INTENTION TO USE THE INTERNET OF THINGS (IOT) TECHNOLOGY AMONG UNIVERSITY MALAYSIA KELANTAN STUDENTS

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by

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LIST OF ABBREVIATIONS

Contents
AR= Augmented Reality
BI1= Behavioural Intention 1
BI2=Behavioural Intention 2
BI3= Behavioural Intention 3
BI4= Behavioural Intention 4
BI5= Behavioural Intention 5
CR= Composite Reliability
DV= Dependent Variable
H1= Hypothesis 1
H2= Hypothesis 2
H3= Hypothesis 3
H4= Hypothesis 4
IOT= Internet of Things
IV= Independent Variable
IBM= International Business Machines Corporation
MEANBI=Mean Behavioural Intention
MEANSS=Mean Social Support
MEANPEOU= Mean Perceived Ease Of Use
MEANPU=Mean Perceived Usefulness
MEANPPAS= Mean Perceived Privacy and Security
N= Neutral
0LS= Ordinary Least Square

PEOU1= Perceived Ease of Use 1
PEOU2= Perceived Ease of Use 2
PEOU3= Perceived Ease of Use 3
PEOU4= Perceived Ease of Use 4
PEOU5= Perceived Ease of Use 5
PU1= Perceived Uselfuness 1
PU2= Perceived Uselfuness 2
PU3= Perceived Uselfuness 3
PU4= Perceived Uselfuness 4
PU5= Perceived Uselfuness 5
PPAS1= Perceived Privacy and Security 1
PPAS2= Perceived Privacy and Security 2
PPAS3= Perceived Privacy and Security 3
PPAS4= Perceived Privacy and Security 4
PPAS5= Perceived Privacy and Security 5
SMART PLS= Smart Partial Least Squares
SPSS= Statistical Package for the Social Science
SS1=Social Support 1
SS2=Social Support 2
SS3=Social Support 3
SEM= Structural Equation Modelling
TAM= Technology Acceptance Model
VR= Virtual Reality

LIST OF SYMBOLS

Contents
A= Value
N= Total Population
β = Path Coefficient
p= Significant Value
%= Percentage
r= Correlation Coefficient

ABSTRACT

The main aim of this study has been to investigate the intention to use the internet of things (IoT) technology among University Malaysia Kelantan (UMK) students. To achieve this goal, there are few variables and factors that have been looked up. The variables are as follows, social support, perceived ease of use, perceived usefulness and perceived privacy and security concerns. The main objective of this study is to determine the relationship between social support, perceived ease of use, perceived usefulness, perceived privacy and security concerns and behavioural intentions in use Internet of things (Iot) Technology among random respondents in Universiti Malaysia Kelantan(UMK). This study employs the Theory of Technology Acceptance Model (TAM) as its theoretical framework. Quantitative research was used in this research. Whereby questionnaires through Google Form were distributed to 109 respondents among students in the Universiti Malaysia Kelantan(UMK). In addition, the Statistical Package for Social Sciences (SPSS) version 26 and Smart Partial Least Square (SMART PLS) 4 were utilised for data analysis. The results showed the consumer behavioural intention of the Internet of things was influenced by social support, perceived ease of use, perceived usefulness and perceived privacy and security concern. In this study, SMART Partial Least Square (SMART PLS) analysis, SPSS, reliability analysis, preliminary analysis, descriptive statistics, pilot test and hypothesis test was used to analyse the collected data. The results found that social support, perceived ease of use, perceived usefulness had a positive significant relationship with intention behavioural. While perceived privacy and security concerns are not significant on intentions behavioural. Finally, the study thoroughly examined its implications, limitations, and recommendations for further research.

Key words : *Internet of Things, Behavioural Intentions, Social Support, Perceived Ease of Use, Perceived Usefulness, Perceived Privacy and Security Concerns.*

ABSTRAK

Matlamat utama kajian ini adalah untuk menyiasat hasrat untuk menggunakan teknologi internet of things (IoT) dalam kalangan pelajar Universiti Malaysia Kelantan (UMK). Untuk mencapai matlamat ini, terdapat beberapa pembolehubah dan faktor yang telah dilihat. Pembolehubah tersebut adalah seperti berikut, sokongan sosial, persepsi kemudahan penggunaan, persepsi kegunaan dan persepsi privasi dan kebimbangan keselamatan. Objektif utama kajian ini adalah untuk menentukan hubungan antara sokongan sosial, persepsi kemudahan penggunaan, persepsi kegunaan, persepsi privasi dan kebimbangan keselamatan dan niat tingkah laku dalam penggunaan Internet of things (Iot) Teknologi dalam kalangan responden rawak di Universiti Malaysia Kelantan(UMK). . Kajian ini menggunakan Theory of Technology Acceptance Model (TAM) sebagai kerangka teorinya. Kajian kuantitatif digunakan dalam penyelidikan ini. Di mana soal selidik melalui Borang Google telah diedarkan kepada 109 responden dalam kalangan pelajar di Universiti Malaysia Kelantan(UMK). Selain itu, Pakej Statistik untuk Sains Sosial (SPSS) versi 26 dan Smart Partial Least Square (SMART PLS) 4 telah digunakan untuk analisis data. Keputusan menunjukkan niat tingkah laku pengguna Internet of things dipengaruhi oleh sokongan sosial, persepsi kemudahan penggunaan, persepsi kegunaan dan persepsi privasi dan kebimbangan keselamatan. Dalam kajian ini, analisis SMART Partial Least Square (SMART PLS), SPSS, analisis kebolehpercayaan, analisis awal, statistik deskriptif, ujian rintis dan ujian hipotesis digunakan untuk menganalisis data yang dikumpul. Keputusan mendapati bahawa sokongan

sosial, persepsi kemudahan penggunaan, persepsi kegunaan mempunyai hubungan signifikan yang positif dengan tingkah laku niat. Walaupun kebimbangan privasi dan keselamatan yang dirasakan tidak penting pada tingkah laku niat. Akhir sekali, kajian ini mengkaji secara menyeluruh implikasi, batasan, dan cadangannya untuk penyelidikan lanjut.

Kata kunci : *Internet Perkara, Niat Tingkah Laku, Sokongan Sosial, Persepsi Kemudahan Penggunaan, Persepsi Kegunaan, Persepsi Privasi dan Kebimbangan Keselamatan.*

CHAPTER 1

INTRODUCTION

1.1 Background Of The Study

These days, portable electronics like home security, Bluetooth headsets, smart home, automobiles ,connected logistics and other digital gadgets are indispensable instruments for daily living that cannot be replaced by other gadgets. These compact devices could now perform almost anything that a big personal computer can ordinarily do because of advancements in data processing, data storage, and display technologies. Once accepted, the internet of things (IOT) potentially offers several benefits as it enables individuals to make better decisions (Van Deursen and Mossberger, 2018). The Internet of things makes many processes easier and more automated in a world where time is of the essence. In order to save energy and improve comfort, smart thermostats, for instance, modify heating and cooling systems based on occupancy and weather. Individuals may manage their houses even when they are not there thanks to the ability to remotely operate smart equipment. The internet of things (IOT) device adoption is boosted by this kind of ease, which appeals to users.

Some societies make use of the internet to create their online platform such as Website, Instagram, Facebook and Shopee as a global marketplace to offer their wide range of products by following the online shopping trend of consumers. When there is a demand for consumption, consumers often look for related information about certain commodities offline or online. Numerous cutting-edge services and applications aimed at varying degrees of adoption can be

provided by the internet of things (IOT), such as the smart home, which operates at the individual level, and the smart city, which integrates various technologies at the infrastructure level (Leong, Ping, & Muthuveloo, 2017; Lu et al., 2018; Marikyan, Papagiannidis, & Alamanos, 2020).

The younger generation of today has begun to be exposed to the process of learning computer-based knowledge in the information technology business, not only as elementary school students but also as university students. Because of this, people heavily rely on the internet to handle their personal business. Students' increased purchasing power and social influence in the internet retail industry allow them to target customers since they have the capacity to change how others view and understand the online retail industry. For manufacturing enterprises to grasp the correct direction of digitally driven service transformation and decide to construct an enterprise digital service and operation platform for service innovation, they must build Internet of Things (IOT)-based enterprise digital service and operation platforms, understand the strategic role of digital resources in the service transformation of manufacturing enterprises, and clarify the strategic value of digital resources (Ahmed & Kumar, 2017).

However, the acceptance of the internet of things (IOT) is not without its challenges. Privacy and security concerns loom large in the minds of individuals and organisations. People are being cautious and sceptical as a result of high-profile hacks and concerns about data protection. To allay these worries, strong security protocols and data protection procedures are essential such as Data Privacy, Security Vulnerabilities, Privacy by Design and Internet of Things (IOT) Ecosystem Security.

As a result, the objective of the study is Intention to use the internet of things (IOT) technology among UMK students. The promise of ease, economy, healthcare advantages,

efficiency, and environmental concerns is what is driving society's embrace of the Internet of Things. To guarantee that the full potential of the Internet of Things (IOT) can be realised, however, issues including privacy, security, standardisation, education, and connection must be addressed. The adoption of Internet of Things (IOT) is anticipated to endure and increase as technology advances and resolves these problems, changing the world in ways we can only begin to envision.As a result, intelligent identification, positioning, monitoring, and other tasks can be realised through Internet of Things technology. Additionally, this method has been developed further (Puliafito et al., 2019).

1.2 Problem Statement

Internet of things (IOT) technology has changed dramatically the way we live, work and interact with our environment. However, the acceptance of IOT technology by society is still a complicated and varied task, even though it has the potential to improve ease, efficiency and connectedness. Understanding the factors that drive the acceptance and adoption of IoT technology among individuals is crucial for maximising its benefits. According to (European Union Agency for Network and Information Security, 2017) the IoT means the cyber-physical ecosystem of inter-connected sensors and actuators, which enable decision making.

Furthermore, Internet of things (IOT) technology integrates with our daily life and various factors that hinder its acceptance of the importance. The lack of knowledge about the IoT in society will face the problem in social support. Nowadays, the reason for low adoption or the IoT technology may be the high expense for individuals or businesses. The cost of IoT technology may include the device maintenance, installation and data management. Based on the statistics from the

Ministry of Economy Malaysia 2023 the household income in Malaysia was RM6,338 while the mean income was RM8,479. The IoT technology is still new in Malaysia and this may cause more expense in installing or maintaining and lack of human skills or training about the IoT. The IoT technology is not affordable for the low income level.

IoT can offer various innovations on the application or services such as the smart devices or smart homes that integrate in the infrastructure level or individual level. Iot technology provides value in education or the economy. The IoT technology incorporates new information and abilities, the perceived ease of use aspect is more suited for the younger generation and not as sustainable for the older. IoT technology is being adopted by the younger generation faster than the older age. It might mean that only the younger generation benefits from IoT technology.

Moreover, the research holds significance as it has the ability to illuminate the complex aspects of IoT adoption and offer valuable insights for developing tactics that can improve acceptance across a range of user groups. In comparison to the younger age, the older generation has a lower adoption rate of new technology due to its perceived usefulness. The IoT technology also needs a strong internet connection and requires technical expertise in the peer network.

Besides that, IoT security and privacy issues will also be a source of concern for society. IoT devices collect vast amounts of data, which can lead to concerns about user privacy and sensitive data may be exposed as a result of data breaches and illegal access. The amount of data generated by IoT can be overwhelming and it can be quite difficult to efficiently manage or analyse the data. In the security concerns, the IoT may be connected to larger networks and it can

be exploited to gain unauthorised access in the system. While in the privacy concerns, the location tracking, data sharing or data collection also will be the challenge in user protection.

This research endeavours to investigate the relationship between IoT technology acceptance and several influential independent variables: social support, perceived ease of use, perceived usefulness, and perceived privacy and security concerns. This study looks at the relationship between these independent variables in the key drivers and barriers that influence individual decisions to accept or adopt IoT technology.

1.3 Research Question

1. What is the relationship between social support and behavioural intention?

2. What is the relationship between perceived ease of use and behavioural intention?

3. What is the relationship between perceived usefulness and behavioural intention?

4. What is the relationship between perceived privacy and security concerns and behavioural intention?

1.4 Research Objective

The research of this study will determine the intention to use the internet of things (IOT) technology among UMK students

1.To study the relationship between social support and behavioural intention

2. To study the relationship between perceived ease of use and behavioural intention

3.To investigate the relationship between perceived usefulness and behavioural intention

4.To investigate the relationship between perceived privacy and security concerns and behavioural intention.

1.5 Scope Of The Study

In this study, the researchers focused on the study of the intention to use the internet of things(IoT) technology among Universiti Malaysia Kelantan (UMK) students. This study will focus on different generations (baby boomers, generation X, generation Y and generation Z). Social support, perceived usability, perceived simplicity of use, and perceived privacy and security issues are some ways to observe this through observing how people utilise the internet of things in their daily lives. The Internet of Things, or IoT, is the collective term for the network of interconnected gadgets as well as the technology that enables communication between devices and the cloud (Botta, A., De Donato, W., Persico, V., & Pescapé, A., 2016). In this research, the technology acceptance model (TAM) was utilised to impact the intention of University Malaysia

Kelantan students to use internet of things (IOT) technology.This research involved 109 random responders among students in the UMK.

1.6 Significance Of Study

Research specifically on the factors that influence the behavioural intention of the society in the acceptance of the internet of things in life gives a very big change to the society. The use of the internet of things among the community in this era shows an increase in its use in various functions and in various sectors as a result of the changing times that use more smart technology in this modern age. This shows that the acceptance of the internet of things in a society is received positively and well by looking at the factors that influence its use in our daily lives.

The Internet of Things (IoT) has a significant impact on society, as it influences multiple facets of our everyday existence. The Internet of Things (IoT) is a network of physically connected objects, including appliances, vehicles, and other items having sensors, software, and network connectivity incorporated in them (Perwej, Y., Haq, K., Parwej, F., Mumdouh, M., & Hassan, M., 2019). IoT improves efficiency by streamlining procedures, cutting waste, and raising productivity in a number of industries, including manufacturing, agriculture and healthcare.

1.7 Definition Of Term

1.7.1 Social Support

Social support refers to the emotional and physical consolation offered by friends, family, coworkers, and other acquaintances. It is the realisation that you are a member of a group of individuals that cherish, love, and appreciate you. There are various forms of social support, including material, emotional, informational, and esteem assistance from social networks.

1.7.2 Perceived ease of use

People who believe technology to be simple to use (called perceived ease of use) are more competent and self-assured while utilising it (called self-efficacy). Respondent efficacy measures how likely individuals are to use a technology when they perceive it to be useful.

1.7.3 Perceived usefulness

The degree to which an individual believes that employing a specific technology will be beneficial is defined as perceived usefulness. As an individual's perceived utility of a certain technology grows, so do their intentions to utilise it. A questionnaire is frequently used to assess perceived usefulness.

1.7.4 Perceived privacy and security

Privacy refers to an individual's rights and expectations surrounding their personal information, whereas security refers to the procedures and practices put in place to protect data and systems from various forms of harm or unauthorised access. Both privacy and security are critical in the world of technology and data processing, and they frequently overlap when it comes to protecting personal and sensitive information.

1.8 Organization Of Proposal

The first chapter is an introduction that summarises the planned research topic. This study tries to identify the background as a result of its selection and the research's historical growth. According to the research problem statement, society's acceptance of IOT technology remains a challenging and diversified challenge, despite its promise to promote convenience, efficiency, and connectivity. Understanding the elements that drive individual acceptance and adoption of IoT technology is key to maximising its benefits.

There appear to be some research objectives as well. The scope of the investigation is followed by information about the subject area that will be explored in this study. The study's significance is to express the outcomes of interest acquired from this investigation. The last topic of this chapter is the definition of terms. It defines the meaning of the phrase.

The research's Chapter 2 (Literature Review) examines any theoretical or background studies that can aid the investigation work as a basic theory. Previous research will be reviewed on the study's dependent and independent variables. This chapter also discusses hypothesis formulation in the context of scientific research that examines the relationship between two or more variables. Chapter 2's conceptual framework also includes a diagram that depicts the relationship between several components.

Following that, this section explains the research approach used in Chapter 3. The introduction, study design, data collecting strategy, study population, sample size, sampling techniques, instrument development, variable measurement, procedures, and chapter summary are all the responsibility of the researcher. In order to characterise and evaluate the strength of the

relationship between two or more variables, researchers often utilise correlational investigations, which is what we did in our study. A questionnaire is also used as a research instrument in this study. In addition, variable measurement tools, nominal scales, ordinal scales, and others are used in the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, researchers will outline the formulation of the study hypothesis, independent and dependent variables, and conceptual framework. Social support, perceived utility, perceived ease of use, and perceived privacy and security concern are among the independent variables in the research. This chapter also discusses the ways in which these factors are affecting University Malaysia Kelantan students' everyday usage of the Internet of Things (IoT). A literature review is an extensive synopsis of prior research on a subject that examines academic books, papers, and other materials pertinent to a certain area of study.

2.2 Underpinning Theory

2.2.1 Introduction

In this chapter, the research was taking a look at the underlying theory that applied in this study. In Chapter 2, the literature is reviewed with regard to the dependent variables, behavioural intention among social support, perceived utility, perceived ease of use, and considered privacy and security concern. Apart from that, the conceptual framework of the study and the hypothesis statement will be covered in this chapter.

2.2.2 Technology Acceptance Model (TAM)

Based on the Principle of Rational Action, Davis (1989) created the Technology Acceptance Model (TAM) to investigate the factors that influence societal acceptance or rejection of information system technology.As Fred Davis convincingly stated when he proposed the Technology Acceptance Model (TAM) in his research paper, the use of the system is a reaction that can be explained or predicted by user motivation, which is in turn directly influenced by an external stimulus consisting of the features and capabilities of the actual system.

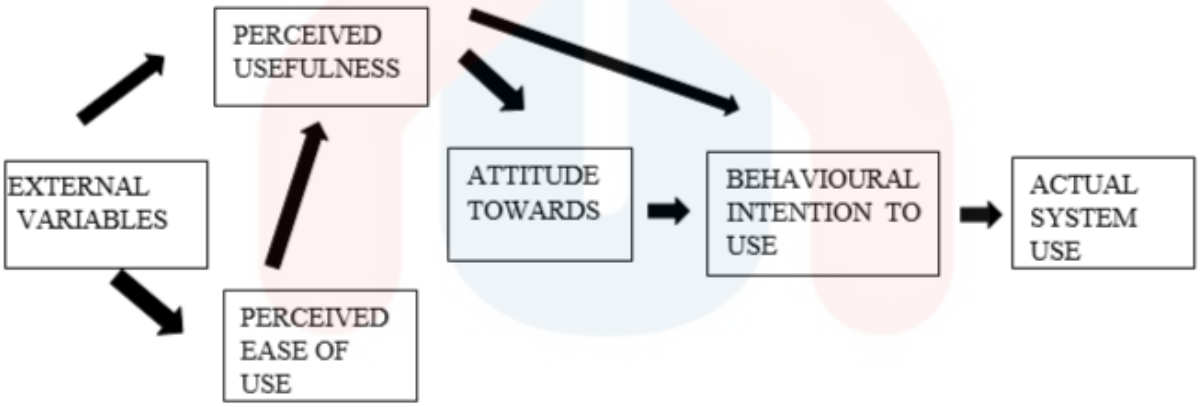


Figure 2.1: Technology Acceptance Model (TAM)

Researchers used a Technology Acceptance Model (TAM) and this model has been studied extensively in several literature.The researcher introduced the TAM as a concept of the influence of attitude on behaviour, as a research model constructed specifically to examine users' acceptance of information systems (Davis, 1989). From (Aydin, et al., 2016) the TAM theory is regarded as one of the most well-known additions to academic research; it is also most appropriate for deciding

whether to accept new technology and for researching the adoption and use intentions of new technology.

2.3 Previous Studies

2.3.1 Behavioural Intention

The dependent variable is the variable according to test or measurement in an experiment. The dependent variable is also an attribute or characteristic that is influenced by independent variables. In this study, the dependent variable is behavioural intention to use an internet of things which is depending on four factors which consist of social support, perceived ease of use, perceived usefulness and perceived privacy and security concern.

According to Mital, M., Chang, V., Choudhary, P., Papa, A., & Pani, A. K., (2018), behavioural Intention to Use an Internet of Things (IoT) refers to an individual's planned or anticipated behaviour concerning the adoption and utilisation of IoT devices or technologies. It represents a person's readiness or willingness to engage with and incorporate IoT systems into their daily life or work routines. According to Cano, J. C., Berrios, V., Garcia, B., & Toh, C. K. (2018), the world is evolving with IoT. Because billions of IoT devices can automatically capture and analyse massive amounts of fresh data, they have the potential to revolutionise decision making in both digital and human contexts (Munirathinam, S., 2020). Complex problems including the effects of climate change, deteriorating urban infrastructure, supply chain limitations, and

healthcare access can be greatly aided by this (Satterthwaite, D., Huq, S., Reid, H., Pelling, M., & Lankao, P. R., 2012).

2.3.2 Social support

Social support is an essential tool for stress management and maintaining both physical and mental health, according to numerous research (d'Arbeloff et al., 2018; Michalak, Wilkinson, Hood, Dowrick, & Wilkinson, 2003; Ozbay et al., 2007; Palinkas, Johnson, & Boster, 2004; Resick, 2001). The way we connect with the digital and physical worlds has been revolutionised by the Internet of Things (IoT), which has taken the globe by storm. IoT technology is becoming more and more common in our daily lives, which raises concerns regarding societal acceptance of it. It is crucial to comprehend how and why people accept or reject IoT technology since this knowledge may reveal the motivating elements and more importantly the influence of social support on this adoption.

Understanding the elements influencing people's decisions is essential to understanding how IoT technology is accepted in society. Usability is one important factor. Acceptance of IoT devices and systems is higher when they are easy to use and blend in seamlessly with daily activities. Technology that makes things easier for users and improves their lives is inherently appealing to them. According to Holmes et al. (2018), there is evidence that an individual's neural network development is influenced by their long-term social environment, and this influence subsequently affects top-down emotion control and behavioural inhibition.

It's critical to understand that there are obstacles to the acceptance of IoT technology in the form of societal support. Sometimes making well-informed decisions might be hampered by incomplete information, opposing viewpoints, and peer pressure. Future studies in this area have to concentrate on resolving these issues, encouraging thoughtful, well-informed decision-making, and comprehending the dynamic interaction between social support networks and IoT technology acceptability. According to the cognitive model of social anxiety proposed by Clark and Wells (1995), a significant factor in sustaining social anxiety is the biassed inclination to perceive unclear social cues as unfavourable or menacing.

Ultimately, the process of societal adoption of the Internet of Things is intricate and diverse, impacted by a multitude of variables. Whether people choose to embrace or reject IoT technology is largely influenced by their social support networks. These networks give people a place to exchange information and offer counsel and direction. They may also either raise issues or help acceptance.

2.3.3 Perceived ease of use

The research about the acceptance of the Internet of things among society was conducted to view the perceived ease of use of IoT technology. According to Davis (1989) perceived ease of use means the extent to an individual perceived that using a system is easy and effortless. Nowadays people view the technology as easy to use or perceived of use and the IoT technology assesses the user's perception of the ease and convenience in utilising interconnected devices, sensors, and services within the IoT system. Perceived ease of use also defines the extent to which a person thinks that utilising a particular technology would be effortless.

According to Davis (1989), perceived ease of use refers to the user's belief that they will have no trouble using the technology. The ease of use of the IoT technology will help people quickly adapt to the IoT technology and benefit society. Factors influencing perceived ease of use may include user experience design, intuitiveness of the interface, availability of help or support, the complexity of tasks involved and the clarity of instructions or guidance provided to users.

A recent study by Chatterjee et al. (2021) found significant determinants of customers' willingness to employ Internet of Things (IoT) technology among 320 Indian consumers aged 60 and above. The study found that consumers' intentions to adopt IoT were significantly shaped by perceived ease of use, fun, self-efficacy, and influence from friends and family. In this case, influence the adoption of IoT among older consumers shedding light on the importance of user-friendliness, perceived enjoyment, self confidence in using the IoT technology.

Overall, the perceived ease of use refers to the extent to which an individual perceives that utilising a specific technology would be effortless by Davis (1989). A higher perceived ease of use in IoT is essential for encouraging widespread adoption. Simplifying interactions, enhancing user interfaces, providing intuitive designs, and ensuring seamless connectivity and functionality are critical in influencing users' perceptions and increasing their propensity to adopt and integrate IoT technologies into their daily lives. This perception significantly impacts user acceptance and the success of IoT implementations and services.

2.3.4 Perceived usefulness

According to Davis (1989) perceived usefulness refers to the extent to which an individual believes that implementing a particular system would improve their performance. The perceived

usefulness of IoT (Internet of Things) refers to an individual's subjective assessment of how much IoT technology can enhance their efficiency, improve their tasks, or provide benefits in their daily lives. It involves the perception of how valuable and advantageous IoT devices or systems are in fulfilling specific needs or objectives.

According to Karahoca (2017) perceived usefulness was also found to have a positive impact on users' attitudes.The subjective evaluation or belief an individual holds regarding how a particular technology can enhance their performance, productivity, or effectiveness in achieving their goals or tasks. The usefulness of IoT technology will affect the user in adopting the technology in their daily life. For example, communication and connectivity between various home equipment are usually required for smart home services (Shin, 2018).

Greater compatibility indicates that an invention is less ambiguous to its potential adopters, according to Rogers (1983).The practical and tangible benefits perceived through the utilisation of the new technology (Davis 1989). King and He (2006) discovered that the perception of usefulness strongly predicts technology acceptance. Perceived usefulness is anticipated to be a significant predictor of household IoT adoption as well. When consumers recognize that IoT devices offer advantages such as time savings, convenience, and access to new information, leading to an improved daily life, they are more inclined to adopt these devices.

Overall, the degree to which an individual believes that employing a specific technology will be beneficial is defined as perceived usefulness. If IoT technology aligns closely with the specific needs and requirements of users, they are more likely to perceive it as useful. According to Aleisa (2020) previous research findings in the realm of household IoT also support the significance of perceived usefulness.

2.3.5 Perceived Privacy and Security concern

Privacy and security are concerned with our right to handle personal information, while security is concerned with the protection of this information. Both are critical features of cyber security. Every community has the right to privacy and should take precautions to safeguard their personal information and data in the digital world. According to a study from (Md. Alimul Haque, 2022), providing privacy and security for all this data in IoT is a difficult task that must be prioritised for many current and future applications. Poor equipment updates, lack of effective security measures, limited user knowledge, and notorious active device surveillance are just some of the challenges IoT is currently facing. In addition, IoT (nodes) can collect, store, analyse and share data about themselves and their environment. The main problem in implementing IoT technology is security and privacy. Data theft, monitoring and tracking, among others, are major privacy concerns with the Internet of Things. Authentication, integrity and confidentiality are important problems for IoT privacy and security, (Poornima M. Chanal ,2021).

According to (Bitdefender, 2023), Internet privacy is important because it gives you control over your identity and personal information. Without such controls, anyone with the motivation and means can modify your identity to suit their goals, whether it's selling you a more expensive vacation or stealing your savings. Meanwhile, focus on only three essential security concerns to investigate: data confidentiality, privacy, and trust. They do not pay enough attention to authentication, integrity, and access control, which are only briefly mentioned. As a result, it splits security aspects into three categories: security requirements (authentication, secrecy, and access control), privacy, and trust (Mark Mbock Ogonji, 2020).

According to (Rolf H.Weber 2010), there are several privacy and security issues that can be described in the internet of things, that is, the first is attack resistance, which means that the system must prevent a single point of failure and adapt to node failure. Furthermore, as a general concept, addresses are fetched and object information must be verified. The next step is access control, which requires the information provider to be able to apply access control to the data provided. Finally, to protect customer privacy, mechanisms should be included to ensure that only the information provider can draw conclusions from the search system of usage observations related to a particular customer; at least, inference should be very difficult to implement.Therefore, the adoption of security and confidentiality needs to be focused in the internet of things because the data is quite large and very dangerous if it is hacked by the wrong party.

2.4 Hypotheses Statement

In this study, there are four hypotheses that have been formulated to examine the relationship between the dependent variables. Among them is determining social support, determining impact on perceived ease of use, determining perceived usefulness and perceived privacy and security concerns.

H1: There is a significant relationship between social support and behavioural intention.

H2: There is a significant relationship between perceived ease of use and behavioural intention.

H3: There is a significant relationship between perceived usefulness and behavioural intention.

H4: There is a significant relationship between perceived privacy and security concern and behavioural intention.

2.5 Conceptual Framework

The diagram below shows the relationship between the dependent variable and independent variable. This research topic is the intention to use the internet of things (IOT) technology among UMK students. There are four independent variables in the research, which are social support, perceived ease of use, perceived usefulness and perceived privacy and security concerns. While the dependent variable is behavioural intention.

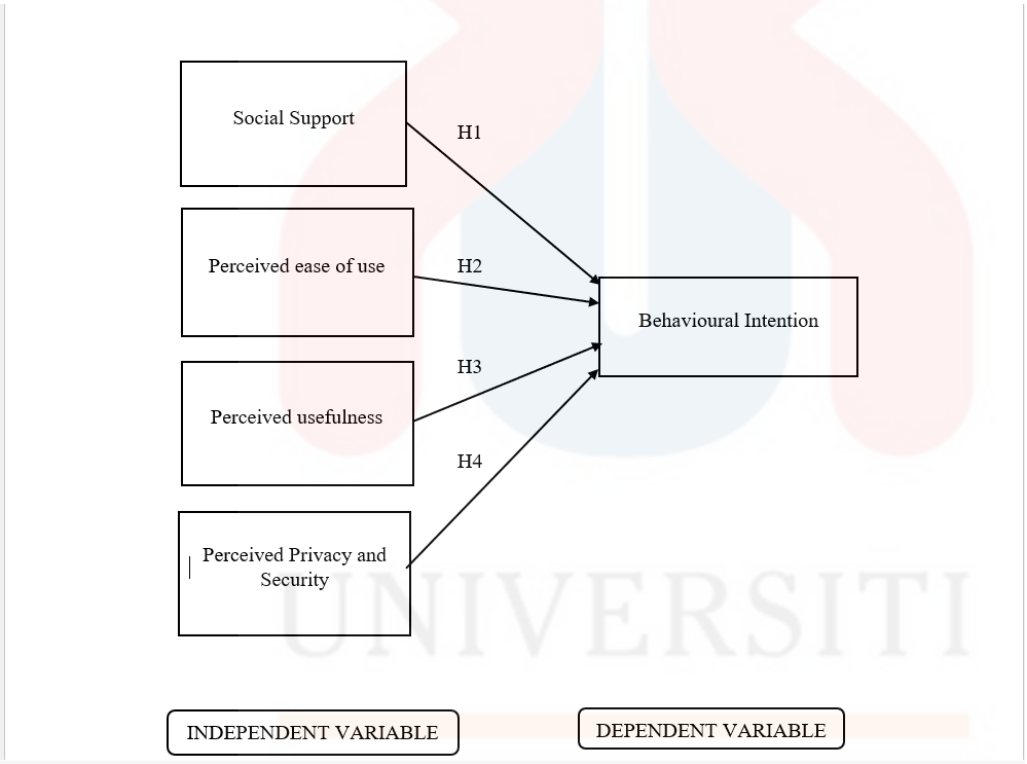


Figure 2.2 Conceptual Framework

2.6 Summary/ Conclusion

This chapter begins with the literature review about the intention to use the internet of things (IOT) technology among UMK students and behavioural intention as the dependent

variable. While the independent variable which is social support, perceived ease of use, perceived usefulness and perceived privacy and security concern. The literature review is also followed by the conceptual framework that shows the relationship between variable and hypothesis statement.

CHAPTER 3

RESEARCH METHODS

3.1 Introduction

The third chapter is tertiary structure, and it focuses on our research method. This chapter will explain how we conducted our research. To collect information and data for our investigation, we will conduct a survey. This section covers the following topics: introduction, study design, data collection methods, sample design, study instruments, measurement constructs, data processing, data analysis, and chapter summary. Quantitative methodology will be used in the research. We will distribute questionnaires to each community and find reliable sources from past research to find relevant findings for this research. The demographics and sample of this study are the student University Malaysia Kelantan who accept and use the internet of things in their daily lives.

3.2 Research Design

For this study, a quantitative approach is decided to be used. Quantitative approach for measuring the quantity to study the level of understanding is particularly useful. The aim of this study is to investigate the intention to use the internet of things (IOT) technology among Universiti Malaysia Kelantan(UMK) students. The students of University Malaysia Kelantan(UMK) are the target audience for the study in terms of community acceptance and use of the internet of things. The researcher chose this group because the target demographic is relevant to the topic and purpose of this investigation. A questionnaire will be conducted to collect primary data with the number of respondents 109 by using the method of Krejcie and Morgan (1970). Then, a pilot test among 35 people will be conducted before disseminating the survey. This approach can be use to gather analysed data from respondents due to the ability of measuring data by using statistics. Furthermore, conducting research and producing findings is easy and convenient for researchers.

This is an important component in obtaining the participation of all parties involved in the study data collection procedure.

3.3 Data Collection Methods

According to Buckingham and Saunders (2004) a method used to collect statistical data about the characteristics, attitudes, or behaviours of a population by asking standardised questions to either a portion or the entire population. A standardised set of questions and corresponding answer options that will be given to all respondents uniformly. Surveys or questionnaires focusing on perceived ease of use, perceived usefulness, social support, privacy concerns, and other factors influencing the intention to use the internet of things (IOT) technology.

Primary and secondary data collection methods used in this research. Primary data refers to newly collected information specifically gathered for a particular research purpose. While secondary data refers to information that has previously been gathered from primary sources and is accessible for researchers to utilise in their own investigations. The questionnaire was distributed via online such as Facebook, WhatsApp and Instagram randomly for students at University Malaysia Kelantan (UMK). The collected data will be analysing secondary data.

3.4 Study Population

A population is a comprehensive group of individuals sharing specific characteristics, while a sample is a smaller subset taken from that population. The typical criteria used to define a population are often geographical. The population in Malaysia is 34,308,525 while the population in Kelantan is 200,000 and the population of UMK students is 9000. Students that are in UMK

will receive the online survey via social media such as Facebook, WhatsApp and Instagram. This study will focus on UMK students' intention to use the internet of things (IOT).

3.5 Sample size

Sample size refers to the quantity or number of individual samples utilized in an experiment, study, or research. It is a crucial metric that indicates the extent of data collected or the number of participants, observations, or data points included in the analysis. A larger sample size often provides more representative and reliable results, reducing the potential for errors and increasing the validity and generalizability of findings in the study. Essentially, it is a fundamental component in ensuring the accuracy and credibility of the conclusions drawn from the collected data. Table 3.1 shows the Krejcie and Morgan's table as the sample size. According to the residents population in UMK students are 9000. In deciding sample size to be taken for this study, Roscoe (1975) who proposed the following rules of thumb for determining sample size.

1. Sample size larger than 30 and less than 500 are appropriate for most research.

2. Statistical analyses with samples less than 10 is not recommended.

3. In most experimental research, sample of 30 or more are recommended.

4. Within these limits (30 to 500), the use of a sample about 10% size of the parent population is recommended.

Based on rule of thumb from Roscoe (1975) the sample size of this study is 109 respondents from the population in Malaysia is 34,308,525 while the population in Kelantan is 200,000 and the population of UMK students is 9000 are pick based on rules of thumb which is 'sample size larger than 30 and less than 500 are appropriate for most research'.

TABLE 1
Table for Determining Sample Size from a Given Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.

Table 3.1: Krejcie and Morgan's table (1970)

3.6 Sampling Techniques

According to (Admin, 2021) the sampling method, also known as the sampling technique, involves collecting and analyzing data to study a population. Instead of using a predetermined selection

procedure, the non-probability sampling approach depends on the convenience or subjective judgement of the researchers, which might produce biassed findings that could not fairly reflect the target population.In this study, we employ the convenience sampling approach, which is chosen for its ease of data collection using tools like Google Forms and questionnaires.

3.7 Research Instrument Development

According to (Kyngas, 2020; Mikkonen and Kyngas, 2020) instrument development can start from an inductive or deductive approach. In the inductive approach, the starting point is unstructured reality; concepts need to be further explored, described, and operationalized. The questionnaire is divided into three sections: section A, section B and section C.

Section A consists of the respondent's background information, including gender, ethnicity, age, course, and status. Meanwhile, section B ordinal scale was used on Independent Variables such as social support, perceived ease of use, perceived usefulness and perceived privacy and security concern and section C covered the dependent variable which was behavioral intention . According to (Kimzee, 2021) creating a well-structured research instrument was a crucial and significant phase in the research process since the validity, relevance, and clarity of the questions the researcher asked would determine the quality of the data that she obtained.

Table 3.2 Content of The Questionnaire

Section	Variable to be identified	No of Item	Total of Item
A	**Demographic Profile** **A1:** Gender - Male - Female **A2:**Age - 18-21 years - 22-26 years - 27 and above **A3:** Race - Malay - India - Chinese - Other	A1-A4	4

	A4: My understanding of Internet of Things(IOT) -Weak -Neutral -Strong		
B	**Independents Variable** ● **Social Support** **B1:** I will ask my mates on forums and communities to help me with their ideas and recommendations before I navigate IoT tools **B2:**I am willing to share my experience with my mates on forums and communities **B3:**I am willing to recommend IoT tools that are worth adopting to my mates on my faculty.	B1-B18	18

	• **Perceived ease of use** **B4**: I have no trouble picking up how to use the IoT tools. **B5**: Getting IoT devices to perform the tasks I want them to is simple for me. **B6**: I communicate with IoT devices in a clear and intelligible manner. **B7**: I discovered that IoT devices are adaptable in how they can be used. **B8**: I can easily become proficient in the use of IoT devices. • **Perceived usefulness** **B9**: I can do my tasks more quickly when I use IoT devices. **B10**: I am more productive in my daily life when I use IoT devices. **B11**: Using IoT devices helps me be more productive on a daily basis		

	B12: My life is easier when I use IoT gadgets. **B13**: I think using IoT devices at home is beneficial. ● **Perceived Privacy and security concern** **B14**: I worry that my personal data collected by Internet of Things devices can be misused. **B15**: I worry that unauthorised parties may obtain the personal information IoT devices have collected about me. **B16**: I generally pause before giving out personal information on Internet of Things devices. **B17**: I believe that personal information collected by IoT devices is being used excessively. B18: I worry that personal		

	information collected by IoT devices may be used in ways that I am not aware of.		

C	**Dependent Variable** • **Behavioral Intention** **C1:** I will recommend using the internet of things to my friends and family in daily life **C2:** I will always try to use the internet of things in my daily life because it is beneficial	C1-C5	5

	C3: I will encourage more people to continue using the internet of things because it can manage assets or resources in future **C4:**I intend to use an internet of things if the cost and times is reasonable for me **C5:**I intend to continue use an internet of things more frequently in the future		

3.8 Measurement of the Variables

Measurements of variables are made with a computer, gadget, or instrument (Chadijah, S., Syariatin, N., Rohmiyati, Y., Utomo, J., & Rukmana, A. Y., 2023). The kinds of analytical methods that can be applied to the data and the inferences that can be made from it depend greatly on the scale of the variable being measured. According to Dalati, S. (2018), nominal, ordinal, interval, and ratio scales of measurement are the four types available. The researcher used 2 measurement

scales in his study, namely the nominal measurement and the ordinal measurement to make it easier for the researcher to analyse the questionnaire that had been obtained.

3.8.1 Nominal Measurement

Nominal measurement is a kind of measurement in which several categories or groupings are given names or labels without any sort of ranking or order being established (Senft, G., 2000). Rather than dealing with quantitative data, it deals with qualitative data. Nominal measurement involves the classification of data into discrete groups or classes according to specific attributes (Li, C., & Biswas, G., 2002). However, these groups do not have a fixed numerical value or hierarchy. Nominal measurement involves classifying data into distinct groups or categories, each of which has its own independent position or order. It can also be separated into two or more groups based on how appropriate the question is. Gender and race are two of the nominal variables that the researcher used in this investigation.

Gender	
Female	
Male	

Table 3.3 : Category for Gender

Race	
Malay	
Chinese	
Indian	
Other	

Table 3.4 : Category for Race

3.8.2 Ordinal Measurement

The second of the four measuring scales is the ordinal level of measurement. Data that have an innate order or rank are classified using an ordinal measurement level. The categories or values in this kind of assessment not only show several groupings, but also their relative positions or orders within them (Huang, A., 2008, April). "Ordinal" denotes "order." Quantitative data with naturally occurring orders that have an undetermined difference are called ordinal data (Cliff, N., 2014). It is able to be ranked, grouped, and named. Arithmetic operations such as addition and subtraction are meaningless for ordinal data, although comparisons like "greater than" and "less than" can be made. The researcher used a five-point Likert scale method, an ordinal variable with a numerical value. In this research, the researcher used a five-point Likert scale method so that the researcher can find out precisely about the use in the internet of things.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Table 3.5 : Five-point Likert Scale

3.9 Procedure for Data Analysis

In order to gain valuable information, the data analysis method is a procedure that involves gathering, combining, and analysing raw data using logical and analytical reasoning techniques (Yang, J., Xiu, P., Sun, L., Ying, L., & Muthu, B., 2022). Data collected from multiple sources will be examined, and then the results will be evaluated to form a conclusion or finding. In this part, data of the studies will be analysed and it can determine whether the objective of the research can be achieved. For this research, the most suitable quantitative method for data analysis will be carried out by using the computer software, which is Statistical Package for the Social Science (SPSS) and SMART Partial Least (SMART PLS). The researcher will be able to examine the independent factors (social support, perceived ease of use, perceived utility, and perceived privacy and security concern) in relation to the dependent variable (behavioural intention to use an internet of things) through this study.

3.9.1 SMART Partial Least Square (SMART PLS) Analysis

Partial Least Square is an alternative to OLS regression, canonical correlation, or covariance based structural equation modelling (SEM) of System of independent and response variables (Dijkstra, T. K., & Schermelleh-Engel, K., 2014). SmartPLS's task is to relate sets of independent variables to multiple dependent variables. The ability of PLS is to solve various independent variable functions including even when predictors display multicollinearity. In order to obtain the response variable (s), SmartPLS can be applied as a path model or as a regression model, generating predictions for one or more independent variables. The most widely used path model implementation in that scenario is SmartPLS.

In this study, Partial Least Square will be used although the study involves two and more independence variables such as social support, perceived ease of use, perceived usefulness and perceived privacy and security concern. Each of them will be tested with dependent variables respectively.Several conjectures will be put out by researchers in light of the variables that PLS will be used to measure. To ensure that the PLS findings accurately reflect a useful relationship between two or more variables, a number of tests will also be utilised to assess the significance of the link between the independent and dependent variables.

3.9.2 Reliability Analysis

Reliability analysis is a statistical approach used to assess the consistency and stability of measurements or test findings. Stated differently, the objective is to ascertain the degree to which a measurement tool or instrument generates repeatable and trustworthy data over a period of time or under varying circumstances. Increased reliability is correlated with reduced measurement error

and increased consistency. SmartPLS usually employs Composite Reliability (CR) and Cronbach's Alpha to evaluate the reliability of latent constructs. A statistical metric called Cronbach's alpha is employed to evaluate the internal consistency reliability of a scale or a subset of items in a survey or examination. It gauges how well a collection of items assesses a single concept or variable by assessing how closely linked the items are to one another.

The result of Cronbach's alpha is a number between 0 and 1. Greater internal consistency between the scale's elements is indicated by higher values. When an alpha value is nearer 1, it indicates a strong correlation between the items and a high probability of assessing the same underlying construct. When evaluating whether a scale's items are accurate indicators of the target variable, researchers utilise Cronbach's alpha. A high alpha value suggests that the items are consistent and reliable measures of the construct; generally, values above 0.7 or 0.8 are regarded as acceptable, depending on the field.

No.	Coefficient of Cronbach's Alpha	Reliability Level
1	More than 0.90	Excellent
2	0.90-0.89	Good
3	0.70-0.79	Acceptable
4	0.60-0.69	Questionable
5	0.50-0.59	Poor
6	Less than 0.59	Unacceptable

Table 3.6 : Table of Cronbach's Alpha

3.9.3 Descriptive Statistics

The statistics that are able to summarise the characteristics of a set of data that represent a sample or the complete population are known as descriptive statistics. Three forms of descriptive statistics exist: measurements of variability, measures of central tendency (averages), and frequencies. measurements of variability include minimum and maximum variables, kurtosis and skewness, and standard deviation or variance. Mean, median, and mode are examples of measurements of central tendency.

Frequency analysis, a component of descriptive statistics, can be utilised in this study to summarise the main question. An essential concept that deals with the quantity of an event that occurs is frequency analysis, which can assist researchers in analysing measurements of central tendency and dispersion. Studying the average scores of the results also aids the researcher.

3.9.4 Pilot Test

A pilot test, also known as a pilot study or pilot experiment, is a small-scale, preliminary study conducted before the full-scale implementation of a research project, experiment, or new program. The primary purpose of a pilot test is to identify and address any issues or challenges that may arise during the actual study or project. It helps researchers or project managers fine-tune their methodology, tools, and procedures, ensuring that the main study or project runs more smoothly and effectively.

Researchers commonly employ questionnaires as a means of data collection in their many forms of evaluation and education study. Researchers can obtain a wide range of information from respondents, including facts, views, behaviours, and knowledge, by using questionnaires. In this study, questionnaires sets will be distributed out to 109 people among University Malaysia Kelantan students. For the pilot test, the researcher used 35 people nearby UMK to distribute the questionnaires.

Through the data from the questionnaires from 109 responders at University Malaysia Kelantan students, the findings can be generated which are based on the intention level of students in UMK toward intention to use the internet of things (IOT) technology by using the five-point likert scale in the research. The researcher also aims to seek for the factors that influence behavioural intention to use an internet of things of the University Malaysia Kelantan students. Number of 109 questionnaires have been distributed to respondents and the overall questionnaire will be returned back to the researcher.

3.10 Conclusion

Chapter 3 summarises the complete study process, including data gathering methods, research design, and paradigm approaches. Applicants are educated on data collection methodologies, study design, sample size, study population, sampling, study instruments, variable measurements, and data processing procedures. All data will be gathered, analysed, and debated. The descriptive analysis, reliability tests, and Pearson's correlation were used to analyse the data in this study. To analyse the collected data, all methodologies will be applied. Finally, in more detail, Chapter 4 presents the analysis and findings of the study.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.1 Introduction

The test population data was collected and distribute among the UMK students by total 109 respondents and the pilot test 35 respondents. This survey form provides three parts which is sections A, B and C. Preliminary analysis, respondent demographics, descriptive analysis, validity and reliability tests, normalcy tests, and hypothesis testing are all included in this chapter . By using IBM/SPSS version 26 and Smart PLS 4 in analyses the data and results of the statistic.

4.2 Preliminary Analysis

In this research, 35 respondents involved in the pilot test to ensure that the questionnaires can be used.

Table 4.1 Scale of Cronbach's Alpha

Alpha Coefficient Range	Internal Consistency
A> 0.9	Excellent
0.9> A > 0.8	Good
0.8> A > 0.7	Acceptable

0.7 > A > 0.6	Questionable
0.6 > A > 0.5	Poor
0.5 > A	Unacceptable

4.2.1 Reliability test for Pilot test

Table 4.2 Reliability test of pilot test

Study Instruments	N of Items	Cronbach Alpha
Behavioural Intention	5	.828
Social Support	3	.857
Perceived ease of use	5	.828
Perceived usefulness	5	.857
Perceived Privacy and security concern	5	.881

Based on the table 4.1.2 the behavioural intention gave the Cronbach Alpha value which is 0.828 that was good to use. Furthermore, the social support, perceived ease of use, perceived

usefulness and perceived privacy and security concern also had value good to use which is 0.857, 0.828, 0.857 and 0.881.

4.3 Demographic Profile of Respondents

This section will discuss about the demographic profile of 109 respondents in four sections which is gender, age, race and knowledge about Internet of Things (IOT). The frequency and the percent of the demographic respondents had demonstrated in the table.

Table 4.3 Frequency for Gender of respondent

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	44	40.4	40.4	40.4
	Female	65	59.6	59.6	100.0
	Total	109	100.0	100.0	

Based on the table 4.3.1, the frequency of male respondents is 44 with 40.4 percent and the frequency of the female respondents is 65 with 59.6 percent that contributed 109 respondents in this research.

Table 4.4 Frequency for age of respondents

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-21 years old	15	13.8	13.8	13.8
	22-26 years old	80	73.4	73.4	87.2
	27 years old and above	14	12.8	12.8	100.0
	Total	109	100.0	100.0	

Based on the table 4.3.2 the highest respondents age are 22 to 26 years old with 80 frequency and 73.4 percent. The frequency of 18 to 21 years old having the 15 frequencies with 13.8 percent and the frequency of 27 years old and above having 14 frequencies with 12.8 percent among the 109 respondents who contributed to this research.

Table 4.5 Frequency for race of respondents

Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	67	61.5	61.5	61.5
	Chinese	15	13.8	13.8	75.2
	Indian	26	23.9	23.9	99.1
	Other	1	.9	.9	100.0
	Total	109	100.0	100.0	

Based on the table 4.3.3 the highest frequency race of respondents is Malay with 67 frequency and 61.5 percent. While followed by the Indian 26 frequency with 23.9 percent and the Chinese frequency is 15 with 13.8 percent. The lowest frequency is the other race with 1 frequency and 0.9 percent.

Table 4.6 Frequency of understanding of Internet of Things (IoT)

My understanding of Internet of Things (IoT) is					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weak	17	15.6	15.6	15.6
	Neutral	88	80.7	80.7	96.3
	Strong	4	3.7	3.7	100.0
	Total	109	100.0	100.0	

Based on the table 4.3.4 shows the highest frequency of understanding of IoT is neutral with 88 frequency and 80.7 percent. Next followed with weak 17 frequency with 15.6 percent and lastly the strong 4 frequency with 3.7 percent.

4.4 Descriptive Analysis

4.4.1 Behavioural Intention (Dependent Variable)

Table 4.7 Descriptive Statistics of Behavioural Intention

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BI1	109	2	5	4.33	.528
BI2	109	4	5	4.52	.502
BI3	109	2	5	4.46	.601
BI4	109	2	5	4.56	.552
BI5	109	2	5	4.48	.688
Valid N (listwise)	109				

Table 4.7 presents the descriptive statistics of behavioural intention along with five questions that need to be addressed. The question of BI4 has the highest mean value 4.56 and standard deviation of 0.552. For question of BI2 has the mean value 4.52 and standard deviation

of 0.502, while question BI5 has the mean value 4.48 and standard deviation of 0.688. For the question BI1 has the mean value 4.33 with standard deviation 0.528 and question BI3 has the mean value 4.46 with standard deviation 0.601. The statistics shows that the question BI4 has the majority of respondents agree with the statement 'I intend to use an internet of things if the cost and times is reasonable for me'.

4.4.2 Social Support (Independent Variable)

Table 4.8 Descriptive Statistics of Social Support

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
SS1	109	2	5	4.44	.686
SS2	109	2	5	4.53	.554
SS3	109	2	5	4.47	.602
Valid N (listwise)	109				

Table 4.8 presents the descriptive statistics of Social Support, along with three questions that need to be addressed. The SS2 question has the highest standard deviation (0.554) and mean value (4.53). The mean value for question SS1 is 4.44 with a standard deviation of 0.686, while the mean value for question SS3 is 4.47 with a standard deviation of 0.602. The statistics shows that the question SS2 has the majority of respondents agree with the statement 'I am willing to share my experience with my mates on forums and communities.'

4.4.3 Perceived ease of use (Independent Variable)

Table 4.9 Descriptive Statistics of Perceived ease of use

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PEOU1	109	2	5	4.41	.641
PEOU2	109	2	5	4.39	.592
PEOU3	109	2	5	4.32	.525
PEOU4	109	2	5	4.33	.528

PEOU5	109	2	5	4.32	.575
Valid N (listwise)	109				

Based on the table 4.9 the descriptive statistics of perceived ease of use with five questions to be answered. The question PEOU1 has the highest mean value 4.41 and standard deviation 0.641. The next followed with question PEOU2 mean value 4.39 with standard deviation 0.592. The question PEOU3 and PEOU5 has the same mean value 4.32 and standard deviation 0.525 and 0.575. The question PEOU4 has the mean value 4.33 and standard deviation 0.528. The statistics shows that the question PEOU1 has the majority of respondents agree with the statement 'Learning to operate the IoT tools is easy for me'.

4.4.4 Perceived usefulness (Independent Variable)

Table 4.10 Descriptive Statistics of Perceived usefulness.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PU1	109	4	5	4.44	.499

PU2	109	2	5	4.32	.525
PU3	109	2	5	4.38	.541
PU4	109	4	5	4.32	.469
PU5	109	4	5	4.39	.491
Valid N (listwise)	109				

Table 4.10 presents descriptive statistics on perceived usefulness, along with five questions that need to be addressed. The question PU1 has the highest mean value 4.44 and standard deviation 0.499. Next followed with question PU5 has the mean value 4.39 with standard deviation 0.491 and question PU3 has the mean value 4.38 with standard deviation 0.541. Question PU2 and PU4 have the same mean value 4.32 with standard deviation 0.525 and 0.469. The statistics shows that the question PU1 has the majority of respondents agree with the statement 'Using IoT devices enables me to accomplish my tasks more quickly.'

4.4.5 Perceived Privacy and Security concern (Independent Variable)

Table 4.11 Descriptive Statistics of Perceived Privacy and Security

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PPAS1	109	2	5	4.28	.563
PPAS2	109	2	5	4.28	.563
PPAS3	109	4	5	4.32	.469
PPAS4	109	3	5	4.28	.488
PPAS5	109	4	5	4.38	.487
Valid N (listwise)	109				

Based on the table 4.11 the descriptive statistics of perceived privacy and security with five questions to be answered. The question PPAS5 has the highest mean value 4.38 with standard deviation 0.469. Question PPAS1, PPAS2 and PPAS4 has the mean value 4.28 with standard

deviation 0.563, 0.563 and 0.488. The question PPAS3 has the mean value 4.32 with standard deviation 0.487. The statistics shows that the question PPAS5 has the majority of respondents agree with the statement 'I am concerned that my personal information gathered by IoT devices could be used in a manner I am unaware of.'

4.5 Validity and Reliability

Table 4.12 Scale of Cronbach's Alpha

	Internal Consistency
A> 0.9	Excellent
0.9> A > 0.8	Good
0.8> A > 0.7	Acceptable
0.7 > A > 0.6	Questionable
0.6 > A > 0.5	Poor
0.5 > A	Unacceptable

Table 4.13 Reliability test for Pilot test

Study Instruments	N of Items	Cronbach Alpha
Behavioural Intention	5	.828
Social Support	3	.857
Perceived ease of use	5	.828
Perceived usefulness	5	.857
Perceived Privacy and security concern	5	.881

Based on the table 4.13 the behavioural intention gave the Cronbach Alpha value which is 0.828 that was good to use. Furthermore, the social support, perceived ease of use, perceived usefulness and perceived privacy and security concern also had value good to use which is 0.857, 0.828, 0.857 and 0.881. This shows that the questionable suitable use for this research.

4.5.1 Smart Partial Least Square Analysis (SMART PLS)

4.5.1.1 R Square Analysis

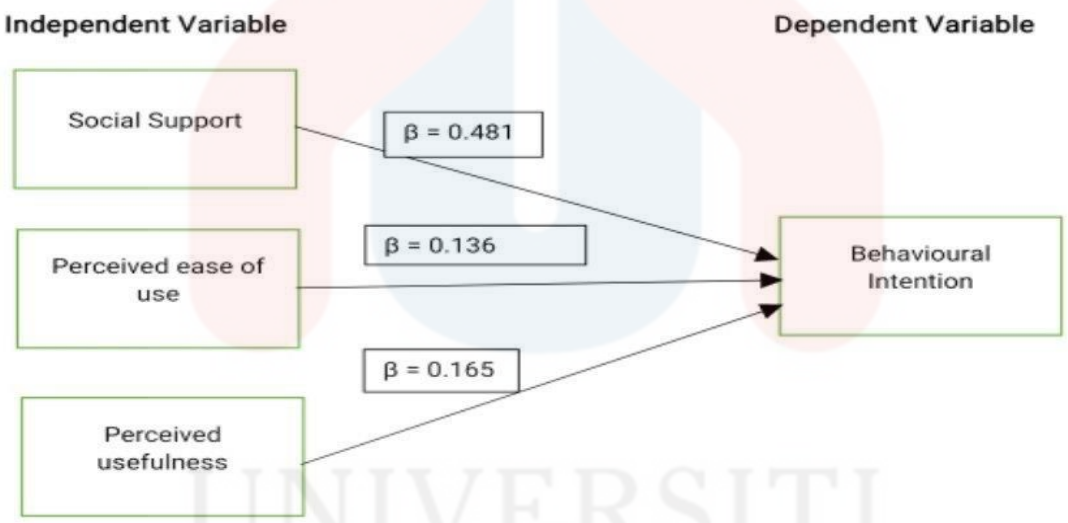


Figure 4.1 The Beta Coefficient among Independent Variable and Dependent Variable.

	Beta Coefficient	T Statistics	P-Value	Significant

Social Support to Behavioural Intention	0.481	6.448	0.00	Supported
Perceived Ease of Use to Behavioural Intention	0.136	1.992	0.046	Supported
Perceived Usefulness to Behavioural Intention	0.165	2.039	0.041	Supported
Perceived Privacy and Security concerns	0.034	0.362	0.362	Not Supported

Table 4.14 Beta Coefficient, T Statistics and P-Value among Independent Variable and Dependent Variable

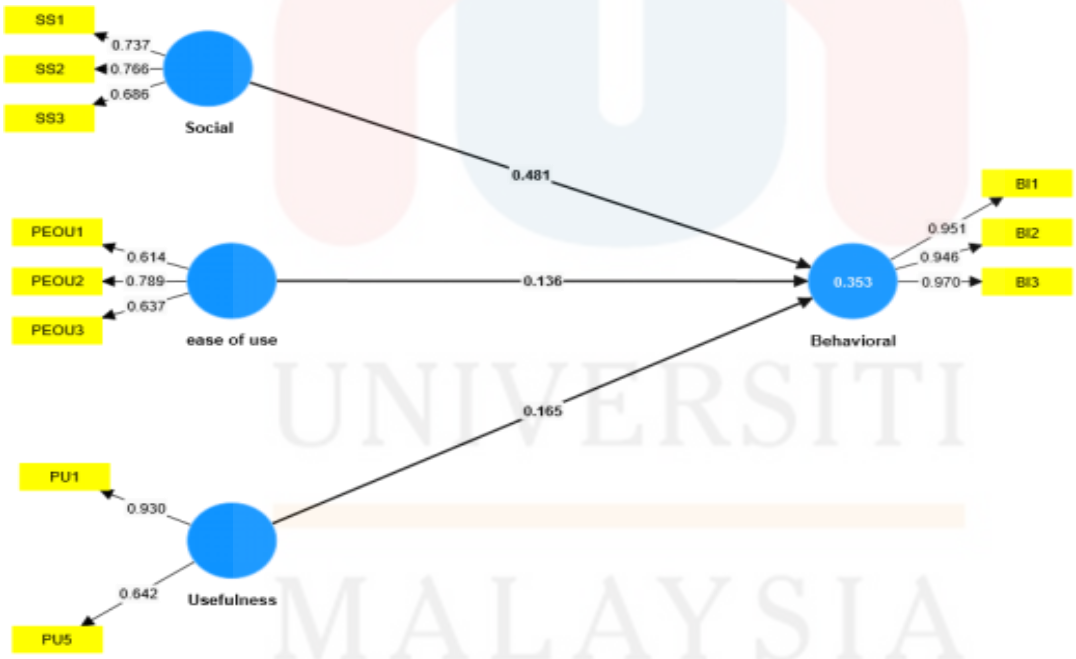
The Beta Coefficient social support had the highest effect on the behavioural intention which is 0.481 and next followed by the perceived usefulness which is 0.165 and perceived ease of use which is 0.136. As a result, there was a strong correlation between behavioural intention

and social support. Additionally, there was a noteworthy correlation observed between the reported ease of use and the desire to behave, as well as between the perceived usefulness and the intention to behave.

Besides that, there will have a significant among the variable if the p-value lower than 0.05. There are three independent variables which is social support, perceived usefulness and perceived ease of use toward behavioural intention with the p-value 0.00, 0.046 and 0.041.

4.5.1.2 Factor Loading

Figure 4.3 The Path Coefficient Diagram after delete the question



4.6 Normality Test

Table 4.14 Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
MEANBI	.206	109	.000	.851	109	.000
MEANSS	.289	109	.000	.786	109	.000
MEANPEOU	.148	109	.000	.905	109	.000
MEANPU	.165	109	.000	.873	109	.000

MEANPPAS	.197	109	.000	.866	109	.000

a. Lilliefors Significance Correction

Table 4.14 shows the Tests of Normality the data was examined with the Kolmogorov-Smirnov and Shapiro-Wilk tests. The Kolmogorov-Smirnov test and Shapiro-Wilk test are commonly used statistical tests to assess the normality of a dataset. The p-value obtained from the test is greater than the chosen significance level below 0.05 contained information about irregularity. The outcome of each test reveals a significance level (p-value) less than 0.05 or even as low as 0.000. This shows that the data is deemed abnormal as it deviates from a normal distribution.

4.7 Hypothesis Testing

Table 4.15 Hypothesis result

HYPOTHESIS	RESULT	FINDINGS

H1: Social support has a significant on the behavioural intention.	β = 0.481 P = 0.00	H1 is accepted
H2: Perceived ease of use has a significant on the behavioural intention.	β = 0.136 P = 0.046	H2 is accepted
H3: Perceived usefulness has a significant on the behavioural intention.	β = 0.165 P = 0.041	H3 is accepted
H4: Perceived privacy and security concern has a significant on the behavioural intention.	β = 0.034 P = 0.362	H4 is not accepted

4.7.1 Hypothesis 1

H1: Social support has a significant on the behavioural intention.

The table 4.16 summarised the results of correlation coefficients between social support and behavioural intention. The value of beta value is (r=0.481) indicating there is the strong relationship between both. The significant value P< 0.01 shows there is relationship between social support and behavioural intention. The significant value 0.00 shows the relationship between social support and behavioural intention are highly significant. Therefore, the hypothesis H1 is accepted.

4.7.2 Hypothesis 2

H2: Perceived ease of use has a significant on the behavioural intention.

The table 4.16 summarised the results of correlation coefficients between perceived ease of use and behavioural intention. The value of beta is (r=0.136) indicating there is the strong relationship between both. The significant value P< 0.01 shows there is relationship between perceived ease of use and behavioural intention. The significant value 0.046 shows the relationship between perceived ease of use and behavioural intention are highly significant. Therefore, the hypothesis H2 is accepted.

4.7.3 Hypothesis 3

H3: Perceived usefulness has a significant on the behavioural intention.

The table 4.16 summarised the results of correlation coefficients between perceived usefulness and behavioural intention. The value of beta is (r=0.165) indicating there is the strong relationship between both. The significant value P< 0.01 shows there is relationship between perceived usefulness and behavioural intention. The significant value 0.041 shows the relationship between

perceived usefulness and behavioural intention are highly significant. Therefore, the hypothesis H3 is accepted.

4.7.4 Hypothesis 4

H4: Perceived privacy and security concern has a significant on the behavioural intention.

The table 4.16 summarised the results of correlation coefficients between perceived privacy and security concern and behavioural intention. The value of beta is (r=0.034) indicating there is the very weak relationship between both. The significant value P< 0.01 shows there is no relationship between perceived privacy and security concern and behavioural intention. The significant value 0.362 shows the relationship between perceived privacy and security concern and behavioural intention are not significant. Therefore, the hypothesis H4 is not accepted.

4.8 Conclusion

Overall, this chapter has analysed the study by using the SPSS and Smart PLS in this research. This chapter include preliminary analysis, demographic profile of respondents, descriptive analysis, validity and reliability test, normality test and hypothesis testing. The next chapter will discuss about the study finding, discussion and conclusion.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 INTRODUCTION

The research's main goal was to examine and highlight the intention to use the internet of things (IoT) technology among University Malaysia Kelantan (UMK) students and several factors such as social support, perceived ease of use, perceived usefulness and perceived privacy and security concern. In this section, researchers summarise all the analysis results about the relationship between variables and further details for each of the variables. Moreover, the study also highlighted the significance of the overall study as well as suggestions in order to make this research more interesting and successful.

5.2 KEY FINDINGS

The key findings of this study highlighted crucial insights into the intention to use the internet of things(IoT) technology among University Malaysia Kelantan students. The study included 109 respondents, with 59.6% female and 40.4% male participants. The majority of

respondents were 26 years old and above. The highest number of respondents is from Melayu with 61.5%. The highest number of understanding of Internet of Things(IoT) among UMK students is Neutral with 80.7%. This study employed the Theory of Technology Acceptance Model (TAM) as its theoretical framework. The method use in this study was the quantitative method. A questionnaire through Google Forms was used to collect data from the respondents. The data analysis used was SMART Partial Least Square (SMART PLS) analysis, SPSS, reliability analysis, preliminary analysis, descriptive statistics, pilot test and hypothesis test.

The independent variables in this research were social support, perceived ease of use, perceived usefulness and perceived privacy and security concern. While the dependent variable was behavioural intention. In this research, results showed that there was a significant and positive relationship between independent variables which is social support, perceived ease of use and perceived usefulness with dependent variable which is behavioural intention to use the internet of things(IoT) technology among University Malaysia Kelantan students. While, for independent variables which are perceived privacy and security concern has no significant relationship between dependent variables.

In the context of Cronbach's alpha, a value greater than scores is generally considered good, excellent, and indicative of acceptable internal consistency. In this study, the researcher carried out a pilot study on it prior to beginning the whole investigation. A pilot research that was carried out yielded 35 replies in all. Reliability value of the dependent variable of this pilot study which is behavioural intention is 0.828. For the independent variable, the reliability value is social support at 0.857, perceived ease of use at 0.828, perceived usefulness at 0.857 and perceived privacy and security concern at 0.881.

In this study, the Smart Partial Least Square (SMART PLS) system was used by researchers to conduct P-Value analysis to assess significance or non-significance. The Beta Coefficient social support had the highest effect on the behavioural intention which is 0.481 and next followed by the perceived usefulness which is 0.165 and perceived ease of use which is 0.136. Therefore, there was significant relationship between social support and behavioural intention. There was also significant relationship between perceived ease of use and behavioural intention while there was also significant relationship between perceived usefulness and behavioural Intention.

Besides that, there will have a significant among the variable if the p-value lower than 0.05. There are three independent variables which is social support, perceived usefulness and perceived ease of use toward behavioural intention with the p-value 0.00, 0.046 and 0.041.

5.3 DISCUSSION

5.3.1 Hypothesis 1

H1: Social support has a significant on the behavioural intention.

Based on the results, it shows that there is a significant strong relationship between social support and behavioural intention. According to the findings in chapter 4, it shows the beta value is 0.481 which means there is a strong relationship between social support and behavioural intention.

The results of the study show that the regression value for internet of things skills is p=0.00 which is very significant for social support because the regression value is less than 0.01, where p<0.01. The H1 is accepted as a result. The relationship between social support and behavioural

intention is highly significant. Social support is one of the most appropriate and often used social influence constructs, and it aids in understanding and predicting individual behaviour (Courneya et al., 2000; Kacperczyk, 2013). This suggests that the social impact that forecasts a person's behavioural intention includes social support as a crucial component.

5.3.2 Hypothesis 2

H2: Perceived ease of use has a significant on the behavioural intention.

Based on the results, it shows that there is a significant strong relationship between perceived ease of use and behavioral intention. According to the findings in chapter 4, it shows a beta value of 0.316 which means there is a strong relationship between the perception of ease of use and behavioral intention.

The results of the study show that the regression value for internet of things skills is p=0.046 which is very significant for perceived ease of use because the regression value is less than 0.01, where p< 0.01. The H2 is accepted as a result. The relationship between perceived ease of use and behavioral intention is highly significant. Consumers' attitudes and behavioral intentions towards adopting and using new technology are greatly influenced by their perception of the ease of use of the technology. Users' propensity to adopt and use technology is positively influenced when they believe it is easy to use, which helps ensure its effective acceptance and use.

5.3.3 Hypothesis 3

H3: Perceived usefulness has a significant on the behavioural intention.

Based on the results, it shows that there is a significant strong relationship between perceived usefulness and behavioral intention. According to the findings in chapter 4, it shows a beta value is 0.165 which means there is a strong relationship between perceived usefulness and the behavioral intention.

The results of the study show that the regression value for internet of things skills is p=0.041 which is very significant for perceived usefulness because the regression value is less than 0.01, where p< 0.01. The H3 is accepted as a result. One important aspect impacting users' attitudes and intentions towards embracing and using technology is perceived usefulness. Users' attitudes are positively impacted when they believe a technology adds value and advantages, which increases the probability that they will express their intention to use the technology.

5.3.4 Hypothesis 4

H4: Perceived privacy and security concern has no significant on the behavioural intention.

Based on the results, it shows that there is a significant weak relationship between perceived privacy and security concern and behavioral intention. According to the findings in chapter 4, it shows a beta value is 0.034 which means there is a weak relationship between perceived privacy and security concern and the behavioral intention.

The results of the study show that the regression value for internet of things skills is p=0.362 which is very significant for perceived privacy and security concern because the regression value is less than 0.01, where p< 0.01. The H4 is not accepted. Users' behavioural intentions are significantly impacted by perceived privacy and security concerns. Prioritising and successfully addressing these issues will increase the likelihood that users will trust and accept the

technology, which will result in favourable attitudes and adoption and usage intentions. Regarding privacy and security, developers and organisations need to understand how critical it is to build user trust and facilitate successful technology adoption.

5.4 IMPLICATION OF THE STUDY

The phrase "study implications" describes possible results, effects or real-world applications that could come from a particular academic or research study. When academics or researchers talk about the implications of their work, they consider the significance and wider applicability of the findings beyond the original parameters of the study. Therefore, there are several implications of the study for internet of things (Iot) technology among the students.

The implications of studying Internet of Things (IoT) technology among students can be diverse and impactful, influencing various aspects of education. Here are some of the main implications of the study, the first of which is the increased possibility for learning for interactive education, the Internet of Things can support interactive practical education. With connected devices, students can work with real-world data, run experiments and evaluate results.While for personal learning using IoT, the learning path can be tailored for each student, taking into account their preferences and areas of progress.

In addition, skill enhancement in technical competence, student acquisition of programming, data analysis and hardware integration skills can be facilitated by exposure to Internet of Things technology. Additionally, improved problem-solving skills, as students

investigate and debug issues related to connected systems, working with IoT devices can improve their problem-solving skills.

Next, other things that can be applied are ethical and safety considerations. In this regard, it can be linked to cyber security awareness where it is very important to inform students about security issues surrounding Internet of Things (IoT) devices. This will help them recognize possible threats and how best to protect linked systems. Additionally, the ethical implications of IoT research should be examined, along with issues of data privacy, surveillance and responsible use of technology.

The researcher's purpose in this study is to find out the intention to use Internet of Things(Iot) Technology among UMK students. Through this study, researchers can adapt relevant theories to be used throughout this study such as the TAM model. This theoretical model can help researchers get data more efficiently and accurately. In conclusion, knowledge about safe data storage needs to be disclosed in the community to provide a wider understanding of the internet of things.

5.5 LIMITATION OF THE STUDY

These are some of the issues that were found during the study process. Firstly, the undergraduate students enrolled at University Malaysia Kelantan's Faculty of Entrepreneurship and Business completed an online survey developed utilising Google Form to offer their replies for this study. A challenge that the researcher will have to overcome is the doubt around the accuracy of the information supplied by respondents. Most likely, this is because most of them did not read the question very carefully. After that, the researcher will need to locate respondents who

are willing to answer the questionnaire because gathering data from respondents via an internet survey would need a substantial amount of time. It became evident that some of the respondents were simply pressed for time and were unable to address every query that was posed to them. As a result, when answering the online questionnaire, the respondents were limited to providing just their honest opinions. This resulted from the respondents' limited ability to choose among pre-planned responses.

Additionally, the constraints of this research limit the study's breadth. For the purpose of conducting this study more efficiently, the researcher decided to limit participation to University Malaysia Kelantan students. The sample size is minimal due to time restrictions, and it would be difficult for the researcher to do study and gather data if they concentrated on all of Malaysia's communities. Further research could survey a more diverse sample of social network users in addition to university students, provide a reward for participating in the survey, or test the proposed framework by comparing various demographic segments in order to obtain findings that are applicable to a wider population. Choosing any of these variables would enable the study's findings to be more broadly applicable.

Furthermore, as the sole independent factors taken into account, this study examined perceived trust, perceived ease of use, perceived social presence, and perceived usefulness. Because of the nature of their research, the researchers were limited in their ability to examine other aspects of the studies. Moreover, the incident occurs when convenience sampling is used to establish the sample size for this study. The representations that emerged from the sample were beyond the researchers' ability to influence. This lack of control might lead to biassed research findings and samples, which would limit the study's ability to be broadly applied.

Last but not least, recognising these limits helps researchers present a more comprehensive picture of the issues and concerns related to IoT integration into society, hence improving openness and credibility of their research. It also ensures a more thorough investigation of the complex effects of IoT on the fabric of our societies by guiding future research endeavours in light of these constraints.

5.6 SUGGESTION FOR FUTURE RESEARCH

The Internet of Things' (IoT) social integration is a revolutionary development that might improve productivity, connectedness, and general quality of life. In order to facilitate the conscientious and advantageous use of IoT technology, a number of proposals and guidelines can assist stakeholders in navigating this dynamic terrain.

The impact of new technologies on pupils' digital experiences must first and foremost be carefully examined. Analysing the effects of augmented reality (AR) and virtual reality (VR) on students' interactions with digital marketing content may yield new insights.Furthermore, social commerce sites are widely used by people nowadays which can be beneficial for future research.Firstly, promote education and digital literacy which is develop educational initiatives to improve digital literacy and increase public knowledge of Internet of Things technology. By providing consumers with information about the advantages, dangers, and best practices related to IoT, people will be better equipped to navigate the rapidly changing technological world and make wise decisions.

Next, prioritise data security and privacy which is when developing and deploying Internet of Things devices and systems, place a strong emphasis on data security and privacy protocols.

This entails open privacy rules, safe authentication procedures, and end-to-end encryption to establish and preserve user confidence. Furthermore, enhance public awareness which is to inform the public about the benefits and prospective uses of IoT, launch extensive awareness campaigns. The emphasis of these advertisements should be on real-world examples that demonstrate how IoT can boost productivity, improve everyday life, and benefit a variety of industries including smart cities, transportation, and healthcare.

In conclusion, promoting IoT adoption in society necessitates a multimodal strategy that takes social, ethical, and technological factors into account. Stakeholders may help establish a foundation of mutual respect, comprehension, and cooperation by putting these suggestions into practice. This will eventually lead to the responsible and broad use of IoT technologies in many areas of our everyday life.

5.7 Overall Conclusion

This section discussed the overall conclusion for the overall of this study. A major aim of this study was to investigate the degree of social support, perceived ease of use, perceived usefulness and perceived privacy and security concern that may influence the intention to use the internet of things (IoT) technology among University Malaysia Kelantan (UMK) students. Researchers had conducted this study through questionnaire surveys investigating the factor that may influence University Malaysia Kelantan (UMK) students to use the internet of things (IoT) technology. The study has presented the outline of final results based on the analysis of data from respondents and it will enable researchers to interpret and identify the findings whether the result meet the objective of this research.

Based on the result of this research, the intention to use the internet of things (IoT) technology among University Malaysia Kelantan (UMK) students can be influenced by several factors such as social support, perceived ease of use, perceived usefulness and perceived privacy and security concern. This study was associated with some evidence that proposed that there was significant influence of these four independent variables toward UMK students for the intention to use the internet of things (IoT) technology. All of the factors were considered to have greater importance as keys to the formation of the intention to use the internet of things (IoT) technology among University Malaysia Kelantan (UMK) students. Therefore, all the hypothesis will be accepted and no hypothesis will be rejected.

On the other hand, this section also discusses some details about the recommendations that aim to make this studies more successful and reliable to the public. Thus, it can conclude that the objectives of this study had been achieved and this research also provided data, information, evidences that explained how those factors can influence UMK students to use the internet of things.

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APPENDIX A – DRAFT OF QUESTIONNAIRE

INTENTION TO USE THE INTERNET OF THINGS (IOT) TECHNOLOGY AMONG UNIVERSITI MALAYSIA KELANTAN(UMK) STUDENTS

We are a group of SAK 47 and also Year 4 students from the Faculty of Entrepreneurship and Business (FKP) at the University of Malaysia Kelantan (UMK), pursuing a Bachelor of Entrepreneurship (Commerce) with Honors. Our group includes four members namely Amilah Fadhlina Binti Saat (A20A2105), Amir Naqiuddin Bin Mohd Fadzal (A20A1259), Anis Hafiza Binti Mustaf (A20A1271) and Ang Swee Qian (A20A1268).

We're conducting a survey to explore the Intention to use the Internet of Things (IoT) Technology among Universiti Malaysia Kelantan (UMK) Students. Thank you for your time and cooperation.

Kami merupakan kumpulan SAK 47 dan juga pelajar Tahun 4 Fakulti Keusahawanan dan perniagaan (FKP) Universiti Malaysia Kelantan (UMK), mengikuti pengajian Ijazah Sarjana Muda Keusahawanan (Perdagangan) dengan Kepujian. Kumpulan kami merangkumi empat orang ahli iaitu Amilah Fadhlina Binti Saat (A20A2105), Amir Naqiuddin Bin Mohd Fadzal (A20A1259), Anis Hafiza Binti Mustaf (A20A1271) dan Ang Swee Qian (A20A1268).

Kami sedang menjalankan tinjauan untuk menerokai Hasrat menggunakan Teknologi Internet Perkara (IoT) dalam kalangan Pelajar Universiti Malaysia Kelantan (UMK).Terima kasih atas masa dan kerjasama anda.

Internet of Things (IOT) refers to a network of interconnected devices embedded with sensors, software, and other technologies that enable them to collect and exchange data. These devices can range from everyday objects like household appliances, wearable devices, vehicles, and industrial machinery to more sophisticated tools used in various sectors. The Internet of Things was founded by the computer scientist Kevin Ashton.

Internet of Things (IOT) merujuk kepada rangkaian peranti yang saling berkaitan yang dibenamkan dengan penderia, perisian dan teknologi lain yang membolehkan mereka mengumpul dan bertukar data. Peranti ini boleh terdiri daripada objek harian seperti perkakas rumah, peranti boleh pakai, kenderaan dan jentera perindustrian kepada alat yang lebih canggih yang digunakan dalam pelbagai sektor.

SECTION A: DEMOGRAPHIC PROFILE/ BAHAGIAN A PROFIL DEMOGRAFI

1. Gender/ Jantina
    - Male/Lelaki

- Female/Perempuan

2. Age/ Umur
   - 18 - 21 years old / 18 - 21 tahun
   - 22 - 26 years old / 22 - 26 tahun
   - 27 years old and above / 27 tahun ke atas
3. Race/Kaum
   - Malay / Melayu
   - Chinese / Cina
   - Indian / India
   - Other / Lain-lain
4. My understanding of Internet of Things (IoT) is/ Kefahaman saya terhadap Internet of Things (IoT) ialah
   - Weak / Lemah
   - Neutral / Neutral
   - Strong / Kuat

SECTION B: DEPENDENT VARIABLE / BAHAGIAN B: PEMBOLEHUBAH BERSANDAR

Behavioural intention

1. I will recommend using the internet of things to my friends and family in daily life./Saya akan mengesyorkan menggunakan internet perkara kepada rakan dan keluarga saya dalam kehidupan seharian.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

2. I will always try to use the internet of things in my daily life because it is beneficial./Saya sentiasa akan cuba menggunakan internet of thing dalam kehidupan seharian kerana ia berfaedah.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

3. I will encourage more people to continue using the internet of things because it can manage assets or resources in future./Saya akan menggalakkan lebih ramai orang untuk terus menggunakan internet of things kerana boleh membuat pengurusan aset atau sumber pada masa hadapan.

- Strongly Disagree / Sangat Tidak Setuju

- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

4. I intend to use an internet of things if the cost and times is reasonable for me/Saya berhasrat untuk menggunakan internet perkara jika kos dan masa adalah munasabah untuk saya

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

5. I intend to continue use an internet of things more frequently in the future/Saya berhasrat untuk terus menggunakan internet perkara dengan lebih kerap pada masa hadapan

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

SECTION C: INDEPENDENT VARIABLE / PEMBOLEHUBAH BEBAS

Social support

1. I will ask my mates on forums and communities to help me with their ideas and recommendations before I navigate IoT tools./Saya akan meminta rakan saya di forum dan komuniti untuk membantu saya dengan idea dan cadangan mereka sebelum saya menavigasi alatan IoT.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

2. I am willing to share my experience with my mates on forums and communities/.Saya bersedia untuk berkongsi pengalaman saya dengan pasangan saya di forum dan komuniti.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

3. I am willing to recommend IoT tools that are worth adopting to my mates on my faculty./Saya bersedia untuk mengesyorkan alat IoT yang berbaloi untuk diterima pakai kepada rakan saya di fakulti saya.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

Perceived ease of use

1. Learning to operate the IoT tools is easy for me./Belajar untuk mengendalikan alatan IoT adalah mudah untuk saya.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

2. I find it easy to get IoT devices to do what I want them to do./ Saya rasa mudah untuk mendapatkan peranti IoT melakukan perkara yang saya mahu mereka lakukan.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

3. My interaction with IoT devices is clear and understandable. /Interaksi saya dengan peranti IoT adalah jelas dan boleh difahami.

- Strongly Disagree / Sangat Tidak Setuju

- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

4. I find IoT devices to be flexible to interact with. /Saya mendapati peranti IoT adalah fleksibel untuk berinteraksi.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

5. It is easy for me to become skillful at using IoT devices./Mudah untuk saya menjadi mahir menggunakan peranti IoT.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

Perceived usefulness

1. Using IoT devices enables me to accomplish my tasks more quickly. /Menggunakan peranti IoT membolehkan saya menyelesaikan tugas saya dengan lebih cepat.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

2. Using IoT devices improves my productivity in my daily life. /Menggunakan peranti IoT meningkatkan produktiviti saya dalam kehidupan seharian saya. Community Verified icon

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

3. Using IoT devices enhances my effectiveness in daily tasks. /Menggunakan peranti IoT meningkatkan keberkesanan saya dalam tugas harian.

- Strongly Disagree / Sangat Tidak Setuju

- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

4. Using IoT devices makes my life easier./ Menggunakan peranti IoT menjadikan hidup saya lebih mudah.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

5. I find it useful to use IoT devices at home./Saya mendapati ia berguna untuk menggunakan peranti IoT di rumah.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

Perceived Privacy and security concern

1. I am concerned that my personal information gathered by IoT devices could be used for wrong purposes. /Saya bimbang maklumat peribadi saya yang dikumpul oleh peranti IoT boleh digunakan untuk tujuan yang salah.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

2. I am concerned that my personal information gathered by IoT devices could be accessed by unknown parties./ Saya bimbang maklumat peribadi saya yang dikumpul oleh peranti IoT boleh diakses oleh pihak yang tidak dikenali.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

3. I usually think twice before providing my personal information in IoT devices. /Saya biasanya berfikir dua kali sebelum memberikan maklumat peribadi saya dalam peranti IoT.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

4. I feel IoT devices are collecting excessive personal information./Saya merasakan peranti IoT sedang mengumpul maklumat peribadi yang berlebihan.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

5. I am concerned that my personal information gathered by IoT devices could be used in a manner I am unaware of./Saya bimbang maklumat peribadi saya yang dikumpul oleh peranti IoT boleh digunakan dengan cara yang saya tidak tahu.

- Strongly Disagree / Sangat Tidak Setuju
- Disagree / Tidak Setuju
- Neutral / Neutral
- Agree / Setuju
- Strongly Agree / Sangat Setuju

APPENDIX B (GANTT CHART)

GANTT CHART OF RESEARCH OBJECTIVES ON PROPOSAL FOR PPTA 1

ACTIVITIES	OCT	NOV	DEC	JAN	FEB
Distribution of group, supervisors, and evaluators.					
Meeting with supervisor(Briefing on PPTA 1)					
Database searching & Reference Manager Class					
CHAPTER 1: INTRODUCTION					
Discussion on the tittle					
Starting up with Chapter 1					
Submit Chapter 1					
CHAPTER 2: LITERATURE REVIEW					
Review in literature of the research studies based on independent variable and dependent variable					
Starting up with Chapter 2					
Submit Chapter 2					

CHAPTER 3: RESEARCH METHODOLOGY					
Starting up with Chapter 3					
Discussion on the method used in research					
Submission first draft PPTA 1					
Meeting with supervisor					
Submission Second draft PPTA 1					
Submission Third draft PPTA 1					
Discussion all report with supervisor					
Discussion Questionnaire with supervisor					
Do a pilot test					
Distributes the questionnaire to the respondents					
Submit PPTA 1					
CHAPTER 4 : DATA ANALYSIS AND FINDINGS					
Starting up with Chapter 4					

Do a data analysis						
Data Transfer						
Meet the supervisor to dicuss about PPTA II						
Group discusssion about the PPTA II						
CHAPTER 5:DISCUSSION AND CONCLUSION						
Starting up with Chapter 5						
Complete all the chapter of research proposal project.						
Check turnitin						
Correction marker						
Submission for the final draft of the research project report to the supervisor						
Physical presentation of the project at COLLOQUIUM						
Final report submission process and overall evaluation						

ASSESSMENT FORM FOR FINAL YEAR RESEARCH PROJECT: RESEARCH REPORT (Weight 50%)
(COMPLETED BY SUPERVISOR AND EXAMINER)

Student's Name: Amilah Fadhlina Binti Saat **Matric No:** A20A2105

Amir Naqiuddin Bin Mohd Fadzal A20A1259

Anis Hafiza Binti Mustaf A20A1271

AngSweeQian A201268

Name of Supervisor: Dr. Mohd Nazri Bin Muhayiddin **Name of Programme:** SAK

Research topic: Intention To Use The Internet Of Things (IOT) Technology Among University Malaysia Kelantan Students (UMK)

NO.	CRITERIA	PERFORMANCE LEVEL				WEIGHT	TOTAL
		POOR (1 MARK)	FAIR (2 MARKS)	GOOD (3 MARKS)	EXCELLENT (4 MARKS)		
1.	**Content (10 MARKS)** (Research objective and Research Methodology in accordance to comprehensive literature review) Content of report is systematic and scientific (Systematic includes Background of study, Problem Statement, Research Objective, Research Question) (Scientific refers to researchable topic)	Poorly clarified and not focused on Research objective and Research Methodology in accordance to comprehensive literature review.	Fairly defined and fairly focused on Research objective and Research Methodology in accordance to comprehensive literature review.	Good and clear of Research objective and Research Methodology in accordance to comprehensive literature review with good facts.	Strong and very clear of Research objective and Research Methodology in accordance to comprehensive literature review with very good facts.	____ x 1.25 (Max: 5)	
		Content of report is written unsystematic that not include Background of study, Problem Statement, Research Objective, Research	Content of report is written less systematic with include fairly Background of study, Problem Statement, Research Objective,	Content of report is written systematic with include good Background of study, Problem Statement, Research Objective,	Content of report is written very systematic with excellent Background of study, Problem Statement, Research Objective,	____ x 1.25 (Max: 5)	

ASSESSMENT FORM FOR FINAL YEAR RESEARCH PROJECT: RESEARCH REPORT (Weight 50%)
(COMPLETED BY SUPERVISOR AND EXAMINER)

			Question and unscientific with unsearchable topic.	Research Question and less scientific with fairly researchable topic.	Question and scientific with good researchable topic.	Research Question and scientific with very good researchable topic.		
2.	**Overall report format (5 MARKS)**	***Submit according to acquired format***	The report is not produced according to the specified time and/ or according to the format	The report is produced according to the specified time but fails to adhere to the format.	The report is produced on time, adheres to the format but with few weaknesses.	The report is produced on time, adheres to the format without any weaknesses.	____ x 0.25 (Max: 1)	
		Writing styles (clarity, expression of ideas and coherence)	The report is poorly written and difficult to read. Many points are not explained well. Flow of ideas is incoherent.	The report is adequately written; Some points lack clarity. Flow of ideas is less coherent.	The report is well written and easy to read; Majority of the points is well explained, and flow of ideas is coherent.	The report is written in an excellent manner and easy to read. All of the points made are crystal clear with coherent argument.	____ x 0.25 (Max: 1)	
		Technicality (Grammar, theory, logic and reasoning)	The report is grammatically, theoretically, technically and logically incorrect.	There are many errors in the report, grammatically, theoretically, technically and logically.	The report is grammatically, theoretically, technically and logically correct in most of the chapters with few weaknesses.	The report is grammatically, theoretically, technically, and logically perfect in all chapters without any weaknesses.	____ x 0.25 (Max: 1)	
		Reference list (APA Format)	No or incomplete reference list.	Incomplete reference list and/ or is not according to the format.	Complete reference list with few mistakes in format adherence.	Complete reference list according to format.	____ x 0.25 (Max: 1)	

ASSESSMENT FORM FOR FINAL YEAR RESEARCH PROJECT: RESEARCH REPORT (Weight 50%)
(COMPLETED BY SUPERVISOR AND EXAMINER)

		Format organizing (cover page, spacing, alignment, format structure, etc.)	Writing is disorganized and underdeveloped with no transitions or closure.	Writing is confused and loosely organized. Transitions are weak and closure is ineffective.	Uses correct writing format. Incorporates a coherent closure.	Writing include a strong beginning, middle, and end with clear transitions and a focused closure.	____ x 0.25 (Max: 1)	
3.	**Research Findings and Discussion (20 MARKS)**		Data is not adequate and irrelevant.	Data is fairly adequate and irrelevant.	Data is adequate and relevant.	Data is adequate and very relevant.	____ x 1 (Max: 4)	
			Measurement is wrong and irrelevant	Measurement is suitable and relevant but need major adjustment.	Measurement is suitable and relevant but need minor adjustment.	Measurement is excellent and very relevant.	____ x 1 (Max: 4)	
			Data analysis is inaccurate	Data analysis is fairly done but needs major modification.	Data analysis is satisfactory but needs minor modification.	Data analysis is correct and accurate.	____ x 1 (Max: 4)	
			Data analysis is not supported with relevant output/figures/tables and etc.	Data analysis is fairly supported with relevant output/figures/tables and etc.	Data analysis is adequately supported with relevant output/figures/ table and etc.	Data analysis is strongly supported with relevant output/figures/ table and etc.	____ x 1 (Max: 4)	
			Interpretation on analyzed data is wrong.	Interpretation on analyzed data is weak.	Interpretation on analyzed data is satisfactory.	Interpretation on analyzed data is excellent	____ x 1 (Max: 4)	
4.	**Conclusion and Recommendations (15 MARKS)**		Implication of study is not stated.	Implication of study is weak.	Implication of study is good.	Implication of study is excellent	____ x 1.25 (Max: 5)	
			Conclusion is not stated	Conclusion is weakly explained.	Conclusion is satisfactorily explained.	Conclusion is well explained.	____ x 1.25 (Max:5)	

ASSESSMENT FORM FOR FINAL YEAR RESEARCH PROJECT: RESEARCH REPORT (Weight 50%)
(COMPLETED BY SUPERVISOR AND EXAMINER)

		Recommendation is not adequate and irrelevant.	Recommendation is fairly adequate and irrelevant.	Recommendation is adequate and relevant.	Recommendation is adequate and very relevant.	____ x 1.25 (Max:5)	
						TOTAL (50 MARKS)	