LEE CHOY YING

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DRIVERS OF TABLETS USED BY UNIVERSITI TUNKU ABDUL RAHMAN (UTAR) ACADEMICIANS: THE TECHNOLOGY ACCEPTANCE MODEL PERSPECTIVE

LEE CHOY YING

BACHELOR OF SCIENCE (HONOURS) STATISTICAL COMPUTING AND OPERATIONS RESEARCH

FACULTY OF SCIENCE

UNIVERSITY TUNKU ABDUL RAHMAN

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By

LEE CHOY YING

Department of Physical and Mathematical Science

Faculty of Science

Universiti Tunku Abdul Rahman

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ABSTRACT

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LEE CHOY YING

Technological advancement has greatly impacted society, developing technologies to fulfil its needs. Tablets have captured the interest of educators, notably during the Covid-19 pandemic, because of their potential for offering portability and capability comparable with laptops and desktop computers. Tablets have also found success in various industries, including business, personal, and commercial. This research was designed to aid UTAR management in determining the importance of tablet adoption and effective strategies to promote its usage among academicians. It aims to identify significant factors affecting UTAR academicians' tablet use and associations within the Technology Acceptance Model (TAM). The critical factors expounded in this study were perceived ease of use (PEOU), perceived usefulness (PU), behavioural intention to use tablets (BI), attitude towards tablets (ATT), and frequency of actual usage (AU), forming a conceptual framework with six hypotheses. The research followed a quantitative design using a questionnaire survey, with questions derived from past literature for each

construct. Convenience sampling was employed, distributing the survey via email to academicians without strata or group allocation. The survey targeted academicians experienced in tablet usage, resulting in a dataset of 79 respondents, of which 65 had tablet experience. Data analysis employed partial least square-structural equation modelling (PLS-SEM) to explore the research objective. Findings support most hypotheses, highlighting the positive impact of perceived usefulness (PU) on attitudes towards tablets (ATT) and intentions to use tablets (BI), as well as the positive effect of intentions to use tablets (BI) on actual usage (AU). However, perceived ease of use (PEOU) did not positively affect attitudes towards tablets (ATT). The adapted model suits better that PEOU affects ATT indirectly. Its influence is cleverly managed by the intermediate role of PU, which serves as the critical conduit connecting PEOU to ATT. Besides, PU holds significant than PEOU.

Key Terms: Technology Acceptance Model, Academicians, Tablets, Partial least square - structural equation modelling (PLS-SEM)

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Finally, it is my pleasure to thank those academics who took part in this questionnaire survey. Without their cooperation and involvement, this research project could not have been accomplished.

DECLARATION

I hereby certify that the project report is entirely my own work, except for quotations and sources that have been properly acknowledged. I further certify that it has not been submitted for any other degree at UTAR or other universities earlier or simultaneously.

LEE CHOY YING

APPROVAL SHEET

This project report entitled "**DRIVERS OF TABLETS USED BY UNIVERSITI TUNKU ABDUL RAHMAN (UTAR) ACADEMICIANS: THE TECHNOLOGY ACCEPTANCE MODEL PERSPECTIVE"** was prepared by LEE CHOY YING and submitted as partial fulfilment of the requirements for the degree of Bachelor of Science (Hons) Statistical Computing and Operations Research at Universiti Tunku Abdul Rahman.

Approved by:

Dr Nur Balqishanis Binti Zainal Abidin Date: 27 SEPTEMBER 2023

Supervisor
Department of Physical and Mathematical Science
Faculty of Science
Universiti Tunku Abdul Rahman

FACULTY OF SCIENCE

UNIVERSITI TUNKU ABDUL RAHMAN

Date: 27/9/2023

PERMISSION SHEET

It is hereby certified that LEE CHOY YING (ID No: **19ADB04306**) has completed this final year project entitled "**DRIVERS OF TABLETS USED BY UNIVERSITI TUNKU ABDUL RAHMAN (UTAR) ACADEMICIANS: THE TECHNOLOGY ACCEPTANCE MODEL PERSPECTIVE"** under the supervision of Dr. Nur Balqishanis Binti Zainal Abidin (Supervisor) from the Department of Physical and Mathematical Science, Faculty of Science.

I hereby give permission to the University to upload the softcopy of my final year project in pdf format into the UTAR Institutional Repository, which may be made accessible to the UTAR community and public.

Yours truly,

(LEE CHOY YING)

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LIST OF ABBREVIATIONS

ATT	Attitude towards Tablets
AU	Frequency of Actual Usage
AVE	Average Variance Extracted
BI	Behavioral Intention to Use Tablets
CB-SEM	Covariance-Based Structural Equation Model
CFS	Centre for Foundation Studies
CI	Confidence Interval
COVID-19	Coronavirus Disease 2019
CSV	Comma-Separated Value
FAM	Faculty of Accountancy and Management
FATIH	Movement for Enhancing Opportunities and Developing Technology
FAS	Faculty of Arts and Social Science
FBF	Faculty of Business and Finance
FEGT	Faculty of Engineering and Green Technology
FCI	Faculty of Creative Industries
FGO	Faculty General Office
FICT	Faculty of Information and Communication Technology
FSC	Faculty of Science
HCI	Human-Computer Interaction
H_0	Null Hypothesis
H_a	Alternative Hypothesis
HTMT	Heterotrait-Monotrait Ratio of Correlation

ICS	Institute of Chinese Studies
ICT	Information and Communication Technology
IT	Information Technology
IWBs	Interactive Whiteboards
LM	Linear Regression Model
LV	Latent Variables
ML	Maximum Likelihood
MV	Manifest variables
PC	Personal Computer
PEOU	Perceived Ease of Use
PhD	Doctor of Philosophy
PLS	Partial Least Square
PLS-SEM	Partial Least Square-Structural Equation Modeling
PU	Perceived Usefulness
QR code	Quick Response Code
RMSE	Root Mean Square Error
SEM	Structural Equation Modeling
SPSS	Statistical Package for the Social Science
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UTAR	Universiti Tunku Abdul Rahman
UTAUT	Unified Theory of Acceptance amd Use of Technology

VAF	Variance Accounted For
VIF	Variance-Inflation Factor
β	Path Coefficients
ρ_A	Dijkstra-Henseler's Rho
ρ_c	Composite Reliability
α	Cronbach's Alpha

CHAPTER 1

INTRODUCTION

1.0 Introduction

The first chapter provides an overview of the research background, study's organization, as well as the study's problem statement, objectives, significance, and definition of key terms.

1.1 Research Background of Mobile Learning

Every stride in technology has left its mark on human society, even instances of failure. "Necessity is the mother of invention," every technology generated was created to meet the needs of society, and as a result, it is inextricably related to the culture and habits of the population. Once a technology is developed, it has the potential to influence and transform societal behaviour and functioning, resulting in the emergence of new challenges, alternative economic structures, and innovative lifestyles. These outcomes, in turn, can serve as catalysts for further breakthroughs in technology. Technology can be characterised as the efforts undertaken by a human to modify the surrounding environment (Buchanan, 2018). The utilisation of technology has a profound influence on the domains of education and science. The advent of mobile technology, characterised by its ability to transfer data across different locations seamlessly, is currently being implemented.

Mobile learning is a critical challenge for education in general and particularly for technological education. The proliferation of the Internet and the emergence of portable computing devices such as laptops, tablets, smartphones, and netbooks have led to the adoption of learning environments that rely heavily on digital information processing. Mobile learning, as described by Traxler (2009), refers to the use of mobile devices to support or transmit learning, and has the potential to enhance universal learning. Tablets have emerged as a highly favoured mobile gadget for educational purposes in recent years. Tablets used in education have become inevitable due to the rise of the tablets market in almost every region of the world (Maximize Market Research Pvt Ltd, 2023). Since tablets contain laptop and desktop functions, educators are interested in them as teaching tools (Derting and Cox, 2008). They are portable, multifunctional, and can be written on with a special pen. In addition, tablets could outperform PCs and laptops due to their smaller size, greater compatibility with humans, and ability to use touchscreens to access the Internet, read e-books, and use a variety of apps (Ozkale and Koc, 2020). Given how swiftly educational technology is expanding, tablets in the classroom can promote interactive and collaborative learning, classroom engagement, and instructional materials and apps for learning and teaching. Due to technological advances, tablets have grown beyond entertainment. Tablets are used in education, business, personal use, and commercial enterprises (Maximise Market Research Pvt Ltd, 2023). The global tablets market is expected to experience growth due to the notable advancements in tablets designs (Maximise

Market Research Pvt Ltd, 2023). These developments include lighter devices, higher screen quality and size, better gaming and video streaming graphics, and bill payment and synchronisation apps.

Back in 1968, Alan Kay, an American computer scientist, conceived the "Dynabook" as an economical, portable plaything for youngsters. This innovative device featured a touchscreen and a movable keyboard, reminiscent of contemporary tablet PCs. During that era, he named it the "KiddiComp," envisioning it as a personalised computing tool suitable for children across age groups (Rebecca, 2022). However, at the start of 2010, interest in tablets was lower than anticipated, although many computing corporations had established touch-screen technologies. After this time, significant growth in tablets usage and manufacture was seen. This may be due to their widespread introduction and promotion, affordable price points, and user-friendly software and processor designs (Maximize Market Research Pvt Ltd, 2023).

Nowadays, tablets come in various platforms, hardware configurations, capabilities, and pricing points. People can perform practically anything with a tablet that they can with a laptop. The touchscreen and operating system of the tablets makes it stand out the most. In addition to the built-in virtual keyboard, users can connect to an external keyboard at their discretion. There are now gadgets that function as both laptops and tablet PCs. In the opinion of Human-Computer Interaction (HCI) experts, touchscreen technology is more suited to

human nature (Ozkale and Koc, 2020). Moving the finger over the screen can be used to switch between windows and layers. The operating systems that tablets run on significantly impact many factors, including pricing, security, application richness, processing speed, and image quality (Goadrich and Rogers, 2011Tablets, classified as portable computers, exhibit an extended operational duration owing to their hardware components' reduced power demands (Kyrnin, 2021). When considering the average duration of battery life for laptops, which typically ranges from four to eight hours, it is noteworthy that numerous tablets can sustain up to ten hours of uninterrupted usage prior to requiring a recharge (Kyrnin, 2021).

Since tablets are helpful for education, several countries are working on initiatives on how tablets can affect education. The "Movement for Enhancing Opportunities and Developing Technology (FATIH)" project, implemented in Turkey, aimed to provide students in public schools with equal opportunities for their compulsory primary and secondary education through the utilisation of Information and Communication Technology (ICT) tools and resources (Kizilet and Özmen, 2017). Five hundred seventy thousand classrooms included Interactive Whiteboards (IWBs), internet networks, and tablet PCs for teachers and students to integrate ICT technologies. The incorporation of ICT has played a crucial role in enhancing the effectiveness of teaching and learning processes. The utilization of this technology was expected to yield positive outcomes for both students and educators. The project's primary components included the provision of equipment and software infrastructure, instructional educational e-content and guidelines, in-

service education for teachers, and so on (Kizilet and Özmen, 2017). To facilitate digital education and enhance educational practises across several disciplines in Cambodia, the Busan Department of Education in South Korea generously contributed 250 tablets to the Ministry of Education, Youth, and Sport (Sochan, 2020). Additionally, Malaysia distributed "Peransistiwa" tablets to underprivileged B40 students for their studies (Lee, 2022).

Lestari and Indrasari (2019) argued that the iPad adoption programme design in Websis for Education should prioritise establishing a sense of simplicity to enhance instructors' confidence and competence in utilising the technology. Moreover, in research of 18 instructors, Ifenthaler and Schweinbenz (2013) concluded that the teachers' views on using tablets in the classroom varied, most thought that they did not enhance learning. They also emphasised the fact that the teachers are required to facilitate themselves with technical assistance when using tablets. Tablet computers will improve student success, teachers need in-service training, interactive software should be deployed, and technical support should be offered (Kamaci and Durukan, 2012).

It is apparent that numerous studies focus on using tablets in education and that during the COVID-19 pandemic, usage has increased. According to Ishan Dutt, an analyst with Canalys, "the coronavirus pandemic has increased competition for access to communal screens among household members forced to stay indoors" (Hautala, 2020). Tablets are considered the optimal electronic device due to their

ability to address the concern mentioned earlier by facilitating individual access for every household member. Furthermore, it can be observed that they possess a lower cost in comparison to desktop computers and notebooks. However, there is a limited body of research available for analysing the use of tablets among academicians in higher education institutions in Malaysia. The utilisation of tablets by educators as a metric for the uptake of technology is crucial to facilitate favourable outcomes. Hence, this study aims to examine the factors influencing the adoption of tablets among academicians, specifically focusing on the variables of perceived ease of use (PEOU), perceived usefulness (PU), attitude towards tablets (ATT), and behavioural intention to use (BI).

1.2 Target Population of the Research

The research focuses on academicians within Universiti Tunku Abdul Rahman (UTAR) who possess experience in using tablets. It comprises professors, associate professors, assistant professors, senior lecturers, and lecturers.

1.3 Background of the Research Organization

UTAR is a non-profit private university that offers reasonably priced, high-quality education. It was officially launched on August 13, 2002. Since its establishment, the University has expanded quickly and is well-known for its dedication to quality in both teaching and research. There are two campuses for UTAR, one in Bandar Sungai Long, Selangor, and the other in Kampar, Perak. Since its initial convocation in 2005, it has graduated more than 79,000 students (UTARa, n.d.).

UTAR, being a comprehensive institution, offers a diverse range of courses and boasts highly competent professors, facilitating the realization of UTAR's objectives as a hub for academic excellence. According to UTARa (n.d.), the University provides 131 academic programmes, including various levels of education such as foundation studies, bachelor's degrees, master's degrees, and PhD degrees. These programmes span diverse fields, including Accounting, Business and Economics, Actuarial Science, Mathematics and Process Management, Agriculture and Food Science, Arts, Social Sciences and Education, Creative Industries and Design, Engineering and Built Environment, Information and Communication Technology, Life and Physical Sciences, and Medicine and Health.

1.3 Problem Statement of the Study

The lack of success in implementing tablets technology in education among academic professionals is compounded by several factors, including lack of time, lack of ability and academicians burdened with heavy teaching load (Afendi, Amin and Halim, 2011). As highlighted by Zainal and Zainuddin (2020), many educational establishments in Malaysia still need to improve their proficiency in incorporating tablets as a pedagogical tool within the classroom setting. The observed phenomenon may be attributed to multiple variables, including a slow pace of acceptance, insufficient opportunities for educators to enhance their professional skills, financial limitations, and a general lack of familiarity with the most effective ways to utilize tablets for educational

objectives. Academicians' limited comprehension and preparedness hinder the integration of tablets.

Additionally, universities often integrate ICT into educational practices like e-learning or mobile teaching and learning without considering the factors that influence academicians' acceptance and use of technology (Mohamed, 2018). If the influencing factors for technology acceptance remain unclear, users may be reluctant to adopt and use tablets, preventing higher education institutions from successfully integrating it into teaching and learning (Davis, 1993; Davis and Venkatesh, 1996; Wong, et al., 2013). To explore learners' perspectives of tablets, various studies have been conducted using the TAM (Lestari and Indrasari, 2019; Cowan and Earls, 2016). However, there are not many studies in Malaysia that look at how academics responded to tablets. The notion that researches on tablets should encompass not only educators' technological knowledge but also their perceptions and application of tablets as an instructional tool (Tai and Ting, 2011). It supports the idea that educators' knowledge and attitudes towards technology can impact their adoption of tablets (Karsen and Siswono, 2015). Moreover, it is crucial to assess the potential utilisation of tablets by academics for other functions, like attending meetings and engaging in official document-related tasks, as well as to their role in facilitating learning and teaching activities. Further, it has been noticed that the determinants used in the TAM frameworks for predicting tablet user behaviour exhibit inconsistencies. This study seeks to uncover the main factors

that influence the acceptance of technology to improve the process of social shaping and encourage increased engagement of academicians with tablets. These determinants will be derived through an investigation of the perspectives of academicians towards tablets.

Academics in Malaysian secondary schools are generally receptive to incorporating mobile technology (tablets) into the classroom since they believe it would improve students' educational experiences (Ismail et al., 2022). As teachers become more comfortable with mobile devices, they will be better able to develop innovative, cutting-edge lessons for their students (Ismail et al., 2022). The high level of mobile technology acceptability among teachers will significantly increase their capacity to produce high-quality, robust, and high-tech pedagogies (Ismail, et al., 2022). Due to the iPad's cutting-edge capabilities, including touch screen access to educational materials, email, and online discussion forums, 73% of Malaysian private university teachers have offered good feedback on the device's use in the classroom (Yusup, 2014). However, many teachers still use computers because they believe that tablets alone are not sufficient for their work.

1.5 Research Objectives

This study employs the Technology Acceptance Model (TAM) as obtained from the literature assessment conducted by Davis (1993) and Davis and Venkatesh

(1996). TAM consists of several key constructs, namely perceived usefulness (PU), perceived ease of use (PEOU), attitude towards tablets (ATT), behavioural intention to use tablets (BI), and frequency of actual usage (AU). PU and PEOU are two fundamental factors that contribute to the understanding of consumers' adoption of technology, as discussed by Huseein and Hilmi (2022). This research has two primary objectives. The objectives that have been derived are stated as follows:

i. To study the associations among the TAM elements towards the use of tablets.
ii. To examine the significant factors that affect the UTAR academicians to use tablets.

1.6 Significance of the Study

With a comprehensive understanding of this research, it can give awareness to the educators, and universities to employ tablets practices, particularly in teaching and learning, leading to increased efficiency and successful implementation. Tablets in the classroom are becoming increasingly popular around the world. The study of this area is of great importance in the digital era, as the utilisation of tablets holds significant promise as an educational tool and device for both instruction and learning purposes. In the long run, it is a revolution that can improve Malaysia education by improving the learning process (Menon, 2016).

This research holds significance as it offers a perspective by highlighting the importance of PU compared to PEOU in the adoption of tablets among academicians (Davis, Bagozzi, and Warshaw, 1989). The appreciation for the significance of PU has led to a notable upsurge in tablet adoption rates among academicians. This phenomenon is underpinned by the robust and pronounced positive relationship between PU and ATT. Intriguingly, while PEOU does not exert a direct positive influence on ATT, its impact is ingeniously mediated through the intermediary role of PU, which serves as the vital conduit bridging PEOU to ATT (Ma and Liu, 2011). PEOU affects ATT indirectly (Ma and Liu, 2011). This intricate interplay between PU and PEOU underscores their combined and profound influence on attitudes and adoption behaviors.

1.7 Operational Definition of Key Terms

Perceived ease of use (PEOU) refers to the extent to which educators perceive using tablets in their professional activities, such as document management or the facilitation of teaching and learning, as effortless. For example, since the system is simple to run, the operation method is simple to comprehend, and the operation is flexible, users will be more confident in their ability to express themselves and more inclined to accept using the system. However, if the system is more challenging to use, excessively complex, or necessitates extensive mental learning, it will pressure the user's brain, cause unpleasant feelings, and result in rejection. When a user perceives that mastering novel technology will take less time and effort, the system's attitude improves (Dhingra & Mudgal, 2019).

Perceived usefulness (PU) refers to how educators believe that adopting tablets will benefit their activities, raising the probability of their professional accomplishments or academic success. Users' expectations for increased productivity or enhanced learning are reflected in their assessments of a system's usefulness, according to research (Nugrabo et al., 2018; Zhao, 2007). Potential users, such as individuals, have the belief that tablets possess the capability to enhance their study routines, improve work efficiency, and enhance the overall productivity and performance of their navigation systems.

Attitude towards tablets (ATT) refers to the perspective of academicians towards the potential benefits or drawbacks associated with the use of tablets. ATT is a negative or positive attitude about using tablets. Positive or negative attitudes towards tablets can predict action or desire to use them. The assessment of individuals' attitude towards technology is determined by their level of interest and willingness to engage with technological tools and systems (Dewiyanti, et al., 2021).

Behavioural intention to use tablets (BI) is the measure of the willingness and readiness of academicians to accept tablets as tools for work or study. It examines an individual's inclination towards future tablet usage and the subjective probability of their adoption (Chen & Chen, 2022). According to Dewiyanti, et al. (2021), an individual's propensity to utilise tablets can be anticipated by considering their attitude and attentiveness towards the technology, including

factors such as their inclination to acquire supplementary peripherals, their intention to sustain usage, and their aspiration to exert influence on other users.

Frequency of actual usage (AU) quantifies the precise frequency with which academicians employ tablets. An actual state of the system is applied when it is used in a real-world context. Individuals are likely to express satisfaction in employing tablets if they exhibit user-friendly attributes and have demonstrated a tangible enhancement in productivity under realistic operational circumstances (Dewiyanti, et al., 2021). The frequency and duration of tablets used measure the actual system utilisation.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.0 Introduction

Chapter 2 reviews the literature on the proposed conceptual paradigm. The conceptual model posits few TAM variables correlations. It involves creating study hypotheses. This chapter concludes with a research theoretical framework that supports the hypotheses.

2.1 Perceived Usefulness (PU) Has a Positive Effect on Attitude towards Tablets (ATT) and Behavioural Intention Using Tablets (BI)

PU serves as one of the two fundamental elements of the TAM model (Hussein and Hilmi, 2022). In other terms, PU reflects users' expectations for technology as a tool for work or study. For instance, potential users assert that tablets can increase efficiency and effectiveness in the workplace or in the classroom while cutting down on work hours and helping with study. According to the researchers, iPad will be more appealing to academicians if they see it as more practical (Liu, et al.,2022a, b,2020,2021). Besides, using the iPad is efficient if it directly impacts the user’s behavior (Diop, Zhao and Duy, 2019). It can help them to solve the primary purpose of using the iPad. PU positively influences BI because

individuals who think a system would improve job performance are more inclined to use tablets. The PU will increase tablet use intention.

As a result, the subsequent alternative hypotheses statements were created:

H1: Perceived usefulness has a positive influence on attitude towards tablets.

H2: Perceived usefulness has a positive effect on behavioural intention using tablets.

2.2 Perceived Ease of Use (PEOU) Has a Positive Effect on the Perceived Usefulness of Tablets (PU) and Attitude towards Tablets (ATT)

The notion of PEOU holds significant importance within the TAM model, as noted by Hussein and Hilmi (2022). There was a prevailing belief that the PEOU would directly impact the perception of usefulness. According to Davis (1993), PEOU only considers operational system usage performance impacts (process), while PU considers the expected total influence of system use on job performance. Thus, if a system is difficult to use, it will not be used, regardless of its value (Teo, 2009). Tablets must provide more valuable information about their product and be easier to obtain to enhance user willingness (Widjaja and Prasetya, 2010). A user-friendly and beneficial application is crucial in influencing customers' willingness to utilise the application (Widjaja and Prasetya, 2010). Tablets must match both requirements of ease of access and providing an efficient and effective usage experience to be viewed as capable of meeting academicians' needs, and thus boost the likelihood of employing tablets (Koufaris and Hampton-Sosa, 2004).

Users are less likely to find a piece of technology useful for improving their work performance if they do not find it to be simple to use or "free from effort". Consequently, with an increase in the PEOU, there is a corresponding growth in the ATT (Ren, et al., 2022; Aditia, et al., 2018). It has been observed that individuals tend to develop a higher level of self-efficacy towards a device when it is perceived as easier to use (Liang, Lee and Workman, 2019). Individuals who possess a greater level of self-efficacy in relation to the new equipment have a robust conviction in their capacity to effectively operate and utilise the device. The most recent goods with cutting-edge technology often offer users a high level of ease of use due to the accessibility of crucial features with only a few taps away (Jan, et al., 2019). It is simpler to understand.

As a result, the following alternative hypotheses statements were formulated:

H3: Perceived ease of use has a positive influence on perceived usefulness of tablets.

H4: Perceived ease of use has a positive effect on attitude towards tablets.

2.3 Attitude towards tablets (ATT) Has a Positive Effect on Behavioural Intention of Using Tablets (BI)

The propensity to react favourably or unfavourably to something or someone is known as attitude. It is the expression on how you feel about someone or anything when you like or reject them (Khan, et al., 2023). The propensity of individuals to partake in or refrain from certain behaviours can be partially anticipated based on

their attitude. It provides clarification into the reasons behind the perception of specific behaviour as either favourable or negative (Abouzeid, et al., 2020). It is essential to recognize that attitude, being an intangible concept, it cannot be seen or touched like a value can (Khan, et al., 2023). In contrast, attitude is obvious from what people say and do (Schermerhorn, et al., 2011). A person's attitude affects their behaviour by sifting through information and forming opinions about their environment. It is imperative to evaluate the attitudes of users, particularly educators, towards new technological tools when incorporating technology in an educational environment (Teo, 2011). An individual's intentions to use a specific item are influenced by their attitude (Jan, et al., 2019). Consumer with a positive attitude towards using tablets are more inclined to embrace the tablets and accept them. Bhattacherjee and Sanford (2009) propose that attitudes play a significant role in fostering a strong inclination to embrace and adjust to novel circumstances. Muhaimin, et al. (2019) found that the amount of specific behaviour associated with using technology increases the intention to use it.

As a result, the following alternative hypothesis statement was formulated:

H5: Attitude towards tablets has a positive effect on behavioural intention using tablets.

2.4 Behavioural Intention Using Tablets (BI) Has a Positive Effect on the Frequency of Actual Usage (AU)

Based on existing theories, Ajzen (1991) argues that BI is a key factor in forecasting behaviour since it determines how likely an individual is to engage in a certain behaviour. AU is a factor based on the intention of using information technology and the behavioural predictor, ATT. From an individual's intention, it can predict how they will utilise technology (To and Tang, 2019 If researchers and scholars believe that fully utilising this cutting-edge technology will enhance the quality of their work, then they are more inclined to do so. Users will use the device more frequently as a result and will accept it as technological progress (Chen and Chen, 2022). In other words, behavioral intention to adopt a technology (such as tablets) will result in frequent usage.

As a result, the following hypothesis statement was formulated:

H6: Behavioural intention using tablets has a positive effect on the frequency of actual usage.

2.5 Research Theoretical Underpinning

Teo (2012) asserts that TAM is a dependable and effective theoretical framework that offers valuable insights into the various aspects that influence users' propensity to adopt and utilise technology in an educational context. TAM refers to customers' attitudes toward technology that considerably impacts its acceptance (Davis, Bagozzi and Warshaw, 1989). Consumers will only use the technology if it matches their requirements. TAM's goal is to discover what influences users' decisions to accept or reject IT by looking into their attitudes and beliefs. The

primary goal of this study is to better understand the critical factors that affect tablets' acceptance and utilisation.

Davis (1986) was the first to invent TAM. It is based on the Theory of Reasoned Action (TRA) of social psychology, which describes behaviour in the context of its function. As per the TRA, it is posited that intentions have a moderating role in determining the impact of both external and internal beliefs on an individual's action. Two factors determine behavioural intention: attitude and subjective standards. A third element, perceived behavioural control, does, however, plays a role. TRA is created to describe typical human behaviour. Meanwhile, TAM provides a clear representation of the essential definitions of technology acceptance that are widely applicable and capable of characterising the user population and behaviour in various end-user computing systems (Davis, Bagozzi, and Warshaw, 1989). TAM claims that an individual's utilisation of a system is contingent upon their behavioural intention, which is shaped by their attitude towards the behaviour as well as two beliefs: perceived usefulness (PU) and perceived ease of use (PEOU).

Based on TAM, the likelihood of new technology adoption is expected to increase when consumers possess positive attitudes towards assessments of PU and PEOU. PEOU and PU are two crucial variables that positively impact the acceptance of technology by users. These variables directly influence the ATT, BI and PU among educators. Multiple studies have used TAM to analyse user acceptance in

different fields, including online banking (Vukovic, Pivac, & Kundid, 2019), e-commerce (Fedorko, Bacik, & Gavurova, 2018), digital bag tags (Apinantasap & Gerdsri, 2022), and e-learning (Lazim, Ismail, & Tazilah, 2021).

Although the TAM has two core variables, various authors have tried to tackle the question of what motivates college teachers to use tablets by extending the TAM beyond its two core factors by include other variables (external variables). According to Davis, Bagozzi and Warshaw (1989), the dimensions of PU and PEOU are critical. Lestari and Indrasari (2019) employed a multiple linear regression method to analyse the iPad used by teachers in the classroom in Indonesia. However, they disagreed on the importance of PU and PEOU in forecasting technological uptake. This may be due to the fact that the notion utilised in Lestari and Indrasari's study does not correspond to Davis' PU. Many instructors feel that adopting iPads in the classroom will benefit both students and teachers, but this conviction must be supported by consistent iPad use. Furthermore, they added efficacy as a variable in the model and discovered that it considerably impacted the usage of iPads as teaching instruments.

Ann and Noor (2022) investigated using one-stop e-commerce platforms for purchasing infant products. They have added trust, perceived rewards, and perceived danger as dimensions. According to the findings, trust, and perceived benefits impacted online purchases of infant products. As there are many constraints to the intention to act, other variables should be considered in TAM.

This study also shown that technology's PU is the most predictive factor when buying infant products on a one-stop e-commerce site. According to Hanjaya, Kenny and Gunawan (2019), each country provides different variables that influence online purchasing intent via mobile app. In studies, numerous elements influence online buying intention. Even though the features in multiple studies are consistent, the model of factors affecting online buyers' purchasing intentions can be enhanced and enriched to be much more beneficial for assisting and guiding application management. In a comprehensive analysis of 22 papers from six reputable journals, Legris, Ingham and Collerette (2003) found that only 60% of studies on the TAM used external variables. Furthermore, the researchers observed that the selection of external variables lacked a discernible pattern. According to the authors, examining external variables is crucial as they serve as the primary determinants of effectiveness. According to Burton-Jones and Hubona (2006), there is a need for a more systematic examination of external variables, as their inclusion in the model adds complexity to the analysis.

The adoption of any technology by its users is vital to its success. Interestingly, technological features (tablets features) substantially affect forecasting whether persons in activity would utilise it, as well as the frequency with which the technology is used. As a result, understanding the user's perception of tablets adoption can aid in the tablet's continuous acceptance. In fact, the tablets development effort will be successful only if people engage and use it. As a result, the users’ acceptability of tablets is a critical component of their adoption and

evolution. Recognizing the factors that impact user acceptance is necessary for deciding academicians' future development path.

Figure 2.1 illustrates the proposed conceptual model based on TAM. There are six hypotheses proposed in the model. The conceptual framework of TAM is built with these five key components, the concepts that relevant to the study issue (Ahmad, 2018). It aids in understanding tablet adoption by evaluating their relationship and acting as TAM drivers.

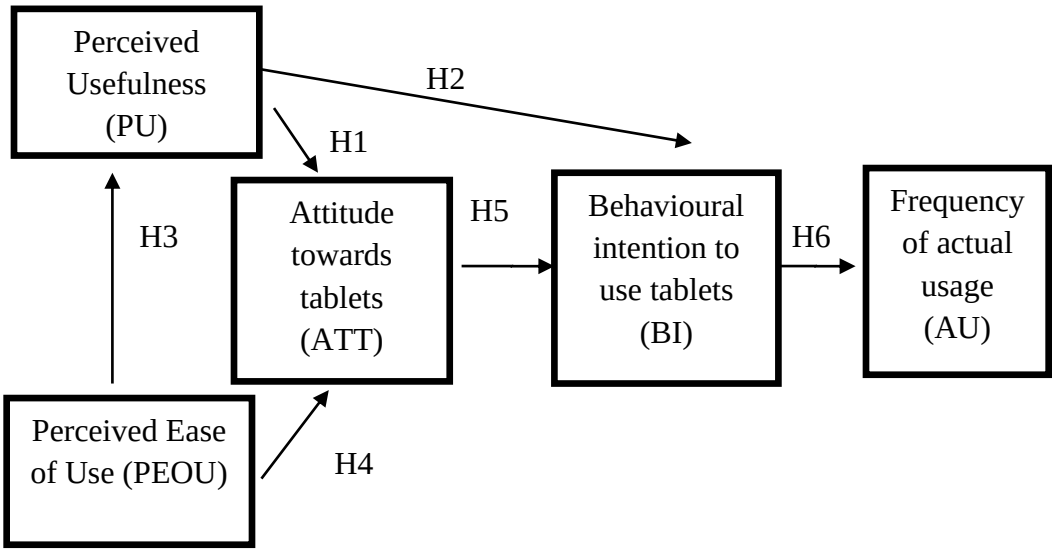

Figure 2.1: Proposed conceptual model based on TAM

CHAPTER 3

METHODOLOGY

3.0 Introduction

This study examines what factors influence UTAR academics' tablet adoption. Additionally, this study investigates the correlations between the components of the TAM and the application of tablets.

Chapter 3 describes the research methodology, target audience, sample, sampling method, and data gathering procedure. In the concluding section of the chapter, a more extensive elucidation of the data analysis methodology associated with partial least squares-structural equation modelling (PLS-SEM) is presented.

3.1 Research Design

The present study is categorised as conceptual research due to adopting the TAM and several elements identified from prior literature reviews to propose the research framework (Phua, Wong and Abu, 2012; Alharbi and Drew, 2014.). Moreover, given the study's aim to investigate the factors influencing the behavioural intention of UTAR academicians towards tablet usage, it may be classified as applied research. This study falls within the descriptive and quantitative research paradigms since it employed a structured and pre-established survey instrument to gather data and develop a research model.

3.2 Population and Sample

Shukla (2020) stated that the concept of population refers to the collective of individuals under investigation, while the term sample denotes a subset of the population. This study's intended demographic comprises individuals affiliated with academic institutions at UTAR Kampar and Sungai Long.

Generally, two broad categories of sampling procedures may be identified: probability sampling and nonprobability sampling. Probability sampling is a methodological approach in which individuals are selected from a population in a random manner, with the aim of guaranteeing that every element within the population has an equal opportunity of being chosen. In contrast, non-probability sampling entails the subjective process of selecting samples, wherein not every element within the population is afforded an equal chance of being chosen.

Convenience sampling is the sampling technique used in this investigation due to its practicality and ease of implementation. This approach allows for the quick and efficient collection of survey responses from a specific subgroup of the population, namely, academicians with experience using tablets. Convenience sampling is the most common kind of non-probability sampling when the researcher selectively collects data from persons who are easily accessible or readily available (Qualtrics, 2021). This sampling methodology does not need the random selection of persons based on specific criteria.

Convenience sampling was employed in the research study by distributing the survey via email to academicians. Considering the absence of specified inclusion criteria and the lack of concern for representativeness with respect to the broader community, eligibility encompasses every individual. Convenience sampling is characterised by its ease, speed, and cost-effectiveness, as it requires minimal effort to obtain a conveniently available sample without targeting a specific demographic. As the survey was studied on the academicians at UTAR, a survey to all the academicians at UTAR on their perspective on using tablets had been conducted. The study may suffer from a lack of representativeness as not all academicians at UTAR were included in the sample, thus introducing bias. However, the surveys were strategically positioned for the goal of the study.

As it is simple to administer and does not require a sample frame, convenience sampling is a more affordable and acceptable technique to obtain a sample. Furthermore, there are some advantages of using convenient sampling, which are quick and low cost (Mahmutovic, 2023). This sampling method is also useful for preliminary research and making future participants' lives easier (Qualtrics,2021). No criteria exist to determine whether additional participants are required in the future to create multiple samples for a study (to provide more information about findings over time or to attempt to duplicate results) (Qualtrics, 2021).

The next step was to choose the minimum sample needed. Since this is non-proportional convenience sampling, no minimum number of sampled units is

required. However, there may be bias in convenience sampling. To overcome the problem, there are some solutions that can be carried out, such as making the online as short as possible (Bhandari, 2023). A smaller sample size is generally not advisable because it becomes less representative of the entire population (Mark, 2017). At this point, it does not concern having figures corresponding to population proportions. Alternatively, it is possible to supply enough to ensure that even a tiny group in the community can be discussed. The research employed the PLS-SEM technique and implemented the 10-times rule suggested by Barclay et al. (1995) to determine the minimum required sample size, a commonly used approach in the PLS-SEM field. According to the findings of Hair et al. (2017), it is recommended that a reflective model should have a minimum sample size that is at least 10 times larger than the maximum number of structural routes directed towards a certain latent construct in the structural model. There are five latent constructs with matching indicators in the model, and each indication is represented by a different question for each latent construct. The reflective model is characterised by the influence of latent factors on the indicators. According to the TAM structural model, the picture illustrates six paths. The six paths are represented by the direct relationship between the latent constructs to support the AU (Hair, et al., 2017). Therefore, the recommended minimum sample size would be 60 to ensure statistical validity, calculated as ten times the number of paths. In the end, we are interested in investigating the academicians who have experience using tablets; hence, the samples are kept in add up until the minimum sample size of 60 is met.

3.3 Research Instrument

Primary data was collected through the use of a questionnaire for this study's approach. The survey items utilised in this research encompassed the primary constructs of demographic information pertaining to academicians, along with PU, PEOU, ATT, BI, and AU of the conceptual framework. These constructs were derived from the Technology Acceptance Model of previous studies, which underwent review and adaptation for this investigation.

3.4 Questionnaire Development

The questionnaire for this study was developed by incorporating items from prior literature (Mohamed, 2018; Ann and Noor, 2014; Manan, et al., 2022) that related to the dimensions of PU, PEOU, ATT, BI, and AU. The instruments were created to gather data on the perception of UTAR academicians regarding their usage of tablets. Due of their broad use and statistical validity in predicting technology use, the items used to measure these attributes were adapted from earlier research. The assessment items utilised in this study were derived from previous research conducted on several topics, including mobile learning (Buabeng-Andoh, 2018), wearable technology (Lazaro, et al., 2020), mobile commerce (Wu and Wang, 2005), technological devices (Latip, et al., 2017), and internet usage (Isaac, et al., 2018).

There were six sections built into the questionnaire. The first section was the academicians' demographic information, including gender, tablet experience, job role, and more. Section B was for the PEOU, and this section had six question items. Section C was about the four question items for the PU. Then, section D had three question items for the ATT, and section E had four question items for the BI. Lastly, section F, there was only one question item for the AU.

There were two types of ranking orders, where five-point Likert scales used in the questionnaire. First, all question items from section B to section E were measured using a five-point Likert-type scale ranging from strongly disagree =1, disagree =2, neither =3, agree =4, and strongly agree =5 to identify the academicians' perception of the statements. However, the last section, which was section F used the second type of the five-point Likert-type scale ranging from never =1, seldom =2, sometimes =3, often =4, and always =5. The second variant of the Likert-type scale was employed to assess the frequency of tablet usage among respondents. Respondents were required to decide on the best answer corresponding to their viewpoints and perceptions.

3.5 Pilot Test

Before the main study, a pilot study is done. The pilot study evaluates questionnaire reliability, validity, and practicality and identifies omissions, redundancies, and irrelevant items. There is a potential for the elimination of questionnaire errors. A group of ten academics from UTAR were selected to

participate in a pilot study. The study results can help investigate whether the questionnaire format is comprehensible, and the duration required by participants to complete all the inquiries. Based on the pilot study's findings, it can determine whether modifications to the questionnaire are necessary.

3.6 Data Collection Procedure

To investigate what factors influenced academics' adoption of tablets, this study primarily used a questionnaire as its means of collecting data. To ensure validity and reliability, a pilot test was first carried out. After ensuring the survey was valid and reliable, an online survey via Google Forms was conducted, the Google form link and quick response (QR) code for the survey were prepared for the academicians to take place.

To initiate the data collection process, the first step involved visiting the official UTAR website to access the list of UTAR academicians categorised according to their respective faculties and centers. The total population of UTAR academicians are 1333, 107 from Faculty of Science (FSC), 105 from Faculty of Accountancy and Management (FAM), 100 from Faculty of Arts and Social Science (FAS), 172 from Faculty of Business and Finance (FBF), 69 from Faculty of Engineering and Green Technology(FEGT), 97 from Faculty of Information and Communication Technology (FICT), 118 from Faculty of Creative Industries (FCI), 142 from Centre of Foundation Studies (CFS), 25 from Institute of Chinese Studies (ICS), 150 from M. Kandiah Faculty of Medicine and Health Science and 248 from Lee

Kong Chian Faculty of Engineering and Science. A Google Form link along with the QR code were sent to the academicians' email with the explanation of the objective of the survey. After gathering the survey data, exclude responses from academicians who have not previously used tablets.

3.7 Data Analysis Procedure

Questionnaires were distributed to the academicians at UTAR to collect information for this study. Once the data collection process is completed, it undergoes through examination for any missing values, outliers, and underlying assumptions before proceeding with further analysis. The data is subjected to analysis using PLS-SEM with the assistance of the SmartPLS 4.0 application.

3.8 Data Examination

Before starting PLS-SEM analysis, data must be examined. Despite its time-consuming nature, data evaluation is an essential step in the initial phase as it facilitates enhanced comprehension of the data and guarantees its precision (Hair, et al., 2010). As a result, it is imperative to assess the presence of missing data, identify outliers, and check the validity of the assumptions underpinning multivariate methods.

3.8.1 Missing Data

When valid values for one or more variables are unavailable for analysis, missing data can hinder the capacity to generalise study results (Hair, et al., 2010). The

patterns and linkages underlying the missing data must be determined to retain the original distribution of values as close as possible when any cure is adopted (Hair, et al., 2010). A skewed conclusion could result from missing data. The bias occurs when the missing data method "causes" particular data to be absent, resulting in inaccurate outcomes (Hair, et al., 2010). Before any action can be taken, the categories of missing data must be determined. Several measures can be performed, including eliminating specific cases or variables, imputation, listwise deletion, pairwise deletion, and fixing it manually (Swalin, 2018). The listwise deletion method is employed in the study to eliminate missing values, where any individual in a dataset with one or more missing values is removed from the analysis (Grace-Martin, 2014). Since all the questions listed in the questionnaire are necessary to be answered by the respondents, as indicated by “*”, hence, there is no missing value in a common way. However, the study is focused on the academicians who have experience in tablets. Thus, academicians who do not have tablet experience will be excluded from the study and hence it be focused into the response rate of the responses.

3.8.2 Outliers

Outliers refer to observations that possess a unique combination of characteristics, setting them apart from the remaining data points (Hair, et al., 2010). Outliers can be caused by inaccurate data entry, equipment faults, or other measurement mistakes (Bhandari, 2021). Based on the number of variables analysed, they can be categorised as univariate, bivariate, or multivariate. Outliers may be retained or

removed. When errors cannot be found, keeping outliers is usually a better solution (Bhandari, 2021). Outlier removal means eliminating extreme values from a dataset prior to doing statistical analyses. The removal of actual outliers may result in a biased dataset and an incorrect conclusion (Bhandari, 2021). Hence, every outlier that is deleted must have a justification. According to Hair, et al. (2009), outliers can be divided into four categories based on the cause of their uniqueness. A coding error or incorrect data entry led to the first model of outliers. It is necessary to remove or recode this kind of phenomenon as missing values. A remarkable incident that results from an observation's singularity gave rise to the second category of outliers. The other types derive from remarkable observations that the researcher cannot explain; as a result, they may be influenced by the researcher's judgment and choice of actions. The last and fourth sorts of outliers are ordinary values that fluctuate within the average range or field values across all variables. Despite their diverse values across variables, they do not have extreme values on the variable. Hair et al. (2009) stated that until such an outlier proves they are not typical of the population or considerably deviate from the normal, they should be kept in the study. The results of outliers in the study will then be showed in the part of the outliers in results and discussions.

3.9 Descriptive Statistics

Descriptive statistics refers to applying statistical methods to describe or summarise a dataset comprising frequencies, central tendency measures, and central dispersion (Bush, 2020). Frequency measures for demographic data are

displayed in tabular format to visually represent the occurrence or prevalence of various events or reactions. According to Bush (2020), metrics for central tendency have been employed to analyse both nominal and interval data, specifically focusing on the mean, median, and mode. Conversely, measures of dispersion are employed to assess the distribution of data within a given range, encompassing variance and standard deviation. The Statistical Package for the Social Sciences (SPSS) is a software tool commonly employed in social science research to assess descriptive statistics quantitatively.

3.10 Partial Least Square – Structural Equation Modelling (PLS-SEM)

According to Astrachan, Patel, and Wanzenried (2014), the utilisation of structural equation modelling (SEM) offers researchers a more effective approach to assess measurement models and structural paths. This is especially beneficial when the structural model involves numerous dependent variables, latent constructs derived from multiple indicator variables, and multiple stages or levels of constructs. Furthermore, the objective of this study is to ascertain the diverse factors that impact the academic inclination of UTAR in incorporating tablets into its pedagogical methodologies. Thus, SEM is employed in the study.

There are two main classifications of SEM approaches: covariance-based structural equation modelling (CB-SEM) and PLS-SEM. The primary purpose of CB-SEM is to validate or refute hypotheses, which refers to systematic associations between many variables that may be empirically assessed. The

evaluation involves assessing the accuracy of a proposed theoretical framework's accuracy in estimating a specific dataset's covariance matrix (Hair, et al., 2021). Partial Least Squares (PLS), on the contrary, have been proposed as a "causal-predictive" methodology for SEM, with a focus on explaining the model's dependent variables' variation (Chin, et al., 2020). Exploratory research typically utilises the variance-based PLS-SEM technique for theory development.

PLS-SEM is utilised in this study instead of CB-SEM since CB-SEM requires more rigorous assumptions and a larger sample size using the maximum likelihood (ML) estimator (Hair and Alamer, 2022). In this study, PLS-SEM is chosen because it can produce useful results with relatively tiny samples. It has been revealed by Hair et al. (2017b) that while higher sample sizes are preferred, PLS-SEM shows significant statistical power even with smaller sample sizes compared to CB-SEM. It is also important to note that PLS-SEM does not require the data to be normally distributed. This approach is non-parametric because it does not assume any particular distribution (Hair et al., 2021). When researchers make the incorrect assumption of normality for non-normal data during the default maximum likelihood estimation process, employing non-normally distributed data in the context of CB-SEM can lead to inflated model parameters, thereby introducing bias (Hair and Alamer, 2022). PLS-SEM is utilised when dealing with complicated structural models and when there is a need to incorporate latent variable scores for subsequent analysis. On top of that, it is common for CB-SEM to omit significant indicator variables because of model fit criteria, which may

negatively impact the construct validity (Astrachan, Patel and Wanzenried, 2014). Instead, PLS-SEM uses theory-based indicator variables to produce composite constructs (Rigdon, 2012) that strive to maximise prediction relevance and accuracy. Furthermore, PLS-SEM studies incorporate single-item measurements, which have the potential to address complex structures (Hair, et al., 2017a; Hair, Ringle and Sarstedt, 2013).

When used to estimate route models with several constructs, usually more than five, PLS-SEM performs quite well. It is particularly effective when dealing with a substantial number of structural path interactions or several indicators per construct, generally surpassing six. The characteristic above applies to situations involving limited sample sizes, making PLS-SEM a valuable tool for research endeavours that commonly involves small populations and naturally restricted sample sizes (Sarstedt, et al., 2014). Unlike CB-SEM, which Henseler and Sarstedt (2013) note places a premium on model fit, PLS-SEM is preferred since it uses explained variance as a relevant and sufficient metric of fit.

3.11 Evaluation of PLS-SEM Result

PLS-SEM data evaluation has two stages. The measurement models, namely outer models are the primary focus of the first stage of the investigation. Whether the model contains reflecting measurements, formative measurements, or both can affect the analytic procedure. Evaluation of the structural models, also known as the inner models, are the next step after the measurement models have been

assessed and shown to be reliable (Hair, et al., 2021). The direct and indirect connections between exogenous and endogenous variables are the focus of path analysis, a statistical method used to build a structural model. In conclusion, the first step is doing some research into measurement theory. As opposed to this, stage two is concerned with investigating structural theory, which includes assessing the relevance of structural relationships and testing the hypotheses (Sarstedt, et al., 2014). PLS-SEM's summary path is depicted in Figure 3.1.

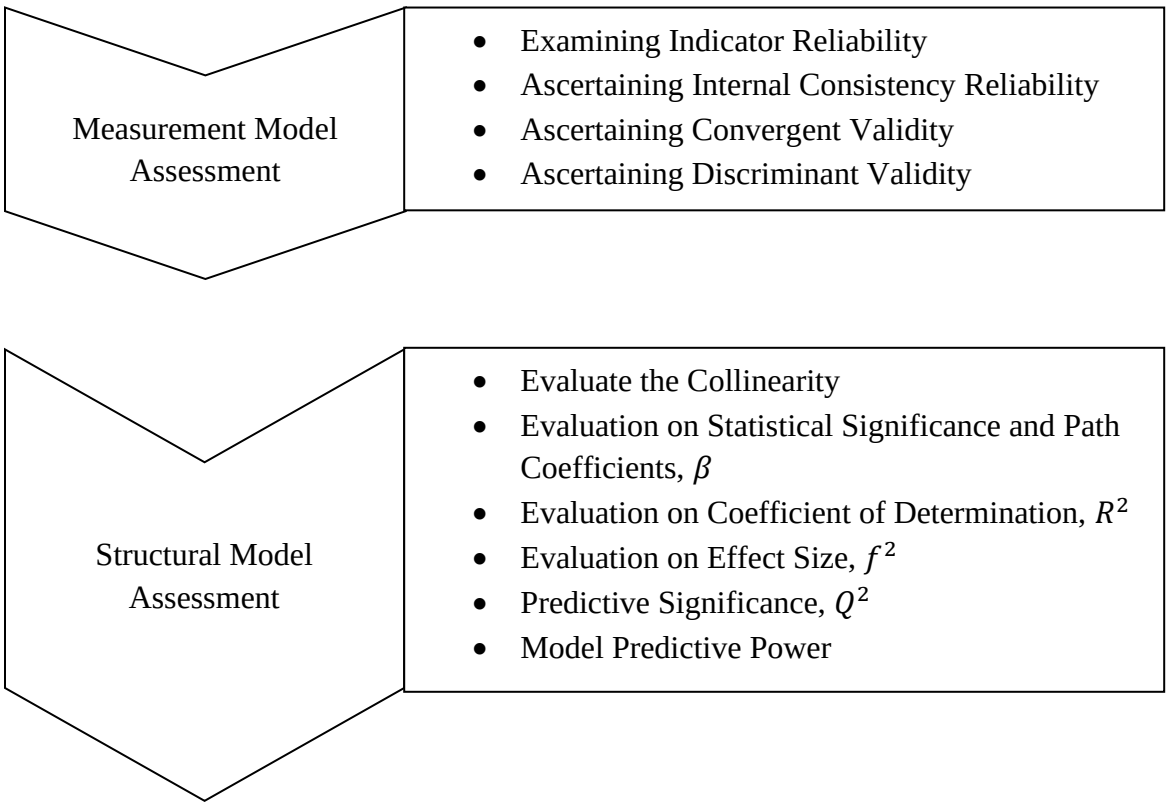

Figure 3.1: The summary path of PLS-SEM

3.12 Reflective Measurement Model Assessment (Assessing the Outer Model)

Assessing the reflective measurement model involves checking its quality by testing how reliable and valid it is. Reliability refers to being sure that the measurements consistently give the same results when repeated. Internal consistency and the dependability of each measurement indication can be used to determine the reliability of the reflected model. In addition, the model's validity can be determined by evaluating whether the measurements represent the intended concept accurately, without bias or distortion, using convergent and discriminant validity tests.

3.12.1 Indicator Reliability

Indicator reliability is how well an indicator or group of indicators measures the construct it measures. The construct accounts for almost 50% of indicator variability with loadings over 0.70.

3.12.2 Internal Consistency Reliability

Internal Consistency reliability refers to the extent of correlation observed among indicators that evaluate the same construct. The evaluation of internal consistency reliability involves making use of Jöreskog's (1971) composite reliability (ρ_c) and Cronbach's alpha, (α). Higher values in these reliability assessments indicate greater consistency and dependability. Here are the internal consistency reliability thresholds as follows:

i. Values falling between 0.60 and 0.70 are considered "acceptable in exploratory research,"

ii. Values ranging from 0.70 to 0.95 are deemed "satisfactory to good."

iii. Values greater than 0.95 are subject to suspicion as they indicate redundancy of the items, which can lead to various issues such as unfavourable response patterns and overstated correlations across indicator error terms (Drolet and Morrison, 2001).

3.12.3 Convergent Validity

Convergent validity assesses the degree to which a theoretical construct exhibits convergence among its indicators through the explanation of variance in the items. The assessment of convergence validity involves the computation of the average variance extracted (AVE) for each construct's associated items. The determination of AVE involves calculating the average of the squared loadings for all indicators linked with a certain construct. AVE values of 0.50 or higher indicate that the construct accounts for more than 50% of the variability in its constituent aspects.

3.12.4 Discriminant Validity

It measures how empirically distinct a structural model concept is. This is determined by assessing the strength of its correlations with different constructs and the extent to which its indicators uniquely signify this specific construct. The stages for assessing discriminant validity are presented as follows:

i. According to Hair et al. (2021), cross-loading evaluation is a less rigorous method in which an indicator variable is intended to load its construct more than any other structural model variable.

ii. The Fornell and Larcker (1981) criterion is considered the most conservative for evaluating discriminant validity (Henseler, et al., 2015). The comparison compares each construct's AVE value to its squared inter-construct correlation, which shows how much variation it shares with other structural model constructs. Shared variation with constructs over their AVE value is discouraged.

iii. In statistics, the Heterotrait-Monotrait ratio (HTMT) is a common tool. The indicator evaluates how well a concept explains the variation in its indicators in comparison to the variation in other constructs. Rasoolimanesh (2022) suggests setting the HTMT number to be less than 0.9. Additionally, the hypothesis stating that HTMT equals one should be rejected (Henseler, et al., 2015). To further prove the existence of discriminant validity, the bootstrapping method is used to determine if the value of the bootstrap confidence interval significantly deviates from 1.00 (Hair, et al., 2019).

3.13 Structural Model Assessment (Assessment of the Inner Model)

Once the components' reliability and validity have been established through measurement model validation, the structural model can be evaluated for its capacity to predict outcomes and to establish causal relationships. The structural

model depicts the underlying causal connections between the model's constructs. The evaluation of the structural model provides the empirical evidence for the hypothesised relationship between the constructs in the research model.

3.13.1 Evaluate the Collinearity

To evaluate the extent of collinearity among the formative indicators, it is imperative to compute the variance inflation factor (VIF) for each item. The ith regression's, R_i^2values make it easier to compute the VIF for the ith indicator, and this can be achieved through the following formula:

$$VIF_i = \frac{1}{1 - R_i^2}$$

A collinearity problem is shown by a higher R^2 value in the ith regression, which suggests that the other items may explain the variance of another item. In turn, a larger VIF denotes a higher degree of collinearity. Generally, VIF values of more than five indicate indicator collinearity. Significant collinearity among formative indicators creates issues by affecting weight estimation and statistical significance.

3.13.2 Bootstrapping Method

The bootstrapping method is a resampling technique commonly employed in statistical analysis. It involves drawing many subsamples, typically around 5000, from the original dataset with replacement. For each subsample, the model is re-estimated. This approach was described by Hair, et al. (2019). By utilising these subsamples, it is possible to create standard bootstrap errors, enabling the calculation of *t*-values (and *p*-values) for each indicator weight.

3.13.2.1 Percentile Bootstrap 95% Confidence Interval, CI

The percentile technique is used to bootstrap confidence intervals with a 0.05 significance level (Hair, et al., 2019). With a significance level of 0.05, an exogenous construct does not affect an endogenous construct in the research model if its 95% bootstrap confidence interval is zero. A positive influence of an exogenous construct on an endogenous construct in the research model is indicated by a *p*-value less than 0.05 or a *t*-statistic more than 1.645 (assuming it's a one-tailed test).

3.13.2.2 Evaluation on Path Coefficients, β

Path coefficients, β represent the magnitude and statistical significance of the coefficients that are linked to the proposed links (structural paths) among various constructs. The assessment evaluates the degree of impact that external factors have on the internal factors of the model. The evaluation of significance, similar to the evaluation of weights for formative indicators, relies on using bootstrapping standard errors to compute *t*-values for the path coefficients. Path coefficients are rated from -1 to +1 for relevance. Coefficients closer to +1 imply strong positive correlations, whereas closer to -1 suggest strong negative relationships. The study's context must be considered when assessing the coefficient's relevance.

3.13.2.3 Evaluation on Coefficient of Determination, R^2

A model's predictive power (in terms of in-sample prediction) and the amount of variance explained by each exogenous construct on the endogenous construct are both quantified by the coefficient of determination, R^2. The R^2 can take on values between 0 and 1, with larger numbers indicating greater prediction accuracy. Previous studies by Hair et al. (2021c) and Henseler, Ringle, and Sinkovics (2009) indicate that R^2 values of 0.75, 0.50, and 0.25 are indicative of large, moderate, and poor levels of correlation, respectively. However, the interpretation of R^2 should be context-dependent, and the researcher should consider R^2 values from pertinent studies for a more meaningful assessment.

3.13.2.4 Evaluation on Effect Size, f^2

The effect size, f^2 quantifies the magnitude of an effect, regardless of sample size. This examination evaluates the external-internal relationship. The f^2 statistic measures the effect of an exogenous construct on an endogenous construct by eliminating a predictor construct from the model and analysing the change in the dependent construct's R^2, value. A significant f^2 suggests a notable disparity between the included and excluded R^2 , providing validation for a substantial influence of the predictor (independent) construct on the dependent (endogenous) construct.

3.13.3 Partial Least Square (PLS) Predict

Predictive significance, Q^2, and the predictive power of a model can be evaluated using Partial Least Square (PLS) predict. To do this, a technique called blindfolding with k folds is employed, in which it split the entire dataset into k subsets of data of equal size.

3.13.3.1 Predictive Significance, Q^2

An alternate approach to assess model's predictive validity is using Q^2. The procedure entails the exclusion of a subset of data, followed by the estimation of model parameters and the subsequent prediction of the missing section. The blindfolding technique is employed to eliminate and forecast specific data points, specifically for a set of reflected indicators inside the measurement model. A smaller disparity between anticipated and actual values results in greater Q^2 values, signifying an enhanced level of predictive precision exhibited by the model functions as a measure of out-of-sample prediction. A reasonable level of prediction accuracy is indicated by endogenous constructs in structural models with Q^2 values greater than zero.

3.13.3.2 Model Predictive Power

Model predictive power is a model's capacity to anticipate future events. Root mean squared error (RMSE), the square root of the average squared errors in predictions compared to actual observations, is employed to determine the most efficacious predictive model from a multitude of potential candidates. RMSE is

frequently applied to evaluate model prediction performance. Hair, et al. (2010) suggest comparing the RMSE of two PLS-predict analyses: one using actual observations PLS-SEM and the other using a naive linear regression model. The LM uses indicator means from the study sample to assess prediction accuracy. If the PLS model produces a lower prediction error than the naïve LM benchmark, it indicates acceptable predictive capacity.

CHAPTER 4

RESULTS AND DISCUSSIONS

4.0 Introduction

This chapter expounds on the findings derived from the data analysis using the methodologies discussed in the preceding chapter. The data analysis encompasses several statistical techniques, including descriptive analysis, reliability, average variance extracted, outer loading, cross-loading, Fornell-Lacker analysis, HTMT, collinearity analysis, coefficient of determination, and bootstrapping analysis. The findings are presented clearly, and a comprehensive analysis of each examined statistic is provided as an attachment.

4.1 Pilot Test

All items are pre-tested because they are adapted from previous studies and to make sure that they are performed correctly in diverse study settings with new respondents (Kumar, Talib and Ramayah, 2017). Pre-testing is done with few numbers of academicians before questionnaires are distributed. The reviewers are requested to analyse all questions and submit thorough written comments and changes (if any) in the Questionnaire Evaluation Form.

According to the evaluation form, no suggestions are required, indicating that all questions are properly prepared. Accordingly, ten responders are chosen for the

pilot test. During the pilot test, the average time taken to answer all the questions is roughly 5 to 10 minutes, which is regarded acceptable because previous research has shown that fifteen minutes or less (Saleh and Bista, 2017) is an optimum amount of time to generate a satisfactory response rate.

Among the ten respondents, three respondents have no experience using tablets. The demographic data of the seven academicians for the pilot test are listed in Table 4.1.

Table 4.1: Demographic information of the pilot test sample

Question	Variables	Number (N)	Percent (%)
1.Gender	Female	2	28.6
	Male	5	71.a
2. Position	Assistant Professor	3	42.9
	Senior Lecturer	1	14.2
	Lecturer	3	42.9
3. Job Status	Permanent	7	100
	Contract	0	0
	Part Time	0	0
4. Ethnicity	Malay	0	0
	Chinese	6	85.7
	Indian	1	14.3
5. Years/ Months of using tablets	2 years and below	2	28.6
	3-5 years	3	42.8
	5 years and above	2	28.6
6. Average time spent in the tablets per day	Less than 2 hours	6	85.7
	3-5 hours	1	14.3
	More than 5 hours	0	0
7. Brands of tablets using	iPad	4	57.1
	Huawei and others brand (Xiaomi)	1	14.3
	Huawei	1	14.3
	iPad and others brand (Samsung and Asus)	1	14.3
8. Main purpose of using tablets	Entertainment	2	28.6
	Managerial work	5	71.4

Table 4.2 shows that each latent variable can explain at least 50% of an indicator's variability with loadings above 0.708. Additionally, the pilot test's internal consistency reliability is good, as indicated by Cronbach's alpha (α), composite reliability (ρ_C), and Dijkstra-Henseler's rho (ρ_A), exceeding the required threshold of 0.70. Convergent validity is also tested to verify the pilot test. Table 4.2 shows that each construct's AVE accounts for at least 50% of variance. No validity issues are observed. In summary, no issues arise during the validity and reliability testing. Consequently, the survey is both comprehensible and user-friendly for the academicians, effectively capturing the model's underlying constructs.

Table 4.2: Measurement model evaluation on indicator reliability, internal consistency reliability and convergent validity of the pilot test

Construct	Loading	Cronbach's alpha	ρ_A	ρ_c	AVE
Perceived Ease of Use (PEOU)		0.964	1.011	0.969	0.838
PEOU1: Learning how to operate tablet is easy for me.	0.932				
PEOU2: I find it easy to get tablet to do what I intended.	0.792				
PEOU3: My interaction with tablet is clear and understandable.	0.984				
PEOU4: I find tablet flexible to interact with.	0.936				
PEOU5: It is easy for me to become skilful at using tablet.	0.905				
PEOU6: I find tablet easy to use.	0.934				
Perceived Usefulness (PU)		0.933	0.981	0.952	0.834
PU1: I can obtain required information and assistance through tablet.	0.747				
PU2: Using tablet can enhance my effectiveness on the job.	0.948				
PU3: Using a tablet in my job can increase my productivity.	0.960				
PU4: I find tablet useful in my job.	0.979				
Attitude towards Tablets (ATT)		0.988	0.988	0.992	0.976
ATT1: I like the idea to adopt and integrate tablet into my job.	0.993				
ATT2: Adopting and integrating tablet into my job performance make it more interesting.	0.986				
ATT3: I have positive perceptions about tablet usage in my job performance.	0.985				

Table 4.2 Continued: Measurement model evaluation on indicator reliability, internal consistency reliability and convergent validity of the pilot test

Construct	Loading	Cronbach's alpha	ρ_A	ρ_c	AVE
Behavioural Intention to Use Tablets (BI)		0.968	0.979	0.977	0.913
BI1: I would like to use tablet in the future.	0.980				
BI2: I will recommend others to use tablet.	0.954				
BI3: I prefer learning with tablet to the traditional methods.	0.988				
BI4: I will not stop using tablet in the future.	0.897				
Frequency of Actual Use (AU)					
AU1: How frequently do you use a tablet?	1.000				

4.2 Response Rate

The survey receives around 6% of responses among UTAR academicians. It implies that not all academicians respond to the questionnaire. Besides, there are 14 feedbacks where the academicians do not experience on using tablets; hence, there will be deleted from the sample size. The individuals being removed are those who do not have experience using tablets. Hence, the samples collected decrease from 79 to 65.

4.3 Outliers

According to the figures shown in **Appendix A**, outliers are discovered in the *z*-score. The standard deviation from the population for a specific data point is represented by the *z*-score in statistics (Shuvo, 2022). This metric reveals how far a particular number deviates from a set's mean concerning its standard deviation. Observations with extremely high or low values are considered outliers. A *z*-score

number between 3 and -3 is considered an outlier since the mean value is so far apart from these values (Shuvo, 2022). There are outliers found in the study. However, the outliers would not be removed from the study. The outliers are ordinary values inside the average range of field values for all variables. While their varied values are not extreme, they do have a distinct blend of values. According to Hair, et al. (2009), this type of outlier should only be excluded from the study if they are not typical of the population or significantly different from the normal.

4.4 Normal Distribution

Based on the figure in **Appendix B**, the *p*-value of all the items using SPSS shows that they are smaller than the significant value. The results of the Kolmogorov-Smirnov and Shapiro-Walk tests indicate that the *p*-value for all items is below the predetermined level of significance. Therefore, the data does not exhibit a normal distribution. The permissibility of non-normality in the data is acknowledged in the context of PLS-SEM, as this approach does not depend on the assumption of data conforming to a normal distribution. Moreover, PLS-SEM demonstrates robustness against skewness, as emphasised by Hair and Alamer (2022).

4.5 Descriptive Statistic

The first part of the questionnaire which is the demographic data of the academicians contains 8 questions as illustrated in the Table 4.3, including academicians' gender, position, job status, ethnicity, years/months of using tablets,

average time spent in the tablets per day, brands of using tablets and purpose of using tablets. The percentage of the female involved was 61.5% while the male was 38.5%. Out of 65 respondents, 3.1%, 6.2%, 40.0%, 7.7%, 4.6% and 38.5% of them were professor, associate professor, assistant professor, senior lecturer, assistant lecturer, and lecturer. There were 3.1% part-time, 10.8% contract and 86.2% permanent participants. For the ethnicity, 33.8% were Malay, 60.0% are Chinese and 6.2% are Indian. 41.5% participants had two years and below of experience using tablets, followed by 30.8% participants had three to 5 years of experience, and lastly 27.7% of participants had more than 5 years of experience. 58.5% of the respondents had spent less than two hours in the tablets, 35.4% respondents spent three to five hours and 6.2% of respondents spent more than five hours. For the brands of the tablets, other brands of tablets such as Asus, Samsung and Lenovo occupied the highest percentage, 52.3% and it was followed by iPad, which has 33.8%, and the last, Huawei had the lowest percentage, 7.7%. There were 6.1% of academicians having more than one types of the tablets, such as iPad between other brands and Huawei between other brands. Lastly, it was the main purpose of using tablets with the highest percentage of 44.6% in managerial work, 15.4% for learning, reading and searching information and 15.4% for entertainment. Besides, 3.1 % were managerial work and entertainment, 18.5% were managerial work, reading, learning, and searching information and 3.1% were used for learning, working and entertainment.

Table 4.3: Demographic information of the sample

Question	Variables	Number (N)	Percent (%)
1.Gender	Female	40	61.5
	Male	25	38.5
2.Position	Professor	2	3.1
	Associate Professor	4	6.2
	Assistant Professor	26	40.0
	Senior Lecturer	5	7.7
	Assistant Lecturer	3	4.6
	Lecturer	25	38.5
3. Job status	Part-time	2	3.1
	Contract	7	10.8
	Permanent	56	86.2
4. Ethnicity	Malay	22	33.8
	Chinese	39	60.0
	Indian	4	6.2
5. Years/ Months of using tablets	2 years and below	27	41.5
	3-5 years	20	30.8
	5 years and above	18	27.7
6. Average time spent in the tablets per day	Less than 2 hours	38	58.5
	3-5 hours	23	35.4
	More than 5 hours	4	6.2

Table 4.3 Continued: Demographic information of the sample

Question	Variables	Number (N)	Percent (%)
7. Brands of tablets using	iPad	22	33.8
	Others brand	34	52.3
	Huawei	5	7.7
	iPad and others brand	3	4.6
	Huawei and others brand	1	1.5
8. Main purpose of using tablets	Entertainment	10	15.4
	Managerial work	29	44.6
	Managerial work and entertainment	2	3.1
	Reading, learning and searching information	10	15.4
	Learning, working and entertainment	2	3.1
	Managerial work, reading, learning, and searching information	12	18.5

4.6 The Inner and Outer Model

The model is partitioned into an inner and an outer model. The concept of the inner model pertains to the relationship between latent variables that exhibit both independence and dependence on one another. On the other hand, the outer model elucidates the relationship between the latent variables and the observable indicators that serve as their representations. The outer model refers to the relationship between the indicators associated with each latent variable and the

latent variables themselves. Moreover, six hypotheses are derived from six inner models that represent the six relationships between independent and dependent latent variables. Figure 4.1 depicts the path model utilised in PLS-SEM, whereas Figure 4.2 illustrates the structural model employed in PLS-SEM.

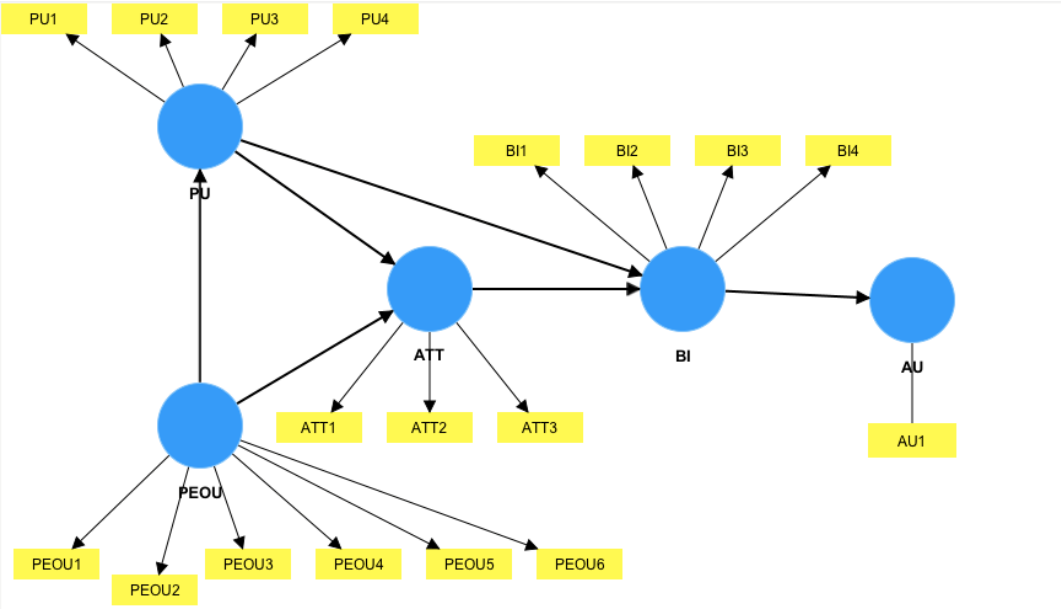

Figure 4.1: Path model in PLS-SEM

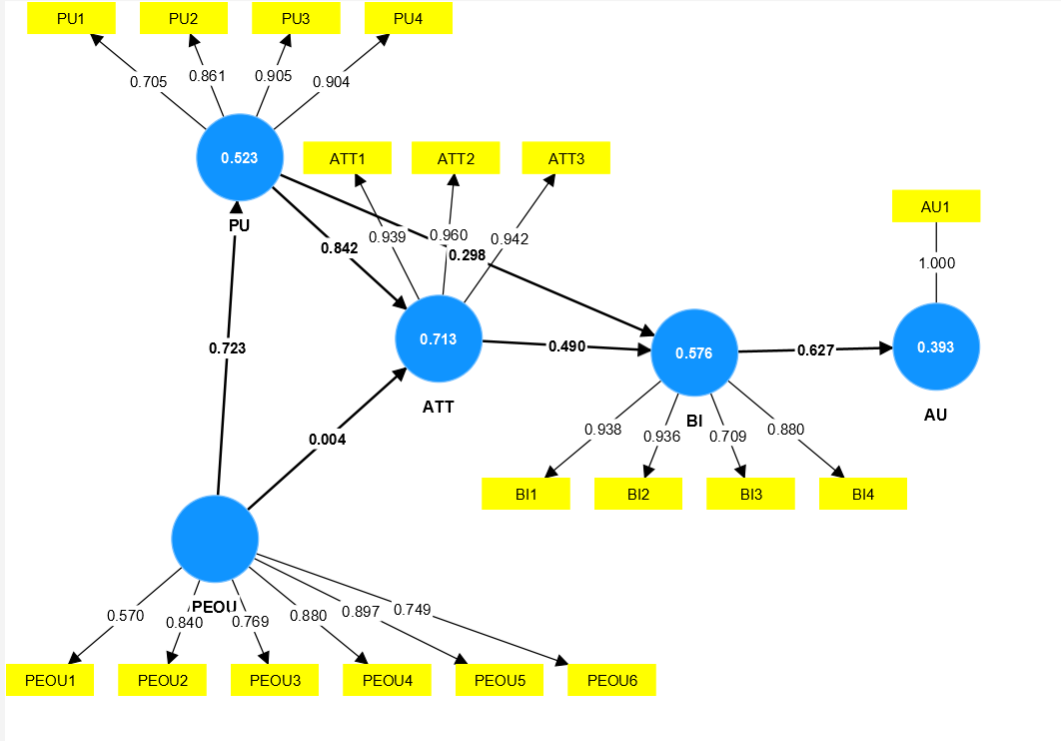

Figure 4.2: The PLS-SEM structural model

4.7 Evaluation on Research Reflective Measurement Model (Assessing the Outer Model)

According to the results generated in Smart PLS 4.0, the evaluation on the research measurement model works good in the convergence validity and internal consistency, but it does not work good in the divergence validity among the indicators among the latent constructs in the research theoretical framework. Hence, some adjustments are made for the latent constructs.

Table 4.4: Measurement model evaluation on indicator reliability, internal consistency reliability and convergent validity of the sample

Construct	Loading	Cronbach's alpha	ρ_A	ρ_c	AVE
Perceived Ease of Use (PEOU)		0.883	0.933	0.908	0.627
PEOU1: Learning how to operate tablet is easy for me.	0.570				
PEOU2: I find it easy to get tablet to do what I intended.	0.840				
PEOU3: My interaction with tablet is clear and understandable.	0.769				
PEOU4: I find tablet flexible to interact with.	0.880				
PEOU5: It is easy for me to become skilful at using tablet.	0.897				
PEOU6: I find tablet easy to use.	0.749				
Perceived Usefulness (PU)		0.866	0.883	0.910	0.719
PU1: I can obtain required information and assistance through tablet.	0.705				
PU2: Using tablet can enhance my effectiveness on the job.	0.861				
PU3: Using a tablet in my job can increase my productivity.	0.905				
PU4: I find tablet useful in my job.	0.904				
Attitude towards Tablets (ATT)		0.943	0.945	0.963	0.897
ATT1: I like the idea to adopt and integrate tablet into my job.	0.939				
ATT2: Adopting and integrating tablet into my job performance make it more interesting.	0.960				
ATT3: I have positive perceptions about tablet usage in my job performance.	0.942				

Table 4.4 Continued: Measurement model evaluation on indicator reliability, internal consistency reliability and convergent validity of the sample

Construct	Loading	Cronbach's alpha	ρ_A	ρ_c	AVE
Behavioural Intention to Use Tablets (BI)		0.892	0.926	0.925	0.758
BI1: I would like to use tablet in the future.	0.938				
BI2: I will recommend others to use tablet.	0.936				
BI3: I prefer learning with tablet to the traditional methods.	0.709				
BI4: I will not stop using tablet in the future.	0.880				
Frequency of Actual Use (AU)					
AU1: How frequently do you use a tablet?	1.000				

4.7.1 Indicator Reliability

Based on Table 4.4, the loading values for the reflective indicators surpasses 0.708, signifying that a latent variable could explain a minimum of 50% of an indicator's variance (Hair, Babin, & Krey, 2017). Nevertheless, PEOU1 exhibits a value lower than 0.570, which has the lowest indicator loadings provided in the table and below the 0.708 threshold. Furthermore, the PU1 value exhibits a slight disparity of 0.705, which is lesser in magnitude when compared to the predetermined threshold of 0.708. When the aggregate of loadings contributed to an AVE score greater than 0.6, loadings of 0.5 or more are acceptable (Byrne, 2016). Since there are no low reliability indicators, it indicates that there is no indicator necessitating removal from the construct (Henseler, et al., 2009).

4.7.2 Internal Consistency Reliability

From the results obtained in Table 4.4, internal consistency reliability is satisfactory given that the values for α, ρ_C, and ρ_A exceeds the recommended threshold of 0.70. PLS-SEM offers a prioritisation approach based on the individual reliability of the elements. The α value assumes that all items within a construct have identical outside loadings (Hair, et al., 2017a). Hence, ρ_C is employed to account for the varying outer loadings of items within the construct. Values over 0.95 in ρ_C provide a significant concern as they indicate that all indicators assess the identical phenomenon, compromising the validity of the ρ_C evaluation (Hair, et al., 2021b). As there is 0.963>0.95 in the ρ_C of Table 4.4, it is considered as problem and it might have semantically redundant items (Blašković, Žužić and Orehovački, 2023). Empirical research is inherently subject to imperfections, and the measurement of near-perfect reliability raises various difficulties. While ρ_C may be problematic, it is not considered undesirable if it lacks semantically redundant elements. Concerns surrounding exceptionally high dependability, on the other hand, are rendered moot if the items assess different aspects of the same domain (Hair et al., 2017). Thus, all metrics have satisfactory levels of internal consistency.

4.7.3 Convergent Validity

Convergent validity is an item's ability to correlate positively with others that assess the same construct. The items of a specific construct should exhibit convergence, indicating a substantial degree of shared variance (Hair et al., 2017a). AVE is employed as a metric for assessing the external loadings of the items. Given that each latent construct in Table 4.4 has explained a minimum of 50 per cent of the variance in the assigned indicators, it is not necessary to eliminate the reflective indicators.

4.7.4 Discriminant Validity

For testing discriminant validity, three approaches are utilised, cross loading, Fornell-Lacker Analysis, and HTMT Analysis.

4.7.4.1 Cross Loading

Table 4.5: Measurement of cross loading

	ATT	AU	BI	PEOU	PU
ATT1	0.939	0.457	0.690	0.629	0.779
ATT2	0.960	0.419	0.672	0.560	0.773
ATT3	0.942	0.480	0.743	0.553	0.843
AU1	0.478	1.000	0.627	0.416	0.416
BI1	0.754	0.601	0.938	0.500	0.710
BI2	0.719	0.548	0.936	0.463	0.656
BI3	0.409	0.361	0.709	0.274	0.400
BI4	0.638	0.627	0.880	0.552	0.657
PEOU1	0.189	0.188	0.098	0.570	0.208
PEOU2	0.612	0.366	0.572	0.840	0.648
PEOU3	0.313	0.324	0.269	0.769	0.426
PEOU4	0.664	0.360	0.559	0.880	0.735
PEOU5	0.558	0.405	0.494	0.897	0.667
PEOU6	0.306	0.270	0.232	0.749	0.504
PU1	0.544	0.263	0.354	0.712	0.705
PU2	0.745	0.312	0.600	0.466	0.861
PU3	0.795	0.330	0.666	0.630	0.905
PU4	0.757	0.482	0.745	0.660	0.904

Cross-loading measures data discriminant validity by measuring outer loadings on associated constructs. The loadings of indicators on the designated latent variables need to exhibit higher values than those on all alternative latent variables. It is imperative that the disparities in loadings across latent variables stay within the threshold of 0.1. As shown on Table 4.5, ATT1 and ATT2 obviously have higher loading than other indicators. However, ATT3 has higher loading than other indicators but it is slightly (0.099) higher than the indicator, PU, which is also smaller than 0.1. In the second column (AU), it demonstrates higher loading than the remaining indicators, a pattern mirrored in the third (BI) and fourth (PEOU) columns. For the fifth column, the loading on PU1 has a lower value than PEOU. However, PU2, PU3, and PU4 have higher loading than other indicators. Consequently, there exists one instance where the difference in loadings across latent variables is less than 0.1 and one instance has value lesser than the other indicator. It might not support the discriminant validity; hence further analysis is required.

4.7.4.2 Fornell-Lacker Analysis

Table 4.6: Measurement of Fornell-Lacker analysis

	ATT	**AU**	**BI**	**PEOU**	**PU**
ATT	0.947				
AU	0.478	1.000			
BI	0.742	0.627	0.871		
PEOU	0.612	0.416	0.528	0.792	
PU	0.844	0.416	0.712	0.723	0.848

Using the square root of the AVE in connection to correlation coefficients of other variables, the Fornell-Lacker criterion is applied to define discriminant validity. It is necessary for the square root of the AVE to be higher than the greatest correlation seen among any other constructs to demonstrate the existence of discriminant validity. This is a requirement for establishing the presence of discriminant validity. Table 4.6 shows that the square root of the AVE for the ATT construct is 0.947, which is higher than the numbers for AU (0.478), BI (0.742), PEOU (0.612), and PU (0.844). In the same way, the square root of the AVE for AU is 1.000, which is higher than the numbers for BI (0.627), PEOU (0.416), and PU (0.416). Also, the square root of the AVE for BI is 0.871, which is higher than the numbers for PEOU (0.528) and PU (0.712). Lastly, the square root of the AVE for PEOU is 0.792, which is higher than the number for PU (0.723). In summary, the square root of AVE has a stronger association than other components. This confirms discriminant validity.

4.7.4.3 HTMT Analysis

Table 4.7: Measurement of HTMT analysis (90% CI for $HTMT_{inference}$)

	ATT	**AU**	**BI**	**PEOU**	**PU**
ATT					
AU	0.491 CI=(0.233,0.677)				
BI	0.789 CI=(0.632,0.925)	0.651 CI=(0.482,0.770)			
PEOU	0.608 CI=(0.410,0.780)	0.427 CI=(0.204,0.622)	0.511 CI=(0.315,0.790)		
PU	0.929 CI=(0.826,0.994)	0.441 CI=(0.171,659)	0.779 CI=(0.611,0.943)	0.776 CI=(0.668,0.876)	

HTMT is employed to examine the interrelation between constructs. When the HTMT value of two construct indicators is below one, it suggests a probable distinction in the actual correlation between those constructs. According to Henseler, Ringle, and Sarstedt (2014), evaluating discriminant validity using HTMT can be done using either the criterion or the statistical test methodology. Henseler, Ringle, and Sarstedt (2015) proposed that in the assessment of the criterion, the absence of discriminant validity can be deduced if the HTMT value surpasses the predetermined threshold of 0.90. For the statistical test, the bootstrapping allows the confidence interval for the HTMT, $HTMT_{inference}$ with the significance level of 0.10. To investigate the relationship between the two

constructs, a two-tailed test is applied. A significance level of 0.10 is applied to test the cutoff scores of 0.90, to investigate whether the intervals are bigger than HTMT criterion, 0.90. The application of confidence intervals in testing offers the benefit of providing additional information regarding the direction and amount of a difference, or, in the case of a non-rejected hypothesis, allowing for an evaluation of the process's efficacy based on the width of the interval.

One of ten comparisons violates $HTMT_{.90}$, however, only $HTMT_{inference}$ indicates discriminant validity between all construct measures. The construct between PU and ATT violates $HTMT_{.90.}$ The traditional benchmarks, $HTMT_{inference}$, show no indications of discriminant validity concerns; however, the stricter HTMT criteria does identify such issues. Although it is not recommended by other authors to address the significance of the findings for model construction, they raise the concern about the empirical uniqueness of the ATT and PU constructs (Henseler, Ringle and Sarstedt, 2015). This indicates that the discriminant validity may be impacted by the discrepancy between the cross loading of PU and ATT3, which is less than 0.1, and PU1, which has a lower value than PEOU.

4.7.4.4 Modification on the Reflective Measurement model

Table 4.8: Measurement of the modification of HTMT analysis

	ATT	**AU**	**BI**	**PEOU**	**PU**
ATT					
AU	0.469				
BI	0.751	0.651			
PEOU	0.615	0.427	0.511		
PU	0.870	0.435	0.807	0.648	

Due to the identified issue of discriminant validity between the two constructs, ATT, and PU, as indicated by the HTMT analysis, a reevaluation of the model is conducted using cross-loading analysis. It could be observed from the cross loading between PU1 with PEOU, where the loading of indicator on the PU1 has smaller loadings than PEOU, and ATT3 with PU, which has the difference of the value smaller than 0.1 although ATT3 has larger loading. The items of PU1 and ATT3 are removed, and the HTMT value in Table 4.8 between PU and ATT decreases to 0.870, which is below 0.90. This signifies the existence of discriminant validity. Figure 4.3 shows the modification of the PLS-SEM structural model.

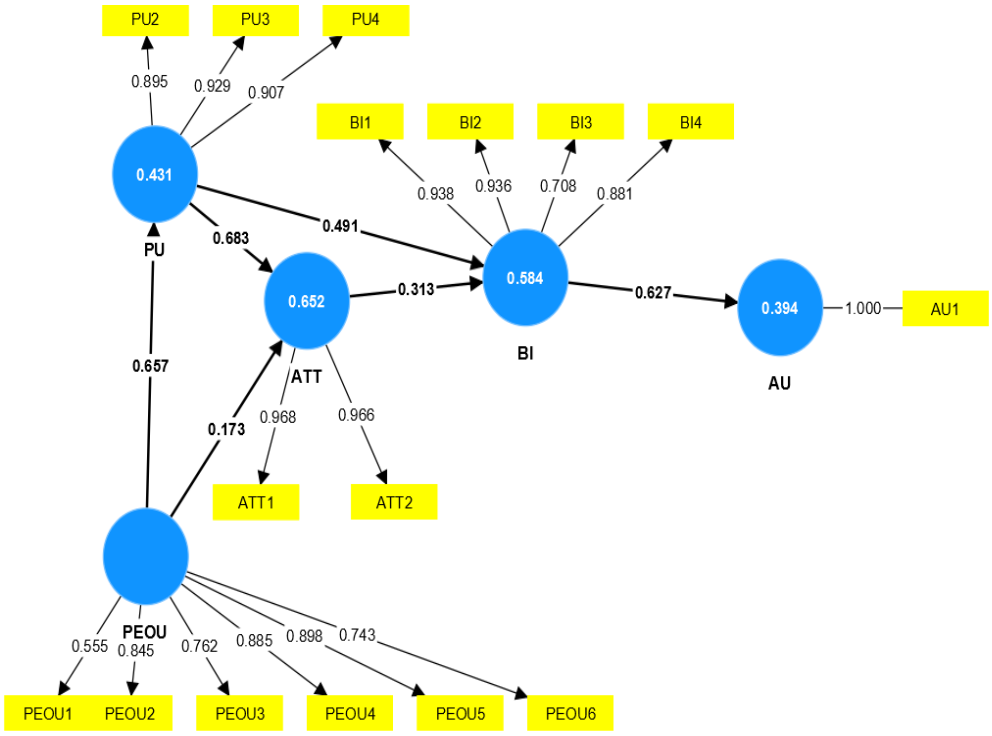

Figure 4.3: The modification of PLS-SEM structural model

Table 4.9: Measurement of indicator reliability, internal consistency reliability and convergent validity for model modification

Construct	Loading	Cronbach's alpha	ρ_A	ρ_c	AVE
Perceived Ease of Use (PEOU)		0.883	0.938	0.907	0.624
PEOU1: Learning how to operate tablet is easy for me.	0.555				
PEOU2: I find it easy to get tablet to do what I intended.	0.845				
PEOU3: My interaction with tablet is clear and understandable.	0.762				
PEOU4: I find tablet flexible to interact with.	0.885				
PEOU5: It is easy for me to become skilful at using tablet.	0.898				
PEOU6: I find tablet easy to use.	0.743				
Perceived Usefulness (PU)		0.897	0.905	0.936	0.829
PU2: Using tablet can enhance my effectiveness on the job.	0.895				
PU3: Using a tablet in my job can increase my productivity.	0.929				
PU4: I find tablet useful in my job.	0.907				
Attitude towards Tablets (ATT)		0.931	0.932	0.967	0.935
ATT1: I like the idea to adopt and integrate tablet into my job.	0.968				
ATT2: Adopting and integrating tablet into my job performance make it more interesting.	0.966				

Table 4.9 Continued: Measurement of indicator reliability, internal consistency reliability and convergent validity for model modification

Construct	Loading	Cronbach's alpha	ρ_A	ρ_c	AVE
Behavioural Intention to Use Tablets (BI)		0.892	0.926	0.925	0.758
BI1: I would like to use tablet in the future.	0.938				
BI2: I will recommend others to use tablet.	0.936				
BI3: I prefer learning with tablet to the traditional methods.	0.708				
BI4: I will not stop using tablet in the future.	0.881				
Frequency of Actual Use (AU)					
AU1: How frequently do you use a tablet?	1.000				

Following the implementation of modifications, the model is next subjected to an evaluation involving indicator reliability, internal consistency, and convergent validity. This assessment aims to ascertain the validity and precision of the collected data. Based on the Table 4.9, there is no issue raised from the tests.

4.8 Evaluation on Structural Model (Assessment of the Inner Model)

The subsequent step in the study theoretical framework is the examination of the structural model that encompasses all constructs.

4.8.1 Collinearity Analysis

Table 4.10: Measurement of outer model

Items	**VIF**
ATT1	4.140
ATT2	4.140
AU1	1.000
BI1	4.315
BI2	4.380
BI3	1.659
BI4	2.748
PEOU1	1.681
PEOU2	2.470
PEOU3	2.514
PEOU4	2.983
PEOU5	3.316
PEOU6	2.189
PU2	2.708
PU3	3.233
PU4	2.542

Table 4.11: Measurement of inner model

Items	**VIF**
ATT-> BI	2.738
BI -> AU	1.000
PEOU -> ATT	1.758
PEOU -> PU	1.000
PU -> ATT	1.758
PU -> BI	2.738

Variance inflation factor (VIF) is employed to assess the presence of collinearity among the constructs within the model. VIF values in Table 4.10 and 4.11 are not substantially correlated because they are less than 5. There is no collinearity issue in each construct.

4.8.2 Bootstrapping

Table 4.12: Measurement of Bootstrapping

Hypothesis	Relationship	Path Coeffiecients	*p*-values	*T* Statistics	Percentile Bootstrap 95% CI	Supported
H1	PU -> ATT	0.683	0.000	5.937	[0.464, 0.841]	Yes
H2	PU -> BI	0.491	0.000	4.685	[0.315, 0.658]	Yes
H3	PEOU -> PU	0.657	0.000	7.934	[0.520, 0.794]	Yes
H4	PEOU -> ATT	0.173	0.080	1.406	[-0.013, 0.395]	No
H5	ATT -> BI	0.313	0.003	2.786	[0.129, 0.501]	Yes
H6	BI -> AU	0.627	0.000	7.372	[0.462, 0.743]	Yes

One-tailed test is employed to measure whether it has positive effect on the constructs. The *t*-test used is 1.645 and the *p*-value is 0.05.

According to the findings presented in Table 4.12, the *p*-value associated with the correlation between PU and ATT is 0.000. This statistically significant *p*-value indicates a positive link between the two variables. The *p*-value of 0.00, which is less than the significance level of 0.05, suggests a statistically significant positive impact between PU and BI. The statistical analysis reveals that the *p*-value for the

A positive correlation between PU and BI is supported by the data, with a *p*-value of 0.00 (less than the 0.05 threshold for statistical significance). Statistical research shows that there is a statistically significant correlation between PEOU and PU (*p*-value 0.05). The research also shows that PEOU and PU have a favourable association. Moreover, analysis indicates that there is a positive correlation between ATT and BI, with a *p*-value of less than 0.05 indicating statistical significance. Furthermore, BI also has a positive effect on AU as it has a *p*-value smaller than 0.05. Nevertheless, PEOU's impact on ATT is not positively substantiated, given its *p*-value of 0.080, surpassing 0.05; this implies an absence of a positive correlation between PEOU and ATT. In addition, from the β, H1 has the highest value, followed by H3 and H6. It shows that there is a higher relationship between PU and ATT, followed by PEOU with PU and BI with AU. The β between PEOU and ATT is only 0.173, which has a weak relationship.

4.8.3 Coefficient of Determination, R^2

Table 4.13: Measurement of R^2

Items	**R-square**	**R-square adjusted**
ATT	0.652	0.641
AU	0.394	0.384
BI	0.584	0.570
PU	0.431	0.422

The research model explains the model's predictive accuracy. The exogenous factors (independent variables) account for 65.2% of the variance in ATT, 39.4% of the variance in AU, 58.4% of the variance in BI, and 43.1% of the variance in PU. Thus, ATT, AU, BI and PU are moderately explained by the independent variables.

4.8.4 Effect Size, f^2

Table 4.14: Measurement of f^2

Items	**f-square**
ATT-> BI	0.086
BI -> AU	0.649
PEOU -> ATT	0.049
PU -> ATT	0.762
PU -> BI	0.212
PEOU -> PU	0.758

According to table 4.14, ATT's contribution to generating R^2 for BI is characterised by a minor effect, while PEOU's influence on generating R^2 for ATT is similarly modest effect. On the other hand, PU yields a moderately notable effect in generating R^2 for BI. for However, PU has substantial effect in producing R^2 of ATT, BI has strong effect on producing AU and PEOU has also substantial effect in producing PU.

4.8.5 Partial Least Square (PLS)-Predict.

Partial Least Square (PLS) predict is employed to assess, Q^2 and Model Predictive Power. This is achieved through blindfolding with 10 folds, wherein the complete dataset is divided into ten equally sized subsets of data.

4.8.5.1 Latent Variables (LV)/ Constructs Prediction

Table 4.15: Measurement of LV prediction

Items	Q^2 predict	RMSE	MAE
ATT	0.326	0.877	0.672
AU	0.137	0.958	0.781
BI	0.215	0.956	0.552
PU	0.379	0.837	0.643

Good predictive power at the inner model structural, predictive relevance, Q^2 all are positive and above zero. Given that these values exceed the threshold of 0, it could be inferred that the path model exhibits a satisfactory level of predictive accuracy.

4.8.5.2 Manifest Variables (MV)/ Indicators Prediction

Table 4.16: Measurement of MV prediction

Items	Q^2 predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
ATT1	0.318	0.729	0.572	0.709	0.519
ATT2	0.244	0.782	0.622	0.787	0.601
AU1	0.137	1.005	0.823	1.168	0.910
BI1	0.201	0.758	0.473	0.779	0.522
BI2	0.170	0.789	0.537	0.848	0.580
BI3	0.040	0.961	0.800	0.976	0.786
BI4	0.256	0.762	0.464	0.821	0.525
PU2	0.144	0.883	0.668	0.862	0.679
PU3	0.347	0.793	0.638	0.812	0.643
PU4	0.388	0.743	0.540	0.758	0.556

The evaluation of a model's predictive strength is commonly conducted using root mean squared error (RMSE). Nevertheless, the mean absolute error (MAE) is usually employed when prediction error distributions depart greatly from symmetry (Shmueli, et al., 2019). The evaluation technique requires comparing the RMSE values with those of a benchmark model, specifically a basic linear regression model (LM). The potential results derived from this comparative analysis may manifest in the following manner:

i. When RMSE or MAE values exceeds the simple linear model (LM) threshold for all components, the model loses predictive capacity.

ii. If most items in the endogenous construct have higher prediction errors than the LM benchmark, the model may have low predictive strength.

iii. If a minority or equal number of construct elements have larger prediction errors than the LM benchmark, the model has moderate predictive strength.

iv. If none of the items exhibit RMSE or MAE values that are higher than those of the LM benchmark, it can be inferred that the model possesses a strong predictive capability (Shmueli et al., 2019).

In this study, two instances of PLS-SEM-RMSE surpass the LM-RMSE, suggesting a slightly right-skewed distribution. Since it is not highly nonsymmetric, MAE is not suggested in the research (ResearchWithFawad, n.d.). This skewness is also evident in the histogram graph in **Appendix C**. Therefore, prediction accuracy is assessed using Mean RMSE As evidenced by the data presented in Table 4.16, a minority of indicators exhibit higher PLS-SEM_RMSE values compared to the naïve LM_RMSE benchmark. According to Hair, et al. (2019), the model demonstrates a moderate level of predictive capability.

4.9 Summary

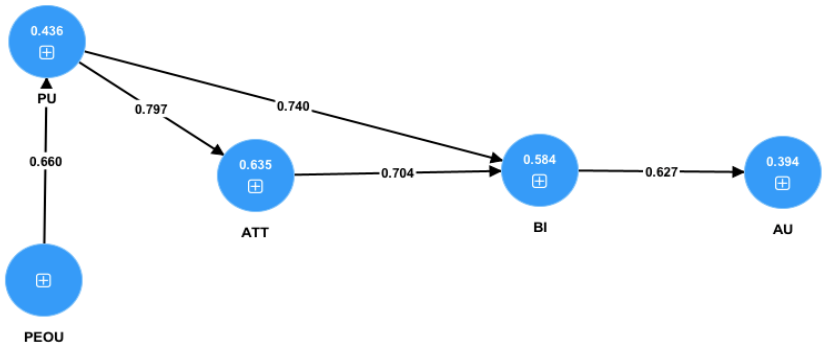

Figure 4.4: Summary of the research framework

In brief, this chapter presents a comprehensive overview of the findings derived from a sample of 65 respondents who were academicians at UTAR. The analysis includes preliminary assessments such as descriptive analysis, identification of outliers, handling of missing values, and evaluation of the normality assumption using SPSS. Moreover, SmartPLS 4.0 software assesses the measurement and structural models. The research deals with six hypotheses that outline the connections within the research framework. The study's findings support five relationships; however, one relationship, specifically the association between PEOU and ATT, does not receive support.

Summarising, if tablets are easy to use, it might be helpful to the academicians, which support the positive relationship between PEOU and PU. Besides, the positive association of PU and ATT, tells that the beneficial of tablets, the more inclined of academicians to try them. However, the positive relationship of PU and

BI gives the vibe that perceive tablets is valuable can increase the willingness and readiness of academicians in planning to use them. ATT and BI, on the other hand, provides that academicians are going to use in the future given their excitement and attraction on the tablets. AU is the last predictor variable to investigate the adoption of tablets among academicians and it is shown in the figure 4.4. BI will lead positively to AU, the intention will guide the adoption of tablets. When academicians are planning to use them, they will start to prepare in using.

Initially, there are six structural paths; however, the structural paths are reduced to five. It implied that PEOU might precede PU rather than directly influence how it is used. In other words, if tablets are simple to use, it changes consumers' attitudes towards technology, which in turn effects their opinion of its use.

CHAPTER 5

CONCLUSIONS AND DISCUSSIONS

5.0 Introduction

Based on the findings in chapter Four, chapter five gives the research's conclusions and discussions. The primary aim of the discussion and analysis is to offer a comprehensive perspective on the statistical analysis and to examine the significant discoveries in relation to the relationships. After that, implications for various elements, as well as limits and future study directions will be provided.

5.1 Research Summary

As delineated in the beginning of the research, it pursues two primary goals aimed at exploring the six research hypotheses outlined within the proposed research framework. Only five of the six hypothesised associations are supported by this study's findings.

Based on the study's outcomes, several relationships that influence the intentions of academicians concerning using tablets have been identified. Firstly, PEOU is proven to have an immensely positive impact on PU, which also has a considerable favourable effect on users' intentions and interest in using tablets. The present study is underpinned by the research conducted by Tanimukti et al. (2016), which provides evidence of a positive relationship between PEOU and Perceived Utility PU. The findings presented in this study also align with previous

research on TAM, an interface that is simple to use and gives users the confidence they need to carry out their intended tasks is more likely to increase usage intentions (Sussman and Siegal, 2003). As a result, tablets must prioritise the development of a user-friendly interface, which is critical for attracting and retaining users. Educators believe tablets are more advantageous when they have a user-friendly interface. On the other hand, academics are more prone to utilise tablets in practice if they believe it would benefit them.

Secondly, the results of the study also show that ATT and BI are highly and favorably influenced by its PU. The findings are substantiated by other investigations (Ren, et al.,2022; Aditia, et al., 2018; Ngabiyanto, Widiyanto and Kholid, 2022). Tablets are often regarded by academics as being highly advantageous due to the significant benefits they provide. If academicians believe tablets can enhance their performance, they will continue using that technology. They develop stronger BI as they come to believe it was valuable. Therefore, the most important consideration to make when deciding whether academicians will utilise tablets is how beneficial they will be to the academicians themselves.

Furthermore, ATT has a large direct impact on BI, hence resulting in a favourable effect on AU. The findings are supported by various studies (Chen and Chen, 2022; Phua, Wong and Abu, 2012; Alharbi and Drew, 2014). The utilisation of tablets has been observed to have a notable and beneficial influence on the integration of iPad smart mobile devices by teachers for instructional purposes and

within the learning environment. This integration facilitates a high standard of teaching and learning (Chen and Chen, 2022) and increases the frequency of actual usage.

All hypotheses within the study exhibit a substantial connection through the TAM framework, except for the linkage between PEOU and ATT, which displays weaker support. This research indicates that the influence of PEOU on tablet adoption attitudes among users is somewhat minimal. In contrast, numerous research in the field of TAM have consistently demonstrated that the perceived ease of use has a direct impact on consumers' attitudes towards novel technologies or systems (Ren, et al.,2022; Aditia, et al., 2018), my findings indicate a lack of this relationship in the context under investigation. One plausible explanation is that contemporary tablets are often designed to be user-friendly, minimising challenges for consumers (Zheng and Li, 2020). Consequently, PEOU may not positively influence ATT. Alternatively, it is conceivable that academicians' motivational considerations play a role in shaping the connections among PEOU, PU, ATT, and BI. If academicians prioritise the value of tablet usage over ease of use, they might maintain enthusiasm for tablets even when finding them less user-friendly. It is noteworthy that although PEOU may not have a direct impact on individuals' ATT adoption, its influence is strategically mediated by the major role of PU. The role of PU is to serve as a crucial intermediary, effectively establishing a connection between PEOU and ATT. The intricate interaction between PU and PEOU highlights their collective and significant influence on individuals' attitudes

and choices pertaining to the adoption of tablets. Furthermore, the lack of a substantial impact of PEOU on ATT in this study may be attributed to the fact that educators are required to invest time in generating content, which entails greater effort and complexity (Mac Callum and Jeffrey, 2014). Despite tablets being seen as versatile gadgets with potential usefulness in various contexts (Lifewire, n.d.), especially with their high and increasing penetration rate in Malaysia, there are perceptions among academicians that their accessibility and user-friendly nature do not sufficiently motivate their adoption.

The variable of PU holds significant importance within the theoretical framework, as it exhibits the strongest association to the ATT and BI. Therefore, the administration of UTAR has the potential to enhance the inclination and disposition of the academic staff to utilise tablets by effectively demonstrating their utility and practical applications in various domains, such as facilitating teaching and learning activities. This may be achieved through the provision of comprehensive training programmes and workshops. Given that individual differences significantly influence users' intentions, university management must customise the training methods and approaches to cater to academicians' demands effectively. Given the variance in individuals' technology acceptance levels, universities should ensure the provision of adequate support and facilities to enable effective utilisation. By doing so, academicians will be better equipped to grasp the device's utility and benefits.

The objective to examine the significant factors that affect the UTAR academicians to use tablets is fulfilled in the research by viewing the results analyzed from the chapter 4 that PU has a higher path coefficient to affect the academician's willingness and readiness to adopt the tablets.

5.2 Recommendation and Limitations for Future Work

Several limitations are discovered over the course of this research. Given that the study primarily centered on academicians within UTAR, the scope of the sample's applicability is constrained. It does not represent other Malaysian university as the participants in this study are all from the same university. Consequently, it is recommended that the researcher diversify the academic population under study and expand the sampling framework to encompass both public and private universities across Malaysia. To enhance academics' understanding of tablet adoption within higher education institutions, university administrations can analyse the gathered data for comparison and improvement. Moreover, it is worth considering the examination of other study groups, like students, to provide a comprehensive view of tablet usage among various university stakeholders.

On top of that, subsequent investigations should not be constrained solely by the original TAM. In researching variables leading to the decision to use tablets, this study focuses on the two key components in the TAM, namely PU, and PEOU. Davis (1993) proposed that external factors such as experience, self-efficacy, past usage, university culture, and subjective norms should be added to the original TAM. Hence, it is advisable that forthcoming research ought to look at the

implications of incorporating these parameters into the initial variables of the model. Hubona and Geitz (2002b) conducted research that suggests the significance of external variables in influencing usage behaviour. Due to its lack of both consumer and environmental elements, the basic model provides limited insights. Thus, future research should incorporate aspects from different theories like the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2016) and the Theory of Planned Behaviour (TPB) (Ajzen, 2020). These perspectives will potentially result in a more thorough explanation of the phenomenon by adding more variables.

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Appendix A

Z-score of the Variables

	ZPEOU1	ZPEOU2	ZPEOU3	ZPEOU5	ZPEOU4	ZPU1	ZPU2	ZPEOU6	ZPU3	ZPU4	ZATT2	ZATT1	ZATT3	ZBI1	ZBI2	ZBI3	ZBI4	ZAU
2	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	-1.29305
3	-1.54919	-0.82624	-0.06082	0.15704	0.0865	-0.08233	1.10988	-0.13931	0.20587	1.10988	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	-1.29305
4	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	-0.8235	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	-0.36285	-0.01759	0.57469
5	1.0328	1.45911	1.25684	1.2912	1.21097	1.25558	0.04897	1.15428	0.20587	0.04897	0.29427	1.38923	0.19719	1.07716	0.10721	-0.36285	1.12545	1.50856
6	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	-0.36285	-0.01759	0.57469
7	1.0328	1.45911	1.25684	1.2912	1.21097	1.25558	1.10988	1.15428	1.23524	1.10988	0.29427	0.24619	0.19719	1.07716	0.10721	-0.36285	-0.01759	0.57469
8	1.0328	0.31643	-0.06082	0.15704	1.21097	1.25558	1.10988	1.15428	1.23524	1.10988	0.29427	0.24619	1.36239	1.07716	1.26863	1.68806	1.12545	-0.35918
9	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	1.10988	-0.13931	-0.8235	0.04897	0.29427	0.24619	1.36239	1.07716	1.26863	1.68806	-2.30366	0.57469
10	-0.2582	0.31643	-0.06082	0.15704	0.0865	-1.42025	-1.01195	-0.13931	-0.8235	0.04897	0.29427	0.24619	-0.96802	-0.10954	0.10721	0.6626	-0.01759	-0.35918
11	1.0328	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	-0.35918
12	1.0328	-3.1116	1.25684	-3.24546	-3.28692	-1.42025	-3.13378	1.15428	-2.88224	-3.13378	-3.0812	-3.18292	-3.29843	-3.66965	-3.37705	-2.41377	-3.44669	-2.22693
13	1.0328	-0.82624	-0.06082	-0.97713	-1.03797	-0.08233	-1.01195	-0.13931	-0.8235	-1.01195	-0.83088	-0.89684	-0.96802	-1.29624	-1.05421	-0.36285	-1.16062	-0.35918
14	1.0328	0.31643	1.25684	0.15704	0.0865	1.25558	1.10988	1.15428	1.23524	1.10988	1.41943	1.38923	1.36239	1.07716	1.26863	0.6626	1.12545	1.50856
15	-0.2582	0.31643	-0.06082	0.15704	0.0865	1.25558	1.10988	-0.13931	1.23524	1.10988	-0.83088	-0.89684	0.19719	-0.10954	0.10721	0.6626	-0.01759	-1.29305
16	-0.2582	-0.82624	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	-1.05421	-0.36285	-0.01759	1.50856
17	-0.2582	0.31643	-0.06082	-0.97713	0.0865	-0.08233	0.04897	-1.4329	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	-0.35918
18	1.0328	-0.82624	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	0.57469
19	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	1.10988	-0.13931	1.23524	0.04897	-0.83088	0.24619	0.19719	1.07716	0.10721	1.68806	-0.01759	-0.35918
20	1.0328	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	0.57469
21	-0.2582	0.31643	-0.06082	0.15704	0.0865	-1.42025	0.04897	-0.13931	1.23524	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	-0.36285	-0.01759	-0.35918
22	-0.2582	1.45911	1.25684	0.15704	1.21097	1.25558	1.10988	-0.13931	1.23524	1.10988	1.41943	1.38923	1.36239	1.07716	1.26863	-0.36285	1.12545	0.57469
23	-1.54919	-0.82624	-0.06082	0.15704	0.0865	-0.08233	1.10988	-0.13931	-0.8235	0.04897	-0.83088	0.24619	-0.96802	-0.10954	-1.05421	-0.36285	-0.01759	0.57469
24	-0.2582	-0.82624	-1.37847	0.15704	0.0865	-1.42025	-1.01195	-0.13931	-0.8235	-1.01195	-0.83088	0.24619	-0.96802	-0.10954	-1.05421	-0.36285	-0.01759	-1.29305
25	1.0328	0.31643	-0.06082	1.2912	0.0865	1.25558	1.10988	1.15428	0.20587	-1.01195	0.29427	0.24619	0.19719	-0.10954	-1.05421	-2.41377	-1.16062	-1.29305
26	-0.2582	-0.82624	-1.37847	0.15704	0.0865	1.25558	-1.01195	-0.13931	-0.8235	0.04897	0.29427	0.24619	0.19719	1.07716	0.10721	0.6626	-0.01759	-0.35918
27	1.0328	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	-1.01195	-0.83088	-0.89684	-0.96802	-0.10954	0.10721	-0.36285	-0.01759	-0.35918
28	1.0328	-0.82624	1.25684	1.2912	1.21097	1.25558	-1.01195	1.15428	-0.8235	-1.01195	-0.83088	-0.89684	-0.96802	-3.66965	-3.37705	-2.41377	-3.44669	-2.22693
29	1.0328	-0.82624	1.25684	1.2912	0.0865	-0.08233	-1.01195	1.15428	-0.8235	1.10988	-1.95604	-0.89684	0.19719	-0.10954	0.10721	-0.36285	1.12545	1.50856
30	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	-1.01195	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	0.57469
31	-0.2582	-1.96892	-0.06082	-2.11129	-2.16245	-2.75816	-2.07287	-2.72649	-1.85287	-2.07287	-1.95604	-2.03988	-2.13322	-0.10954	0.10721	0.6626	-0.01759	1.50856
32	1.0328	1.45911	1.25684	1.2912	1.21097	1.25558	1.10988	1.15428	1.23524	1.10988	1.41943	1.38923	1.36239	1.07716	1.26863	-0.36285	1.12545	0.57469
33	-0.2582	0.31643	1.25684	-0.97713	0.0865	1.25558	0.04897	-0.13931	0.20587	1.10988	1.41943	0.24619	0.19719	-0.10954	0.10721	-1.38831	-0.01759	-0.35918
34	1.0328	0.31643	-0.06082	0.15704	1.21097	-0.08233	1.10988	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	1.12545	0.57469
35	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	1.07716	1.26863	0.6626	1.12545	0.57469
36	1.0328	1.45911	1.25684	1.2912	1.21097	1.25558	-1.01195	1.15428	1.23524	1.10988	1.41943	1.38923	1.36239	1.07716	1.26863	1.68806	1.12545	1.50856
37	1.0328	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	-0.89684	0.19719	-0.10954	0.10721	0.6626	-0.01759	-0.35918
38	1.0328	1.45911	1.25684	0.15704	1.21097	1.25558	-1.01195	1.15428	0.20587	-1.01195	-0.83088	-0.89684	-0.96802	-1.29624	-1.05421	-0.36285	-0.01759	0.57469
39	-1.54919	-0.82624	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	-0.83088	-0.89684	-0.96802	-0.10954	0.10721	0.6626	-0.01759	-1.29305
40	-0.2582	0.31643	-0.06082	0.15704	-1.03797	-0.08233	0.04897	-1.4329	-0.8235	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	-1.38831	1.12545	0.57469
41	-0.2582	0.31643	-0.06082	-0.97713	-1.03797	-0.08233	0.04897	-1.4329	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	-1.29305
42	1.0328	0.31643	-0.06082	0.15704	-1.03797	1.25558	0.04897	-1.4329	-1.85287	-1.01195	0.29427	-0.89684	0.19719	-0.10954	-1.05421	0.6626	-0.01759	0.57469
43	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	0.57469
44	-0.2582	0.31643	-1.37847	-0.97713	0.0865	-0.08233	0.04897	-0.13931	0.20587	1.10988	-0.83088	0.24619	0.19719	-0.10954	0.10721	-0.36285	-0.01759	0.57469
45	1.0328	1.45911	1.25684	1.2912	1.21097	-0.08233	0.04897	1.15428	0.20587	1.10988	0.29427	0.24619	0.19719	-0.10954	0.10721	-0.36285	1.12545	0.57469

46	-0.2582	0.31643	1.25684	1.2912	1.21097	-0.08233	1.10988	1.15428	1.23524	1.10988	0.29427	0.24619	0.19719	-0.10954	0.10721	-0.36285	1.12545	0.57469
47	-0.2582	-0.82624	-0.06082	0.15704	0.0865	-0.08233	1.10988	-0.13931	1.23524	1.10988	1.41943	0.24619	1.36239	1.07716	1.26863	0.6626	1.12545	0.57469
48	-1.54919	-1.96892	-2.69613	-2.11129	-2.16245	-2.75816	0.04897	-2.72649	0.20587	-2.07287	0.29427	0.24619	0.19719	-1.29624	-1.05421	-2.41377	-1.16062	-1.29305
49	-0.2582	0.31643	-1.37847	-2.11129	0.0865	-0.08233	-1.01195	-1.4329	-0.8235	-1.01195	0.29427	0.24619	0.19719	-0.10954	-1.05421	0.6626	-1.16062	-1.29305
50	-1.54919	-0.82624	-0.06082	-0.97713	-1.03797	-0.08233	-1.01195	-0.13931	-0.8235	-1.01195	-0.83088	-0.89684	-0.96802	-0.10954	0.10721	-0.36285	-0.01759	-0.35918
51	-0.2582	-0.82624	-0.06082	0.15704	0.0865	-0.08233	-1.01195	1.15428	-0.8235	0.04897	0.29427	0.24619	0.19719	1.07716	1.26863	-0.36285	-0.01759	1.50856
52	-1.54919	-0.82624	-1.37847	-0.97713	0.0865	-1.42025	0.04897	-1.4329	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	0.57469
53	-0.2582	-0.82624	-1.37847	0.15704	-1.03797	1.25558	0.04897	1.15428	0.20587	1.10988	0.29427	0.24619	0.19719	1.07716	-1.05421	-0.36285	-0.01759	0.57469
54	1.0328	0.31643	1.25684	1.2912	1.21097	-0.08233	1.10988	1.15428	1.23524	1.10988	1.41943	1.38923	1.36239	1.07716	1.26863	-0.36285	1.12545	-0.35918
55	-0.2582	-1.96892	-2.69613	-2.11129	-2.16245	-1.42025	-3.13378	-2.72649	-2.88224	-3.13378	-3.0812	-3.18292	-3.29843	-2.48294	-2.21563	-2.41377	-2.30366	-2.22693
56	-2.84019	-1.96892	-2.69613	-2.11129	-2.16245	-2.75816	0.04897	-0.13931	-1.85287	-1.01195	-1.95604	-3.18292	-0.96802	-1.29624	-1.05421	-0.36285	-1.16062	-0.35918
57	-0.2582	0.31643	-0.06082	-0.97713	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	-1.29305
58	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	-1.01195	-0.13931	-0.8235	0.04897	-0.83088	-0.89684	-0.96802	-0.10954	0.10721	-0.36285	-0.01759	-0.35918
59	-0.2582	0.31643	-0.06082	0.15704	0.0865	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	0.19719	-0.10954	0.10721	0.6626	-0.01759	0.57469
60	1.0328	1.45911	1.25684	1.2912	1.21097	1.25558	1.10988	1.15428	1.23524	1.10988	1.41943	1.38923	1.36239	1.07716	1.26863	-0.36285	1.12545	1.50856
61	-1.54919	0.31643	-0.06082	0.15704	-1.03797	-1.42025	-2.07287	-0.13931	-1.85287	-1.01195	-1.95604	-0.89684	-2.13322	-1.29624	-1.05421	-0.36285	-1.16062	-1.29305
62	-2.84019	0.31643	-1.37847	0.15704	0.0865	-0.08233	1.10988	1.15428	1.23524	1.10988	0.29427	1.38923	0.19719	1.07716	0.10721	0.6626	-0.01759	0.57469
63	1.0328	1.45911	1.25684	1.2912	1.21097	-0.08233	0.04897	1.15428	0.20587	0.04897	0.29427	0.24619	0.19719	1.07716	1.26863	0.6626	1.12545	-0.35918
64	1.0328	1.45911	1.25684	1.2912	1.21097	1.25558	1.10988	1.15428	1.23524	1.10988	1.41943	1.38923	1.36239	1.07716	1.26863	1.68806	1.12545	1.50856
65	1.0328	0.31643	-0.06082	0.15704	-2.16245	-0.08233	0.04897	-0.13931	0.20587	0.04897	0.29427	0.24619	-0.96802	-0.10954	0.10721	-1.38831	-0.01759	-0.35918
66	-1.54919	-1.96892	-1.37847	-0.97713	0.0865	-0.08233	1.10988	-1.4329	0.20587	0.04897	0.29427	0.24619	1.36239	-0.10954	1.26863	-0.36285	-0.01759	-0.35918

Appendix B

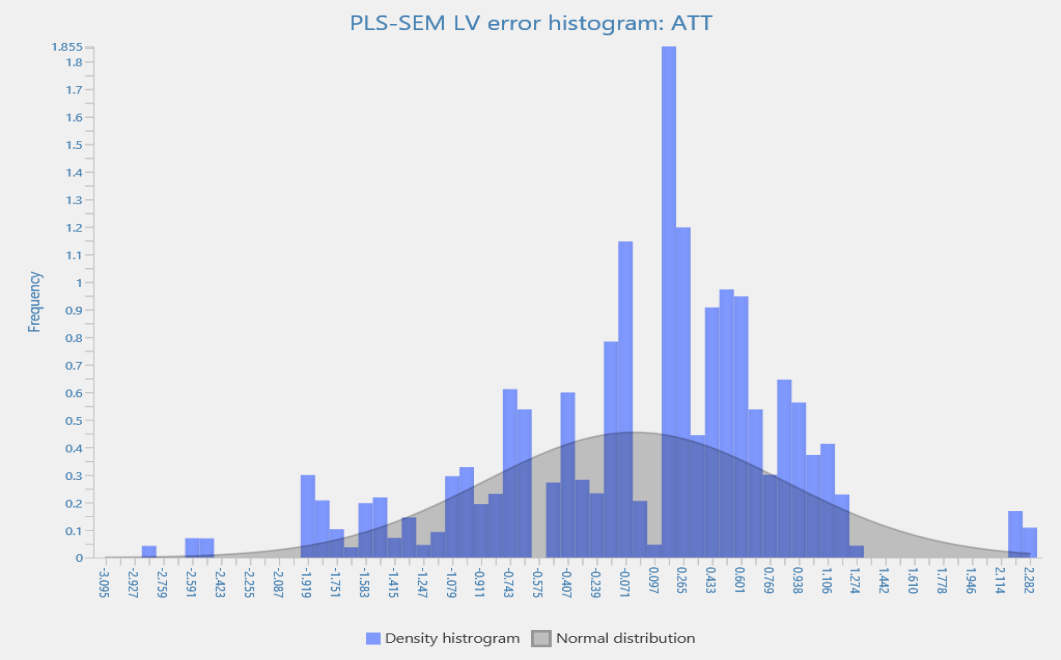
Normality Test

Tests of Normality

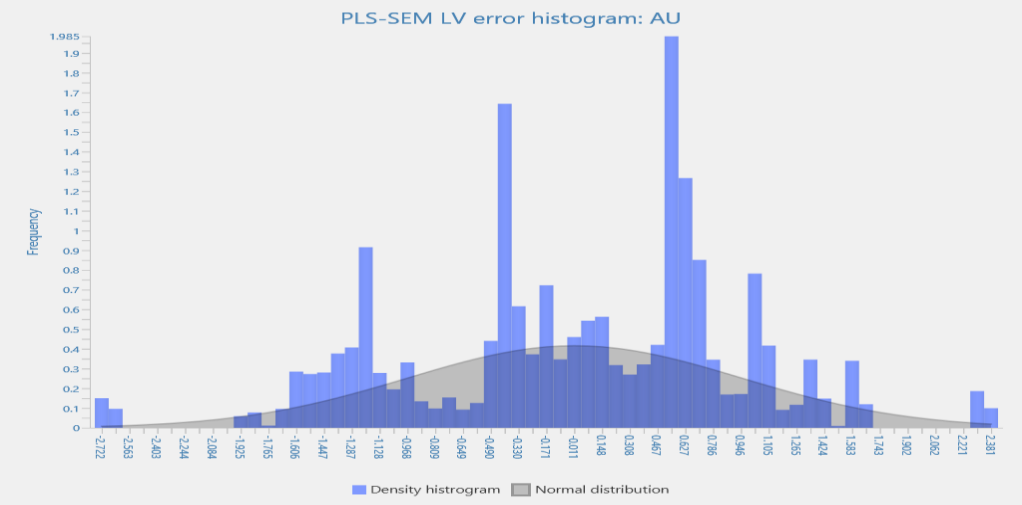
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PEOU1	.244	65	<.001	.805	65	<.001
PEOU2	.301	65	<.001	.852	65	<.001
PEOU3	.307	65	<.001	.804	65	<.001
PEOU4	.334	65	<.001	.801	65	<.001
PEOU5	.332	65	<.001	.814	65	<.001
PEOU6	.291	65	<.001	.800	65	<.001
PU1	.313	65	<.001	.792	65	<.001
PU2	.273	65	<.001	.828	65	<.001
PU3	.274	65	<.001	.856	65	<.001
PU4	.273	65	<.001	.828	65	<.001
ATT1	.351	65	<.001	.757	65	<.001
ATT2	.339	65	<.001	.806	65	<.001
ATT3	.332	65	<.001	.796	65	<.001
BI1	.333	65	<.001	.731	65	<.001
BI2	.312	65	<.001	.801	65	<.001
BI3	.235	65	<.001	.849	65	<.001
BI4	.339	65	<.001	.756	65	<.001
AU1	.225	65	<.001	.903	65	<.001

Appendix C

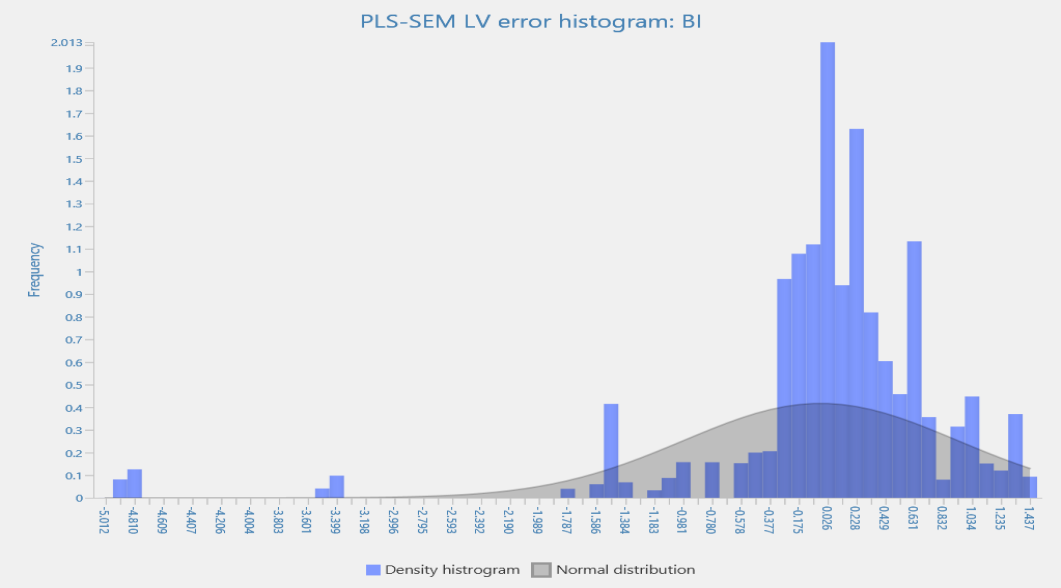
Histogram Graph



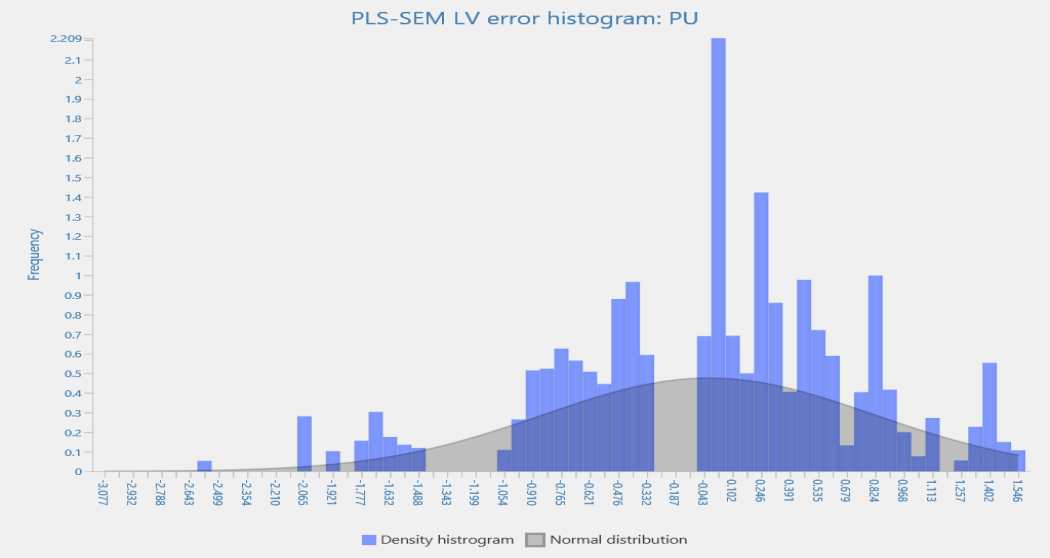
Histogram graph of the PLS-SEM LV error of ATT



Histogram graph of the PLS-SEM LV error of AU



Histogram graph of the PLS-SEM LV error of BI



Histogram graph of the PLS-SEM LV error of PU

Appendix D

Online Questionnaire Survey in Google Form

Drivers of tablets used by UTAR Academicians: The Technology Acceptance Model Perspective

Dear UTAR academicians,

Good day. I am Lee Choy Ying, a Year 3 Semester 1 student from Bachelor of Science (HONS) Statistical Computing and Operations Research University Tunku Abdul Rahman (UTAR) Kampar. I am currently taking the subject UDPS3286 Research Project and working on a research project titled "Drivers of tablets used by UTAR Academicians: The Technology Acceptance Model perspective".

In relation to the aforementioned matters, I would like to invite you to participate in this research project by filling up the questionnaires attached to this Google form. The completion of this questionnaire will take you about 5-10 minutes.

NOTICE:
Kindly be reminded that all of the information and data collection in this research will be kept in confidential at all times. Your participation in this research study should be completely voluntary.

If you have any enquiries on this research study, kindly contact me Lee Choy Ying at 010-9590768 or choyying2001@1utar.my
Your participation is truly appreciated. Thank you and have a great day ahead!

choyying2001@1utar.my Switch account

* Indicates required question

Email *

☐ Record **choyying2001@1utar.my** as the email to be included with my response

PERSONAL DATA PROTECTION STATEMENT

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

Notice:

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

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

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

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

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

Consent:

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

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

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

Acknowledgment of Notice *

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

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Section A: Socio-demographic function

Gender *

- ◯ Male
- ◯ Female

Position *

- ◯ Professor
- ◯ Associate Professor
- ◯ Assistant Professor
- ◯ Senior Lecturer
- ◯ Lecturer
- ◯ Other: _____

Job Status *

- ◯ Part-time
- ◯ Contract
- ◯ Permanent

Ethnicity *

- ◯ Malay
- ◯ Chinese
- ◯ Indian
- ◯ Others

Do you have any experience of using tablets? *

- ◯ Yes
- ◯ No

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How many years /months of using tablets? *

- ◯ 2 years and below
- ◯ 3-5 years
- ◯ 5 years and above

What is your average time spent in the tablets per day? *

- ◯ Less than 2 hours
- ◯ 3-5 hours
- ◯ More than 5 hours

What brands of tablets are you using? *

- [ ] iPad
- [ ] Huawei
- [ ] Samsung
- [ ] Xiaomi
- [ ] Lenovo
- [ ] Honor
- [ ] Acer
- [ ] Asus
- [ ] Other: _____

What is your main purpose of using tablet? *

- [ ] online lecture
- [ ] meeting
- [ ] conferences
- [ ] managerial work
- [ ] Other: _____

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Section B: Perceived ease of use

Perceived ease of use refers to a level of easiness that academicians feel when using tablet

There are 5 selections for the following questions
1- Strongly disagree
2- Disagree
3- Neither
4- Agree
5- Strongly agree

Learning how to operate tablet is easy for me *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

I find it easy to get tablet to do what I intended *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

My interaction with tablet is clear and understandable *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

I find tablet flexible to interact with *

- 1
- 2
- 3
- 4
- 5

It is easy for me to become skillful at using tablets *

- 1
- 2
- 3
- 4
- 5

I find tablet easy to use *

- 1
- 2
- 3
- 4
- 5

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Section C: Perceived usefulness

Perceived usefulness refers to which an academician believes that using tablet would enhance his/ her job performance

There are 5 selections for the following questions
1- Strongly disagree
2- Disagree
3- Neither
4- Agree
5- Strongly agree

I can obtain required information and assistance through tablet *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

Using tablet can enhance my effectiveness on the job *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

Using a tablet in my job can increase my productivity *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

I find tablet useful in my job *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

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Section D: Attitude towards tablets

Attitude refers to individual's positive or negative feeling regard using tablet

There are 5 selections for the following questions
1- Strongly disagree
2- Disagree
3- Neither
4- Agree
5- Strongly agree

I like the idea to adopt and integrate tablet into my job *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

Adopting and integrating tablet into my job performance make it more interesting *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

I have positive perceptions about tablet usage in my job performance *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

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Section E: Behavioral intention to use tablet

Behavioral intention to use measures the academicians' intention towards tablet in the coming future

There are 5 selections for the following questions
1- Strongly disagree
2- Disagree
3- Neither
4- Agree
5- Strongly agree

I would like to use tablet in the future *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

I will recommend others to use tablet *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

I prefer learning with tablet to the traditional methods *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

I will not stop using tablet in the future *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

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Section F: Frequency of actual use

Frequency of actual use is the amount of time that people interact with tablet and use it and its frequency

There are 5 selections for the following questions
1- Never
2- Seldom
3- Sometimes
4- Often
5- Always

How frequently do you use a tablet? *

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

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Appendix E

Publication- Full Conceptual Paper Submission in 3rd CoMBInES 2023

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Technology acceptance model (TAM) on the drivers iPad used by university academicians: a conceptual model

Lee Choy Ying[1] Nur Balqishanis Binti Zainal Abidin[2]
Email of author correspondence : choyying2001@1utar.my,balqishanis@utar.edu.my

[1] Department of Physical and Mathematical Sciences, Faculty of Science, Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia
[2] Department of Physical and Mathematical Sciences, Faculty of Science, Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia

Abstract

This research paper suggests a conceptual model for the academic staff adoption of iPad at university. With the enhancement of technology, knowledge can be developed more efficiently and effectively for the Teaching and Learning (T&L) process. iPad has become an important technology tool in the advancement of education, particularly in classroom instruction. Therefore, the purpose of this study is to investigate the dimensions of the drivers of iPad used by university academicians based on the technology acceptance model (TAM). The methodology used for this study, was to extract the critical factors from TAM. The five critical factors that supported the TAM theory are perceived ease of use (PEOU), perceived usefulness (PU), behavioral intention (BI), attitude (ATT) and frequency of actual use of iPad (AU). All these critical factors determined and validated by supported preceding articles and represent as the proposed dimensions for the conceptual model. Next, the hypotheses developed for each association among the critical factors. The findings drawn from the developed hypotheses generally lead to the development of a conceptual model. The limitation of this study is just to provide the conceptual notion; thus, this model could extend to the empirical analysis in the future.

Keywords:

Technology acceptance model, Academicians, iPad, Conceptual model.

Introduction

Wireless communication network technology and intelligent mobile devices have improved quickly in recent years (Chen and Chen, 2022). The product has evolved from initial personal digital assistants (PDAs) to smartphones. Apple's iPad series has consistently led the personal computer (PC) market. Since its debut, the iPad, a mobile tablet that runs Apple's iOS operating system, has sold over 270 million copies worldwide (Chen and Chen, 2022). Recording, photography, music playback, and Internet-related operations such as online surfing and email are among the basic iPad functionalities. Downloading and installing applications (Apps) can provide access to extra features like games, reference books, Global Positioning System (GPS) navigation, and social networks. Apps for iPad can be downloaded and installed from the Apps store based on their specific functional requirements. The iPad is a light, portable device that incorporates essential computer operations as well as a multi-touch panel to replace traditional keyboard and mouse functions, which prompted the use of iPad among academician.

Moreover, iPad tablets are frequently employed in a wide range of industries. The use of iPad has even enhanced or changed the structure and development of numerous enterprises, such as publishing, software, services, catering, manufacturing, construction, and education. Aside from their widespread use in the industry, the incorporation of iPads into classrooms and learning institutions has recently gained popularity (Zogheib, 2019). The use of iPads by university academicians has continuously expanded since the iPad's release in 2010, with conservative estimates placing total iPad sales based on Apple's quarterly financial report for June 2022 at 7.15 billion worldwide (Laricchia, 2022). Because of the advancement of digital tools such as the iPad, many schools now recognize them as viable options for providing their students with a learning resource that matches today's standards. A tablet is chosen as a substitute device over a laptop Teaching and Learning (T&L) among academicians due to the latest technology developed. The iPad is regarded as the best-suited gadget for education, with over 75 thousand educational apps accessible, not to mention its lightweight and extended battery life (Lestari and Indrasari, 2019). It is also the most secure and simple to manage on a learning institutions-wide scale. The iPad's portability, accessibility, interactivity, and power supply efficiency have been recognized as an effective T&L tool that contributes to having a good impact on education. As a result, due to its comprehensive features that enable academicians to deliver information in such a way that promotes deeper learning to their students, it may benefit students in the knowledge-acquisition process by providing access to the best-suited learning materials (e.g., video, articles, podcast) as well as the knowledge-storage process (e.g., note-taking, highlighting, mind-mapping).

Coronavirus disease (COVID-19) has profoundly changed people's lifestyles all over the world. All learning institutions were required to close and convert physical learning to online learning to improve the safety of students and lecturers. The application of digital technologies has been effective in decreasing illness spread and increasing resistance to the emerging COVID-19 (Brem, Viardot and Nylund, 2021; Kumar, Gupta and Srivastava, 2020; Steen and Brandsen, 2020; Ting et al., 2020).During the pandemic, technology gadgets substantially aided and facilitated our society, such as online shopping, contactless payments, remote work, and online learning. Hence, the internet has been personally vital to an individual. The iPad is viewed as the device to use compared to the iPhone (smartphone), as it meets all those demands even better (Chen, 2020).

TAM is used in this study to determine the variables influencing university academicians' acceptance of technological items. The TAM comprises perceived usefulness, perceived ease of use, attitude, behavioral intention, and frequency of actual usage. Perceived usefulness and perceived ease of use are the two core components to explain the users' perceived acceptance of technology (Hussein and Hilmi, 2022). This study is to examine the technological item used, particularly emphasis on the iPad as a new electronic technology product by academicians in university, underpinned by the TAM perspective. As a result, this study aims to explore the dimensions of iPad drivers utilized by university academics based on the TAM. The use of a mobile computing (iPad) in education has an impact on the effectiveness and efficiency of T&L. Although Apple is not thefirst company to suggest the idea of a mobile computer, it has been a great success in bringingit to market, boosting its global popularity and transforming the information technology (IT) industry, setting an unprecedented sales record, and offering users an alternative to traditionaldesktop PCs and notebooks in terms of application methods and user experience. The questionsraised in this study are (1) What are the factors influence university academicians to use iPad mobile devices as a teaching tool? and (2) What are the associations among the TAM elementstowards the use of iPad mobile devices as a teaching tool?

Research underpinning theory

The technology acceptance model (TAM) is a trustworthy and valuable paradigm for understanding the factors that affect users' desire to utilize technology in the context of education (Teo, 2012). TAM relates to the belief that consumers' attitude toward technology significantly impacts its acceptance (Davis, Bagozzi and Warshaw, 1989). Consumers would only utilize the technologyif it met their needs. The TAM model is popular due to its simplicity and clarity (King and He, 2006). TAM's goal is to investigate why users' attitudes and beliefs influence their adoption orrejection of information technology (IT) and explain the factors that influence IT adoption andutilization.

TAM was developed by Davis (1986). It was taken from the study of social psychology's theory of reasoned action (TRA), which defines behavior in the context of intention. Attitude and subjective standards are two elements that influence behavioral intention. However, a third factor, perceived behavioral control, also plays a role. TRA was designed to describe generic human behavior. On the other hand, TAM explicitly illustrates the critical definitions of technology acceptance that are common and capable of describing the population among users and user behavior across a wide range of end-user computing technologies (Davis, Bagozzi and Warshaw, 1989).

According to TAM, adopting new technology will advance if people have favorable opinions regarding the perceived usefulness (PU) and perceived ease of use (PEOU) measures. PEOU and PU are the two essential determinants in determining how well users adopt technology as they affect academicians' attitudes, intentions, and frequency of use towards an iPad. TAM has been widely applied to analyze user acceptance in various studies, including Internet banking (Vukovic, Pivac and Kundid, 2019), electronic commerce (Fedorko, Bacik and Gavurova, 2018), digital bagtag (Apinantasap and Gerdsri, 2022), online learning (Lazim, Ismail and Tazilah, 2021) along with others.

Although TAM only contains two primary variables, several authors have expanded and tested the model with additional variables to gain a correct solution to what motivates university academicians to use an iPad. According to (Davis, Bagozzi and Warshaw, 1989). PU and PEOU are essential dimensions.However, for example, Lestari and Indrasari(2019) analyzed the iPad used by teachers in theclassroom in Indonesia by employing a multiple linear regression method. From the result, theydid not agree that PU and PEOU play a significant influence in predicting technology adoption.It may be caused by the concept used in Lestari and Indrasari's study does not correspond toDavis' perceived usefulness. The majority of teachers agreed that using iPads in the classroomwill benefit both students and teachers, but this belief should be backed up by regular iPad use. Besides, they have included efficacy as a variable in the model and discovered that it significantly affects the use of iPad as teaching tools.

Jo Ann and Md Noor (2022) have studied the adoption of one-stop e-commerce platforms for baby product purchases. They have included dimensions such as trust, perceived benefits, and perceived risk. According to the research, trust and perceived benefits positively influence online purchasing decisions for baby products. Thus, other variables should be considered in TAM as there are many restrictions to the intention to act. Furthermore, this study found that the PU of technology plays a more substantial impact and is the most predictive factor in purchasing infant products on a one-stop e-commerce platform. According to Hanjaya Kenny and Gunawan (2019), the simplicity of use of technology provides the finest online shoppingexperience and substantially influences purchase intention.

Adopting any technology by its users is critical to its successful implementation. Interestingly, the features of technology (iPad features) play a significant effect in predicting whether individuals in an activity would use it, as well as the frequency with which the technology is used. As a result, understanding the user's impression of iPad adoption could support the continued growth of the iPad's implementation. In truth, the iPad development effort will only succeed if people participate and use it. As a result, user acceptance towards iPad is a fundamental component of the iPad's implementation and evolution. Recognizing the elements that can influence user acceptance would be beneficial in determining the path of future development for academicians.

iPad Application for Teaching and Learning (T&L)

In the field of education, the iPad is the most popular device for T&L especially in higher education institutions. Various advantages explain why the iPad is chosen over other devices compared to PCs, such as desktops, laptops, and smartphones. The critical difference between the iPad and other smartphones is the greater screen size, longer battery life, and superior performance. Furthermore, the iPad outperforms smartphones in terms of quality, memory capacity, and instructional value. The iPad is then pitted against PCs and laptops. iPads are preferred by educators because they are more secure, adaptable, and simple to use than PCs or laptops.

The iPad is used in the classroom because it is interactive, adaptable, cost-effective, and a terrific communication tool. Educators believe that the iPad can help increase students' academic engagement, motivation, and achievement inside and outside the classroom. The iPad can conduct various activities, such as writing and reading, which might help compete with school-related activities. Also, this technology is preferred by lecturers because it allows them to involve students in their learning in a variety of creative ways, including video and audio functionalities. Teachers stated that the iPads aided them in promoting independent learning, more readily differentiating learning for unique student needs, and easily sharing resources with students and one another. Students can practice activities at various levels independently using various iPad apps. According to new research published in 2016, iPads enable teachers to "personalize instruction for each child" (Tynan-Wood, 2016). If a student ishaving trouble, educators can use the iPad to reinforce concepts (via games, focused reading,or applications), and if another student needs to proceed more quickly, the student can look for pre-list assignments or notes prepared by the lectures, or can get extra practice from the teachers with just one touch of a button without photocopying. Furthermore, iPads can augment teacher instruction by allowing students to learn from the programs on their iPad rather than listening to their teacher for the whole session, and pupils will not become bored or drowsy as readily.

Development of the Conceptual Model

Proposed Conceptual Model

This conceptual model suggests few associations between variables derived from TAM. Based on the conceptual framework in Figure 1, the following six hypotheses have been developed according to the literature review and justifications. In this study, the null hypotheses were defined as having no significant impact or influence among five dimensions (perceived usefulness, perceived ease of use, attitude, behavioral intention, and frequency of actual use of an iPad).

a) Perceived Usefulness (PU) has significantly impact on Attitude (ATT) and Behavioral Intention (BI)

The term "perceived usefulness" describes how people think using the new technology would help them perform better at work (Davis, Bagozzi and Warshaw, 1989). Many researchers believe that PU is theprimary enabler of using technology (Ozkale and Koc, 2020; Zheng and Li, 2020). In other terms, perceived usefulness expresses users' expectations for the system as a tool for work or study. Potential users, for instance, claim that the iPad can improveproductivity and effectiveness in the classroom or at work while reducing work time and assisting with the study. Thus, potential users will have a more favorable attitude toward theiPad if they view it as more useful (Liu et al.,2022a,b,2020,2021). Besides, using the iPad is efficient if it directly impacts the user's behavior (Diop, Zhao and Duy, 2019). It can help them to solvethe primary purpose of using the iPad. Therefore, perceived usefulness will have a favorableeffect on the intention to utilize an iPad.

As a result, the following alternative hypothesis statements were created.
H1 : Perceived Usefulness has a positive effect on attitude towards using iPad

H2 : Perceived Usefulness has a positive effect on behavioral intention towards using iPad

b) Perceived Ease of Use (PEOU) has significantly impact on Perceived Usefulness(PU) and Attitude (ATT)

The degree to which a person expects finding a specific technology easy to use is referred to as the system's perceived ease of use (PEOU), according to (Davis, Bagozzi and Warshaw, 1989). It expresses howmuch a consumer believes using an iPad will be effortless. For example, when the system or technology is simple to operate and understand, users will be more confident in their capability of mastering the system or technology and willing to accept using it (Chen and Chen, 2022). However, if it is too challenging or necessitates extensive mental learning, itwill cause the rejection of users. Users' attitudes towards the system are better when they think the innovative technology is easier to understand. Hence, it can conclude that perceivedease of use affects perceived usefulness positively (Dhingra and Mudgal,2019; Lestari and Indrasari,2019). Therefore, the attitude toward utilizing the iPad increases as the perceived system ease of use increases. It is easier to learn, and the most recent products with up to-date technology typically provides users with a high level of ease of use because of the accessibility of critical functions with only a few taps away (Jan et al., 2019).

As a result, the following alternative hypothesis statements were created.
H3 : Perceived ease of use has a positive effect on perceived usefulness of iPad
H4 : Perceived ease of use has a positive effect on attitude towards using iPad

c) Attitude (ATT) has significantly impact on Behavioral Intention (BI)

People's intentions to use a specific item are influenced by their attitude (Jan et al., 2019). A consumer with a positive attitude towards using iPad tends to accept the iPad technology positively. Bhattacherjee and Sanford (2009) show that attitude results in an excellent intention to accept a new environment. According to Muhaimin et al. (2019), the intention to use technology increased with the amount of a particular behavior related to its use.

As a result, the following alternative hypothesis statement was created.
H5 : Attitude towards using has a positive effect on behavioral intention to use iPad

d) Behavioral Intention (BI) has significantly impact on Frequency of actual use an iPad (AU)

Behavioral intention is the motivational factor influencing whether a person wants to execute the behavior in the future. From an individual's intention, it will be possible to predict how they will utilize technology (To and Tang, 2018). If users believe that using all of the functions and real-worth services offered by this cutting-edge technology will increase the efficacy of their study or work, they are more inclined to do so. As a result, users will use the device more frequently and accept it as a technical advancement (Chen and Chen, 2022). In other words, behavioral intention to adopt a technology (such as the iPad) will result in frequent usage.

As a result, the following alternative hypothesis statement was created.

H6 : Behavioral intention to use iPad has a positive effect on frequency of actual use an iPad

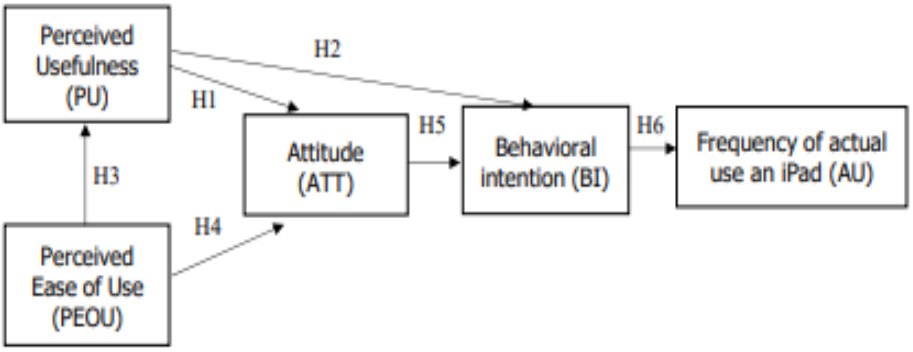

Figure 1: Proposed Conceptual Model based on TAM

Discussion and Concluding Remarks

The iPad's interactive features and visual appeal, together with those of other tablet computers, may offer students a variety of chances to learn about various knowledge. When used as part of an active learning environment in the classroom, iPads may serve as a medium by which university academicians might use. Academicians should look into how applications can be used and assessed both within and outside the classroom to improve student involvement in the classroom as mobile technologies are increasingly frequently accepted by students. Finally, methods for knowledge or skill assessments should be considered by application developers in case they are included in future recommendations for effective iPad integration in the classroom. The association integrated between the TAM's elements, described the direction of relationship between variables involved. However, there is no solid evidence if not being tested empirically. Hence, future research using partial least square based structural equation modeling (PLS-SEM) or covariance based structural equation modeling (CB-SEM) could be applied for an empirical study in order to validate this proposed conceptual model.

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Appendix F

Notification of Acceptance for the 11th International Conference on Business, Accounting, Finance and Economics (BAFE 2023)

Date: 25th October 2023

NOTIFICATION OF ACCEPTANCE

Date: 29 August 2023

Paper ID : **BAFE020**

Paper Title: **DRIVERS OF TABLETS USED BY UNIVERSITI TUNKU ABDUL RAHMAN (UTAR) ACADEMICIANS: THE TECHNOLOGY ACCEPTANCE MODEL PERSPECTIVE (REVISED)**

Dear **Lee Choy Ying and Nur Balqishanis Binti Zainal Abidin**

We are pleased to inform that your paper is accepted for presentation at the 11th International Conference on Business, Accounting, Finance and Economics (BAFE 2023) which is to be held on 25th October 2023.

The full paper has to be submitted not later than 30th September 2023 to bafe@utar.edu.my. Authors are advised to submit a registration form along with the registration fees latest by 15th October 2023. The author guidelines and further information pertaining to the conference are available at the conference official website: https://www2.utar.edu.my/bafe/

Thank you for your kind interest and support. We look forward to meeting each other in the conference.

With best regards,

Associate Prof. Dr. Choong Yuen Onn
Conference Chair, BAFE 2023
Faculty of Business and Finance,
Universiti Tunku Abdul Rahman, Perak Campus.

Universiti Tunku Abdul Rahman (Perak Campus)
Jalan Universiti, Bandar Barat, 31900 Kampar, Perak, Malaysia.

Appendix D

Universiti Tunku Abdul Rahman			
Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes)			
Form Number: FM-IAD-005	Rev No.: 0	Effective Date: 01/10/2013	Page No.: 133 of 1

FACULTY OF _____Science_____

Full Name(s) of Candidate(s)	Lee Choy Ying
ID Number(s)	1904306
Programme / Course	SC
Title of Final Year Project	Drivers of tablets used by Universiti Tunku Abdul Rahman (UTAR) academicians: the technology acceptance model perspective

Similarity	**Supervisor's Comments** **(Compulsory if parameters of originality exceeds the limits approved by UTAR)**
Overall similarity index: 12____ % **Similarity by source** Internet Sources: ___10___ % Publications: ___7___ % Student Papers: ___0___ %	**N/A**
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Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

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

Signature of Supervisor	Signature of Co-Supervisor
Name: ___NUR BALQISHANIS____	Name: _____
Date: ____2/10/23_____	Date: _____

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