instructor personalized interactions with me whenever necessary.	3.9563	5	.89422	5
QFSI 6	My non-classroom interaction with faculty has positively influence on my personal growth, values, and attitudes.	3.8740	8	.96702	2
QFSI 7	My non-classroom interaction with faculty has positively influence on my intellectual growth and interest in ideas.	3.8689	9	.95830	3
QFSI 8	My non-classroom interaction with faculty has positively influence on my career goals and aspirations.	3.8072	10	.97987	1
QFSI 9	Most of the faculty I have contacted are interested in helping students grow in more than just academic areas.	3.8972	7	.94417	4
QFSI 10	Most of the faculty I have contacted are genuinely interest in teaching.	3.9640	4	.87858	7

Note. Adapted from SPSS for research

4.1.2.5 Summary of Central Tendencies Measurement

Table 4.12: Summary of Central Tendencies Measurement

Variables	Dimensions	Mean	Standard Deviation
Dependent Variable	Student Retention	33.1645	8.05898
Independent	Institutional Support	35.4756	5.93196

Variables	Behavioral Characteristics	36.6118	5.01708
	Quality of Faculty and Student Interaction	39.3753	6.85099

Note. Adapted from SPSS for research

4.2 SCALE MEASUREMENT

We have used SPSS Statistics for reliability analysis to assess the dependent variables that is the student retention and independent variables which are institutional support, behavioral characteristics and quality of faculty and student interaction. In this research project, a total of 389 respondent were included.

4.2.1 Reliability Analysis

Cronbach's Alpha was utilised to assess the data reliability.

The reliability test results are shown in the Table 4.13. One of the IV, behavioral characteristics has the lowest alpha value at 0.815, followed by institutional support at 0.894, but these two elements still indicate good reliability. Second, a slightly more reliable variable than behavioral characteristics and institutional support is the quality of faculty and student interactions, which has an alpha value of 0.922. While the remaining variable, student retention (DV), has an excellent reliability value of 0.931.

Table 4.13: Result of the Reliability Test

Variables	Dimensions	Cronbach's Alpha
Independent Variables	Institutional Support	.894
	Behavioral Characteristics	.815
	Quality of Faculty and Student	.922

	Interaction	
Dependent Variable	Student Retention	.931

Note. Adapted from SPSS for research

4.3 INFERENTIAL ANALYSIS

4.3.1 Pearson Correlation Analysis

It scales the intensity and the importance of the relationship between two different variables ("Pearson Product-Moment Correlation," 2020). The findings of this Pearson correlation coefficient are that it has a value range from -1 to +1 , -1 is defined as a negative relationship between the variables whereas +1 is defined as a perfect positive relationship with both variables. If there is no linear relationship between the two variables, hence the correlation coefficient with a value of 0 is defined.

Table 4.14: Interpretation of Pearson Correlation Coefficient

Absolute Magnitude of the Observed Correlation Coefficient	Interpretation
0.00-0.10	Negligible correlation
0.10-0.39	Weak correlation
0.40-0.69	Moderate correlation
0.70-0.89	Strong correlation
0.90-1.00	Very strong correlation

Source: Schober, P., Boer, C., & Schwarte, L.A. (2018). Correlation Coefficients: Appropriate Use and Interpretation. Anesthesia and Analgesia.

4.3.1.1 Hypothesis 1

H_0 : There is no significant relationship between institutional support and student retention.

H_1 : There is a significant relationship between institutional support and student retention.

Table 4.15: Correlations between Institutional Support (IS) and Student Retention (SR)

Correlations		
		Student Retention
Institutional Support	Pearson Correlation	.745**
	Sig. (2-tailed)	<.001
	N	389

** . Correlation is significant at the 0.01 level (2-tailed).

Note. Adapted from SPSS for research

Direction

Based on the results of Table 4.15, both variables, institutional support and student retention are positively correlated with a correlation coefficient of 0.745. Thus, when institutional support is been highly applied by institutions, student retention will increase.

Strength

There is a very strong correlated relationship between institutional support and student retention with 0.745 which is in the range of 0.70 to 0.89. Therefore, there is a very strong correlation between institutional support and student retention.

Significance

Table 4.15 showed that the p-value is lower than the alpha value 0.001. Therefore, there is a significant relationship between institutional support and student retention. Thus, H_1 is accepted.

4.3.1.2 Hypothesis 2

H_0 : There is no significant relationship between behavioral characteristics and student retention.

H_1 : There is a significant relationship between behavioral characteristics and student retention.

Table 4.16: Correlations between Behavioral Characteristics (BC) and Student Retention (SR)

Correlations		
Behavioral Characteristics		Student Retention
	Pearson Correlation	.595**
	Sig. (2-tailed)	<.001
	N	389

** . Correlation is significant at the 0.01 level (2-tailed).

Note. Adapted from SPSS for research

Direction

Based on the results of Table 4.16, both variables, behavioral characteristics and student retention are positively correlated with a correlation coefficient of 0.595. Thus, when behavioral characteristics of a student are positive, student retention will increase.

Strength

There is a moderately correlated relationship between behavioral characteristics and student retention with 0.595 that between the range of

0.40 and 0.69. Thus, there is a moderate correlation between behavioral characteristics and student retention.

Significance

Table 4.16 showed that the p-value is lower than the alpha value 0.001. Therefore, there is a significant relationship between behavioral characteristics and student retention. Thus, H_1 is accepted while H_0 is rejected.

4.3.1.3 Hypothesis 3

H_0 : There is no significant relationship between quality of faculty and student interaction and student retention.

H_1 : There is a significant relationship between quality of faculty and student interaction and student retention.

Table 4.17: Correlations between Quality of Faculty and Student Interaction (QFSI) and Student Retention (SR)

Correlations		
		Student Retention
QFSI	Pearson Correlation	.628**
	Sig. (2-tailed)	<.001
	N	389
**. Correlation is significant at the 0.01 level (2-tailed).		

Note. Adapted from SPSS for research

Direction

Based on the results of Table 4.17, both variables are positively correlated with a correlation coefficient of 0.628. Thus, when the quality of faculty and student interaction is greater, student retention will increase.

Strength

There is a moderately correlated relationship between quality of faculty and student interaction and student retention with 0.628 which fall under the range of 0.40 to 0.69. It is a moderate correlation between the quality of faculty and student interaction and student retention.

Significance

Table 4.17 showed that the p-value is lower than the alpha value 0.001. Therefore, there is a significant relationship between quality of faculty and student interaction and student retention. Thus, H_1 is accepted while the H_0 is rejected.

4.3.2 Multiple Linear Regression Analysis

It is to analyse the linear relationship between DV and IVs (Kenton, 2020).

Hypothesis 4

H_0 : There is no significant relationship between institutional support, behavioral characteristics and quality of faculty and student interaction and student retention.

H_1 : There is significant relationship between institutional support, behavioral characteristics and quality of faculty and student interaction and student retention.

4.3.2.1 R-Square

Our table 4.18 showed that the R-square resulted in 0.595 which means that all our IVs, could be explained to 59.50 of variations in the DV, student retention in this research. In this research, there is still has 40.5% left for an unexplained reason. In specifically, there are still some variables

that we have not been considered in this research but it is critical in our topic.

Table 4.18: Model Summary of R-square Value

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.771 ^a	.595	.591	.57235

a. Predictors: (Constant), Quality, Behavior_Characteristic, Institutional_Support

Note. Adapted from SPSS for research

4.3.2.2 Coefficients

Based on the Table 4.19, it indicates three IVs have a positive relationship with DV (student retention). Institutional support ($\beta=0.765$, $p<0.001$), behavioral characteristics ($\beta=0.349$, $p<0.001$) and quality of faculty and student interaction ($\beta=0.096$, $p=0.159$) have a significant effect on student retention because the p-value is smaller than alpha value (0.001). Consequently, H1, H2, H3 are supported.

Table 4.19: Coefficients

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	-1.125	.223		-5.056
	Institutional_Support	.765	.067	.563	11.335
	Behavior_Characteristic	.349	.069	.217	5.040
	Quality	.096	.068	.073	1.412

a. Dependent Variable: Student_Retention

Note. Adapted from SPSS for research

4.3.2.3 Highest Contribution

According to the results in Table 4.19, the largest contributor to student retention is institutional support, which has a beta value of 0.765. More specifically, institutional support had the strongest unique contribution in increasing student retention, which is our dependent variable.

4.3.2.4 Second Highest Contribution

Table 4.19 shows that the second-highest contribution to student retention is behavioral characteristics, which have a beta value of 0.349. It also shows that behavioral characteristics were the second largest contributor to increase student retention.

4.3.2.5 No Contribution

Table 4.19 shows that the no contribution to student retention is the quality of faculty and student interactions, which has a beta of 0.096. More specifically, it made the smallest unique contribution to increase student retention.

4.4 CHAPTER SUMMARY

In conclusion, the data collected were summarized and analyzed with SPSS Statistics. The reliability of the DV and IVs was also investigated. Final results are brought down to Chapter 5 for further discussion to finalized by concluding the whole research.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.0 INTRODUCTION

5.1 SUMMARY OF STATISTICAL ANALYSIS

5.1.1 Summary of Descriptive Analysis

In our result obtained, a total of 389 university students (100%) participated in answering the questionnaires are Malaysian private university students. Moreover, a total number of 389 university students (100%) are having online learning now.

There is the total of 268 female university students (68.9%) and 121 male university students (31.1%) took part in responding to the questionnaires carried out in this research study.

For the type of university, 127 of the university students (32.6%) are studying in UTAR, followed by Taylor's University with 92 students (23.7%), Monash University Malaysia with 86 university students (22.1%) and 84 university students (21.6%) from INTI International University Nilai.

For the age, there are a total of 231 of the university students who fall within the age range of 18-21 (59.4%), followed by 142 university students within the age ranges of 22-25 (36.5%), 15 university students are above 25 years old (3.9%) while 1 of the university students (0.3%) are below 18 years old.

Besides, 333 of the respondents who engaged in answering the questionnaires are Chinese (85.6%), 36 of the respondents are Malay (9.3%), 14 of them are Indian (3.6%) and 6 respondents are others (1.5%).

A total of 212 university students (54.5%) are a year 3 students, followed by 66 university students (17%) who are a year 2 students, 64 university students (16.5%) are students more than 3 years while 47 (12.1%) of them are year 1 students.

5.1.2 Central Tendencies Measurement

Based on the result obtained in central tendencies measurement, the highest mean value in institutional support is 4.1928, which was “The instructor used online learning tools (e.g. Microsoft PowerPoint, Microsoft Word or video aids) to design instructional materials that were understandable”. The standard deviation is 0.77749.

The highest mean value for behavioral characteristics is 4.5039 with a standard deviation of 0.66045 which was for the statement “It is important for me to graduate from the university”.

Lastly, for the quality of faculty and student interaction, the highest mean value is 4.0694 with a standard deviation of 0.78176. This was for the statement “The instructor used online learning tools to create a comfortable learning space”.

Quality of faculty and student interaction has an overall lower mean value compared to the other two variables. This indicates that from the respondents’ perspective they think that their faculty did not encourage and assist them during online learning, so their student retention will not increase. Therefore, we have to focus more on faculty issues.

5.1.3 Scale Measurement

The reliability test results show that the Cronbach's Alpha of the DV is 0.931. For the IVs, the Cronbach's Alpha value for institutional support was 0.894, the behavioral characteristics were 0.815, and finally, the quality of faculty and student interaction was 0.922. Since all variables were in the range of 0.89 and above, the strength of the questionnaire was considered to have strong reliability.

5.1.4 Summary of Inferential Analysis

5.1.4.1 Pearson Correlation Analysis

Hypotheses	R-Value Sig-Value	Conclusion
Hypothesis 1 H₁: There is significant relationship between institutional support and student retention.	r = 0.745 Sig. < 0.001	H ₁ is supported
Hypothesis 2 H₂: There is significant relationship between behavioral characteristics and student retention.	r = 0.595 Sig. < 0.001	H ₂ is supported
Hypothesis 3 H₃: There is significant relationship between quality of faculty and student interaction and student retention.	r = 0.628 Sig. < 0.001	H ₃ is supported

Note. Adapted from SPSS for research

In summary, all independent variables (institutional support, behavioral characteristics, and quality of faculty and student retention) were substantially related with student retention, as all IVs had p-values less than alpha of 0.001.

5.1.4.2 Multiple linear regression

Regression Equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$\begin{aligned} \text{Student retention} = & -1.125 + 0.765 (\text{institutional support}) + 0.349 \\ & (\text{behavioral characteristics}) \\ & + 0.096 (\text{quality of faculty and student interaction}) \end{aligned}$$

The results of the Multiple Regression Test shows that the p-value is lower than the alpha value 0.001. Thus, all of our IVs are significant to in increasing student retention during online learning. Institutional support with beta 0.765 is the highest contribution to increase student retention during online learning. Quality of faculty and student interaction with beta 0.096 is the lowest contribution to increase student retention during online learning.

The value of the R square of 0.595 indicates that the IVs explain 59.50% of variations in the DV.

Hypothesis 4

H_1 : There is significant relationship between institutional support, behavioral characteristics, quality of faculty and student interaction and student retention.

5.2 DISCUSSIONS OF MAJOR FINDINGS

5.2.1 Institutional support and student retention

Hypothesis 1:

***H₁*:** There is significant relationship between institutional support and student retention.

The results, as reported in Table 5.1.2.1, supported H1. First, the correlation coefficient of 0.745 falls between 0.70 and 0.89, demonstrating that institutional support is positively and substantially correlated to student retention. Furthermore, the results demonstrate that the sig. value is lower than alpha value 0.001. It shows a significant relationship between institutional support and student retention.

In the study of Banawa (2015) it showed that institutional administrators show a crucial responsibility in enhancing student retention. For example, in addition to effectively managing cultural diversity on campus, institutional administrators can increase the chances of students staying on campus during online learning by offering students with adequate resources, educational assistance, and the accessibility of online facilities. Some students withdraw due to lack of funds, poor student-institution fit, changes in academics and much more.

Secondly, more students withdraw because institutions fail to create an environment conducive to their learning and educational needs in online learning, so these students are dissatisfied with the education they receive. If institutions cannot manage normal online learning institution work or integrate into some student groups, this may lead to some students being dropped because they do not want to be tortured anymore. Finally, in their first year of college, freshmen may be overwhelmed by the transition from

high school to college life, and they may be overwhelmed by the dramatic changes even before their first year of college is over.

5.2.2 Behavioral characteristics and student retention

Hypothesis 2:

H₂: There is a significant relationship between behavioral characteristics and student retention.

As shown in Table 5.1.2.1, the results proved H2. First, the correlation coefficient value of 0.595 is between 0.40 and 0.69 which indicates that behavioral characteristics and student retention are moderately related to student retention. Furthermore, the results indicate that the significant value is lower than the 0.001 alpha value. As a result, there is a significant relationship between behavioral characteristics and student retention.

Behavioral characteristics are essential to student retention and thus student with self-efficacy and self-discipline perform their responsibility as a student which is to finish their online studies and accomplish high academic performance. This is because behavioral characteristics contributed to long-term determination, which has a positive impact on towards student retention and academic performance (Cochran et al., 2014). Therefore, positive behavioral characteristics are essential among the students.

Positive behavioral characteristics among the students will have a positive influence on student motivation and decision making, while the student with lower motivation and persistence are more likely to abandon their studies and withdraw from school. Thus, students are encouraged to foster positive behavioral characteristics because it acts as one of the determinants of positive retention where it can enhance students'

motivation and determination to complete their studies (Muljana & Luo, 2019).

5.2.3 Quality of faculty and student interaction and student retention

Hypothesis 3:

H₃: There is a significant relationship between quality of faculty and student interaction with student retention.

As shown in Table 5.1.2.1, the results proved H3. First, the correlation coefficient value of 0.628 is between 0.40 and 0.69 which indicates that the quality of faculty and student interaction with student retention is moderate related to student retention. Furthermore, the results indicate that the significant value is lower than the 0.001 alpha value. We can conclude that there is a significant relationship between quality of faculty and student interaction with student retention.

Quality of faculty and student interaction is essential as it can influence student retention during studies. Most freshmen may lack the motivation to achieve good grades without faculty guidance as they may not fully understand what they have learned. Thus, faculty that is active in providing feedback and advice to the students will have favorable impacts on student academic performance as feedback provided the students with an explanation of what they are doing is accurate or not, and that they can make improve on it if there is any mistake.

Students are more likely to be not paying attention and concentrating on their studies when there is a lack of interaction, in which they might be doing something else instead of learning. According to Keeffe (2013) students will stay to complete their studies as they know that they are

being valued by the faculty. Therefore, there is relationship between quality of faculty and student interaction with student retention.

5.3 IMPLICATIONS OF THE STUDY

The following management implications provide the meaning of the three variables tested in this study which will make us have better understand about how institutional support, behavioral characteristics, quality of faculty and student interaction work on student retention.

5.3.1 Theoretical implications

This study applied the application of the Swail's (2004) Geometric Model of Student Persistence and Achievement and the Tinto's Model of Student Retention to complete the impact of institutional support, behavioral characteristics and quality of faculty and student interaction on student retention during online learning in Covid-19 pandemic situation. This study shows that institutional support affects students' help with both academic and technical support. First, the institution should give guidance to students in subject information, otherwise, students will not understand the introduction of the coursework before class, and thus will not be able to prepare in advance. Second, during online learning, the institution should give complete technical support, for example, how to solve internet problems, software problems, and so on. If not, it will greatly affect the learning environment and delay the progress of students, then students will lose their enthusiasm for online classes. Third, the institution should give appropriate financial support, especially in the current pandemic situation, some students may come from poor families, the institution can help these students apply for aid, or provide assistance in equipment, because may be some students unable to afford a computer, or unable to apply for Wifi.

In terms of behavioral characteristics, some students will become lazy because of online classes, so it is good for students to have a positive attitude, and our questionnaire results also show that most students are more diligent during online classes than before, which is pretty good, means that. If students cannot maintain a positive attitude, it will cause them to lose patience with online classes, and they will gradually become lazy, and they will use the opportunity of online classes to play games and browse entertainment websites online. So through research, we proved the connection of student behavioral traits and student retention proposed by Tinto in year 1975.

We also need to pay attention to the relationship and interaction between faculty and students. This is because the faculty's responsibility is to share knowledge and educate students. As we all know, most students need to rely on teachers to get complete academic guidance, then they can graduate smoothly. Therefore, if there is no interaction between students and the faculty, it means that the students cannot get complete guidance, which in turn causes the students to become inactive and do not feel the importance of their studies. When they underestimate their studies, it will be more likely to lead to academic regression, not studying hard, and then student retention will decline

Therefore, our proposed framework is provided in the study. According to the framework three elements influence student retention. However, there is a lack of research on the relationship between factors affecting student retention and student retention in Malaysia, so our study could be helpful for future research by other researchers. Our research framework shows a proper suit to the data. The reason for this is that we recognized in our research that three considerations that impact student retention while online learning has a significant relationship with student retention.

5.3.2 Managerial implications

Online classes have been recognized as a major education channel in recent years and have contributed significantly to the growth of technology education in Malaysia. Therefore, in our survey, we found that the gradual implementation of online courses lies in these three factors, institutional support, behavioral characteristics, and quality of faculty and student interaction.

The first is institutional support. The assistance, tutoring, economic support, and guidance provided by the university can completely affect student retention. If the universities are unable to provide students with material or spiritual support, students will not be able to get any information, which will lead them not willing to attend classes.

The second factor is behavioral characteristics. Students with unfavorable behavioral characteristics most probably will withdraw from their studies, and so they should foster positive behavioral characteristics. If the students can regulate their behavior successfully, they are most certainly to complete their studies in excellent academic performance.

The third factor will be the quality of faculty and student interaction. Constant feedbacks, advices, guidance, and interaction from the faculty will have positive influence on student retention and academic performance. Faculty that put efforts in creating positive, innovative, and active learning environment to interact with the students will have a favorable effect on student retention and academic results.

5.4 LIMITATIONS OF THE STUDY

Few limits were found in this study, and these restrictions have a significant influence on the validity of the findings.

Questionnaires

The first limitation is that the questionnaires were designed using Likert's Five-point scale ranking. This has caused the respondents unable to provide their own opinions and viewpoint which might affect the reliability of the data.

Limited access to academic journal

We have encountered limited access to academic journals. This is because Covid-19 started in 2019 and is still ongoing, which means that journal that is related to the pandemic is insufficient for us because the availability for journals of this topic is about 3 years only. Even if there are journal related to the Covid-19 pandemic, most of them required high subscription costs.

Participation of respondent

Due to Covid-19, we use online methods to distribute our questionnaires to reach more respondents. However, the respondents are not supportive where we must send message, emails and to remind them to fill in the questionnaires. There are even respondents who have seen zoned our messages and email and did not give any feedbacks.

5.5 RECOMMENDATIONS FOR FUTURE RESEARCH

The first piece of advice is to design a questionnaire through sentences that is easy to understand. Malaysia is a multilingual country but not all Malaysian can understand English and so future researchers are recommended to create a multi-language questionnaire so that all respondents can truly understand the question before answering. In addition, future researchers are advocating designing the questionnaire with both qualitative and quantitative questions such as open-ended and close-ended questions. By doing so, the reliability of the data could be enhanced.

Apart from that, future researchers who are faced with limited access to journals are recommended to obtain resources from certain websites that offer free access to articles and journals. Future researchers also can obtain printed publications from the library to enhance their research writing.

Furthermore, future researchers who conduct the online survey are suggested to send an email confirmation and a reminder to the respondents to remind them to participate in the survey. Future researchers are also recommended to post and share their questionnaires on multiple channels like email, Facebook, Instagram, and WhatsApp. With multiple channels, the researcher will be able to reach more respondents.

5.6 CONCLUSION

Ultimately, the findings of this study had shown that institutional support, behavioral characteristics, and quality of faculty and student interaction can increase the retention among private university students in West Malaysia during online learning.

This research, it can help all the private universities in Malaysia on how factors like institutional support, behavioral characteristics, and quality of faculty and student interaction can increase the retention of the student during online learning. Thus, the private university should retain their students during online learning to reduce the withdrawal rate and ensure that students finish their studies and courses. Future researchers are to conduct further research on this topic to enhance the student retention of Malaysia's private universities during online learning.

REFERENCES

- Al-Dossary, S. (2008). A study of the factors affecting student retention at King Saud University, Saudi Arabia: Structural equation modelling and qualitative methods.
- Aljohani, O. (2016). A comprehensive review of the major studies and theoretical models of student retention in higher education. *Higher Education Studies*, 6(2), 6 -7.
- Al-Kumaim, N. H., Mohammed, F., Gazem, N. A., Fazea, Y., Alhazmi, A. K., & Dakkak, O. (2021). Exploring the impact of transformation to fully online learning during COVID-19 on Malaysian university students' academic life and performance. *International Journal of Interactive Mobile Technologies (IJIM)*, 15(05), 140.
- Alshammari, S. H., Ali, M. B., & Rosli, M. S. (2016). The influences of technical support, self-efficacy and instructional design on the usage and acceptance of LMS: A comprehensive review. *Turkish Online Journal of Educational Technology-TOJET*, 15(2), 116 -125.
- Amoozegar, A., Daud, S. M., Mahmud, R., & Jalil, H. A. (2017). Exploring learner to institutional factors and learner characteristics as a success factor in distance learning. *International Journal of Innovation and Research in Educational Sciences*, 4(6).
- Amoozegar, A., Daud, S. M., Mahmud, R., & Jalil, H. A. (2018). The contribution of institutional factors to course satisfaction with perceived learning as a mediator among student in Malaysian research universities. *International Journal of Academic Research in Business and Social Sciences*, 7(14).
- Au, O. T. S., Li, K., & Wong, T. M. (2018). Student persistence in open and distance learning: Success factors and challenges. *Asian Association of Open Universities Journal*, 13(2), 191-202.

- Azman, A., Singh, P. S., & Isahaque, A. (2020). Implications for social work teaching and learning in Universiti Sains Malaysia, Penang, due to the COVID-19 pandemic: A reflection. *Qualitative Social Work*, 20(1-2), 553–560.
- Babbie, & Earl. (1998). *The Practice of Social Research* (8th ed). Blemont, CA: Wadsworth Publishing CO.
- Bezanilla, M. J., & Ribbe, E. (2013). Scaffolding learner autonomy in online university courses. *Digital Education Review*, 24, 98–113.
- Boslaugh, S. (2007). *Secondary data sources for public health: A practical guide*. Cambridge University Press.
- Bowles, T. V., & Brindle, K. A. (2017). Identifying facilitating factors and barriers to improving student retention rates in tertiary teaching courses: a systematic review. *Higher Education Research & Development*, 36(5), 903-919.
- Callaghan, C. W. (2019). Business research methodologies and the need for economies of scale in the business research process: Harnessing the innovation opportunities of novel technologies and technological change. *Electronic Journal of Business Research Methods*, 17(3), pp179-190.
- Carruth, A. K., Broussard, P. C., Waldmeier, V. P., Gauthier, D. M., Mixon, G. (2014). Graduate nursing online orientation course: Transitioning for success. *Journal of Nursing Education*. 49, 14-17.
- Cho, J., & Yu, H. (2015). Roles of university support for international students in the United States: Analysis of a systematic model of university identification, university support, and psychological well-being. *Journal of Studies in International Education*, 19(1), 11-27.

- Claybrooks, S. G., & Taylor, F. P. (2016). Student persistence and use of a college success course in proprietary postsecondary education. *College Student Journal*, 50(2), 200-211.
- Cochran, J. D., Campbell, S. M., Baker, H. M., & Leeds, E. M. (2014). The role of student characteristics in predicting retention in online courses. *Research in Higher Education*, 55, 27-48.
- Dewberry, C., & Jackson, D. J. (2018). An application of the theory of planned behavior to student retention. *Journal of Vocational Behavior*, 107, 100-110.
- Dixon, M. J. (2015). *Institutional factors affecting doctoral degree completion at selected Texas public universities*. Texas A&M University-Commerce.
- Doménech-Betoret, F., Abellán-Roselló, L., & Gómez-Artiga, A. (2017). Self-efficacy, satisfaction, and academic achievement: The mediator role of students' expectancy-value beliefs. *Frontiers in Psychology*, 8, 1-12.
- Doménech-Betoret, F., Gómez-Artiga, A., & Lloret-Segura, S. (2014). Personal variables, motivation and avoidance learning strategies in undergraduate students. *Learning and Individual Differences*, 35, 122-129.
- Estacio, R. R., & Raga Jr, R. C. (2017). Analyzing students online learning behavior in blended courses using Moodle. *Asian Association of Open Universities Journal*, 12(1), 52-68.
- Fitzgerald, S. T. (1991). Self-efficacy theory. *AAOHN Journal*, 39(12), 552-557.
- Forrester, S. A., McAllister-Kenny, K., & Locker, M. (2018). Association between collegiate recreational sports involvement and undergraduate student retention. *Recreational Sports Journal*, 42(1), 64-74.
- Gaytan, J. (2015). Comparing faculty and student perceptions regarding factors that affect student retention in online education. *American Journal of Distance Education*, 29(1), 56-66.

- Gorbunovs, A., Kapenieks, A., & Cakula, S. (2016). Self-discipline as a key indicator to improve learning outcomes in e-learning environment. *Procedia - Social and Behavioral Sciences*, 231, 256–262.
- Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. *Education and Information Technologies*, 1-25.
- Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). Research methods for business. *Education+ Training*.
- Harbrecht, I. (2019). *Entering society–The adolescence, identity and development of vocational education students in Shanghai*. Würzburg University Press.
- Hart, C. (2012). Factors associated with student persistence in an online program of study: A review of the literature. *Journal of Interactive Online Learning*, 11(1), 19–42.
- Harun, A., Sulaiman, M., Saupi, N., Yusoff, R. M., Mohd Ali, A. S., & Rashid, U. K. (2021). What matters to Malaysian students retention: University image or external environment? *Turkish Journal of Computer and Mathematics Education*, 12(2), 743–754.
- Herbert, M. (2006). Staying the course: A study in online student satisfaction and retention. *Online J. Distance Learn. Adm.* 9(4).
- Hoffman, E. M. (2014). Faculty and student relationships: Context matters. *College Teaching*, 62(1), 13–19.
- Hox, J. J., & Boeije, H. R. (2005). Data collection, primary vs. secondary. *Encyclopedia of Social Measurement*, 593-599.
- Ilyas, A., & Zaman, M. K. (2020). An evaluation of online students' persistence intentions. *Asian Association of Open Universities Journal*, 15(2), 207–222.

- Jackson, L. C., Jones, S. J., & Rodriguez, R. C. (2010). Faculty actions that result in student satisfaction in online courses. *Journal of Asynchronous Learning Networks*, 14(4), 78–96.
- Keeffe, P. O. (2013). A sense of belonging: Improving student retention. *College Student Journal*, 47(4), 605–613.
- Kember, D. (1995). *Open learning courses for adults: A model of student progress*. Educational Technology.
- Kenton, W. (2020, July 16). How multiple linear regression works. Retrieved from <https://www.investopedia.com/terms/m/mlr.asp>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607- 610.
- Lau, L. K. (2003). Institutional factors affecting student retention. *Psychology and Behavioral Sciences Collection*, 124(1), 126–136.
- Leeds, E. M., Campbell, S. M., Baker, H., Ali, R., Brawley, D., & Crisp, J. (2013). The impact of student retention strategies: an empirical study. *International Journal of Management in Education*, 7(1/2), 22–43.
- Lee, Y. and Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development*. 59(5), 593–618.
- Loeb, S., Dynarski, S., McFarland, D., Morris, P., Reardon, S., & Reber, S. (2017). Descriptive analysis in education: A guide for researchers. NCEE 2017-4023. *National Center for Education Evaluation and Regional Assistance*.
- Looi, K. H. (2021). Data set of the challenges and future preference for e-learning of Malaysian business undergraduates during the COVID-19 pandemic. *Data in Brief*, 38, 107450. <https://doi.org/10.1016/j.dib.2021.107450>
- Malhotra, N. K. (2010). *Marketing research: An applied orientation*. Boston: Pearson.

- Manyanga, F., Sithole, A., & Hanson, S. M. (2017). Comparison of student retention models in undergraduate education from the past eight decades. *Journal of Applied Learning in Higher Education*, 7, 30-42.
- Milman, N. B., Posey, L., Pintz, C., Wright, K., & Zhou, P. (2015). Online master's students' perceptions of institutional supports and resources: Initial survey results. *Online Learning*, 19(4).
- Montfort, D. R. (2017). The factors affecting undergraduate retention among minority adult learners.
- Muljana, P. S., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. *Journal of Information Technology Education: Research*, 18, 19-57.
- Mulvaney, M. (2020). Discussion groups and multi-formatted content delivery in an online module: Effect on students' self-efficacy. *College Student Journal*, 54(1), 88–105.
- Murray, A., Ireland, A., & Hackathorn, J. (2016). The value of academic libraries: Library services as a predictor of student retention. *College & Research Libraries*, 77(5), 631-642.
- Nash, R. D. (2005). Course completion rates among distance learners: Identifying possible methods to improve retention. *Online Journal of Distance Learning Administration*, 8(4).
- Park, C. L., Boman, J., Care, W. D., Edwards, M., & Perry, B. (2008). Persistence and attrition: What is being measured? *Journal of College Student Retention: Research, Theory and Practice*, 10(2), 223-233.
- Park, J. H., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Educational Technology & Society*. 12(4), 207–217.

- Pascarella, E. T., & Terenzini, P. T. (2005). How college affects students: A third decade of research.
- Pearson Product-Moment Correlation. (2020). Retrieved from <https://statistics.laerd.com/statistical-guides/pearson-correlation-coefficient-statistical-guide.php>
- Radovan, M. (2019). Should I stay, or should I go? Revisiting student retention models in distance education. *Turkish Online Journal of Distance Education*, 20(3), 29-40.
- Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, 6(2), 1-5.
- Salim Muljana, P., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. *Journal of Information Technology Education: Research*, 18, 19-57.
- Scoff, G., Shah, M., Grebennikov, L., & Singh, H. (2008). Improving student retention: A University of Western Sydney case study. *Journal of Institutional Research*, 14(1), 9–23.
- Seery, K., Barreda, A., Hein, S., & Hiller, J. (2021). Retention strategies for online students: A systematic literature review. *Journal of Global Education and Research*, 5(1), 72-84.
- Seidman, A. (2012). *College student retention formula for student success* (2nd ed.). Lanham u.a., Maryland: Rowman& Littlefield.
- Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach* (5th ed.). Chichester, West Sussex: John Wiley & Sons, Inc.
- Selim, H. M. (2007). Critical success factors for e-learning acceptance: Confirmatory factor models. *Computers & education*, 49(2), 396-413.

- Sharma, Y. (2020). Private universities at risk as foreign students stay away. *University World News*. Retrieved from <https://www.universityworldnews.com/post.php?story=2020120216283461>
- Simpson, O. (2004). The impact on retention of interventions to support distance learning students. *Open Learning*, 19(1), 79-95.
- Stanford-Bowers, D. E. (2008). Persistence in online classes: A study of perceptions among community college stakeholders. *Journal of Online Learning and Teaching*, 4(1), 37-50.
- Sorensen, C. & Judy, D. (2017). An examination of factors that impact the retention of online students at a for-profit university. *Online Learning*, 21(3). 206- 221.
- Tatum, H. E., Schwartz, B. M., Schimmoeller, P. A., & Perry, N. (2013). Classroom participation and student-faculty interactions: Does gender matter? *The Journal of Higher Education*, 84(6), 745–768.
- Tight, M. (2020). Student retention and engagement in higher education. *Journal of further and Higher Education*, 44(5), 689-704.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.
- Tinto, V. (1999). Taking student success seriously: Rethinking the first year of college. *NACADA Journal*, 19(2), 5-9.
- Tinto, V. (2006). Research and practice of student retention: What next?. *Journal of college student retention: Research, Theory & Practice*, 8(1), 1-19.
- Tresman, S. (2002). Towards a strategy for improved student retention in programmes of open, distance education: A case study from the Open University UK. *The International Review of Research in Open and Distance Learning*, 3(1).

- Tseng, H., Kuo, Y. C., & Walsh, E. J. (2020). Exploring first-time online undergraduate and graduate students' growth mindsets and flexible thinking and their relations to online learning engagement. *Educational Technology Research and Development*, 68(5), 2285–2303.
- Tung, L. C. (2012). Proactive intervention strategies for improving online student retention in a Malaysian distance education institution. *Journal of Online Learning and Teaching*, 8(4), 312.
- Wilson, D., & Allen, D. (2011). Success rates of online versus traditional college students. *Research in Higher Education Journal*, 14.
- Xu, Y. J., & Webber, K. L. (2018). College student retention on a racially diverse campus: A theoretically guided reality check. *Journal of College Student Retention: Research, Theory & Practice*, 20(1), 2-28.
- Zhao, R., & Kuo, Y. L. (2015). The role of self-discipline in predicting achievement for 10th graders. *International Journal of Intelligent Technologies and Applied Statistics*, 8(1), 61–70.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). Business Research Methods, 9th International Edition. *South-Western Cengage Learning, Canada*.
- Zikmund, W. G. (2003). *Business Research Methods* (7th ed.). Thompson South-Western: Ohio.
- Zulkosky, K. (2009). Self-efficacy: A concept analysis. *Nursing Forum*, 44(2), 93–102.

APPENDICES

Appendix A: Google Form Questionnaire Sample

3/17/22, 10:33 PM

Factors that will increase retention among West Malaysia private university student during online learning.

Factors that will increase retention among West Malaysia private university student during online learning.

Dear respondents,

We are students of Faculty of Business and Finance from Universiti Tunku Abdul Rahman (UTAR). We are currently doing our Final Year Project with the title "Factors that will increase retention among West Malaysia private university student during online learning". The purpose of our project is to study whether the institutional support, behavioral characteristics and quality of faculty and student interaction will increase retention among West Malaysia private university student during online learning. This study can help us to acquire more knowledge and information about retention issue and how to increase student retention during online learning.

There are FIVE (5) sections in this questionnaire. Section A is on demographics. Section B, C, D and E cover all of the variables in this study. Please read the instructions carefully before answering the questionnaire will take you approximately 5 to 10 minutes.

All of the information provided will be treated as CONFIDENTIAL and SAFEGUARDED in accordance with the Personal Data Protection Act 2010 ("PDPA"). Your response will be used solely for academic purposes and will not be identified in any data or reports.

Your assistance in completing this questionnaire is very much appreciated. Thank you for your participation. If you have any question regarding to this questionnaire, you may contact us at e-mail or WhatsApp.

Name	Student ID	Email Address	Phone Number
You Xi Na	18ABB03420	xina0728@1utar.my	011-26932151
Alston Sow	18ABB04156	alstonsow@1utar.my	014-2425562
Cheng Ai Nee	18ABB01450	can990914@1utar.my	012-4365455
Foong Pooi Yee	18ABB03402	pooiyeefoong@1utar.my	016-5113117

* Required

3/17/22, 10:33 PM

Factors that will increase retention among West Malaysia private university student during online learning.

PERSONAL
DATA
PROTECTION
STATEMENT

Please be informed that in accordance with Personal Data Protection Act 2010 ("PDPA") which came into force on 15 November 2013, Universiti Tunku Abdul Rahman ("UTAR") is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

Notice:

1. The purposes for which your personal data may be used are inclusive but not limited to:-

- For assessment of any application to UTAR
- For processing any benefits and services
- For communication purposes
- For advertorial and news
- For general administration and record purposes
- For enhancing the value of education
- For educational and related purposes consequential to UTAR
- For the purpose of our corporate governance
- For consideration as a guarantor for UTAR staff/ student applying for his/her scholarship/study loan

2. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

3. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

4. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent:

1. By submitting this form you hereby authorise and consent to us processing (including disclosing) your personal data and any updates of your information, for the purposes and/or for any other purposes related to the purpose.

2. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfill our obligations or to contact you or to assist you in respect of the purposes and/or for any other purposes related to the purpose.

3. You may access and update your personal data by writing to us at stated email.

COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

3/17/22, 10:33 PM

Factors that will increase retention among West Malaysia private university student during online learning.

1. Acknowledgment of Notice *

Mark only one oval.

- ☐ I have been notified by you and that I hereby understood, consented and agreed per UTAR above notice
- ☐ I disagree, my personal data will not be processed.

Section A: Demographic Profile

2. Email Address *

3. 1. Are you a Malaysia private university student? *

Mark only one oval.

- ☐ Yes
- ☐ No

4. 2. Are you having online learning now? (If YES, then proceed) *

Mark only one oval.

- ☐ Yes
- ☐ No

5. 3. What is your gender? *

Mark only one oval.

- ☐ Male
- ☐ Female

<https://docs.google.com/forms/d/1XZygNjyrdBDEThTfIm9DPVN-VCOrxatm3ZvsUnKmEZQ/edit>

3/15

COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

3/17/22, 10:33 PM

Factors that will increase retention among West Malaysia private university student during online learning.

6. 4. The name of your university *

Mark only one oval.

- ☐ Taylor's University
- ☐ Monash University Malaysia
- ☐ INTI International University Nilai
- ☐ Universiti Tunku Abdul Rahman (UTAR)

7. 5. What is your age? *

Mark only one oval.

- ☐ Below 18 year old
- ☐ 18-21 year old
- ☐ 22-25 year old
- ☐ Above 25 year old

8. 6. Ethnic group. *

Mark only one oval.

- ☐ Chinese
- ☐ Malay
- ☐ Indian
- ☐ Other: _____

<https://docs.google.com/forms/d/1XZygNJymdBDEThTlIm9DPVN-VComxatm3ZvslUnKmEZQ/edit>

4/15

COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

3/17/22, 10:33 PM

Factors that will increase retention among West Malaysia private university student during online learning.

9. 7. You are in Year ____ student. *

Mark only one oval.

- ☐ 1
☐ 2
☐ 3
☐ Above year 3

Section B: Student Retention

Based on your experience of online learning, please choose the most appropriate option that best indicate your agreement level about the following statements.

Level of agreement: 1 – Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 – Strongly Agree

10. 1. Online classes were valuable. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

11. 2. Online classes has sharpened my analytic skills. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

<https://docs.google.com/forms/d/1XZygNjymdBDEThTlIm9DPVN-VComxatm3ZvsUnKnEZQ/edit>

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COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

12. 3. Online classes improved my understanding of the subject. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

13. 4. Online classes has improved my written skills. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

14. 5. Taking online classes increased my interest in academic participation. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

15. 6. We are generally given enough time to understand the things we have to learn. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

<https://docs.google.com/forms/d/1XZygNjydbDEThTfIm9DPVN-VCOMxatm3ZvsUnKmEZQ/edit>

6/15

COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

16. 7. As a result of doing online classes, one feels more confident about tackling unfamiliar problems. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

17. 8. Online class really tries to get the best out of all its students. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

18. 9. Overall, online learning is the best learning experience I have ever had. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Section C: Institutional Support

Based on your experience of online learning, please choose the most appropriate option that best indicate your agreement level about the following statements.

Level of agreement: 1 – Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 – Strongly Agree

<https://docs.google.com/forms/d/1XZygNJymdBDEThTlIm9DPVN-VCOMxatm3ZvsUnKmEZQ/edit>

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COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

19. 1. The course was well organized. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

20. 2. The course was designed to allow assignments to be completed across different learning environments. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

21. 3. The instructor facilitated the course effectively. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

22. 4. The instructor used good examples to explain during the online classes. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

<https://docs.google.com/forms/d/1XZygNjymdBDEThTlIm9DPVN-VCOMxatm3ZvsUnKmEZQ/edit>

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COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

23. 5. The instructors are extremely good at explaining things to us. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

24. 6. The instructor used online learning tools (e.g. Microsoft PowerPoint, Microsoft Word or video aids) to design instructional materials that were understandable. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

25. 7. Online tools was used to create an efficient learning environment. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

26. 8. The assignments for online classes were of appropriate difficulty level. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

<https://docs.google.com/forms/d/1XZygNjymdBDEThTlIm9DPVN-VCOmxatm3ZvsUnKmEZQ/edit>

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COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

27. 9. Online learning helped me to learn more quickly and effectively. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Section D: Behavioral Characteristics

Based on your experience of online learning, please choose the most appropriate option that best indicate your agreement level about the following statements.

Level of agreement: 1 – Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 – Strongly Agree

28. 1. I study because I like to learn. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

29. 2. I study because exam grades are important. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

30. 3. I can set goals and deadlines for myself. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

31. 4. I am able to actively communicate online via e-mail or discussions. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

32. 5. I would classify myself as someone who is self-disciplined to get things done on time. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

33. 6. I have performed academically as well as I anticipate I would. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

<https://docs.google.com/forms/d/1XZygNJymdBDEThTlIm9DPVN-VCOMxatm3ZvsUnKnEZQ/edit>

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COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

34. 7. My academic experience has had a positive influence on my intellectual growth and interest in ideas. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

35. 8. It is important for me to graduate from university. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

36. 9. Online classes have encouraged me to develop my own academic interests as far as possible. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Section E: Quality of Faculty and Student Interaction

Based on your experience of online learning, please choose the most appropriate option that best indicate your agreement level about the following statements.

Level of agreement: 1 – Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 – Strongly Agree

<https://docs.google.com/forms/d/1XZygNjymdBDEThTlIm9DPVN-VCOmxatm3ZvsUnKmEZQ/edit>

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COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

37. 1. The instructor responded promptly to my question about the use of online learning tools. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

38. 2. The instructor responded promptly to my question about general course requirements. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

39. 3. The instructor responded promptly to my question about the course assignment. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

40. 4. The instructor used online learning tools to create a comfortable learning space. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

<https://docs.google.com/forms/d/1XZygNJymdBDEThTfIm9DPVN-VComxatm3ZvsUnKmEZQ/edit>

13/15

COVID-19 Pandemic: Factors Affect Retention Among Students During Online Learning?

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Factors that will increase retention among West Malaysia private university student during online learning.

41. 5. The instructor personalized interactions with me whenever necessary. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

42. 6. My non-classroom interaction with faculty has positively influence on my personal growth, values, and attitudes. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

43. 7. My non-classroom interaction with faculty has positively influence on my intellectual growth and interest in ideas. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

44. 8. My non-classroom interaction with faculty has positively influence on my career goals and aspirations. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

<https://docs.google.com/forms/d/1XZygNJymdBDEThTlIm9DPVN-VCOMxatm3ZvsUnKmEZQ/edit>

14/15

3/17/22, 10:33 PM

Factors that will increase retention among West Malaysia private university student during online learning.

45. 9. Most of the faculty I have contacted are interested in helping students grow in more than just academic areas. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

46. 10. Most of the faculty I have contacted are genuinely interest in teaching. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

This content is neither created nor endorsed by Google.

Google Forms

Appendix B: Reliability Test for Pilot Study

Dependent Variable: Students' Retention

Case Processing Summary			
		N	%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0
a. Listwise deletion based on all variables in the procedure.			
Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.886	.890	9	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
30.3667	63.826	7.98914	9

Independent Variable: Institutional Support

Case Processing Summary			
		N	%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0
a. Listwise deletion based on all variables in the procedure.			
Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.904	.906	9	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
32.9667	56.723	7.53147	9

Independent Variable: Behavioral Characteristics

Case Processing Summary			
		N	%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0
a. Listwise deletion based on all variables in the procedure.			
Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.722	.726	9	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
36.9667	20.654	4.54467	9

Independent Variable: Quality of Faculty and Student Interaction

Case Processing Summary			
		N	%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0
a. Listwise deletion based on all variables in the procedure.			
Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.882	.885	10	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
37.5000	41.569	6.44740	10

Appendix C: Reliability Test for Full Study

Dependent Variable: Students' Retention

Case Processing Summary			
		N	%
Cases	Valid	389	100.0
	Excluded ^a	0	.0
	Total	389	100.0
a. Listwise deletion based on all variables in the procedure.			
Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.931	.931	9	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
33.1645	64.947	8.05898	9

Independent Variable: Institutional Support

Case Processing Summary			
		N	%
Cases	Valid	389	100.0
	Excluded ^a	0	.0
	Total	389	100.0
a. Listwise deletion based on all variables in the procedure.			
Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.894	.896	9	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
35.4756	35.188	5.93196	9

Independent Variable: Behavioral Characteristics

Case Processing Summary			
		N	%
Cases	Valid	389	100.0
	Excluded ^a	0	.0
	Total	389	100.0
a. Listwise deletion based on all variables in the procedure.			
Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.815	.813	9	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
36.6118	25.171	5.01708	9

Independent Variable: Quality of Faculty and Student Interaction

Case Processing Summary			
		N	%
Cases	Valid	389	100.0
	Excluded ^a	0	.0
	Total	389	100.0
a. Listwise deletion based on all variables in the procedure.			
Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	
.922	.922	10	

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
39.3753	46.936	6.85099	10

Appendix D: Statistics

Dependent Variable: Students' Retention

		Statistics								
		Online classes were valuable	Online classes has sharpened my analytic skills	Online classes improved my understanding of the subjects	Online classes has improved my written skills	Taking online classes increased my interest in academic participation	Given enough time to understand the things we have to learn	One feel confident about tackling unfamiliar problems	Online class really tries to get the best out of its students	Online learning is the best learning experience I have ever had
N	Valid	389	389	389	389	389	389	389	389	389
	Missing	0	0	0	0	0	0	0	0	0
Mean		3.8972	3.6761	3.6144	3.6812	3.4730	3.8226	3.7326	3.7275	3.5398
Std. Deviation		.90799	1.05174	1.11706	1.14477	1.26915	1.06582	1.13541	1.08542	1.22961

Independent Variable: Institutional Support

		Statistics								
		The course was well organized	Course designed to allow assignment to be completed across different learning environment	Instructor facilitated the course effectively	Instructor used good examples to explain during online classes	Instructor extremely good at explaining things to us	Instructor used online learning tools to design instructional materials that were understandable	Online tools was used to create an efficient learning environment	Assignments for online classes were of appropriate difficulty level	Online learning helped me to learn more quickly and effectively
N	Valid	389	389	389	389	389	389	389	389	389
	Missing	0	0	0	0	0	0	0	0	0
Mean		3.8997	3.9100	3.9177	3.9229	3.9280	4.1928	4.0643	3.8972	3.7429
Std. Deviation		.86616	.89364	.83938	.86108	.89094	.77749	.83942	.98427	1.07489

Independent Variable: Behavioral Characteristics

		Statistics								
		I study because I like to learn	I study because exam grades are important	I can set goals and deadlines for myself	I am able to actively communicate online via e-mail or discussions	I would classify myself as someone who is self-disciplined to get things done on time	I have performed academically as well as I anticipate I would	My academic experience had a positive influence on my intellectual growth and interest in ideas	It is important for me to graduate from university	Online classes encouraged me to develop own academic interest as far as possible
N	Valid	389	389	389	389	389	389	389	389	389
	Missing	0	0	0	0	0	0	0	0	0
Mean		3.8046	4.2853	4.1131	4.0437	3.9177	3.9871	4.0077	4.5039	3.9486
Std. Deviation		1.00148	.83005	.87788	.86492	.96774	.83564	.85098	.66045	.95918

Independent Variable: Quality of Faculty and Student Interaction

		Statistics									
		Instructor responded promptly to my question about the use of online learning tools	Instructor responded promptly to my question about general course requirements	Instructor responded promptly to my question about the course assignment	Instructor used online learning tools to create a comfortable learning space	Instructor personalized interactions with me whenever necessary	Non-classroom interaction with faculty has positively influence on my personal growth, values and attitudes	Non-classroom interaction with faculty has positively influence on my intellectual growth and interest in ideas	Non-classroom interaction with faculty has positively influence on my career goals and aspirations	Most faculty I have contacted are interested in helping students grow in more than just academic areas	Most faculty I have contacted are genuinely interest in teaching
N	Valid	389	389	389	389	389	389	389	389	389	389
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		3.9434	3.9820	4.0129	4.0694	3.9563	3.8740	3.8689	3.8072	3.8972	3.9640
Std. Deviation		.88042	.82311	.81376	.78176	.89422	.96702	.95830	.97987	.94417	.87858

Appendix E: Pearson Correlation Coefficient (Full Study)

		Correlations			
		Institutional_Support	Behaviour_Characteristic	Quality	Student_Retention
Institutional_Support	Pearson Correlation	1	.588**	.741**	.745**
	Sig. (2-tailed)		<.001	<.001	<.001
	N	389	389	389	389
Behaviour_Characteristic	Pearson Correlation	.588**	1	.633**	.595**
	Sig. (2-tailed)	<.001		<.001	<.001
	N	389	389	389	389
Quality	Pearson Correlation	.741**	.633**	1	.628**
	Sig. (2-tailed)	<.001	<.001		<.001
	N	389	389	389	389
Student_Retention	Pearson Correlation	.745**	.595**	.628**	1
	Sig. (2-tailed)	<.001	<.001	<.001	
	N	389	389	389	389

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix F: Multiple Linear Regression (Full Study)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.771 ^a	.595	.591	.57235

a. Predictors: (Constant), Quality, Behaviour_Characteristic, Institutional_Support

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	184.984	3	61.661	188.229	<.001 ^b
	Residual	126.121	385	.328		
	Total	311.105	388			

a. Dependent Variable: Student_Retention

b. Predictors: (Constant), Quality, Behaviour_Characteristic, Institutional_Support

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.125	.223		-5.056	<.001
	Institutional_Support	.765	.067	.563	11.335	<.001
	Behaviour_Characteristic	.349	.069	.217	5.040	<.001
	Quality	.096	.068	.073	1.412	.159

a. Dependent Variable: Student_Retention

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UNIVERSITI TUNKU ABDUL RAHMAN

Date: 08/04/2022

SUBMISSION OF FINAL YEAR PROJECT /DISSERTATION/THESIS

It is hereby certified that Alston Sow Kah Hoong (Student Name)
(ID No: 1804156) has completed this final year project/ dissertation/ thesis*
entitled“ Covid-19 pandemic: Factors affect retention among students during
online learning? ”
under the supervision of Norhayati Binti Md Isa (Name of the Supervisor)
from the Department of Business, Faculty
of Business and Finance.

I understand that University will upload softcopy of my final year project / dissertation/
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accessible to UTAR community and public.

Yours truly,



Alston Sow Kah Hoong

*Delete whichever not applicable

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(ID No: 1801450) has completed this final year project/ dissertation/ thesis*
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Cheng Ai Nee

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It is hereby certified that You Xi Na (Student Name)
(ID No: 1803420) has completed this final year project/ dissertation/ thesis*
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You Xi Na

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Full Name(s) of Candidate(s)	Alston Sow Kah Hoong, Cheng Ai Nee, Foong Pooi Yee, You Xi Na
ID Number(s)	1804156, 1801450, 1803402, 1803420
Programme / Course	BA
Title of Final Year Project	COVID-19 PANDEMIC: FACTORS AFFECT RETENTION AMONG STUDENTS DURING ONLINE LEARNING

Similarity	Supervisor's Comments (Compulsory if parameters of originality exceeds the limits approved by UTAR)
Overall similarity index: <u>10</u> % Similarity by source Internet Sources: <u>9</u> % Publications: <u>4</u> % Student Papers: <u>5</u> %	Most of the similarities captured from the title or topic which is similar to the previous FYP
Number of individual sources listed of more than 3% similarity: <u>1</u>	Refer to eprints.utar.edu.my
Parameters of originality required and limits approved by UTAR are as follows: (i) Overall similarity index is 20% and below, and (ii) Matching of individual sources listed must be less than 3% each, and (iii) Matching texts in continuous block must not exceed 8 words <i>Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.</i>	

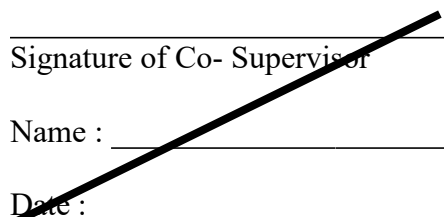
Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.


 Signature of Supervisor

Name : Norhayati Bt Md Isa

Date : 13/4/2022


 Signature of Co- Supervisor

Name : _____

Date : _____

Group 10 FYP Final Report Plagiarism Check

by Ai Nee Cheng

Submission date: 10-Apr-2022 04:34PM (UTC+0900)

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File name: FYP.docx (494.87K)

Word count: 16059

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CHAPTER 1: RESEARCH OVERVIEW

1.0 INTRODUCTION

Students play essential role in this society as students can strengthen and enhance society as a whole. The roles of students are like attending classes, completing their studies, and applying what they have learned into their daily life. Moreover, students are essential because they can shape the future generation. This is because students are to engage themselves with proper skills and knowledge to create a better society in the future. This study is to identify how factors like institutional support, behavioral characteristics, and quality of faculty and student interaction can increase the retention among private university students in West Malaysia during online learning. Chapter one starts with the research background, problem statement, research objectives, followed by research questions, the study's hypothesis, and the significance of the study.

1.1 RESEARCH BACKGROUND

The outbreak of Covid-19 in Malaysia leads to a dramatic change in everyone's routines, including the students. This pandemic has caused all educational institutions to conduct learning through online platforms to reduce the transmission of Covid-19. According to Azman et al. (2020) students in Higher Education institutions are to continue learning through an online platforms like Zoom and Microsoft Team. However, the sudden shift from physical learning to online learning has led to a few difficulties, including the speed of internet connection, technical issues, and bad experiences in dealing with online platforms. During this Covid-19 pandemic, some students claim that they have lower engagement during online learning, 67.1% of students feel stressed, and 71.4% of students mentioned that their high workload caused them to feel depressed (Al-Kumaim et al., 2021). According to Bezanilla and Ribbe (2013) difficulties in balancing high workload and low engagement among the students during online learning seem to be significant to students' withdrawal rates. The continuous this issue will eventually lead to more withdrawal rates as it will affect the students' mental health and academic

performance. Thus, education institutions can retain the students by helping them to overcome all these obstacles.

Students play an essential role in society because students are the ones who can strengthen and enhance society. This is because students enrolled in educational institutions to learn and prepare themselves for their future and to create a better future for society. Thus, education institutions must focus on increasing student retention. When education institutions pay greater attention to this issue, they can see a significant improvement in students' academic performance and a decrease in the withdrawal rate.

Student retention is critical for all universities in Malaysia as many factors will cause students to withdraw from online learning. Factors that will lead to withdrawal will be technical issues, financial difficulties, communication barriers, and many more. Students' motivation and academic performance will be improved if they are retaining the students most effectively. This means that it is vital for universities to retain students. Thus, the education institutions in Malaysia should retain students to reduce the withdrawal rate of students (Harun et al., 2021).

In our study, we identified three IVs which are institutional support, behavioral characteristics, and quality of faculty and student interaction that can increase retention among private university students in West Malaysia during online learning. Institutional supports are where the institution provides students with appropriate academic and social support during the university. Therefore, the university should provide full support for students especially during the online learning period, so that students will fully adapt to the online learning pace. Then, behavioral characteristics are self-efficacy and self-discipline while the quality of faculty and student interaction is where the faculty provide academic advising or guidance to the students.

The reason for conducting research on private universities and not public universities is because private universities are self-funded which will lead to a higher student's fees in compare to public university that are funded by the government. The transfer of physical learning to online learning has impacted students from poor families. During Covid-19, businesses are forced to shut down, affecting everyone's income. For the poorer family, they might have hard time paying for their children school fees and the

cost to purchase laptop for them to continue their online studies. Meanwhile, students who stay in rural areas will also have trouble in accessing internet, affecting their online learning (Looi, 2021). Thus, we are conducting research on private university and to provide education institution on factors to retain students during online learning.

Moreover, private universities have more international student because public universities are more local students oriented. According to the education ministry, as of September 2019, the private higher education in Malaysia was enrolled 92,415 international students, compared to 39,099 in public institutions (Sharma, 2020). The percentage of international student from private universities is quite high. Therefore, we would like to see the perspective from the international student who study in private universities.

In our research, we found that Malaysia is a significantly advanced country in Asia and has achieved far well results in the educations industry. It can be observed that the government of Malaysia has been providing students loan while some public authorities are providing scholarships for the students so that they can afford to pursue tertiary education. Financial aid, can retain the students as some students are forced to drop out due to financial problems. However, providing financial aid alone might not be effective enough to prevent students from dropping out of education institutions. In Malaysia, there is just a little research on how to retain students. Thus, we will be studying three factors to see whether they can affect the retention among private university students in West Malaysia during online learning.

1.2 RESEARCH PROBLEM

Student retention is a challenging issue in higher education. All institutions need to propose strategies to support students' success from enrolment to graduation without compromising academic or certification standards. Especially in terms of online learning, this is undoubtedly another challenge for higher education (Manyanga, Sithole, & Hanson, 2017). According to the report conducted by Carrasco (2021), one-third of first-year students reported that they often encountered computer problems during

online learning, and 21% of students said that they are often unable to access the Internet, which hinders their learning. In the report, ACT Chief Executive, Janet Godwin, said that the online academic year can be one of the most challenging in college life, especially for needy and first-year college students, compared with their peers, access to technology and the internet is very limited.

However, the withdrawal rate in online learning is higher than that of the traditional learning environment, which is also the problem of declining student retention in Malaysia. A study conducted by Friðriksdóttir (as cited in Muljana & Luo, 2019) on 43,000 students enrolled in Icelandic Online in 2018 once again confirmed that the completion rate of the mixed learning model is substantially further than that of else virtual models. With the advancement of technology and the continuous transformation in online learning, education researchers are eager to study this to retain students. Based on the online education system, researchers have extra efforts to find learning materials and factors suitable for students (Estacio & Raga Jr, 2017).

In foreign countries, strategies to improve student retention include institutional support, student behavioral characteristics, and quality of faculty and student interaction. Drab-Hudson, Whisenhunt, Shoptaugh, Newman, Rost, and Fondren-Happel (as cited in Muljana & Luo, 2019) commented that today's students live in a technologically comfortable environment. Therefore, this encourages students to have behavioral characteristics of continuing learning because online learning can have various learning modes and methods. For example, introverted students may be more willing to participate in online discussions instead of speaking in face-to-face courses. This is also supported in the quality of faculty and student interaction. Online students will also get more guidance and more comprehensive feedback from professors while studying to improve grades. Therefore, institutional support can increase student retention (Gaytan, 2015).

If student retention declines, students may not be able to get academic support and help to understand the college's expectations to succeed (Milman, Posey, Pintz, Wright, & Zhou, 2015). According to Moy and Ng (2021) the depression, anxiety, and stress level among student during online learning have increased. Prior Covid-19, the level of depression was ranged between 13.9% to 29.3%, anxiety was 51.5% to 55.5% and

stress level was 12.9% to 21.6%. However, the level of depression, anxiety and stress among the student during online learning have increased to 29.4% follow by 51.3% and 56.5%. According to Al-Kumaim (2021), more than two-thirds of college students (69.5%) feeling overloaded while following up on their online courses, and 30.5% of the students said they did not feel overloaded. When students were asked about the main source of overload, 71.4% mentioned having a lot of online tasks, and nearly 20% felt that they were overloaded with learning information while studying online. Meanwhile, 51.6% and 20.6% of students respectively, said that being with their families while studying online brought difficulties and challenges for them to focus on online learning. In addition, if students are not familiar with information technology, it will hinder students from fit well to the virtual education, and thus causing in high academic pressure. Furthermore, in this study, about 80% of the participants agreed with academic research by scholars that e-learning may not be as effectual for students as physical classes under the influence of the COVID-19 pandemic, and more than 50% of the participants believed that online education is influenced by the internet access in their location, which makes it difficult to acquire knowledge smoothly (Moy & Ng, 2021).

Despite extensive research across the country, many institutions in Malaysia are still looking for solutions to this matter. Although many foreign researchers have investigated this research, there are very few studies on this issue in Malaysia. Based on the above basic principles, we need to study factors that will affect retention among West Malaysia's private university students during online learning. This research mainly addresses a question: what is the influence of institutional support, behavioral characteristics, and quality of faculty and student interaction on student retention in West Malaysia during online learning?

1.3 RESEARCH OBJECTIVES

Research objectives are to explain all variables to be studied clearly. The objective is to outline the goals that researchers wish to achieve. There are two types of research

objectives. General objective summarises the study's central idea and what the researchers expect to achieve. Specific objectives are short-term, and the focus is narrow where its breakdown general objective into small logically. According to the problem statement above, there are few objectives this study aims to investigate:

¹ **1.3.1 General Objective**

To examine the factors that will affect retention among private university students in West Malaysia during online learning.

¹ **1.3.2 Specific Objectives**

1. To examine whether institutional support will affect retention among private university students in West Malaysia during online learning.
2. To examine whether behavioral characteristics will affect retention among private university students in West Malaysia during online learning.
3. To examine whether quality of faculty and student interactions will affect retention among private university students in West Malaysia during online learning.

¹ **1.4 RESEARCH QUESTIONS**

The subsequent research questions are targeted to be found out by conducting the study:

¹ **1.4.1 General Research Question**

What are the factors that will affect student retention in West Malaysia during online learning?

1.4.2 Specific Research Questions

1. Do institutional support affect retention among private university students in West Malaysia during online learning?
2. Do behavioral characteristics affect retention among private university students in West Malaysia during online learning?
3. Do quality of faculty and student interactions affect retention among private university students in West Malaysia during online learning?

1.5 HYPOTHESES OF THE STUDY

H_1 : Institutional support will affect retention among West Malaysia's private university students during online learning.

H_2 : Behavioral characteristics will affect retention among West Malaysia's private university students during online learning.

H_3 : Quality of faculty and student interaction will affect retention among West Malaysia's private university students during online learning.

1.6 RESEARCH SIGNIFICANCE

In this study, we are to evaluate factors that will affect retention among private university students in West Malaysia during online learning. Through this study, we can provide guidance to the education industry so that they can apply the best and the most suitable approach to retain private university students in West Malaysia during

online learning. As a result, the education industry are encouraged to retain university students who are having online learning in Malaysia. Moreover, this research may provide future researchers who study in this field with valuable information for future research purposes.

1.7 CHAPTER LAYOUT

This research is extraneous to five chapters, which are as follows:

Chapter 1: Research Overview

It introduces the general background of factors that will affect retention among private university students in West Malaysia during online learning. The background study, statement of the problem, specific goals, research questions, hypotheses, implications, chapter arrangement, and the summary were also included.

Chapter 2: Literature Review

Its research and compile all published papers and journals on the topic. The denotations of the IVs and DV variables and their relationships are covered too, along with the conceptual framework, theoretical frameworks, and hypothesis development.

Chapter 3: Methodology

The research design and data collecting technique that researchers apply to gather information are discussed in Chapter 3. Following that, sampling design contain target demographic, sample size, sampling location, sampling technique, and sampling elements. It also covers measuring scale types, data analysis, data processing, and conclusion.

Chapter 4: Data Analysis

Outcomes and investigations of the data that are related to the study issues and hypotheses offered are exhibited in this chapter. To ensure the study's validity, a variety of analyses will be conducted, including descriptive analysis, scale measurement, and inferential analysis.

Chapter 5: Discussion, Conclusion and Implications

Chapter 5 will go through the conclusion and final discussion, which consist of discussions of key result, study's implication and limitation, and recommendations for further study.

1.8 CHAPTER SUMMARY

Chapter 1 depicts an outline of the understanding of our academic work. According to the dependent and independent variables in this study, three hypotheses have been presented. This research has discovered a research gap that allow a significant study to be conducted to add to the existing literature. Furthermore, current study contributes greater knowledge of the factors that will affect retention among private university students in West Malaysia during online learning.

CHAPTER 2: LITERATURE REVIEW

2.0 INTRODUCTION

We provide foster explanation regarding the variable proposed in Chapter 1 to have a enhance knowledge of this research. We will review, analyse and to provide a clearer idea about how institutional support, behavioral characteristics and quality of faculty and student interaction can increase the retention among the private university students in West Malaysia during online learning. This chapter consists of three parts. First part is the review of the theoretical studies in online learning. The second part is clarification of independent variables and dependent variable by using a conceptual framework, while the last part is the hypothesis development based on supporting literature.

2.1 UNDERLYING THEORIES

2.1.1 Geometric Model

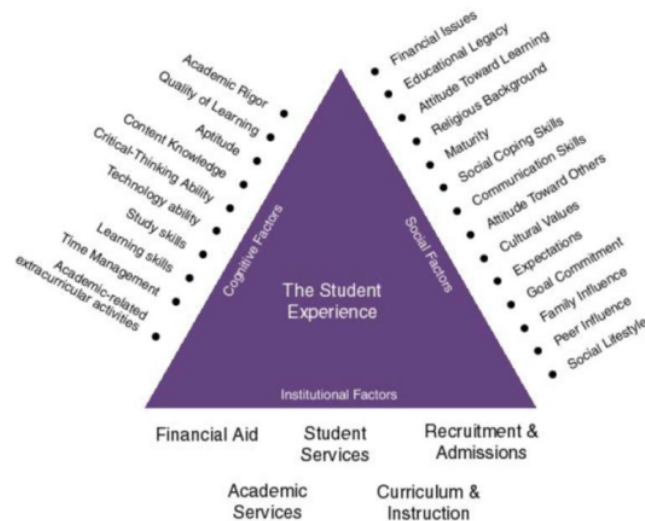


Figure 2.1: Swail's (2004) Geometric Model of Student Persistence and Achievement

This model is to examine the dynamic relationships between cognitive, social, and institutional factors, with student persistence, growth, and development. According to Monfort (2017) Swail's geometric model was applied to understand better how students perceive institutional, cognitive, and social factors. Moreover, the geometric model is the determinant of student retention. Therefore, it is a must for all the institutions to have all the necessary resources to determine whether the students will stay or not (Claybrooks & Taylor, 2016).

Firstly, institutional factor is related to our first IV, institutional support. Institutional factor is associated with the ability of institution to provide students with appropriate academic and social support during the university. An example of institution supports are financial aid and student services. Financial aid is money given or lent to pay students' education fees. Monetary aid is one of the significant elements for the students to persist studies especially students who are from lower-income family. For example, most of the students' family deal with financial problem during Covid-19 which cause the students unable to continue their studies as the pandemic affected the ability of the family to pay for their school fees. Therefore, universities that provide institutional support like financial aids can increase student retention.

Next is cognitive factor, which is related to the second IV, behavioral characteristics. Cognitive factors are linked to academic abilities, attitudes, and behavior toward learning that students have. When students have strong academic abilities, it will positively influence student academic performances and student retention. For example, students who enjoy learning and have self-discipline will have excellent academic performance and more likely to continue their studies. Therefore, students with positive behavioral characteristics are more likely to continue their education.

The third factor is social factor which are related to our third IV, quality faculty and student interaction. Social factor is about how students balance their social life and studies which include the interaction between faculty and students. According to Montfort (2017) Swail's geometric model, it is important to create

and maintain the relationship between faculty and students during online learning. This is because online learning students prefer to have more interaction with faculty as lack of interaction will cause them to feel unhappy and unsatisfied. Therefore, faculty that engage and guide the students can assist them in developing their social factors and cognitive factor better. Thus, having strong faculty and student interaction will have great influence towards student retention.

2.1.2 Tinto's Model

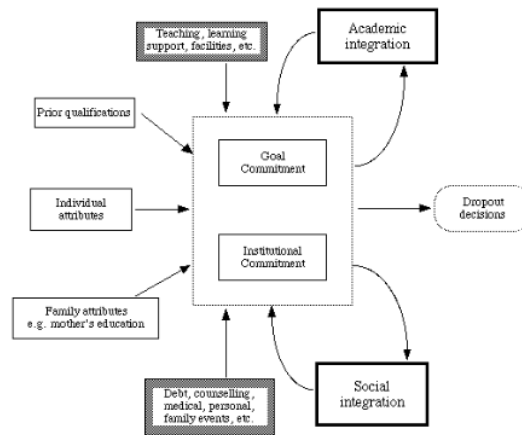


Figure 2.2: Tinto's Model of Student Retention (Tinto, 1975)

Adapted from (Tinto, 1975).

Vincent Tinto is the first and most influential author to propose the complexity of this phenomenon as he developed an explanatory, vertical, and persistent extraction process model called the student integration model, which is primarily on the basis of the degree of suitability between individual students and the institutional environment (Radovan, 2019). In connection with this, Tinto believes that student experience is also marked by these stages. Manyanga, Sithole, and Hanson (2017) also suggested that the "good fit" between student intentions and institutions is a critical factor in increasing student retention. The three general aspects of the model include students have different academic preparations and attributes during learning; develop various degrees of

consolidation into the intellectual societal scheme of the institution, including grades and attitudes towards their academic progress; develop different levels of social integration into the institution, including how they interact with faculty.

Tinto claims that before entering new education patterns, college students need to be separated from their previous community groups, which have dissimilar morals, patterns, and behaviors to the recent community of their educational facility (Aljohani, 2016). Tinto also pointed out the connection of student behavioral traits and student retention (Xu & Webber, 2018). Therefore, the intelligence, knowledge, and academic ability that students bring to the online educational setting is associated with behavioral characteristics, and students with strong academic abilities must have a positive and eager attitude towards online learning. So, we know that creating right values, norms and behaviors during online learning is essential because it directly affects and relates to students' capability to understand and accomplish the academic part of online courses.

The ultimate interpretation of the model composed of two systems: the academic system and the social system which will affect student retention. Academic integration can be deliberate by student's grades and intellectual development, and students should have a correct and positive personality and behavioral to get good grades and intellectual development. The model also shows that students must have academic goals and commitments, while social integration can be assessed by the interaction between students and the university society, for example, interaction with faculty (Aljohani, 2016). The substance of the model is that students necessary to interact with peers and faculty in a benevolent academic setting and have great hopes for student accomplishment (Tinto, 1999). In online learning, students who unable to meet the faculty directly will pay more attention to effective interaction and information given by the faculty, so that students can better complete the academic process.

In academic integration, teaching, learning support, facilities can affect student retention which is related to institutional support. Tight (2020) acknowledges that universities or institutions play an essential role in ensuring high student retention rates and this can observe from Tinto's model, which focuses on the contributions of institutions to ensure support provided by institutions can help students better complete courses and graduate in online learning. Tinto also specifically pointed out that extracurricular activities provided by institutions can provide students with opportunities to communicate and establish repeated contacts with each other, including faculty staff and instructors while integrating into university life to increase student retention (Forrester, McAllister-Kenny, & Locker, 2018). Furthermore, problems correlated with course attainability, subject, and teaching can influence student perseverance, as do supporting services like academic counselling, guidance, and job counselling provided by institutions. It is here that institutions can identify and match the needs of individual student and student groups.

In accordance with this paradigm, the student's academic and social integration at the university will constantly undermine or reinforce their initial goals and commitment level (Aljohani, 2016). This model ensures the correct participation of students, provides opportunities to develop relationships with faculty and staff, and provides academic support. This model has also been proven to improve the quality of learning effort, which in turn contributes to success and graduation, increasing the chances of student retention (Tinto, 1975).

2.2 REVIEW OF VARIABLES

2.2.1 Student Retention during Online Learning

Student retention is a measure of students who enroll, continue, and complete their studies at the same institution. In the first 40 years, almost all studies were done in North America, but it lacked theory, methodology, and statistics

(Dewberry & Jackson, 2018). With the rising of students number and the diversification of education, the problem of student retention also arises (Seidman, 2012). About 40 years ago, when student retention topics first appeared, they were usually viewed through a psychological lens. From a psychological point of view, students who are unable to stick to the end are considered to have inadequate ability, lack of motivation, and are not willing to accept the benefits of college graduation. However, this view began to change in the 1970s (Tinto, 2006).

With the coming of digital technique and the continuous modifications in web-based and distance learning, education researchers and practitioners are becoming more interested in retaining students because this is an ongoing challenge faced by all education stakeholders (Muljana & Luo, 2019). We use the definition proposed by Pascarella and Terenzini (2005) in which student retention is determined as progressive re-enrollment, whether it lasts from one semester to the next or is momentarily disrupted and then resumed, till the degree is obtained. Student retention is also related to the ability of a particular college or university to enable students to graduate successfully (Seidman, 2012). Park and Choi (2009) also found that organizational support and curriculum relevance are finer indicators than demographic variables, and greatly forecast student perseverance and drop-out in online courses.

Tresman (2002) stated that situations of low student retention include students who have not completed a course or study plan, drop out of university after they start studying, as well as stop participating in the study. Under the situation of low student retention, numerous higher educational institutions have talked about the significance of rising student retention, but few institutions actually achieve this goal (Tung, 2012). It will affect the probability of students completing their academic and personal goals. Still, we can know that the importance of student retention even extends to the fact that many companies are working to increase student retention in institutions (Tinto, 2006). In this way, students who are not retained will not use existing learning opportunities to learn new skills. If they do not learn new and diverse forms of doing things, their future development may be stagnant. To increase student

retention, although many universities have created many additional courses and services, the retention rate and graduation rate from the year 1 to year 2 have not increased over time (Seidman, 2012).

Research by Carruth, Broussard, Waldmeier, Gauthier, and Mixon (2014) has found that online courses can effectively improve student retention and the overall learning experience. Meanwhile, Nash (2005) found that most students drop out of school as a result of inadequate time management and absence of time to finish their homework when studying online. Therefore, when encountered with the actual study tasks at hand, they found that they cannot equalize their personal time and study (Tung, 2012). Kember (1995) puts forward the hypothesis that the attrition rate and persistence of learning will be highly influenced by different variables, many of which influence each other, but in fact, few factors have been empirically tested. Even so, in recent years, extensive research has been conducted to identify the factors affecting student retention, especially in the context of online learning (Lee & Choi, 2011).

It is important to identify factors that increase student retention because they will help inform efforts aimed at increasing student retention rates and increase their potential in all areas to help students expand in the future (Bowles & Brindle, 2017). According to Simpson (2004) the problem of student retention in online learning can be a significant issue for the financial costs of dropping out. Although there are no decisive data on the completion rate of online learning, few researchers and practitioners in the area declared that compared with usual face to face tutoring, virtual teaching seems to have a higher drop-out rate, and it is more difficult in the process of completing assignments and complying with deadlines (Park, Boman, Care, Edwards, & Perry, 2008; Wilson & Allen, 2011). Over time, the college will lose future funds in the form of tuition and ancillary services. So from here, we can see that increasing student retention has become more critical (Murray, Ireland, & Hackathorn, 2016). According to research, students in online courses have an 82% possibility to complete the course, while students in face-to-face courses have a 90% chance to complete the course. Since the definition of the term "student retention" has evolved over time and its impact on online education has also evolved, we

should increase the probability of student retention during online learning (Tung, 2012).

2.2.2 Institutional Support

Support programmes or requirements that an institution establishes as norms, procedures, or criteria for student involvement to fulfil the specified prerequisites for graduation are examples of institutional factors (Dixon, 2015). Individual institutions must pay attention to support service problems that frequently become obstacles to achieving specified objectives as they seek to make their distance education programmes effective. According to Au, Li, and Wong (2018) stated that a successful remote-education programme requires substantial institutional support to promote the quality of online teaching and learning. Amoozegar, Daud, Mahmud and Jalil (2018) found that as the number of support services rose, so did the degree of student happiness. In addition, Muljana and Luo (2019) mentioned that the efforts and services aimed at influencing student retention were referred to as institutional support. Those factors related to support services concerning the significance of technical, administrative, and university support in the distance learning environment.

Firstly, one of the most important aspects is technical support, which is provided by specialist people on software and hardware-related goods when they are needed (Alshammari, Ali, & Rosli, 2016). Technical support is defined as help provided to a student in the use of technology environment in which they are enrolled (Amoozegar, Daud, Mahmud, & Jalil, 2017). Technical support has been recognized as a significant element in student happiness by researchers. Students' experiences in adopting or rejecting an information system are significantly influenced by technical support (Amoozegar, Daud, Mahmud, & Jalil, 2018). The fact that users get little to no assistance when confronted with a difficulty or issue may lead them to believe that working with the system is a waste of time, and they may thus give up. A distance-education program's success must be enhanced and ensured by fostering this kind of attitude. Although technical assistance is one of the crucial factors that encourages and

persuades students to take particular attitude toward technological advances, but it is not the only one (Alshammari et al., 2016).

Besides, administrative support is another kind of institutional element to consider. Professional measures taken or approved by the building principle or principal's agent to assist counselling programmes are referred to administrative support (Amoozegar, Daud, Mahmud, & Jalil, 2018). This is because administrators offer services like learner registration, record keeping, training, as well as technical assistance for their students. According to Amoozegar, Daud, Mahmud, & Jalil (as cited in Moses et al., 2012) mentioned that the support of administrators is critical in influencing the usage of mechanism in the teaching space. Administrators who promote the use of technicality should do it not just verbally, but also in ways that foster cultural acceptance and adoption. Although not often explicitly stated, administrative assistance includes professional measures taken or approved by the principal's agent to support counselling services at a facility. As a result, the absence of administrative assistance will make it challenging to adopt new technologies (Selim, 2007). Hence, administrators are becoming more dedicated to delivering high-quality experiences for students because of the administrative problem, which is a major source of student concern and retention decreased.

The tools, techniques, facilities, people, and services provided by the educational institution to help and encourage students in their study are referred to as university support (Amoozegar, Daud, Mahmud, & Jalil, 2017). Students who are enrolled in online learning programmes may benefit from the university's support in maintaining their enrolment. Students' ways of thinking, problem-solving techniques, and interest in life objectives are influenced by the university's support for them. In organizational science and communication, a lot of studies shown that university assistance is a critical element that has a significant impact on a variety of characteristics of students' intellectual and emotional results (Amoozegar, Daud, Mahmud, & Jalil, 2018). According to Cho and Yu's (2015) research, since students feel more support from their institutions, they are happier and less worried due to their participation. As a

result, it is critical to recognize the importance of university support in the effective teaching-learning practice that occurs via distant learning.

2.2.3 Behavioral Characteristics

Behavioral is defined as the way how people behave and react to their environments. Behavioral characteristics can be observed, including the action they make, the way they speak and the way they respond to others. According to Cochran et al. (2014) behavioral characteristics contributed to sustainable determination, which possesses excellent influence on the students' educational attainment and significantly influences student retention. There are many behavioral characteristics, including self-efficacy, self-discipline, and many more (Muljana & Luo, 2019). Behavioral characteristics are one of the most important elements to increase student retention because it is linked with the self-efficacy of the students themselves. When students have high self-efficacy, it will motivate them to perform their responsibility within their capabilities, achieve goals and willing to take in more challenges.

Firstly, self-efficacy is a behavioral characteristic that is beneficial to all students during online learning. Self-efficacy is defined as the evaluation of own ability to accomplish their task (Tseng et al., 2020). According to Fitzgerald (1991) self-efficacy is a belief of the individual himself in his very own capability to perform and achieve the desired achievement that he had worked hard for. There were also shreds of evidence from previous studies that mentioned self-efficacy would lead to positive school performance (Doménech-Betoret et al., 2017). Self-efficacy influences how an individual act, feels, thinks, and even increases motivation (Zulkosky, 2009). Self-efficacy will influence university students where students with high self-efficacy will perform better and achieve higher scholastic achievement as against those with lessen self-efficacy. As an example, a prior study shows that student self-efficacy will have significant impacts on the learning experience and academic performance (Doménech-Betoret et al., 2014).

Besides, self-efficacy is a behavioral characteristics that can boost the students' motivation level to perform better and to achieve better achievement. When the students have self-efficacy, it will motivate them to perform their responsibilities within their capabilities, attending classes and score well in their examination. This is because self-efficacy will influence their decision-making, motivational level, and efforts in coping with their academic life. According to Mulvaney (2020) some researchers mentioned that there is a connection between self-efficacy and online learning where behavioral characteristic has positive impacts on student retention. Thus, students must have self-efficacy from the very first day of learning, especially when they are dealing with a new learning environment like online learning.

Moreover, students with self-efficacy tend to be persistent. According to Hart (2012) students with persistence are highly possibly to finish their curriculum, while students without persistence are highly potentially to not accomplish their studies and withdraw from their studies. Persistency is one of the behavioral characteristics and was defined as the factor that can result in the completion of studies. Thus, positive behavioral characteristics can strengthen motivation and determination which increases the retention among all students who are having online studies.

Furthermore, behavioral characteristics like self-discipline are critical among all individuals including students. Self-discipline was defined as the ability to do what one needs to regardless of other reasons (Zhao & Kuo, 2015). Self-discipline can be seen in many forms. For example, individuals who think before performing an action or decision making. Self-discipline is important because it prevent one from performing harmful acts and overcome laziness. It enables an individual to stay focus on their goals, right track and continue to do what is right. According to Gorbunovs et al. (2016) self-discipline is classified among primary drivers that can influence learning outcomes positively, allowing them to achieve their goals effectively.

2.2.4 Quality of Faculty and Students Interaction

A faculty is a group of people like teachers, professors, lecturers, and tutors that share the same duty, which is to share knowledge and skill with their students. Faculty members have got different academic experiences, and so they will have different academic ranks, from lecturer to professor and to doctors. There are many types of faculty like faculty for arts, faculty for business and finance and more. Different faculty have got the different specialized fields, but they share the same responsibilities, which are to share knowledge and teach their students. Then, students are those who are enrolled to pursue studies in university. All students share the same duties, which is to study and to achieve high academic performance.

Quality of faculty and student interaction plays an important role in the university. According to Hoffman (2014) strong relationship between faculty and students will lead to a positive outcome where it can motivate the students to continue their studies until fully completed. To have a good relationship between the faculty and students, the faculty must come out with ways that can provide the student with a good online learning environment. Firstly, computer technology is a must for online learning, and faculty must always educate and inform all students about the latest skills and technology proficiency (Lau, 2003). By doing so, it can increase the level of satisfaction among students who are having online learning. Moreover, faculty must incorporate the use of technology in online teaching (Jackson et al., 2010). It is best when the faculty upload all the class materials and information like lecture notes on a platform that can be easily accessed through the Internet. With that, students can access all the class materials easily and to studies whenever they want.

Besides that, the actions of faculty during online learning will influence the satisfaction and retention level of the students. According to Scoff et al. (2008) faculty that is accessible and responsive are linked to student retention. Thus, students will remain to have online learning as they can feel that they are being valued and welcomed by the faculty and university as a whole (Keeffe, 2013).

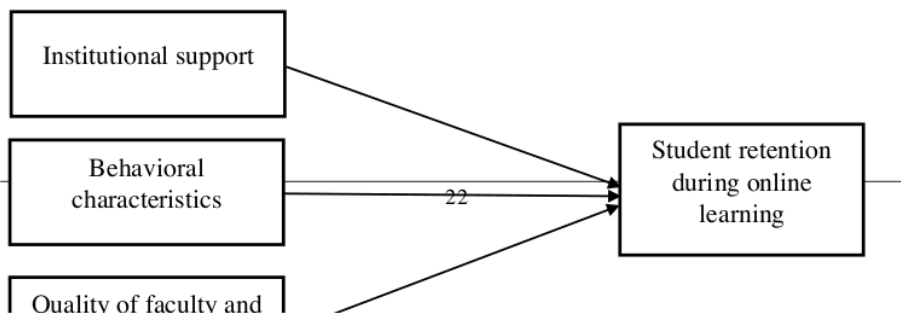
Faculty that have constant in-class and out of class interaction with students tends to increase the self-efficacy and motivation level of the student, making them to enjoy their learning process even more (Hoffman, 2014).

According to Gaytan (2015) quality of faculty and student interaction is ranked as the secondary influential element that can increase retention among students who are having online learning. To achieve positive student retention, interaction between faculty and students must be high in quality and persistent. In agreement with Tatum et al. (2013) high quality of faculty and student interaction was linked to positive academic self-esteem. Apart from that, it is essential to have a faculty evaluation so that the students can provide honest feedback regarding the performance of the faculty throughout the semester. With faculty evaluation, the faculty can evaluate their performance and the satisfaction level among the students (Jackson et al., 2010). Furthermore, faculty evaluation can also help faculty come out with better faculty development to better satisfy the student, which can increase student retention and the quality of the faculty at the same time.

2.3 PROPOSED CONCEPTUAL FRAMEWORK

It is the relationship between the IV and DV. Student retention during online learning is dependent variable which will be influenced by three independent variables, institutional support, behavioral characteristics and quality of faculty and student interaction.

The framework proposed is to study the factors of three IVs, which are institutional support, behavioral characteristics and quality of faculty and student interaction that will increase student retention during online learning in West Malaysia's private universities.



24

Independent Variables (IV)

Dependent Variable (DV)

Figure 2.3: The Research Framework

1

2.4 HYPOTHESES DEVELOPMENT

2.4.1 The Relationship between Institutional Support and Student Retention during Online Learning

Among the factors, Tinto found that students are more likely to persist in an environment that can provide clear information and effectively advise students on future career development (Tinto, 1975). Therefore, students who are rejected by the education or academic system may not be able to use the existing learning opportunities to develop themselves (Seidman, 2012). Herbert (2006) reported that the most critical institutional variable related to student retention is the institution's response to student needs. Experts believed students need enough institutional support for registration, financial aid, tutoring, courses, rules, and processes. Students cannot continue online learning without complete institutional support, particularly in technology assistance, hence institutional support is critical for student retention.

In short, when students feel that the educational institution does not support them, they are more likely to abandon online courses, especially online course registration, financial assistance, and tutoring (Stanford-Bowers, 2008). In the study of Sorensen and Judy (2017), 75% of the students said that the main reason for stopping their studies was because they did not get the necessary support from teachers and consultants. Students need to feel supported, and in

general, teachers are the first line supporters of online classrooms. So from here, we know that institutional support may be a key factor in affecting student retention.

H_1 : Institutional support will increase retention among West Malaysia's private university students during online learning.

2.4.2 The Relationship between Behavioral Characteristics and Student Retention during Online Learning

Positive behavioral characteristics are significant among all university students who are having online learning. Behavioral characteristics are one of the key factors for student retention and high academic performance. There are many types of behavioral characteristics like self-efficacy, self-discipline, and persistence (Muljana & Luo, 2019). According to Gaytan (2015) self-discipline was being ranked as the main factor that will affect student retention during online learning. It is important for students to have positive behavioral characteristics because it can improve their academic performance, student retention, improve self-discipline, and self-efficacy. When students have positive behavioral characteristics, they will be determined to complete their studies which improve student retention.

According to Muljana & Luo (2019) retention rates and the academic performance among all university students during online learning will increased by fostering positive behavior because behavioral characteristics of students are the determinants of positive retention. There is a researcher who mentioned that some of the university students are having a tough time balancing their lifestyle during online learning. This is because some students are required to study and go for a part-time job at the same time. However, there is a researcher who argues that most students prefer online learning more because it is more flexible, and so they can attend the classes at any location of their choice (Ilyas & Zaman, 2020). This means that the behavioral characteristics of the students are linked

to student retention. This is because students with good behavioral characteristics like self-efficacy, self-regulation and self-discipline will be able to cope with online learning as they will try their very best to perform their responsibility and to achieve goals. Thus, behavioral characteristics can increase the retention rates of university students during online learning.

H_2 : Behavioral characteristics will increase retention among West Malaysia's private university students during online learning.

2.4.3 The Relationship between Quality of Faculty and Student Interactions and Student Retention during Online Learning

Student retention is heavily influenced by the quality of faculty and student interaction. When faculty and student interaction is of high quality, student retention increases at the same time (Hoffman, 2014). This is because students prefer to studies in university that show care and support. According to Leeds et al. (2013) active participation of faculty during online learning will have positive influence on student retention. Thus, faculty can create better learning environment to motivate the students to self-regulate their behavior.

Students retention during online learning can be improved in many ways. With the right step, it can effectively increase student retention. According to Seery et al. (2021) faculty that provide academic advising and feedback to their students can have a positive influence on student retention. Moreover, Lau (2003) had also stated that the faculty should always be there to provide guidance or to work one-on-one with students that required more guidance. It is important for the faculty to truly understand and care about their student on how they are performing during online learning to prevent dissatisfaction. According to Salim Muljana and Luo (2019) the faculty must always be there to check, guide and provide suggestions for the students, especially the new students, as they need more support. Thus, the quality of interaction between the faculty and

students can improve retention as it provides the students with a favourable experience.

H_3 : Quality of faculty and student interaction will increase retention among West Malaysia's private university students during online learning.

2.5 CHAPTER SUMMARY

In conclusion, Chapter 2 analyze all appropriate publications on the dependent variable, which are institutional support, behavioral characteristics and quality of faculty and student interaction. We had conducted a comprehensive review of the literature contingent on the literature of previous researchers, using journals and articles. The research methodology will be carried out in Chapter 3 as the conceptual framework and hypotheses were constructed.

CHAPTER 3: METHODOLOGY

3.0 INTRODUCTION

It acquires reliable evidence to figure out an issue. It is significant to follow a systematic process to evolve solid proof knowledge (Callaghan, 2019). This chapter explains in what way the study is conducted about research design, the way to collect data describing, sampling design, operational definitions of constructs, measurement scales, and data processing.

3.1 RESEARCH DESIGN

It is a thorough provision approach to assure the evidence gathered facilitates us to meet the primary question. This is a technique of gathering and illustrating data to raise awareness of the research question (Rahi, 2017). This research design includes processes like data collection and measurement to answer all the research questions.

Research design has been classified into quantitative and qualitative research. In this study, we used quantitative research which addresses the statistical, mathematical, or numerical analysis of data, because we used statistical data to aggregate the overall survey results by distributing questionnaires to respondents.

Moreover, it consists of 3 types of research, exploratory, descriptive, and causal research. Exploratory research is to provide insights by collecting more research-related information to provide researchers with a better understanding. Descriptive research is to elucidate the features or functions of the problem situation. Causal research is to determine the hypothesis of causality and test the hypothetical relationship (Malhotra, 2010). In this research, we will determine the assumption of causality and where we will investigate whether retention among West Malaysia's private university students during online learning will be increased by institutional support, behavioral characteristics and quality of faculty and student interaction.

3.2 DATA COLLECTION METHODS

It is a procedure of collecting and analyzing, providing solutions, and evaluating results. The data will be adopted to respond to the research questions.

3.2.1 Primary data collection method

It is data gathered by researchers for the first time. In our research study, the questionnaire is to be developed and distributed to the respondents to collect all the raw data. To collect primary data, the questionnaire is to be created and given to the respondents and we use the result collected from respondents to measure specific variables of the research.

3.2.2 Secondary data collection method

It is knowledge evidence obtained by various researchers that have been collected or generated. A person has the right to use data that is previously collected by other researchers to conduct broader research (Hox & Boeije, 2005). Researchers who choose to use the secondary data collection method need to obtain all the main data that other researchers have analysed (Boslaugh, 2007). Due to the ongoing Covid-19 during our research period, we are collecting and analyzing data that we accessed through online resources including the online library of Universiti Tunku Abdul Rahman to obtain previous research or journal articles that other researchers have collected and analyzed.

3.3 SAMPLING DESIGN

3.3.1 Target Population

It is a beginning determination of the sampling design. Population denotes circumstances and targeted individuals as a whole, which will be investigated (Sekaran and Bougie, 2010). Our target population is students from private universities in West Malaysia who are currently undergoing online learning. To reduce the time needed during the pandemic, the study will be limited to students from four private universities in West Malaysia, namely Universiti Tunku Abdul Rahman, INTI International University Nilai, Monash University Malaysia and Taylor's University. The total student population of each four private universities are UTAR (approximately 20,000 students); Taylor's University (approximately 12,000 students); INTI International University Nilai (approximately 13,000 students); and Monash University Malaysia (approximately 8,400 students). Thus, our total target population are 53,400 students from four private universities who are undergoing online learning.

3.3.2 Sampling Frame And Sampling Location

It is a set of components from which samples able to be obtained. (Sekaran & Bougie, 2010). In our research, our target respondents are 381 students from four private universities in West Malaysia. Due to the Covid-19 pandemic, we use online methods to distribute our questionnaires, so our sampling frame is larger and can attain more people. For this reason, our sampling location is private universities in West Malaysia.

3.3.3 Sampling Elements

It is a situation from which the data is gained. This lays the foundation for the study of the research (Babbie & Earl, 1998). Our target respondents are students from private universities in West Malaysia who are having online, and students who do not have online classes are not included. The private universities

selected for this study are Universiti Tunku Abdul Rahman, INTI International University Nilai, Monash University Malaysia and Taylor's University.

Universiti Tunku Abdul Rahman (UTAR)

UTAR is a non-profit private university which provides affordable and high-quality education that was established on August 13, 2002. It was ranked top 600 in the 2021 Times Higher Education World University Rankings and ranked second in Malaysia only after the University of Malaya.

INTI International University Nilai

INTI International University, as the flagship campus, provides interdisciplinary industry-related courses and residential campus experience. The pursuit of quality and excellence has always been the hallmark of INTI University, and now it has been 30 years. In these 30 years, more than 70,000 students have passed through it to seek high-quality higher education and career prospects.

Monash University Malaysia

Monash University campus in Malaysia was started in 1998 in Bandar Sunway, Selangor, Malaysia. It provides a variety of undergraduate degrees through its schools of arts and social sciences, business, medicine, pharmacy, and much more. The campus also offers graduate master's and doctoral programs.

Taylor's University

Taylor's University is a private university in Selangor which was created in 1969. According to the QS World University Rankings, it is generally classed as the best private university in Malaysia.

¹ **3.3.4 Sampling Technique**

It consists of probability and non-probability sampling (Hair, Money, Samouel and Page, 2007). In our research, we choose non-probability sampling as our sampling technique. We used convenience sampling in our research. Convenience sampling is a techniques employed by researchers who collect data from a readily population of respondents. Based on our research we use google form to distribute our questionnaire. We used online distribution to conduct our survey, so we can reach more students who are in online learning, and also due to the ongoing pandemic, we are unable to distribute questionnaires in the physical location.

¹ **3.3.5 Sampling Size**

Malhortra (2007) and Zikmund (2003) pointed out that the larger the sample size of the study, the more precise the data produced, but the sample size may vary as a result of various circumstances. A valid sample size is needed, in our study we distributed 430 sets of questionnaire and we have to collected at least 381 questionnaires from private universities student in West Malaysia. However, 30 questionnaires were utilised for pilot testing before the real questionnaire survey. In order to determine an effective method for determining sample size while avoiding non-response bias in quantitative survey design, we will use Figure 3.1 to measure the definite sample size in all cases (Krejcie and Morgan, 1970).

⁹
Figure 3.1: Table for determine sample size from given population

Table 3.1
Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384

Note: N is Population Size; S is Sample Size
Source: Krejcie & Morgan, 1970

3.4 RESEARCH INSTRUMENT

It is to obtain initial data from target respondents. We use fixed alternative questionnaires and closed-ended questions to scheme the questionnaire and provide multiple-choice answers in the questionnaire. The objective of using a fixed alternative questionnaire is to facilitate the respondents to fill out and not deviate from our research goals.

1

3.4.1 Questionnaire Design

Table 3.1: Questionnaire Section A, B, C, D and E

Section	Components/Variables
Section A	Demographic Profile
Section B	DV: Student retention
Section C	IV: Institutional support
Section D	IV:

	Behavioral characteristics
Section E	IV: Quality of faculty and student interaction

Note. Developed for the research

Our questionnaires have 5 sections: A, B, C, D and E. Part A is respondents' demographic information. All the questions in parts B, C, D, and E, together with Likert's Five-point scale ranking, alternating to strongly disagree to strongly agree. Section B contained nine items linked to dependent variable. And in section C, D and E, it contains three independent variables, namely institutional support, behavioral characteristics and quality of faculty and student interaction. The C, D, and E sections are respectively composed of nine questions, six questions and ten questions.

Section A: Demographic Question

In this section, it comprises of 7 fixed-alternative questions that were used to access to the personal particulars of respondent, for example, sexual orientation, age, race, name of the university, and etc. Fixed alternative questions are also called closed-ended questions. They are standardized and easier for respondents to read and answer.

Section B: Student retention

The questionnaire of student retention is adapted from Gopal, Singh, and Aggarwal (2021). It is measured by using 9 items with a Five-Likert scale to evaluate the retention of the student during online learning.

Section C: Institutional support

The institutional support questionnaire was assessed by using 9 items scales. Each item had a Five-Likert scale which is adapted from Gopal, Singh, and Aggarwal (2021).

Section D: Behavioral characteristics

The Behavioral characteristics questionnaire is adapted from Al-Dossary (2008) and Harbrecht (2019). The section consists of 9 items, and each item has a Five-Likert scale for respondents.

Section E: ⁵Quality of faculty and student interaction

Quality of faculty and student interaction questionnaire was assessed by using 10 items scales. Each item had a Five-Likert scale which is adapted from Gopal, Singh, and Aggarwal (2021).

3.4.2 Pilot Study

It is an experimental project designed to evaluate testing methods, data collection tools, and other research techniques to train researchers for further research. In our study, 30 questionnaires were given to students from private universities in West Malaysia via Google Form.

¹
Table 3.2: Schedule of Pilot Study

Date	Activity
13 August 2021	Send out 30 survey questionnaires to targeted respondent by Google Form
13 August 2021	Obtain all the questionnaires result by the respondent and review all the result
13 August 2021	Run pilot test in SPSS software

Note. Developed for the research

On 13 August 2021, we sent out 30 questionnaires to students in private universities in West Malaysia. On the same day, we have obtained all the results of the questionnaire and started to review and analyze all the results. At the same

time, we reorganized the collected questionnaires so that we can use the Social Science Statistical Package (SPSS) software for pilot testing.

¹
Table 3.3: Reliability Analysis for Pilot Study

Variables	Number of Item	Cronbach's Alpha
Student retention	9	0.886
Institutional support	9	0.904
Behavioral characteristics	9	0.722
Quality of faculty and student interaction	10	0.882

Note. Developed for the research

In Table 3.3, coefficient alpha value of student retention is 0.886; institutional support is 0.904; behavioral characteristics is 0.722; quality of faculty and student interaction is 0.882. All of the variables are reliable because all the variables have alpha values greater than 0.6.

¹ **3.5 CONSTRUCTS MEASUREMENT (Scale and Operational Definitions)**

3.5.1 Origin of Construct

Table 3.4: Origin of Construct

Variable	Adopted From	Scale of Measurement
Student retention (DV)	³ Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period	Interval

	of COVID 19. <i>Education and Information Technologies</i> , 1-25.	
Institutional support (IV)	³ Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. <i>Education and Information Technologies</i> , 1-25.	Interval
Behavioral characteristics (IV)	⁶ Al-Dossary, S. (2008). A study of the factors affecting student retention at King Saud University, Saudi Arabia: Structural Equation Modelling and Qualitative Methods. ²¹ Harbrecht, I. (2019). <i>Entering Society—The Adolescence, Identity and Development of Vocational Education Students in Shanghai</i> . Würzburg University Press.	Interval
Quality of faculty and student interaction (IV)	³ Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. <i>Education and Information Technologies</i> , 1-25.	Interval

Note. Developed for the research

3.5.2 Scale of Measurement

It involves assigning numbers or symbols according to a set of prefix rules to the object characteristics. The reason for assigning numbers to study is in view of the fact that numbers allow investigators to perform statistical analysis and examine hypotheses that have been cultivated. Scale is used to distinguish variables. Dimension scales are classified into 4 types, including nominal, ordinal, interval and ratio scales.

3.5.2.1 Nominal Scale

It is the lowest evaluation standard for non-numeric variables. It is also the smallest degree of estimation scale. It classifies objects into contradictory and exhaustive groups in collective. This grading only stipulates some fundamental, categorized, gross, and individual information, such as gender.

Example of nominal scale:

4. What is your gender?

 - ☐ Male
 - ☐ Female

Note. Developed for the research

3.5.2.2 Ordinary Scale

It is used to report ranking and sorting the data without determining the degree of change between them (Zikmund, Babin, Carr, and Griffin, 2013). In addition, the ordinary scale has certain nominal scale characteristics.

Example of ordinary scale:

5. What is your age?

 - ☐ Below 18 year old
 - ☐ 18-21 year old
 - ☐ 22-25 year old
 - ☐ Above 25 year old

Note. Developed for the research

3.5.2.3 Interval Scale

The creator of the interval scale is Rensis Likert, which was introduced in year 1932 as a method of measuring attitudes or opinions. Unlike ordinary scales that do not display interval values in rankings, interval scales allow scholars to seize object differences. In a nutshell, the interval scale combines changes in the magnitude, ranking, and modification of the equation variables.

Example of nominal scale:

Level of agreement: 1 – Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 – Strongly Agree						
No.	Questions	1-SD	2-D	3-N	4-A	5-SA
1	Online classes were valuable.					
2	Online classes has sharpened my analytic skills.					
3	Online classes improved my understanding of the subject.					

Note. Developed for the research

3.6 DATA PROCESSING

To produce accurate and valuable results, researchers must collect data from respondents. These data must be analysed after the data is collected to produce reliable results. The process of integrating and processing data in order to turn it into valuable information is known as data processing. Data checking, data editing, data coding, and data transcribing are the four data processing procedures.

3.6.1 Data Checking

It is a process of confirming questionnaire collected from the respondent. Some responses to questions may be partial due to respondents' lack of understanding of the question.

3.6.2 Data Editing

This procedure comes after data verification stage. Technique of examining and fixing errors in surveys with missing, confusing, nonsensical, and illogical responses is known as data editing. Therefore, this process is to assure that the details and response are factual.

3.6.3 Data Coding

It is the third process by which investigators assign numbers to each alternative to all questions. The numbers are allocated to allow researchers to enter data into the database quickly and regularly.

In section A, the answer of each question is coded as:

Q1	Are you a Malaysia private university student?	Yes=1 No=2
Q2	The name of your university	Universiti Tunku Abdul Rahman (UTAR)=1 INTI International University Nilai =2 Monash University Malaysia=3 Taylor's University=4

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Q3	Are you having online learning now?	13 Yes=1 No=2
Q4	What is your gender?	Male=1 Female=2
Q5	What is your age?	20 Below 18 years old=1 18-21 years old=2 22-25 years old=3 Above 25 years old=4
Q6	Ethnic group	Chinese=1 Malay=2 Indian=3 Other=4
Q7	You are in Year ____ student.	1=1 2=2 3=3

		Above year 3=4
--	--	----------------

Note. Developed for the research

In section B, C, D, and E, the ¹ answer of each question is coded as:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

3.6.4 Data Transcribing

This is procedure through which researchers must transliterate all data recorded in the SPSS for data analysis. After coding all the answers to each question, the researcher will run the process.

3.7 DATA ANALYSIS

It is to describe and clarify, compress and shorten, and examine data in a systematic manner (Zikmund et al., 2013). The computer program we use to interpret and analyze the collected data is the SPSS.

3.7.1 Descriptive Analysis

It is a statistical analysis, including methods of systematizing and recapping information. It also includes the organisation of tables, charts, and graphs, as well as the calculation of descriptive metrics like variance, percentage, and average to evaluate data (Loeb et al., 2017). In our questionnaire, descriptive analysis tools classify the personal demographic data of the target respondents,

that is, private university students, in a graphical format. After receiving enough information from the target population, the demographic data will be constructed in a graphical format of bar graphs, histograms, or pie charts.

3.7.2 Reliability Analysis

A reliability test verifies the research idea being proves by the instrument's stability and consistency. In this research analysis, the reliability of each dimension has been examined by the Cronbach alpha test, so the survey results will be consistent. Our research used SPSS software to calculate reliability coefficient on the basis of Cronbach's coefficient α .

1
Table 3.5: Cronbach's Alpha Range

Level of Reliability	Coefficient Alpha ranges, α
Poor Reliability	< 0.60
Fair Reliability	0.60 – 0.70
Good Reliability	0.70 – 0.80
Very Good Reliability	0.80 – 0.95

1
Table 3.6: Reliability Test for Pilot Study

Variables	Coefficient Alpha Value	Level of Reliability
Student retention	.886	Very Good Reliability
Institutional support	.904	Very Good Reliability
Behavioral characteristics	.722	Good Reliability
Quality of faculty and student interaction	.882	Very Good Reliability

Note. Adapted from SPSS for research

As shown in Table 3.7, the outcome of the pilot test of this study displays that institutional support shows coefficient alpha value of 0.904, behavioral

characteristics is 0.722, quality of faculty and student interaction is 0.882. The coefficient alpha value of our DV, which is student retention get a result of 0.886. Generally, the reliability outcome is favourable, which is adequate.

30 3.7.3 Inferential Analysis

Multiple Regression Analysis

It is to determine predictability or the contribution of IV to DV. As a result, we devised a five-point Likert scale to investigate the relationship between variables in the questionnaire and measure the degree of agreement with the answer.

The variables in our research are treated as indicators. Multiple linear regression analysis is operated to probe whether institutional support, behavioral characteristics and quality of faculty and student interaction will increase retention among West Malaysia's private university students during online learning. Furthermore, the IV in multiple linear regression might be metric or non-metric, but the DV must be metric.

Multiple Regression equation:

$$Y = \alpha + b_1IS + b_2BC + b_3QFS$$

Where, Y= Student retention

IS= Institutional support

BC= Behavioral characteristics

QFS=Quality of faculty and student interaction

In our study, multiple linear regression is exercised to test the following hypotheses:

H_1 : Institutional support will increase retention among West Malaysia's private university students during online learning.

H_2 : Behavioral characteristics will increase retention among West Malaysia's private university students during online learning.

H_3 : Quality of faculty and student interaction will increase retention among West Malaysia's private university students during online learning.

3.8 CHAPTER SUMMARY

In summary, Chapter 3 examine the research methods practiced in our research. Research methodologies involve research design, data collecting, sampling, research tools, construction measures, and data processing. All hypotheses will also be examined using multiple regression analysis to see if IV and DV have a significant connection. In Chapter 4, we will provide a detailed view of all the findings by the SPSS programme.

CHAPTER 4: RESEARCH RESULT

4.0 INTRODUCTION

The studies to be performed in this chapter are descriptive analysis, reliability analysis, Pearson correlation coefficient, and multiple regression analysis. The overall results were collected and analyzed using the SPSS. In our study, the online questionnaires which we conducted by using google form are our raw data, and 389 sets of questionnaires were collected from respondents who are studying in private university Malaysia which we studied to.

4.1 DESCRIPTIVE ANALYSIS

It assists in portraying, displaying, or abridge data points in a productive manner so that patterns that satisfy each situation of the data may emerge. There are 7 questions about respondents' demographic profiles. Questions included are whether they are Malaysian private university students, are the student having online learning now, gender, name of their university, age, ethnic group, students' year of university.

4.1.1 Respondent Demographic Profile

4.1.1.1 Are you a Malaysian private university student?

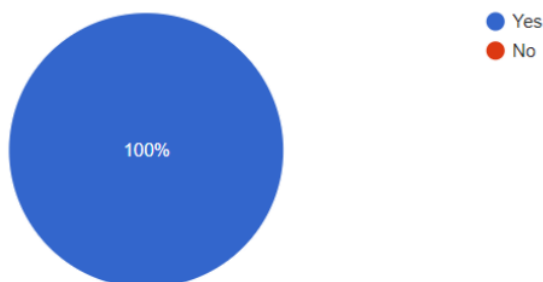
Table 4.1: Statistics of are you a Malaysia private university student?

Are you a Malaysian private university student?	Frequency	Percent (%)
Yes	389	100

Figure 4.1: Statistics of are you a Malaysia private university student?

1. Are you a Malaysian private university student?

389 responses



¹ According to Table 4.1 and Figure 4.1, all respondents are private university students in Malaysia as 389 respondents stand the percentage of 100%.

4.1.1.2 Are you having online learning now?

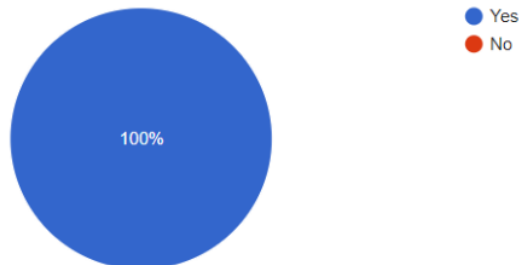
Table 4.2: Statistics of are you having online learning now?

Are you having online learning now?	Frequency	Percent (%)
Yes	389	100

Figure 4.2: Statistics of are you having online learning now?

2. Are you having online learning now? (If YES, then proceed)

389 responses



¹ Through observation in Table 4.2 and Figure 4.2, all respondents are having online learning now as 389 respondents stand the percentage of 100%.

15

4.1.1.3 Gender

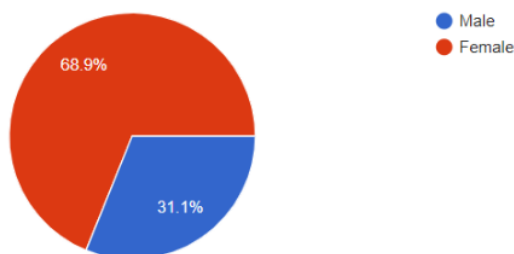
Table 4.3: Statistics of Respondents' Gender

Gender	Frequency	Percent (%)
Male	121	31.1
Female	268	68.9

Figure 4.3: Statistics of Respondents' Gender

3. What is your gender?

389 responses



Based on Table 4.3 and Figure 4.3, most of the respondents are female university students with an amount of 268 female respondents (68.9%) while there are only 121 male respondents (31.1%). The results showed that the number of female respondents was absolutely upper than that of male respondents.

4.1.1.4 The name of your University

Table 4.4: Statistics of respondents' university name

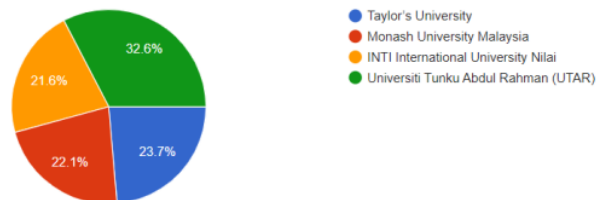
Name of university	Frequency	Percent (%)
Taylor's University	92	23.7
Monash University Malaysia	86	22.1
INTI International University Nilai	84	21.6

Universiti Tunku Abdul Rahman (UTAR)	127	32.6
--------------------------------------	-----	------

Figure 4.4: Statistics of respondents' university name

4. The name of your university

389 responses



There are four universities listed in our questionnaire, most of the respondents are from UTAR, 127 respondents (32.6%), followed by 92 respondents from Taylor's University (23.7%), Monash University Malaysia with 86 respondents (22.1%) and INTI International University Nilai with 84 respondents (21.6%).

4.1.1.5 Age

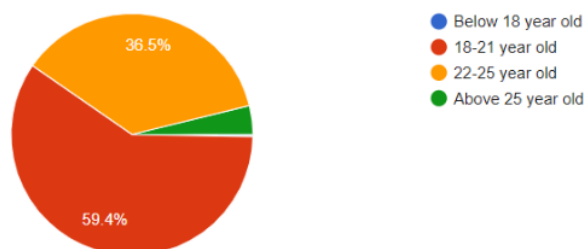
Table 4.5: Statistics of Respondents' Age

Age	Frequency	Percent (%)
Below 18 years old	1	0.3
18-21 years old	231	59.4
22-25 years old	142	36.5
Above 25 years old	15	3.9

Figure 4.5: Statistics of Respondents' Age

5. What is your age?

389 responses



According to Table 4.5 and Figure 4.5, the majority of respondents are between the ages of 18 and 21, with a total of 231 respondents (59.4%). 142 respondents (36.5%) in the age group between 22 to 25 years old, 15 respondents (3.9%) are above 25 years old and the age range below 18 years old has only 1 respondent (0.3%).

4.1.1.6 Ethnic Group

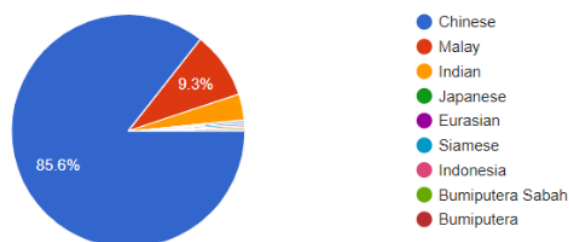
Table 4.6: Statistics of Respondents' Ethnic Group

Ethnic Group	Frequency	Percent (%)
Chinese	333	85.6
Malay	36	9.3
Indian	14	3.6
Others	6	1.5

Figure 4.6: Statistics of Respondents' Ethnic Group

6. Ethnic group.

389 responses



According to the Table 4.6 and Figure 4.6, respondents are categorized into four ethnics groups, in this research project, the main contributor is Chinese with a total of 333 respondents (85.6%) while second contributors are from Malay respondents with 36 respondents (9.3%) followed by Indian respondent with 14 respondents (3.6%). The lowest contributors of respondents are from others with 6 respondents (1.5%).

4.1.1.7 Students' year of university

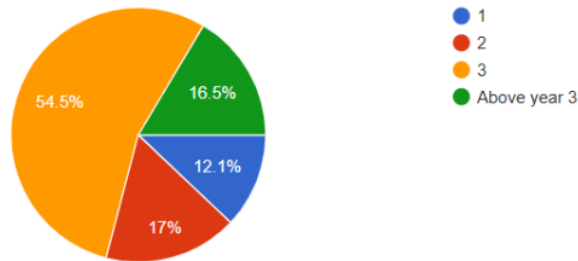
Table 4.7: Statistics of students' year in university

Year	Frequency	Percent (%)
1	47	12.1
2	66	17.0
3	212	54.5
Above 3	64	16.5

Figure 4.7: Statistics of your year in university

7. You are in Year ____ student.

389 responses



As regards Table 4.7 and Figure 4.7, university students can be categorized into 4 different years. The vast majority of the respondent are year 3 students with an amount of 212 university students (54.5%), followed by 66 university students (17%) who are year 2 students, 64 university students (16.5%) are students more than 3 years while 47 (12.1%) of them are year 1 student.

4.1.2 Central Tendencies Measurement of Constructs

In this chapter, the mean and standard deviation figures are utilised to highlight the major patterns of the questionnaire's five interval scale items. The mean and standard deviation of each question were calculated using the SPSS system's test results.

4.1.2.1 Student Retention

According to the result, the statement "Online classes were valuable" had the highest mean at 3.8972, indicating that it was highly recognized by the majority of respondents. It then ended with the statement "Taking online classes increased my interest in academic participation" with the a lowest mean of 3.4730 and a highest standard deviation of 1.26915.

Table 4.8: Central Tendencies Measurement of Constructs: Student Retention
(DV)

No.	Statement	Mean	Mean Ranking	Standard Deviation	Standard Deviation Ranking
SR 1	Online classes were valuable.	3.8972	1	.90799	9
SR 2	Online classes has sharpened my analytic skills.	3.6761	6	1.05174	8
SR 3	Online classes improved my understanding of the subject.	3.6144	7	1.11706	5
SR 4	Online classes have improved my written skills.	3.6812	5	1.14477	3
SR 5	Taking online classes increased my interest in academic participation.	3.4730	9	1.26915	1
SR 6	We are generally given enough time to understand the things we have to learn.	3.8226	2	1.06582	7
SR 7	As a result of doing online classes, one feels more confident about tackling unfamiliar problems.	3.7326	3	1.13541	4

SR 8	The online class really tries to get the best out of all its students.	3.7275	4	1.08542	6
SR 9	Overall, online learning is the best learning experience I have ever had.	3.5398	8	1.22961	2

Note. Adapted from SPSS for research

4.1.2.2 Institutional Support

From Table 4.9 the majority of institutional support has a mean of around 4. With a mean score of 4.1928 percent, the statement "The teacher employed online learning resources such as Microsoft PowerPoint, Microsoft Word, or video aids to construct instructive" was selected as the highest. We may deduce from the Table 4.9 that the vast majority of respondents agree with this survey statement. As a result, we may assume that institutional support will help students stay in institutions longer during online learning. Meanwhile, the highest standard deviation of institutional support belongs to the question "Online learning helped me to learn more quickly and effectively." with a value of 1.07489.

Table 4.9: Central Tendencies Measurement of Constructs: Institutional Support (IV)

No.	Statement	Mean	Mean Ranking	Standard Deviation	Standard Deviation Ranking
IS 1	The course was well organized.	3.8997	7	.86616	5
IS 2	The course was designed to allow assignments to be completed across different learning environments.	3.9100	6	.89364	3
IS 3	The instructor facilitated the course effectively.	3.9177	5	.83938	8
IS 4	The instructor used good examples to explain during the online classes.	3.9229	4	.86108	6
IS 5	The instructors are extremely good at explaining things to us.	3.9280	3	.89094	4

IS 6	The instructor used online learning tools (e.g. Microsoft PowerPoint, Microsoft Word or video aids) to design instructional materials that were understandable.	4.1928	1	.77749	9
IS 7	Online tools were used to create an efficient learning environment.	4.0643	2	.83942	7
IS 8	The assignments for online classes were of appropriate difficulty level.	3.8972	8	.98427	2
IS 9	Online learning helped me to learn more quickly and effectively.	3.7429	9	1.07489	1

Note. Adapted from SPSS for research

4.1.2.3 Behavioral Characteristics

As can be seen from Table 4.10, one of the IV's as a behavioral characteristic included the statement "It is important for me to graduate from university", which had the highest mean of 4.5039. This was followed by the statement "I study because exam grades are important", with a mean score of 4.2853 and a standard deviation of 0.83005. Additionally, "I study because I like to learn" had the lowest mean score at 3.8049 and the highest standard deviation at 1.00148.

Table 4.10: Central Tendencies Measurement of Constructs: Behavioral Characteristics (IV)

No.	Statement	Mean	Mean Ranking	Standard Deviation	Standard Deviation Ranking
BC 1	I study because I like to learn.	3.8046	9	1.00148	1
BC 2	I study because exam grades are important.	4.2853	2	.83005	8
BC 3	I can set goals and deadlines for myself.	4.1131	3	.87788	4
BC 4	I am able to actively communicate online via e-mail or discussions.	4.0437	4	.86492	5

BC 5	I would classify myself as someone who is self-disciplined to get things done on time.	3.9177	8	.96774	2
BC 6	I have performed academically as well as I anticipate I would.	3.9871	6	.83564	7
BC 7	My academic experience has had a positive influence on my intellectual growth and interest in ideas.	4.0077	5	.85098	6
BC 8	It is important for me to graduate from university.	4.5039	1	.66045	9
BC 9	Online classes have encouraged me to develop my own academic interests as far as possible.	3.9486	7	.95918	3

Note. Adapted from SPSS for research

4.1.2.4 Quality of Faculty and Student Interaction

From the Table 4.11, we note that a statement in the quality of faculty and student interaction data shows that the highest mean is 4.0694 and the lowest standard deviation is 0.78176, which is "The instructor used online learning tools to create a comfortable learning space". While the highest standard deviation for the quality of faculty and student interaction falls under "My non-classroom interaction with faculty has a positive influence on my career goals and aspirations" with a value of 0.97987.

Table 4.11: Central Tendencies Measurement of Constructs: Quality of Faculty and Student Interaction (IV)

No.	Statement	Mean	Mean Ranking	Standard Deviation	Standard Deviation Ranking
QFSI 1	The instructor responded promptly to my question about the use of online learning tools.	3.9434	6	.88042	6
QFSI 2	The instructor responded promptly to my question about general course requirements.	3.9820	3	.82311	8

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QFSI 3	The instructor responded promptly to my question about the course assignment.	4.0129	2	.81376	9
QFSI 4	The instructor used online learning tools to create a comfortable learning space.	4.0694	1	.78176	10
QFSI 5	The instructor personalized interactions with me whenever necessary.	3.9563	5	.89422	5
QFSI 6	My non-classroom interaction with faculty has positively influence on my personal growth, values, and attitudes.	3.8740	8	.96702	2
QFSI 7	My non-classroom interaction with faculty has positively influence on my intellectual growth and interest in ideas.	3.8689	9	.95830	3
QFSI 8	My non-classroom interaction with faculty has positively influence on my career goals and aspirations.	3.8072	10	.97987	1
QFSI 9	Most of the faculty I have contacted are interested in helping students grow in more than just academic areas.	3.8972	7	.94417	4
QFSI 10	Most of the faculty I have contacted are genuinely interest in teaching.	3.9640	4	.87858	7

Note. Adapted from SPSS for research

4.1.2.5 Summary of Central Tendencies Measurement

Table 4.12: Summary of Central Tendencies Measurement

Variables	Dimensions	Mean	Standard Deviation
-----------	------------	------	--------------------

Dependent Variable	Student Retention	33.1645	8.05898
Independent Variables	Institutional Support	35.4756	5.93196
	Behavioral Characteristics	36.6118	5.01708
	Quality of Faculty and Student Interaction	39.3753	6.85099

Note. Adapted from SPSS for research

4.2 SCALE MEASUREMENT

We have used SPSS Statistics for reliability analysis to assess the dependent variables that is the student retention and independent variables which are institutional support, behavioral characteristics and quality of faculty and student interaction. In this research project, a total of 389 respondent were included.

4

4.2.1 Reliability Analysis

Cronbach's Alpha was utilised to assess the data reliability.

The reliability test results are shown in the Table 4.13. One of the IV, behavioral characteristics has the lowest alpha value at 0.815, followed by institutional support at 0.894, but these two elements still indicate good reliability. Second, a slightly more reliable variable than behavioral characteristics and institutional support is the quality of faculty and student interactions, which has an alpha value of 0.922. While the remaining variable, student retention (DV), has an excellent reliability value of 0.931.

1

Table 4.13: Result of the Reliability Test

Variables	Dimensions	Cronbach's Alpha
------------------	-------------------	-------------------------

Independent Variables	Institutional Support	.894
	Behavioral Characteristics	.815
	Quality of Faculty and Student Interaction	.922
Dependent Variable	Student Retention	.931

Note. Adapted from SPSS for research

4.3 INFERENTIAL ANALYSIS

4.3.1 Pearson Correlation Analysis

It scales the intensity and the importance of the relationship between two different variables ("Pearson Product-Moment Correlation," 2020). The findings of this Pearson correlation coefficient are that it has a value range from -1 to +1, -1 is defined as a negative relationship between the variables whereas +1 is defined as a perfect positive relationship with both variables. If there is no linear relationship between the two variables, hence the correlation coefficient with a value of 0 is defined.

Table 4.14: Interpretation of Pearson Correlation Coefficient

Absolute Magnitude of the Observed Correlation Coefficient	Interpretation
0.00-0.10	Negligible correlation
0.10-0.39	Weak correlation
0.40-0.69	Moderate correlation
0.70-0.89	Strong correlation
0.90-1.00	Very strong correlation

Source: *Schober, P., Boer, C., & Schwarte, L.A. (2018). Correlation Coefficients: Appropriate Use and Interpretation. Anesthesia and Analgesia.*

4.3.1.1 Hypothesis 1

H_0 : There is no significant relationship between institutional support and student retention.

H_1 : There is a significant relationship between institutional support and student retention.

Table 4.15: Correlations between Institutional Support (IS) and Student Retention (SR)

Correlations		Student Retention
Institutional Support	Pearson Correlation	.745**
	Sig. (2-tailed)	<.001
	N	389

**. Correlation is significant at the 0.01 level (2-tailed).

Note. Adapted from SPSS for research

Direction

Based on the results of Table 4.15, both variables, institutional support and student retention are positively correlated with a correlation coefficient of 0.745. Thus, when institutional support is been highly applied by institutions, student retention will increase.

Strength

There is a very strong correlated relationship between institutional support and student retention with 0.745 which is in the range of 0.70 to 0.89. Therefore, there is a very strong correlation between institutional support and student retention.

Significance

Table 4.15 showed that the p-value is lower than the alpha value 0.001. Therefore, there is a significant relationship between institutional support and student retention. Thus, H_1 is accepted.

4.3.1.2 Hypothesis 2

H_0 : There is no significant relationship between behavioral characteristics and student retention.

H_1 : There is a significant relationship between behavioral characteristics and student retention.

Table 4.16: Correlations between Behavioral Characteristics (BC) and Student Retention (SR)

Correlations		Student Retention
Behavioral Characteristics	Pearson Correlation	.595**
	Sig. (2-tailed)	<.001
	N	389

**. Correlation is significant at the 0.01 level (2-tailed).

Note. Adapted from SPSS for research

Direction

Based on the results of Table 4.16, both variables, behavioral characteristics and student retention are positively correlated with a correlation coefficient of 0.595. Thus, when behavioral characteristics of a student are positive, student retention will increase.

Strength

31

There is a moderately correlated relationship between behavioral characteristics and student retention with 0.595 that between the range of 0.40 and 0.69. Thus, there is a moderate correlation between behavioral characteristics and student retention.

Significance

Table 4.16 showed that the p-value is lower than the alpha value 0.001. Therefore, there is a significant relationship between behavioral characteristics and student retention. Thus, H_1 is accepted while H_0 is rejected.

4.3.1.3 Hypothesis 3

H_0 : There is no significant relationship between quality of faculty and student interaction and student retention.

H_1 : There is a significant relationship between quality of faculty and student interaction and student retention.

Table 4.17: Correlations between Quality of Faculty and Student Interaction (QFSI) and Student Retention (SR)

Correlations		Student Retention
QFSI	Pearson Correlation	.628**
	Sig. (2-tailed)	<.001
	N	389

**, Correlation is significant at the 0.01 level (2-tailed).

Note. Adapted from SPSS for research

Direction

Based on the results of Table 4.17, both variables are positively correlated with a correlation coefficient of 0.628. Thus, when the quality of faculty and student interaction is greater, student retention will increase.

Strength

There is a moderately correlated relationship between quality of faculty and student interaction and student retention with 0.628 which fall under the range of 0.40 to 0.69. It is a moderate correlation between the quality of faculty and student interaction and student retention.

Significance

Table 4.17 showed that the p-value is lower than the alpha value 0.001. Therefore, there is a significant relationship between quality of faculty and student interaction and student retention. Thus, H_1 is accepted while the H_0 is rejected.

4.3.2 Multiple Linear Regression Analysis

It is to analyse the linear relationship between DV and IVs (Kenton, 2020).

Hypothesis 4

H_0 : There is no significant relationship between institutional support, behavioral characteristics and quality of faculty and student interaction and student retention.

H_1 : There is significant relationship between institutional support, behavioral characteristics and quality of faculty and student interaction and student retention.

4.3.2.1 R-Square

Our table 4.18 showed that the R-square resulted in 0.595 which means that all our IVs, could be explained to 59.50 of variations in the DV, student retention in this research. In this research, there is still has 40.5% left for an unexplained

reason. In specifically, there are still some variables that we have not been considered in this research but it is critical in our topic.

Table 4.18: Model Summary of R-square Value

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.771 ^a	.595	.591	.57235

a. Predictors: (Constant), Quality, Behavior_Characteristic, Institutional_Support

Note. Adapted from SPSS for research

4.3.2.2 Coefficients

Based on the Table 4.19, it indicates three IVs have a positive relationship with DV (student retention). Institutional support ($\beta=0.765$, $p<0.001$), behavioral characteristics ($\beta=0.349$, $p<0.001$) and quality of faculty and student interaction ($\beta=0.096$, $p=0.159$) have a significant effect on student retention because the p-value is smaller than alpha value (0.001). Consequently, H1, H2, H3 are supported.

Table 4.19: Coefficients

Coefficients ^a					
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	t
1	(Constant)	-1.125	.223		-5.056
	Institutional_Support	.765	.067	.563	11.335
	Behavior_Characteristic	.349	.069	.217	5.040
	Quality	.096	.068	.073	1.412

a. Dependent Variable: Student_Retention

Note. Adapted from SPSS for research

4.3.2.3 Highest Contribution

According to the results in Table 4.19, the largest contributor to student retention is institutional support, which has a beta value of 0.765. More specifically, institutional support had the strongest unique contribution in increasing student retention, which is our dependent variable.

4.3.2.4 Second Highest Contribution

Table 4.19 shows that the second-highest contribution to student retention is behavioral characteristics, which have a beta value of 0.349. It also shows that behavioral characteristics were the second largest contributor to increase student retention.

4.3.2.5 No Contribution

Table 4.19 shows that the no contribution to student retention is the quality of faculty and student interactions, which has a beta of 0.096. More specifically, it made the smallest unique contribution to increase student retention.

4.4 CHAPTER SUMMARY

1 In conclusion, the data collected were summarized and analyzed with SPSS Statistics. The reliability of the DV and IVs was also investigated. Final results are brought down to Chapter 5 for further discussion to finalized by concluding the whole research.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.0 INTRODUCTION

5.1 SUMMARY OF STATISTICAL ANALYSIS

5.1.1 Summary of Descriptive Analysis

In our result obtained, a total of 389 university students (100%) participated in answering the questionnaires are Malaysian private university students. Moreover, a total number of 389 university students (100%) are having online learning now.

There is the total of 268 female university students (68.9%) and 121 male university students (31.1%) took part in responding to the questionnaires carried out in this research study.

For the type of university, 127 of the university students (32.6%) are studying in UTAR, followed by Taylor's University with 92 students (23.7%), Monash University Malaysia with 86 university students (22.1%) and 84 university students (21.6%) from INTI International University Nilai.

For the age, there are a total of 231 of the university students who fall within the age range of 18-21 (59.4%), followed by 142 university students within the age ranges of 22-25 (36.5%), 15 university students are above 25 years old (3.9%) while 1 of the university students (0.3%) are below 18 years old.

Besides, 333 of the respondents who engaged in answering the questionnaires are Chinese (85.6%), 36 of the respondents are Malay (9.3%), 14 of them are Indian (3.6%) and 6 respondents are others (1.5%).

A total of 212 university students (54.5%) are a year 3 students, followed by 66 university students (17%) who are a year 2 students, 64 university students (16.5%) are students more than 3 years while 47 (12.1%) of them are year 1 students.

5.1.2 Central Tendencies Measurement

Based on the result obtained in central tendencies measurement, the highest mean value in institutional support is 4.1928, which was “The instructor used online learning tools (e.g. Microsoft PowerPoint, Microsoft Word or video aids) to design instructional materials that were understandable”. The standard deviation is 0.77749.

The highest mean value for behavioral characteristics is 4.5039 with a standard deviation of 0.66045 which was for the statement “It is important for me to graduate from the university”.

Lastly, for the quality of faculty and student interaction, the highest mean value is 4.0694 with a standard deviation of 0.78176. This was for the statement “The instructor used online learning tools to create a comfortable learning space”.

Quality of faculty and student interaction has an overall lower mean value compared to the other two variables. This indicates that from the respondents’ perspective they think that their faculty did not encourage and assist them during online learning, so their student retention will not increase. Therefore, we have to focus more on faculty issues.

5.1.3 Scale Measurement

The reliability test results show that the Cronbach's Alpha of the DV is 0.931. For the IVs, the Cronbach's Alpha value for institutional support was 0.894, the behavioral characteristics were 0.815, and finally, the quality of faculty and student interaction was 0.922. Since all variables were in the range of 0.89 and above, the strength of the questionnaire was considered to have strong reliability.

5.1.4 Summary of Inferential Analysis

5.1.4.1 Pearson Correlation Analysis

Hypotheses	R-Value Sig-Value	Conclusion
Hypothesis 1 H₁: There is significant relationship between institutional support and student retention.	$r = 0.745$ Sig. < 0.001	H ₁ is supported
Hypothesis 2 H₂: There is significant relationship between behavioral characteristics and student retention.	$r = 0.595$ Sig. < 0.001	H ₂ is supported
Hypothesis 3 H₃: There is significant relationship between quality of faculty and student interaction and student retention.	$r = 0.628$ Sig. < 0.001	H ₃ is supported

Note. Adapted from SPSS for research

In summary, all independent variables (institutional support, behavioral characteristics, and quality of faculty and student retention) were substantially related with student retention, as all IVs had p-values less than alpha of 0.001.

5.1.4.2 Multiple linear regression

Regression Equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Student retention = -1.125 + 0.765 (institutional support) + 0.349 (behavioral characteristics)
+ 0.096 (quality of faculty and student interaction)

The results of the Multiple Regression Test shows that the p-value is lower than the alpha value 0.001. Thus, all of our IVs are significant to in increasing student retention during online learning. Institutional support with beta 0.765 is the highest contribution to increase student retention during online learning. Quality of faculty and student interaction with beta 0.096 is the lowest contribution to increase student retention during online learning.

The value of the R square of 0.595 indicates that the IVs explain 59.50% of variations in the DV.

Hypothesis 4

H₁: There is significant relationship between institutional support, behavioral characteristics, quality of faculty and student interaction and student retention.

5.2 DISCUSSIONS OF MAJOR FINDINGS

5.2.1 Institutional support and student retention

Hypothesis 1:

H₁: There is significant relationship between institutional support and student retention.

The results, as reported in Table 5.1.2.1, supported H1. First, the correlation coefficient of 0.745 falls between 0.70 and 0.89, demonstrating that institutional support is positively and substantially correlated to student retention. Furthermore, the results demonstrate that the sig. value is lower than alpha value 0.001. It shows a significant relationship between institutional support and student retention.

In the study of Banawa (2015) it showed that institutional administrators show a crucial responsibility in enhancing student retention. For example, in addition to effectively managing cultural diversity on campus, institutional administrators can increase the chances of students staying on campus during online learning by offering students with adequate resources, educational assistance, and the accessibility of online facilities. Some students withdraw due to lack of funds, poor student-institution fit, changes in academics and much more.

Secondly, more students withdraw because institutions fail to create an environment conducive to their learning and educational needs in online learning, so these students are dissatisfied with the education they receive. If institutions cannot manage normal online learning institution work or integrate into some student groups, this may lead to some students being dropped because they do not want to be tortured anymore. Finally, in their first year of college, freshmen may be overwhelmed by the transition from high school to college life, and they may be overwhelmed by the dramatic changes even before their first year of college is over.

5.2.2 Behavioral characteristics and student retention

Hypothesis 2:

H₂: There is a significant relationship between behavioral characteristics and student retention.

As shown in Table 5.1.2.1, the results proved H2. First, the correlation coefficient value of 0.595 is between 0.40 and 0.69 which indicates that behavioral characteristics and student retention are moderately related to student retention. Furthermore, the results indicate that the significant value is lower than the 0.001 alpha value. As a result, there is a significant relationship between behavioral characteristics and student retention.

Behavioral characteristics are essential to student retention and thus student with self-efficacy and self-discipline perform their responsibility as a student which is to finish their online studies and accomplish high academic performance. This is because behavioral characteristics contributed to long-term determination, which has a positive impact on towards student retention and academic performance (Cochran et al., 2014). Therefore, positive behavioral characteristics are essential among the students.

Positive behavioral characteristics among the students will have a positive influence on student motivation and decision making, while the student with lower motivation and persistence are more likely to abandon their studies and withdraw from school. Thus, students are encouraged to foster positive behavioral characteristics because it acts as one of the determinants of positive retention where it can enhance students' motivation and determination to complete their studies (Muljana & Luo, 2019).

5.2.3 Quality of faculty and student interaction and student retention

Hypothesis 3:

H₃: There is a significant relationship between quality of faculty and student interaction with student retention.

As shown in Table 5.1.2.1, the results proved H3. First, the correlation coefficient value of 0.628 is between 0.40 and 0.69 which indicates that the quality of faculty and student interaction with student retention is moderate related to student retention. Furthermore, the results indicate that the significant value is lower than the 0.001 alpha value. We can conclude that there is a significant relationship between quality of faculty and student interaction with student retention.

Quality of faculty and student interaction is essential as it can influence student retention during studies. Most freshmen may lack the motivation to achieve good grades without faculty guidance as they may not fully understand what they have learned. Thus, faculty that is active in providing feedback and advice to the students will have favorable impacts on student academic performance as feedback provided the students with an explanation of what they are doing is accurate or not, and that they can make improve on it if there is any mistake.

Students are more likely to be not paying attention and concentrating on their studies when there is a lack of interaction, in which they might be doing something else instead of learning. According to Keeffe (2013) students will stay to complete their studies as they know that they are being valued by the faculty. Therefore, there is relationship between quality of faculty and student interaction with student retention.

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5.3 IMPLICATIONS OF THE STUDY

The following management implications provide the meaning of the three variables tested in this study which will make us have better understand about how institutional

support, behavioral characteristics, quality of faculty and student interaction work on student retention.

5.3.1 Theoretical implications

This study applied the application of the Swail's (2004) Geometric Model of Student Persistence and Achievement and the Tinto's Model of Student Retention to complete the impact of institutional support, behavioral characteristics and quality of faculty and student interaction on student retention during online learning in Covid-19 pandemic situation. This study shows that institutional support affects students' help with both academic and technical support. First, the institution should give guidance to students in subject information, otherwise, students will not understand the introduction of the coursework before class, and thus will not be able to prepare in advance. Second, during online learning, the institution should give complete technical support, for example, how to solve internet problems, software problems, and so on. If not, it will greatly affect the learning environment and delay the progress of students, then students will lose their enthusiasm for online classes. Third, the institution should give appropriate financial support, especially in the current pandemic situation, some students may come from poor families, the institution can help these students apply for aid, or provide assistance in equipment, because may be some students unable to afford a computer, or unable to apply for Wifi.

In terms of behavioral characteristics, some students will become lazy because of online classes, so it is good for students to have a positive attitude, and our questionnaire results also show that most students are more diligent during online classes than before, which is pretty good, means that. If students cannot maintain a positive attitude, it will cause them to lose patience with online classes, and they will gradually become lazy, and they will use the opportunity of online classes to play games and browse entertainment websites online. So

through research, we proved the connection of student behavioral traits and student retention proposed by Tinto in year 1975.

We also need to pay attention to the relationship and interaction between faculty and students. This is because the faculty's responsibility is to share knowledge and educate students. As we all know, most students need to rely on teachers to get complete academic guidance, then they can graduate smoothly. Therefore, if there is no interaction between students and the faculty, it means that the students cannot get complete guidance, which in turn causes the students to become inactive and do not feel the importance of their studies. When they underestimate their studies, it will be more likely to lead to academic regression, not studying hard, and then student retention will decline

Therefore, our proposed framework is provided in the study. According to the framework three elements influence student retention. However, there is a lack of research on the relationship between factors affecting student retention and student retention in Malaysia, so our study could be helpful for future research by other researchers. Our research framework shows a proper suit to the data. The reason for this is that we recognized in our research that three considerations that impact student retention while online learning has a significant relationship with student retention.

5.3.2 Managerial implications

Online classes have been recognized as a major education channel in recent years and have contributed significantly to the growth of technology education in Malaysia. Therefore, in our survey, we found that the gradual implementation of online courses lies in these three factors, institutional support, behavioral characteristics, and quality of faculty and student interaction.

The first is institutional support. The assistance, tutoring, economic support, and guidance provided by the university can completely affect student retention. If

the universities are unable to provide students with material or spiritual support, students will not be able to get any information, which will lead them not willing to attend classes.

The second factor is behavioral characteristics. Students with unfavorable behavioral characteristics most probably will withdraw from their studies, and so they should foster positive behavioral characteristics. If the students can regulate their behavior successfully, they are most certainly to complete their studies in excellent academic performance.

The third factor will be the quality of faculty and student interaction. Constant feedbacks, advices, guidance, and interaction from the faculty will have positive influence on student retention and academic performance. Faculty that put efforts in creating positive, innovative, and active learning environment to interact with the students will have a favorable effect on student retention and academic results.

5.4 LIMITATIONS OF THE STUDY

Few limits were found in this study, and these restrictions have a significant influence on the validity of the findings.

Questionnaires

The first limitation is that the questionnaires were designed using Likert's Five-point scale ranking. This has caused the respondents unable to provide their own opinions and viewpoint which might affect the reliability of the data.

Limited access to academic journal

We have encountered limited access to academic journals. This is because Covid-19 started in 2019 and is still ongoing, which means that journal that is related to the pandemic is insufficient for us because the availability for journals

of this topic is about 3 years only. Even if there are journal related to the Covid-19 pandemic, most of them required high subscription costs.

Participation of respondent

Due to Covid-19, we use online methods to distribute our questionnaires to reach more respondents. However, the respondents are not supportive where we must send message, emails and to remind them to fill in the questionnaires. There are even respondents who have seen zoned our messages and email and did not give any feedbacks.

5.5 RECOMMENDATIONS FOR FUTURE RESEARCH

The first piece of advice is to design a questionnaire through sentences that is easy to understand. Malaysia is a multilingual country but not all Malaysian can understand English and so future researchers are recommended to create a multi-language questionnaire so that all respondents can truly understand the question before answering. In addition, future researchers are advocating designing the questionnaire with both qualitative and quantitative questions such as open-ended and close-ended questions. By doing so, the reliability of the data could be enhanced.

Apart from that, future researchers who are faced with limited access to journals are recommended to obtain resources from certain websites that offer free access to articles and journals. Future researchers also can obtain printed publications from the library to enhance their research writing.

Furthermore, future researchers who conduct the online survey are suggested to send an email confirmation and a reminder to the respondents to remind them to participate in the survey. Future researchers are also recommended to post and share their questionnaires on multiple channels like email, Facebook, Instagram, and WhatsApp. With multiple channels, the researcher will be able to reach more respondents.

5.6 CONCLUSION

Ultimately, the findings of this study had shown that institutional support, behavioral characteristics, and quality of faculty and student interaction can increase the retention among private university students in West Malaysia during online learning.

This research, it can help all the private universities in Malaysia on how factors like institutional support, behavioral characteristics, and ²⁸quality of faculty and student interaction can increase the retention of the student during online learning. Thus, the private university should retain their students during online learning to reduce the withdrawal rate and ensure that students finish their studies and courses. Future researchers are to conduct further research on this topic to enhance the student retention of Malaysia's private universities during online learning.

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