Factors Influencing Mobile Subscribers' Adoption 5G Services in Malaysia

By

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DECLARATION

The author hereby declares that this project paper is the original study undertaken by his unless stated otherwise due to acknowledgment has been given to references quoted in the bibliography. The views and analyses in this study are that of author's based on the reference made; and this does not constitute an individual to use this study as technical tool for investment.

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ACKNOWLEDGMENT

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FACTORS INFLUENCING MOBILE SUBSCRIBERS' ADOPTION 5G SERVICES IN MALAYSIA

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The purpose of this study is to examine factors that will influence Malaysia mobile subsiders to adopt 5G services. Based on the research report MIER 2022. Economic Impact Analysis of 5G Technology Implementation in Malaysia. The Malaysian Institute of Economic Research, Kuala Lumpur. Some information has been changed, from single wholesale network to dual wholesale network. This also changed the Telecommunication company changed their strategy and the study gap on the subscriber's adoption of 5G services is not covered in the research paper. Hence, this study is to fill the gap to find out what is the factors that influence Malaysian to adopt 5G services. This study applies some of the survey questionnaire based on 5G Economy Global Public Survey Report Commissioned by Qualcomm conducted by PSB research December 2016, journal by Mirjana (et. al 2023) A readiness assessment framework for the adoption of 5G based smart-living services, and Tommi et. al 2018 investigating adoption factors of 3G services for our research. To understand the relationship between the factors influencing mobile subscribers adoption 5G services in Malaysia. The survey questionnaire hosted via Google Forms online, personally invite face to face interview and answer through the phone and link distributed through Facebook, WeChat and WhatsApp to the contacts. Target 390 Malaysian respondents were successfully collected. The collected data then using SPSS (Statistic Package for Social Sciences) and SPSS AMOS (Analysis of Moment Structure) software and used structural equation modelling (SEM) to analyse and validate the measurement model and test hypotheses. Results indicated that all the 4 hypotheses were supported, and the SEM model were tabulated with better fit model. This study finding status the implications that be referred by telecommunication companies, government, and corporates to gauge the Malaysian view towards 5G services and eventually deploy the right strategy to deploy it. It is useful for researcher understand on the limitation of the research and continues to research as 5G services adoption still at early stage and will change from time to time.

Keywords: 5G services, Mobile subscribers, Telecommunication, Malaysia

CHAPTER 1
1.0 INTRODUCTION

The 1st Generation of Mobile Communication introduced by Telekom Malaysia the stated owned companies in 1985. It allowed users to communicate riding on analogue cellular services where the customer can make basic calls and limited text messaging. Target major cities areas with small number of subscribers due to coverage and the service fees. In 1994, Celcom Malaysia launched the 2G network by adopting GSM (Global System for Mobile Communication) following European Standard. Subsequence year, Maxis Communications and Digi Telecommunications also launched the same services where it covers nationwide with SMS (Short Messaging System), basic mobile data service on GPRS (General Packet Radio Service) and voice call. It still operates as of today with focus on the coverage to offer basic communication need in the rural areas, uncover by 4G network area. Whereas for Telekom Malaysia adopt CDMA (Code Division Multiple Access) standard deployed in United Stated of America. The CDMA service eventually become substitute solution for Telekom Malaysia that cannot offer fixed lines services due to the geographical barrier and at alternate cost-effective solutions.

Malaysia introduce 3G service in 2005 by Celcom Malaysia, Maxis Communications and Digi Telecommunications with W-CDMA (Wideband Code Division Multiple Access) also the GSM standard. These 3 telecommunications companies of mobile data services at higher data transfer rates for better experience, improved call quality with better Codec and video calls, MMS (Multimedia Messaging System), smooth handover to reduce call drops, and backward compatibility when they user out of 3G coverage the user can still using 2G services. With the introduction of Smartphone that support 3G in the same years, the business models have changed

from offer mobile services to offer device bundling services to offer mobile subscribers one stop solutions, user stickiness and loyalty to their brand.

The 4th Generation mobile network also known as Long-Term Evolution (LTE) technology officially launched by Celcom Malaysia, Maxis Communications, Digi Telecommunications and U Mobile in 2013. Services like Voice over LTE (VoLTE) and Voice over WiFi (VoWIFI), efficient power consumption on mobile device, enhanced security, higher data transfer rate from maximum download speed of 7.2 Mbps (Megabits per second) and Maximum upload speed of 2 Mbps for 3G to the maximum download speed of 1 Gbps (Gigabit per second) and maximum upload speed of 50Mbps depending on the LTE category deployed by Telecommunication company. Telecommunications also offers Mobile Broadband services to customers that require pure broadband service and yet moving around or no fixed broadband coverage at their areas. Based on the Statistic from The World Bank data, mobile subscribers grow exponentially from 19,545,000 mobile subscribers in the year 2005 to 43,005,000 mobile subscribers in year 2013. Companies like Telekom Malaysia also switching it focus to mobile service with Unifi Mobile with Fixed Mobile Convergence on FDD-LTE and TD-LTE with domestic roaming with Celcom's network. Yes Mobile also migrated from WiMAX technology to TD-LTE and many Mobile Virtual Network (MVNO) namely Tune Talk, XOX, redONE, Mechantrade Asia and many others offering the value added services to compete with existing Mobile Network Operators.

The Malaysia Government adopted a single wholesale network model to accelerate deployment of 5G infrastructure and network in Malaysia. The 5G network building by Digital Nasional Berhad committed to achieve 80% Coverage of Populated Areas (COPA) by end-2024, As of June 30, 2023, DNB has achieved 64.7% COPA. Malaysia Government will also implement the dual

network model in early 2024. This will increase competition among the telecommunication and enterprises to have more options to select the infrastructure partnership.

1.1   Background of the Study

It is growing the importance of 5G network in the global and we need to study its impact on the Malaysia context. Based on the ITU, the 5G use cases to be introduced namely eMBB (Enhanced Mobile Broadband), mMTC (Massive Machine Type Communications) and uRLLC (Ultra Reliable Low Latency Communications). These 3 key service pillars can be further narrowed down to the respective key services and applications namely Smart City, Self-Driving car 3D Video and many others.
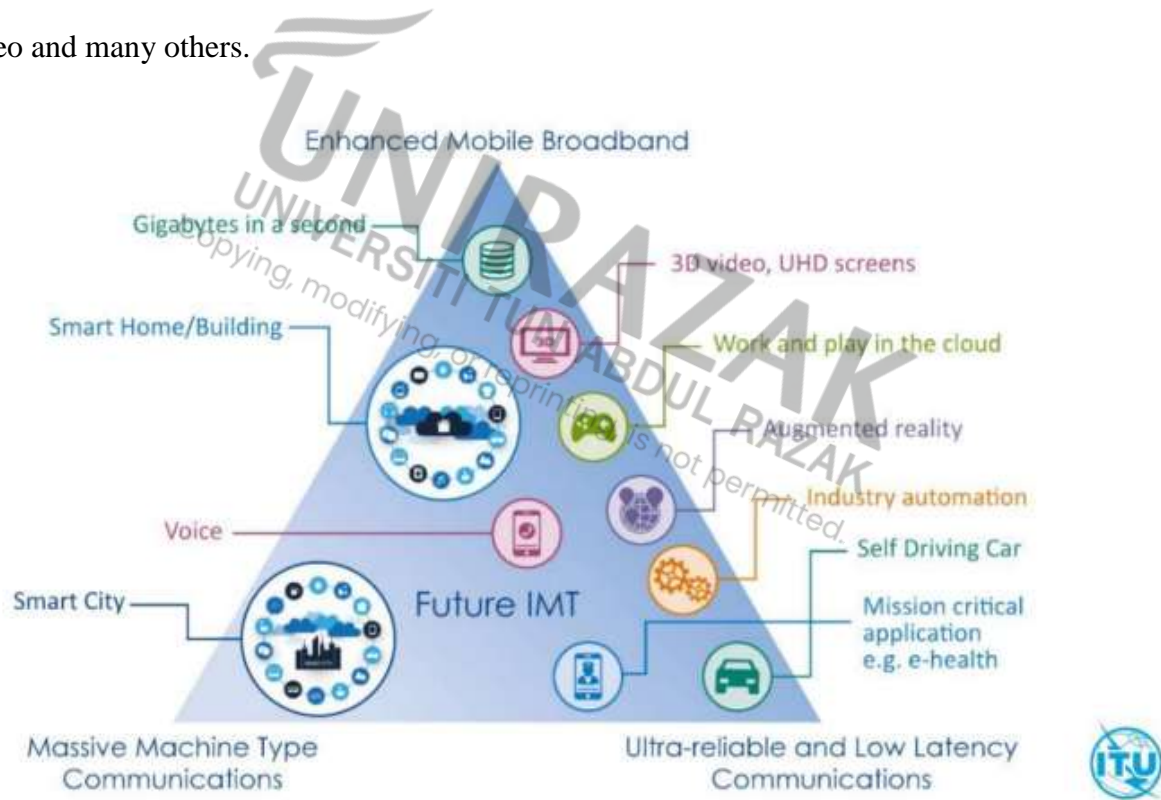
Figure 1: 5G Three Key Service Pillar eMBB, mMTC and uRLLC; Source: ITU

Most of the research has been done and covered the services above, for example MIER (Malaysian Institute of Economic Research) which is a member of Malaysia 5G task force did research on the impact of Smart City, Manufacturing, Oil and Gas, ICT, Digital Healthcare and Tourism towards

Malaysia Economy. And the limitation of the research is studying the Factors Influencing Mobile Subscribers' Adoption 5G services in Malaysia. In the National 5G Task Force report under the stewardship of the Malaysia Communications and Multimedia Commission (MCMC) also provide very comprehensive report from business cases that can be applicable in 5G that impact Malaysia Economy and social benefits; 5G spectrum requirement the bands needed and how global or regional practice and how it can applicable in Malaysia; 5G infrastructure study on choose of Radio Access Network options Stand-Alone or Non Stand Alone, Site Acquisition and Engineering, fiber and transmission, estimate costing until regulatory on safety and security of 5G Network.

Considering now the 5G services start to commercialize, and the enterprise and corporate that involve in this 5G services is still early stage. So, it may be an option for Telecommunication company to convert existing 48,653,100 mobile subscribers to adopt 5G service. However, this is not an easy journey as the 5G network is under DNB hence every 5G traffic consumed, telco need to pay DNB for the agreed fees.

Median 5G Download Speed in Asia Pacific Markets
Compared to European Benchmarks
Speedtest Intelligence® | H1 2023

Country	Download (Mbps)
Malaysia	512.10
South Korea	503.99
Singapore	387.15
India	335.17
New Zealand	271.90
China	264.86
France	214.26
Australia	213.36
Thailand	161.15
Hong Kong (SAR)	142.04
Italy	140.83
Germany	137.16
Philippines	133.47
United Kingdom	115.29
Japan	110.54
Spain	100.98
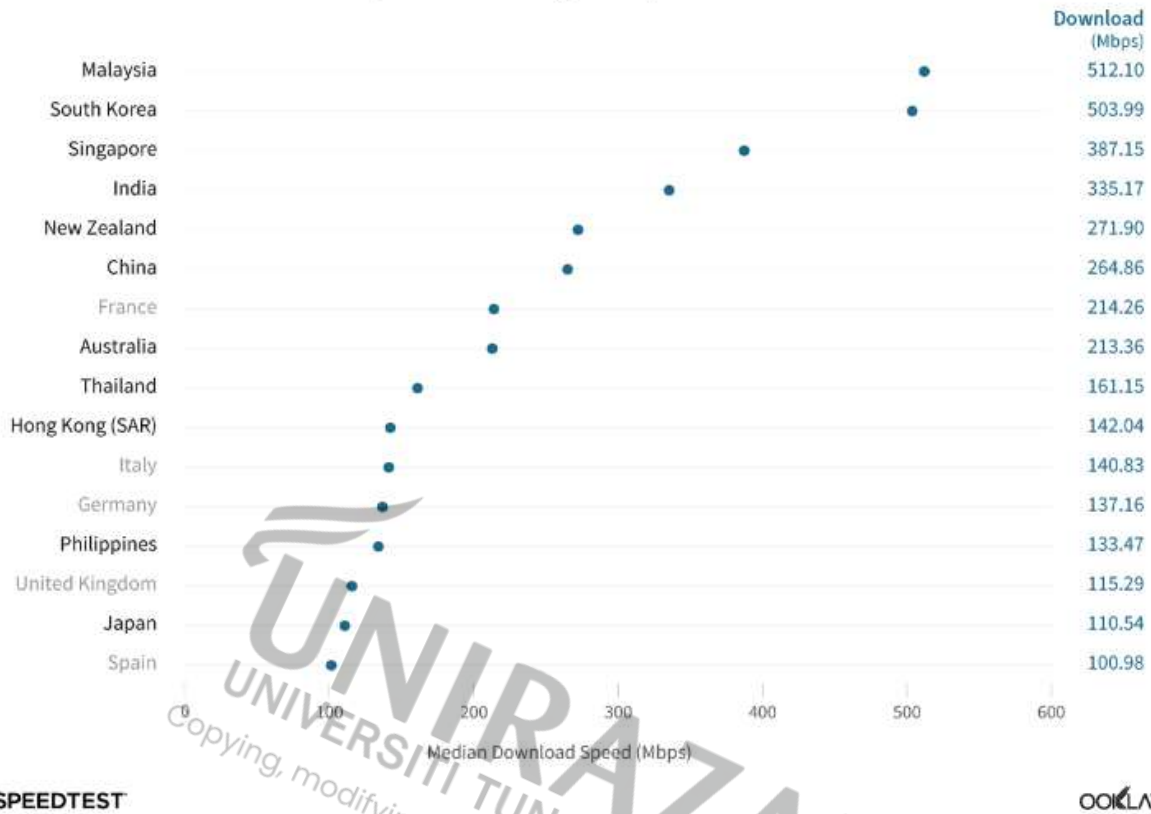
Figure 2: Median 5G Download Speed in Asia Pacific Markets Compare to European Benchmarks; Source: OOkla

The latest report from Speedtest Intelligence by Ookla.com, Malaysia lead the Median 5G Download Speed with 512.10 Mbps. This is an impressive result for Malaysia 5G Download result. Next focus would be continuous coverage, use cases and subscribers' number to be improve.

1.2   Research Problem

The research report Economic Impact Analysis of 5G Technology Implementation in Malaysia by MIER, offer very comprehensive coverage on sectoral impact forecasting on Agriculture, Oil and Gas, Manufacturing, Smart City, ICT, Digital Healthcare and Tourism. From macro view to forecasting the states development. It also forecasts the GDP Contribution, Job Creation, Job

disruption, CAPEX Saved and ROI. The research also refers South Korea and Thailand to compare the verticals and use cases at national level. For South Korea, they are 5G leader in the world and it is always good to be benchmark and reference point to study where is the success cases that can be applicable in Malaysia. Whereas Thailand, our neighbour country which same geographical and GDP close to Malaysia worth to be study and learn from their deployment. It provides very good reference points for sectors, government, and telecommunication companies. As the network continues to expand and telecommunication starts to launch 5G. Hence this is good to focus on the factors that influence mobile subscribers to adopt 5G services when is not covered due to the research done before the commercialization of 5G network by telecommunication companies.

Another Empirical Study on the Factors Affecting Intention to Use 5G Technology published by Ignatius Jericho and Riyanto Jayadi from Journal of System and Management Sciences offer a good research reference. Based on Indonesia demographic, the coverage is up to Telecommunication providers and 5G Smartphone. The perceived benefits, cost of 5G plan, awareness and education, digital divide, content, and applications has significant impacts for the factors influencing mobile subscribers to adopt 5G services in Malaysia. Hence this leads to the research problem questions:

Does Perceived Ease of Use and trust influence adoption of 5G service?
Does Perceived Usefulness and Attitude to Adopt influence adoption of 5G service?

1.3   Research Question

The research questions below focus on the research findings and insights into a set of strategies and recommendations. It can be a reference guide to relevant parties on how to leverage the consumer preference in Malaysia to fit their demand of 5G service and increase the subscription rate.

1. What are the primary factors influencing mobile subscribers' intentions to adopt 5G services in Malaysia, and how do these factors differ across different demographic groups and geographic regions?

    This research question aims to identify the key drivers that influence mobile subscribers' decision to adopt 5G technology in Malaysia. By examining how these factors vary from different demographics groups, for example the demographic such as age, gender, service provider, 5G ready mobile phone, existing 4G/5G user and geographical regions being from urban or rural area. The study can provide insights into potential variation in adaptation behaviours and the need for targeted adoption strategies. For example, some users would consider changing to new operators when they adopt 5G.

2. Does the Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt impact the adoption rates of mobile subscribers in Malaysia?

    This research question aims to assess the role of Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt related factors in 5G adoption. By studying Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt of users respond, it provides the understanding on the importance of the mobile subscribers adopt 5G services.

These research questions address the key aspects of mobile subscriber adoption of 5G service. It also provides basic understanding of the factors that influencing adoption behavior and potential variance of group base on demographics and network infrastructure-related considerations. Based on these research questions, it reviewed relevant theories and developed relevant research methodologies and hypothesis, which details cover in later chapters.

1.4   Objective of the Study

The study aims to archive following objectives for this research:

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1. To identify and examine the primary factors that influence mobile subscribers' decisions to adopt or resist 5G services in Malaysia.

2. To explore potential variations in adoption behaviour based on demographic such as age, gender, service provider, 5G ready mobile phone, existing 4G/5G user and location.

3. To demonstrate the positive relationship between Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt and Intention to Adopt.

1.5   Significance of the Study

This research study was conducted to provide insights and contribute to all the stakeholders involved in the 5G Networks development. The 5G communication technology is expected to be a significant and innovative tribune for the new business and market expansion of communication technologies [Xiang et al. (2016); Oinas-Kukkonen et al. (2021)]. Some of the significance of the study as below:

The study provides telecommunication companies with some crucial information about the factors that influence mobile subscribers' decision to adopt 5G services. By understanding subscribers' interest and background it enables the telecommunication companies to offer more tailored made plans to attract the user to subscribe to the service or plan.

This study may encourage the government to have like 3G sunset program that offer free 4G Sim card conversion and working with telecommunication companies to offering 4G devices and more affordable plan. As for 5G, the government can base on the COPA coverage to work with telecommunication to formulate supportive policies to boost adoption of 5G subscribers and introduce another wholesales network provider (which targeted to introduce by early next year) to

prevent monopoly eventually the pricing will become more competitive and bring benefit to the subscribers.

By identifying the 5G adoption barrier through this study, it highlights the areas that need to improve. It can be from the affordability, coverage availability and awareness perspective. This will help to accelerate the adoption of 5G services.

Understanding the user experience and preferences from this study may provide the respective stakeholder to offer the services that customers are looking for. The study may provide industrial and sectors understanding on the awareness about 5G services apply in their workplace, eventually will have a better strategy to create awareness and prepare the workplace to adopt the technology in their workplace.

The study also analyses the demographic variance to understand disparities in access 5G networks between different groups of people. This study will help to bridge the digital divide to ensure equal opportunities for all segments of customers.

However, even though the environment and value for 5G are positive, there is an anxiety about its successful adoption (Ericsson, 2019), Hope this study contributes to academic knowledge surrounding the factors that influencing technology adoption behaviour, serving as a resource for researchers, academics, and students who are interested in this subject. And it laid the foundation for further research in the field of 5G adoption and growth the adoption rate.

The significance of study potentially provides actionable insight to relevant stakeholders and contributes to technological developments. By addressing these factors, the policy makers and government may adjust and improve their regulation, sectoral and verticals may revise their business strategies, content and application provider will have better engagement with policy maker to accelerate some program with policy maker and offering to the subscribers, telecommunication companies focus on bring the accessibility and infrastructure to the industry

customers to accelerate the enterprise usage of 5G and accelerate the mobile subscribers to adopt 5G services.

1.6   Research Outline

This research consists of five chapters. Below are the key highlights of each chapter:

Chapter 2, Literature Review: provides a theoretical concept of product quality, service quality and brand leadership. Preceding literature is reviewed to gain understanding of previous studies on the concept of product quality and service quality influence on brand leadership. In addition, the conceptual hypothesis model framework is developed and the relationships between product quality and service quality on brand leadership are hypothesized.

In Chapter 3, Research Methodology: the present research approach and design of the study. It begins by explaining the research design, research selection procedure, research experiment approach and followed by discussions on how the data is collected, analysed, and integrated. In addition, it also states the measures applied to establish research data quality and validity.

In Chapter 4, Data Analysis and Results: reports the results of data collection of the quantitative analysis. This chapter present the results of examining the hypotheses by statistical analysis and the results from quantitative data analysis aligned with the research themes.

Finally, in Chapter 5, Conclusion and Recommendations: discussing the key findings, and the relative conceptual model of the hypothesis. It also discusses academic findings and theoretical contributions of the study, followed by evidence that product quality and service quality influence brand leadership. Additionally, the limitations of the study are acknowledged and areas for future research are suggested.

CHAPTER 2

2.0 LITERATURE REVIEW

The purpose of this study is to examine Perceived Ease of Use and Perceived Usefulness the factors that influencing mobile subscribers' adoption of 5G services in Malaysia. Thus, this would strengthen the finding to demonstrate the positive relation between Perceived Ease of Use and Perceived Usefulness and 5G adoption for telecommunication industries. This chapter reviews the researcher's literature regarding the Perceived Ease of Use and Perceived Usefulness the factors that influencing mobile subscribers' adoption of 5G services.

In this first part, it discusses the theory of TAM which introduced by (Fred Davis 1986) and how it is important to the factors that influencing mobile subscribers' adoption of 5G services in Malaysia. The second part is to review and examine the relationship Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to adopt and Flow theory, that influence mobile subscribers' adoption of 5G services.

Following with conceptual model based on literature review, outline the relationship of factors that influence use of 5G services between Perceived Ease of Use, Perceived Usefulness, Attitude to adopt and Trust. Eventually put those hypotheses to be tested.

2.1 Theoretical Foundation and Theoretical Framework

This section reviews the elements related to the topic for this study which focuses on the adoption of 5G services. Numerous researchers adopt TAM theory in their study especially in the technology industry. The potential of technology to deliver benefits has long motivated IS management research to examine the willingness of individuals to accept innovative technology (Davis, 1989) When 5G introduce launch in other country people initially excited about it, however when discuss further about the adoption rate it seem slower compare with 3G and 4G

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generation as mobile subscribers concern about the fees that they going to pay, enterprise concern about higher CAPEX and OPEX during the build private 5G network, mobile network operators concern about Return of Investment and how to increase the Average Revenue Per User (ARPU). Hence 5G services or solutions need to lure the customers to adopt this 5G technology willingly and create user stickiness to their network respectively.

The goal of TAM was to become the framework for examining a wide range of behaviours of technology users while maintaining a parsimonious approach (Davis, 1989). By understanding user behaviours, it will enable the service or technology providers to provide the customers with personalized services and contribute to more loyalty customers to the business.

2.1.1 Technology Acceptance Model (TAM) Theory

The primary objective of TAM was to shed light on the processes underpinning the acceptance of technology, to predict the behaviour of and provide a theoretical explanation for the successful implementation of technology. The practical objective of TAM was to inform practitioners about measures that they might take prior to the implementation of systems. To fulfil the objectives of the theory, several steps were carried out (Davis, 1989; Davis, 1993). 5G is the latest mobile technology that enables services like Autonomous vehicles, Virtual Reality experiences, Smart City, Artificial Intelligent and machine learning, and remote robotic surgery. Those services and solutions, if widely accepted by the users it will lead to successful of 5G network deployment.

The second step is to identify and define variables and validate measures that would highly correlate with system use. Based on prior empirical literature on human behaviour and the management of information systems, multi-item scales for perceived ease of use and perceived usefulness were developed, pre-tested, and validated in several studies. It was hypothesized that the two constructs were fundamental determinants of user acceptance, due to evidence in previous

research (e.g. (Johnson & Payne, 1985; Payne, 1982; Robey, 1979). The adoption of 5G has strong relevant to the human behaviour. For example, if a gamer is playing a game and requires low latency it will increase the acceptance of the technology versus previous technology where lag and slow connection time. Eventually this led to a change in customer behaviour and focus on the gaming with the technology the use.

According to TAM, technology acceptance is a three-stage process, whereby external factors (system design features) trigger cognitive responses (perceived ease of use and perceived usefulness), which, in turn, form an effective response (attitude toward using technology/intention), influencing use behaviour (Davis, 1989; Davis, 1993). External factors like the ease of use of a system have a strong relationship with perceived ease of use and perceived usefulness influencing someone's intent to use the technology. This can be proven in the ease of use of the smartphone, where it influences consumers adopt this technology and eventually impacted traditional media company, the way people communicate, speed of information delivery and many others.
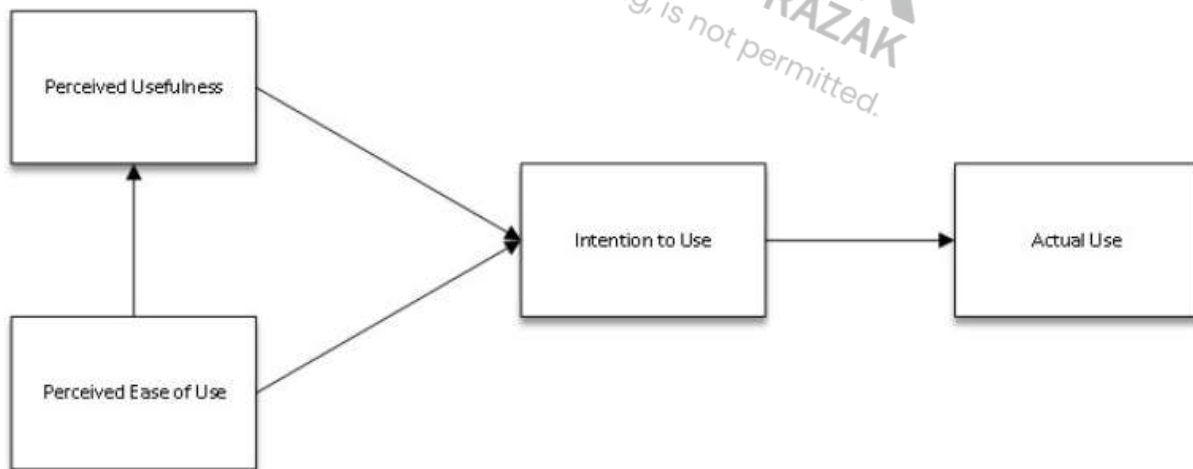
Figure 3: Technology Acceptance Model

As technology transforms or evolves faster, there is introduction of TAM2 which includes subjective norm, image, job relevance, output quality, result demonstrability, experience, and

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voluntariness. The TAM extension provided a detailed account of the key determinants of judgment about technology usefulness (Venkatesh & Davis, 2000). The five additional variables and to moderators are:

1. Subjective norm: "a person's perception that most people who are important to him think he should or should not perform the behaviour in question" (Venkatesh & Davis, 2000) This construct was thought to affect intention directly and indirectly through image and perceived usefulness (Venkatesh & Davis, 2000). For example, the introduction of Smartphone and start communicating in WhatsApp, those who are using feature phone would want to change and join to communicate with their social circle. The indirect effect of subjective norm on intention to use through image and perceived usefulness could be explained by the internalisation mechanisms (Venkatesh & Davis, 2000). This normally applies when the organization seeking for reference or success case use or deployed and replicated to their environment.

2. Image: Moore and Benbasat (Moore & Benbasat, 1991) defined image as "the degree to which use of an innovation is perceived to enhance one's status in one's social system". This definition followed that of the Theory of Diffusion of Innovation proposed by Rogers (Mahajan, 2010). There is correlation between Image and subjective norm as it could lead to peer preference and affect individual to follow. It also has a direct link to the perceived usefulness. For example, a group of friends is using 5G for gaming and when one feels that left out in the group. Eventually the one will follow the group to use 5G for gaming.

3. Job relevance: Job relevance is defined as "an individual's perception regarding the degree to which the target system is applicable to his or her job" For example, the use of 5G technology in healthcare industry with robotic surgery. This transforms the way doctors do surgery to the patient and benefits the patient in rural areas. It may also potentially reduce the need for more specialists. Hence it has a direct link to the perceived usefulness.

4. Output Quality: Output quality refers to the perception of the quality of technology in performing the task. While prior studies validated the direct and individual effect of output quality on perceived usefulness (Davis, Bagozzi & Warshaw, 1992) For examples, a manufacturing plant upgrade their production line with latest 5G automation technology and see significant result improvement for the output quality proven better and production faster with lesser manpower. This will have indirect influence to the perceived usefulness.

5. Result demonstrability: Result demonstrability is defined as the "tangibility of the results of using the innovation" (Moore & Benbasat, 1991) It has direct link to the Perceived Usefulness. As the result pain thousand words, user will convince with proven result.

6. Experience & Voluntariness: The direct and indirect effects of subjective norms on intention to use were moderated by experience, while voluntariness moderated only the direct effect on intention (Venkatesh & Davis, 2000). For example, in the workplace, an employee may value the manager's or co-worker's in the choice of technology. In between Brand A and Brand O, which operating system offer better stability.

TAM2 provides better study and links with more modules to perceived usefulness, whereas perceived Ease of Use had been overlooked.
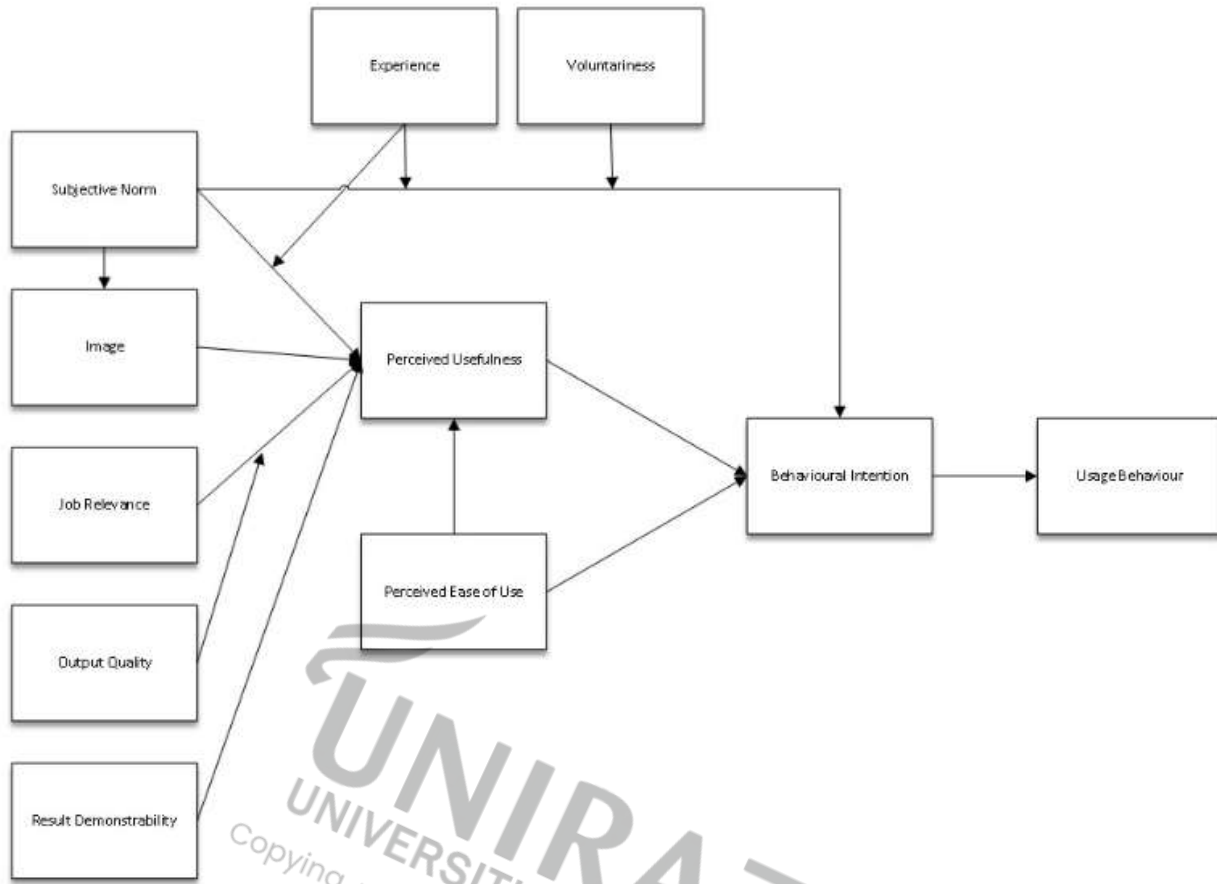
Figure 4: Technology Acceptance Model 2
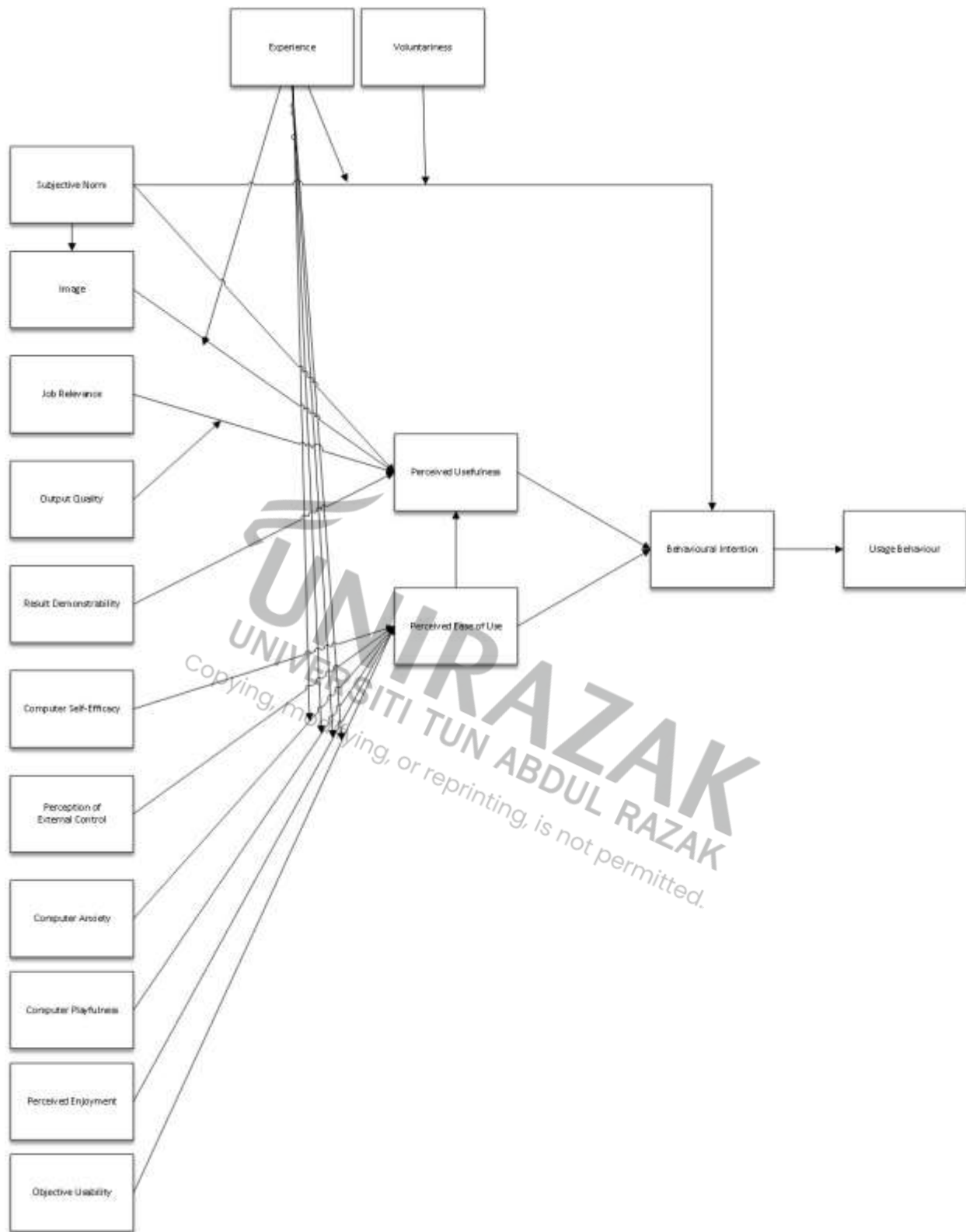
Figure 5: Technology Acceptance Model 3

TAM, TAM2 and evidence from other studies had provided rich explanations about key determinants of use intention (Davis, 1989; Venkatesh & Davis, 2000; Venkatesh & Davis, 1996). Still, there had been limited research on interventions which could be used to increase the technology adoption rate (Venkatesh & Speier, 1999). The TAM3 further extended this theoretical framework from TAM2. New added module link to perceived ease of use, which are computer self-efficacy, perception of external control, computer anxiety, computer playfulness, perceived enjoyment, and objective useability. For computer anxiety, computer self-efficacy, and perception of external control is about the technology and technology use. For example, some users might worry with 5G technology will improve the use of automation and eventually replace humans in their workplace. This hinders humans from introducing 5G to adopt 5G. Computer playfulness is defined as "the degree of cognitive spontaneity in microcomputer interaction" (Webster & Martocchio, 1992) Computer playfulness has strong relevance to the perceived enjoyment and objective usability. For example, using the Internet of Things in 5G communication between things improved our lifestyle. The farmer can benefit from the temperature sensor, when the temperature hits the targeted degree, the water shower starts to shower. This can increase production and improve the quality of the goods the farmer harvests. Computer anxiety, computer playfulness, perceived enjoyment, and objective useability has influenced experience on the perceived ease of use. The good experience will bring better results of adoption of 5G service otherwise it will slow down the progress of whole 5G development ecosystem.

TAM3 proved to be robust in explaining the use of information systems or use intention. The model accounted for between 40% and 53% of the variance in behavioural intention and around 36% of the variance in use (Venkatesh & Bala, 2008). The technology change and user experience and behaviour will influence the adoption of 5G technology. Based on the above theoretical framework, TAM theory applies well for the study of this paper.

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2.1.2 Perceived Ease of Use

Perceived ease of use was defined as the degree to which a person believes that using a particular system is free of effort (Davis, 1989). It can be applying that how easy to use of 5G study in our study. For instance, potentially mobile network operators enable the services and auto upgrade the user to 5G free of charge and the user enjoy the YouTube at faster download speed without lagging.

2.1.3 Perceived Usefulness

The research suggested that an individual's decision to perform a behaviour is the result of the analysis of the benefit that they expect to receive from the behaviour compared to the effort/costs they put in to perform the behaviour (Johnson & Payne, 1985; Payne, 1982). This means that the use of the information system is determined by an evaluation of the trade-off between the perceived usefulness of the system and the perceived difficulty of using it (Davis, 1989). Food delivery currently is required manpower and facing delay due to various challenges, delivery fees, times, and quality of food. With the delivery drones, it reduces the challenges. Order at dedicated area and the goods will deliver via drone and after collecting the goods, leave the recycle box at the station. This helps improve users' experiences.

2.1.4 Trust in Technology

The parsimoniousness of the original TAM drove a number of scholars towards identifying and measuring the predictive power of additional constructs which could be integrated into the model, such as trust, technology fit, external variables (e.g. subjective norms, social influence), technology-specific variables (e.g. compatibility, relevance) to name a few (Venkatesh & Davis, 2000; Venkatesh, 2000; Gefen, Karahanna & Straub, 2003 Perceived usefulness was initially defined by Davis (1989) as "the degree to which a person believes that using a particular system

would enhance his or her job performance", or also "the degree that users believe that a particular system facilitates their activity" (Warkentin et al., 2002). For example, with adoption of 5G services on fully autonomous vehicles it reduces humans focus or mistake on the road. Eventually it potentially reduces the number of accidents due to human mistakes. Humans trust technology to replace their own driving skill.

2.1.5 Attitude to adopt

Attitude to adopt (ATT) is defined as the degree to which an individual user wishes to adopt and uses a given technology (Fishbein & Ajzen, 1975). Prior literature has confirmed the relationship between a favorable attitude toward the adoption of technology and the behavior to adopt the technology (Davis et al., 1989; Kulviwat, Bruner, Kumar, Nasco, & Clark, 2007; Kuo & Yen, 2008; Liu, Liao, & Peng, 2005; Malhotra & Galletta, 1999; Melas et al., 2011; Moon & Kim, 2001; O'Cass & Fenech, 2003; Park, 2009; Venkatesh et al., 2003; Vijayasarathy, 2004; Shroff, Deneen, & Ng Eugenia, 2011). In the 5G services, this is relevant to measure the users towards the user attitude to adopt the services. As some users might find that 4G services is sufficient and the users might refuse to adopt 5G.

2.1.6 Flow Theory

It is a psychological theory also known as the "optimal experience theory," proposed by Mihaly Csikszentmihalyi in the 1970s. The theory suggests that individuals experience a state of "flow" when they are fully engaged in an activity that matches their skill level and presents a clear set of goals and immediate feedback. At the stage of flow, the user feels heightened focus, concentration, and enjoyment. They are applicable in this study as it refers to the user behaviour stage and the user of technology if the user is still stuck in the 4G or they are ready to move on to 5G. Eventually influence the Attitude to adopt of 5G services.

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2.2   Review of the Prior Empirical Research

There are 2 studies covered in this section. The first study title: ECONOMIC IMPACT ANALYSIS OF 5G TECHNOLOGY IMPLEMENTATION IN MALAYSIA by Malaysia Institute of Economic Research (MIER). It covers several key theories that provide a foundation for this study. These theories offer conceptual frameworks and insights into various aspects of the relationship between 5G technology and economic outcomes. Theories below are relevant to the research:

a: Technology Adoption Theory, particularly the Diffusion of Innovations theory by Rogers (2003), explains the process through which new technologies are adopted and diffused in society. It identifies several key attributes of innovations. First, how much better the innovation of 5G is compared to what 4G, how well the innovation fits with existing 4G network usage and how difficult the innovation is to understand and use, how easily the innovation can experiment, and how easily the benefits of the 5G can be seen by others. This can be shown through the 5G data speeds, latency, and connectivity. These elements influence the adoption and acceptance of 5G services by individuals, businesses, and organizations. Rogers' theory provides a framework for examining the factors that facilitate or hinder the adoption of 5G services in Malaysia. This theory also categorizes individuals into different groups based on their willingness to adopt new technologies. There are Innovators, early adopters, early majority, late majority, and laggards. Understanding the distribution of these adopter categories among mobile subscribers is crucial. Innovators and early adopters tend to be more willing to experience or adopt 5G services, while the majority might require more assurance of its benefits and usability. This theory also emphasized the role of communication channels in spreading information. Mass media, interpersonal communication, and social networks are among the channels that will impact how

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potential adopters learn and perceive the 5G services. The right channel can share the technology's features, benefits and potential concern at faster and best communication tend to capture subscribers' easier.

b. The study applies Innovation Theory, particularly the concept of disruptive innovation by Christensen (1997), focuses on how new technologies shaken existing markets and create new opportunities. This theory is related to understanding how 5G services can bring disruptive changes in industries and enable the emergence of new business models. 1. Emergence of Disruptive Technologies: Disruptive innovations often emerge as technologies that initially cater to niche markets or underserved segments. For 5G network, the technology's potential to provide faster data speeds, lower latency, and enhanced connectivity could serve as a disruptive force, challenging the existing communication technologies namely 4G and Fixed Network. The concept of disruptive innovation prompts an examination of how 5G services might target specific user needs and subsequently disrupt the incumbent. 2. Low-End Disruption: Low-end disruptions involve innovations that start by catering to the needs of less-demanding customers at a lower cost. For 5G network in Malaysia, Mobile Network Operator can offer specific segments of mobile subscribers with specific needs, such as businesses or tech enthusiasts to showcase on how 5G's capabilities might serve as a low-end disruption that gains traction before offering to mainstream users. 3. New-Market Disruption occurs when innovations create new markets or expand existing ones by making products or services more accessible to a broader audience. For example, enable remote surgery or smart city initiatives using 5G infrastructure. 4.Incumbent Response and Barriers: Disruptive innovations often face resistance from established incumbents that are invested in existing technologies. For 5G adoption in Malaysia, the potential barriers or accelerants to adoption is the current 4G network is meeting customer mobile usage expectation and mobile network operator investment in 5G network. Christensen's theory helps explore the potential

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transformative and contribute to a comprehensive understanding of the factors influencing mobile subscribers' adoption of 5G services.

c. Base on the Digital Transformation Theory, as proposed by Westerman et al. (2011) and Berman et al. (2019), study the process of digital transformation which is propelled by advanced technologies. This theory demonstrates a framework for insight how the organizations and individuals can leverage availability of 5G network can accelerate digital transformation across industries in Malaysia. With high-speed data transmission, low latency, and massive device connectivity, 5G network serve as a key technological enabler for digital transformation. Adopting 5G services can be seen as embracing digital transformation, enabling new ways of communication, and ease of collaboration. Shift in Value Proposition, where organizations and individuals can create new value for customers and stakeholders through innovative uses of technology. For example, using 5G Network for smart healthcare solutions virtually meets doctor and remote operations if required where existing doctor must be in operation theatre. Digital transformation involves collaboration and integration across various ecosystem stakeholders, including technology providers, service providers, and customers. For example, an organization wanted to build a 5G network for their staff to communicate within their plant within their 5G network provided by mobile network operator and application services providers on the 5G application/service. As 5G network might require adjustments in usage behaviours, data consumption patterns, and perceptions of communication possibilities, this led to cultural and organizational change. Investigating how cultural and organizational changes are important. It contributes to a comprehensive understanding of the factors influencing mobile subscribers' adoption of 5G services and helps review the ways in which organizations can leverage 5G technology to enhance their operations, improve productivity, and gain a competitive edge.

d. Same with the first study, this study also applies the Technology Acceptance Model (TAM), developed by Davis (1989) based on the foundation of behavioural psychology and cognitive psychology and focuses on user's perceptions and attitudes toward technology. It posits that users' intention to use a technology is influenced by two key factors: perceived usefulness and perceived ease of use. It focuses on users' perceptions of technology and willingness to accept and adopt it. This enables researcher to examine the factors influencing mobile subscribers' adoption of 5G services in Malaysia. There are 2 key components in TAM. First component, perceived usefulness refers to the extent to which users believe that using a particular technology will enhance their performance or productivity in achieving specific tasks or goals. This is a crucial determinant of the user's intention to adopt the technology. In the case of Malaysian mobile subscribers' perceptions of the benefits, faster data speeds, lower latency, and enhanced connectivity, become the main factors of adoption intention. Another key component, perceived ease of use refers to users' perceptions of how easy it is to learn and use the technology. The simplicity and user friendliness of the technology tend to be adopted by users easily. For 5G services, mobile subscriber in Malaysia most likely to consider how easy they can integrate into their daily lives. 5G devices compatibles, user interface to switch from 4G to 5G, and learning of 5G technology are among the factors that will impact the mobile subscribers' willingness to adopt 5G services.

These theoretical foundations provide a structure for studies and explaining the literature on the factors influencing mobile subscribers' adoption 5G services in Malaysia. The study will benefit in understanding the adoption and diffusion of 5G technology, the role of 5G in fostering innovation and driving digital transformation, and the potential of 5G to bridge the digital divide. Overall, the study is very comprehensive and aligns with the title. However, the research gap is the technology is evolving fast at development stage and it did not forecast the factors that influence mobile subscribers adopt 5G services in Malaysia.

The second study title: An Empirical Study on the Factors Affecting Intention to Use 5G Technology by Ignatius Jericho, Riyanto Jayadi. This research covers most of the research that this study wanted to do cover. However, due to the research done is focus on Indonesia, hence this can be a reference to this research. This research explores various factors influencing the intention of users to adopt 5G technology. Below are the few key findings:

a. The study highlights that previous research has addressed the importance of opinions and attitudes. However, the process of how these opinions is formed has not been extensively investigated. It identifies several factors Influencing Use of 5G Technology namely: perceived ease of use, perceived usefulness, and trust. Which is relevant to this study.

b. Two key theoretical frameworks, Technology Acceptance Model (TAM) and Flow Theory. TAM is used to understand users' perceptions of ease of use and usefulness of 5G technology. Flow Theory is used to explore how users' experience, concentration and attitude to adopt impact their intention to adopt 5G technology.

c. A set of hypotheses based on the identified factors and theoretical frameworks. They hypothesize that perceived ease of use positively impacts intention to use 5G technology and that perceived usefulness positively affects perceived ease of use. It also hypothesizes that trust positively influences intention to use 5G technology and that Attitude to adopt positively impacts intention to use 5G technology.

d. The importance of perceived ease of use and perceived usefulness in influencing users' attitudes and behavioural intentions, and it plays crucial roles in technology adoption, affecting users' perceptions of technology's value and simplicity.

e. Trust plays a significant factor influencing users' intention to adopt 5G technology. Trusting reduces perceived risk and sceptical to try on new technology, particularly in the early stages of new technology adoption.

f. By applying flow theory's Influence, the users' experiences, concentration and attitude to adopt contribute to their intention to use 5G services. This approach aligns with the idea that users who are deeply engaged and focused on a task are more likely to adopt the technology.

g. The study connects various concepts, such as perceived ease of use, perceived usefulness, trust, and Attitude to adopt, to formulate hypotheses that related to the factors and users' intention to adopt 5G technology. It shows the understanding of the factors influencing adoption of 5G services.

In summary, the review of the second part of the study on research gap, identifies influential factors that affect users' intention to adopt 5G technology. The study shows the significance of perceived ease of use, perceived usefulness, trust, and Attitude to adopt to provide a well-rounded exploration of the research topic.

2.3   Proposed Conceptual Framework

Based on the literature review, a conceptual framework for this study as shown in Figure 6. Proposed/Combined Conceptual Framework. This conceptual framework was used by Ignatius Jericho. Et al. (2023) and add 1 model namely Attitude to adopt used by Hai T. T. Nguyen 2018. Applied in the empirical study in Vietnam: Investigating adoption factors of 3G services. Attitude to adopt (ATT) is defined as the degree to which an individual wishes to adopt and uses a given technology (Fishbein & Ajzen, 1975). This is relatively relevant if the user denies adopting the 5G service it will be difficult to change the mindset from migrating the 4G user to adopt 5G. The are 4 key models to be measured in this study: Perceived Ease of Use, Perceived Usefulness, Trust, and Intention to Adopt all are linked to 5G adoption being direct and indirectly.

Independent Variables

Dependent Variable
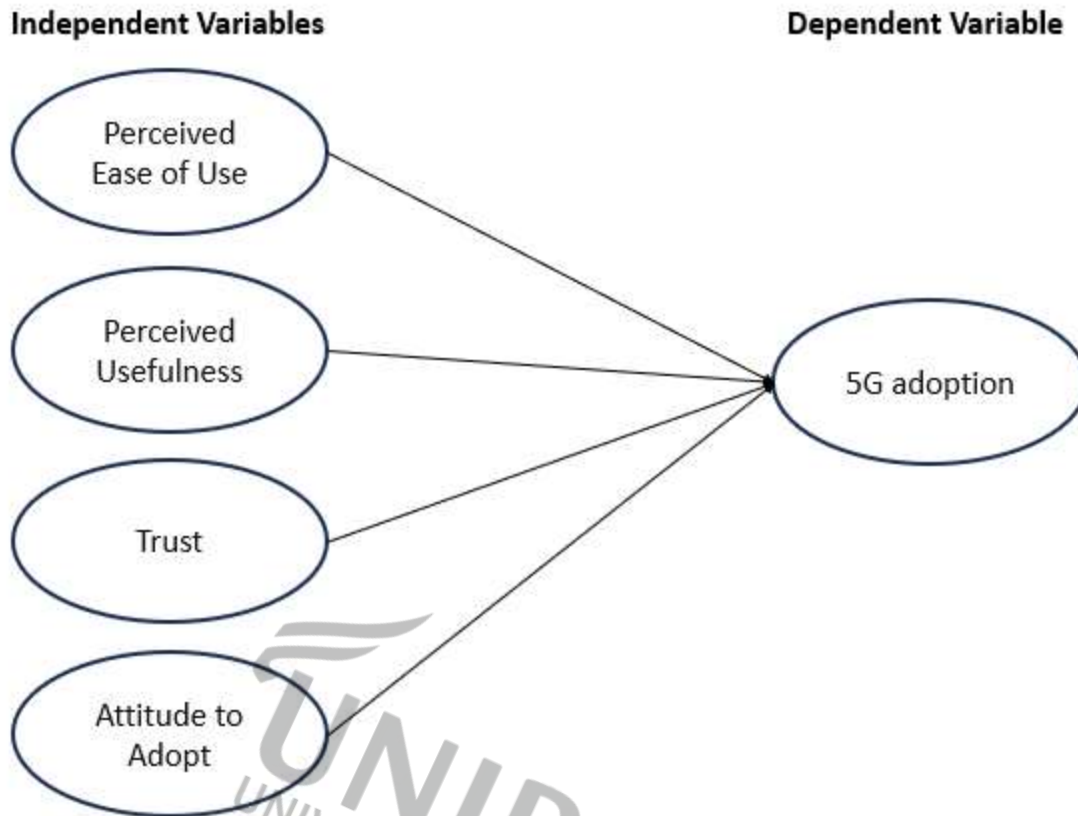
Figure 6: Proposed/Combined conceptual framework.

2.4 Hypothesis Development

The focus of this study is to examine the influence of Perceived Ease of Use, Perceived Usefulness, Trust, and Attitude to Adopt would adopt the 5G in Malaysia. There are a total of 4 hypotheses developed from the proposed conceptual framework under this study.

H1. Perceived Ease of Use has a positive impact on 5G adoption.

H2. Perceived Usefulness has a positive impact on 5G adoption.

H3. Trust has a significant effect on 5G adoption.

H4. Attitude to Adopt has positive effect on 5G adoption

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2.5 Chapter Summary

The empirical findings reviewed in this chapter provide interesting evidence of relationship where both also using employ TAM theory, and Ignatius Jericho. Et al. (2023) study have closer to this study however the study is based in Indonesia Market. This study also added one model Attitude to Adopt by Nguyen Et. al (2018) into the conceptual framework. This study attempts to close the gap by study based on Malaysia and with the conceptual framework for this study.

CHAPTER 3
3.0 RESEARCH METHODOLOGY

In this chapter, it covers the research methodology and data collection procedures to test the conceptual model proposed in Chapter 2 for the factors influencing mobile subscribers' adoption 5G services in Malaysia. This chapter begins with research design and defines the independent and dependent variables covered in this study. Following with the discussion on the procedures adopted for study population, survey method, sampling selection and data collection. This chapter ends with a description of the data analysis techniques used for testing the hypotheses and answering the research questions.

3.1   Research Design

Research design is the plan, structure and strategy and investigation concaved to obtain search question and control variance" (Borwankar, 1995). This study is to examine the Perceived Ease of Use, Perceived Usefulness, Trust, and Intention to Adopt have influence of 5G adoption in Malaysia. The survey questionnaire design to mobile users in Malaysia who using mobile data. Hence it is relevant for them to answer if they are ready to adopt 5G service.

This study is based on quantitative research and using statistical techniques to analyse the data. This study is hypothetical study and categorized as non-experimental research. The objective of this study is to examine the Perceived Ease of Use, Perceived Usefulness, Trust, and Intention to Adopt have influence of 5G adoption in Malaysia by apply the findings performed by Ignatius Jericho. Et al. (2023) and Nguyen Et. al (2018).

3.2   Population, Sample and Sampling Method

The population that is being researched for adoption of 5G services will mainly target those 4G mobile subscribers. This group of users have the experience on using the mobile internet and using the mobile technology in their daily live. Therefore, those are the relevant users if they would consider adopting 5G service and what will hinder those users from adopting 5G. Based on Department of Statistic Malaysia report, the total population of Malaysia in 2022 is estimated at 32.7 million. The study population for this research comprises 42.5886 million 4G mobile subscriptions in Malaysia as of 1Q 2023 reported by MCMC. Which means the 4G mobile subscription has been oversubscribed by 130%. And one single user could have multiple subscription. From the population, the study employs the sample size introduced by Taro Yamane. The calculation is based on this formula n= N/ (1+N (e) 2), which assumes a standard of 95% confidence and maximum variability (which means a wise/conservative estimate).

There are probability sampling and non-probability sampling methods. This study employs non-probability sampling method as non-random selection and based on convenience, as the user of 4G mobile subscriptions mainly can reach via mobile phone. The geographical limitation is only target for 4G mobile user in Malaysia. Based on the population study of 32.7 million with 0.05 Degree of Error Expected, the sample size required is 400. The respondents were invited and based on their availability and willingness to answer the questions set for this study.

3.3   Data Collection Method

The data was collected by distributing questionnaires to the respondents through the google form link and QR Code. Due to personal data privacy, and encourage the participant to survey, the survey will be done without collecting any personal data and the survey will be done completely voluntarily and anonymously. The survey should be completed within 10 minutes and answer at their convenience.

Total of 750 questionnaire were distributed and 390 respondents received. The collected data were using SPSS program to produce.

3.4 Survey Method

This study questionnaire was developed based on the previous questionnaire study that is relevant and add on questionnaires from relevant studies namely: Davis (1993); Taylor and Todd (1995); Venkatesh and Davis (2000); PSB Research (2016); Mirjana (2023); Ignatius Jericho. Et al. (2023); Shah et al. (2021). From those study, some minor modification makes to facilitate to suit with objective of this study. The questionnaires consist of 5 sections. Section A, study the demographic of the respondents. Section B, study the users respond towards the Perceived Ease of Use on 5G. Section C, study the Perceived Usefulness, if users view the 5G services will give them benefits. Section D related to users' trust of the 5G network. Section E Attitude to adopt, study the user feels about adopting 5G network and Section F study on if the users have any intention to adopt 5G service. This study will employ five-point Likert scale (1-strongly disagree, 2-disagree, 3-neutral, 4-Agree, 5-strongly agree) suggested by Munshi, J. (1990).

3.5 Variable and Measurement

The independent variable for this study was Perceived Ease of Use, Perceived Usefulness, Trust, and Intention to Adopt. While dependent variable or outcome was 5G adoption. Table 1 shown constructs items, items measurement, references, and notes with questionnaire.

Section A: Demographic is adapted from Ignatius Jericho. Et al. (2023) and Shah Et al. (2021) with 6 items to understand the respondent's background. Section B, Perceive Ease of Use is adapted from Nguyen Et. Al (2018) with 5 questions, to study the degree to which the respondent believes that using 5G services would be free of effort. Section C, Perceived usefulness adapted

from Nguyen Et. Al (2018) with 6 questions which are to study the degree to which the respondent believes that using 5G services would enhance his or her job performance. Section D, Trust adapted from Mirjana (2023) and PSB research, total 5 questions to study the degree of respondent confident and trust on 5G network. Section E, Attitude to adopt, adapted from Nguyen Et. Al (2018) with 4 questions on the degree to which an individual respondent feels good about adopting and using 5G services. Section F, Intention to adopt, adapted from Nguyen Et. Al (2018) with 5 questions, to study subjective probability that an individual respondent will use 5G services. All the questions from Nguyen Et. Al (2018) has minor changes from 3G in the question change to 5G. Those changes made is to meet the study requirement. All questions except demographics will be employs five-point Likert scale from strongly disagree to strongly agree.

Table 1: Constructs and items included in the questionnaire.

Construct Items	Items	Measurement	References	Notes
Demographic	Demo 1	Gender		Ignatius Jericho. Et al. (2023).
	Demo 2	Age Group		Ignatius Jericho. Et al. (2023).
	Demo 3	State		Ignatius Jericho. Et al. (2023).
	Demo 4	Mobile Network Provider		Ignatius Jericho. Et al. (2023).
	Demo 5	5G ready Mobile Phone		Ignatius Jericho. Et al. (2023).
	Demo 6	User 4G/5G	https://d-nb.info/1249034132/34	Shah et al. (2021)
Perceived Ease of Use	PEOU 1	I find 5G services to be easy to use	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh and Davis (2000) Modify 3G questions to 5G
	PEOU 2	I find it easy to get 5G services to do what I want it to do	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh and Davis (2000) Modify 3G questions to 5G
	PEOU 3	Using 5G services does not require a lot of my mental effort.	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh and Davis (2000) Modify 3G questions to 5G
	PEOU 4	I find using 5G services is clear and understandable.	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh and Davis (2000) Modify 3G questions to 5G

	PEOU 5	I find learning how to use 5G services is not too difficult	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh and Davis (2000) Modify 3G questions to 5G
Perceived Usefulness	PU1	Using 5G services improves my Internet use	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2000, 2003); Klopping & Mckinney (2004) Modify 3G questions to 5G
	PU2	5G services increases the effectiveness of my Internet use	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2000, 2003); Klopping & Mckinney (2004) Modify 3G questions to 5G
	PU3	I found 5G services valuable for me.	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2000, 2003); Klopping & Mckinney (2004) Modify 3G questions to 5G
	PU4	I found the content provided via 5G services useful for me.	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2000, 2003); Klopping & Mckinney (2004) Modify 3G questions to 5G
	PU5	I found 5G services to be convenient for people	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2000, 2003); Klopping & Mckinney (2004) Modify 3G questions to 5G
	PU6	Overall, I find 5G services useful.	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2000, 2003); Klopping & Mckinney (2004) Modify 3G questions to 5G
Trust	TT1	To what extent do you expect 5G to improve business and other areas of our lives?	https://link.springer.com/article/10.1007/s10257-023-00625-3/tables/4	Mirjana (2023)

	TT2	To what extent are you concerned about the harmful effects that 5G might have on our health or the environment?	https://link.springer.com/article/10.1007/s10257-023-00625-3/tables/4	Mirjana (2023)
	TT3	To what extent are you convinced that before the launch of the 5G network, it will be ensured that there are no negative effects on our health or the environment?	https://link.springer.com/article/10.1007/s10257-023-00625-3/tables/4	Mirjana (2023)
	TT4	What is your overall opinion on the 5G network capabilities?	https://link.springer.com/article/10.1007/s10257-023-00625-3/tables/4	Mirjana (2023)
	TT5	To what extend are you agree with this statement: 5G is a revolutionary improvement over 4G and will dramatically change the way we live and work	https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/5g_economy_psb_global_public_survey_report_december_2016.pdf	PSB reseach (2016)
Attitude to adopt	ATT1	Using 5G services is a good idea.	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2003) Modify 3G questions to 5G
	ATT2	I like the idea of using 5G services to replace the traditional services e.g. ADSL, Fixed broadband & Mobile Broadband	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2003) Modify 3G questions to 5G
	ATT3	I find using 5G services is an interesting experience.	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2003) Modify 3G questions to 5G
	ATT4	I think using 5G services is modern.	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Taylor and Todd (1995); Venkatesh (2003) Modify 3G questions to 5G
Intention to adopt	INT1	How important do you think 5G will be to you?	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Venkatesh (2000) Modify 3G questions to 5G

	INT2	I will use 5G services when I have need for them	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Venkatesh (2000) Modify 3G questions to 5G
	INT3	Assuming I use 5G services, I intend to use 5G services provided by my current operator	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Venkatesh (2000) Modify 3G questions to 5G
	INT4	Given that people have access to 5G services, I predict that people would use them more	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Venkatesh (2000) Modify 3G questions to 5G
	INT5	I will recommend 5G services to other people	https://onlinelibrary.wiley.com/doi/10.1002/isd2.12022	Davis (1993); Venkatesh (2000) Modify 3G questions to 5G

3.6 Reliability and Validity of the Data

Reliability and validity of the data of the study is important. It represents the stability of findings and truthfulness of findings. The reliability of the research can be the research findings remain consistent throughout data analysis activities or the research refers to the ability of other researchers to apply the same research process and get similar results according to Gaus (2017). This study employs Cronbach's Alpha to investigate the reliability of the variable instruments. When the result is more than 0.7 ($\alpha > 0.7$) it indicates the higher level of internal consistency (Hair et al. 2018). After reliability and validity of measures tested by calculating the composite reliability (CR) of the constructs and follow by the Average Variance Extracted (AVE) (Fornell & Larcker, 1981).

According to (Hair et al. 2018), the cut off value for composite reliability should be greater than 0.7 and the cut off value for AVE is 0.5. Suprapto, W. and Stefany, S. (2020) suggested the value of 0.6 is also acceptable for composite reliability (CR) and 0.4 still accepted for AVE.

3.7 Data Analysis Method

This study consists of two types of analysis methods. The first method is known as descriptive analysis. This analysis will interpret the data into meaningful information and analyse mean, frequency and standard deviation based on demographic of the respondents. The second method is known as inferential analysis. This study employs Confirmation Factor Analysis (CFA) to validate the data instruments and ensure all the data was reliable. With reliable data, the hypothesis test was performed.

3.7.1 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is a confirmatory technique, and it is theory driven. The planning of the analysis is driven by the theoretical relationships among the observed and

unobserved variables. Confirmatory factor analysis plays the role of validating and finding the reliability of any measurement in most social science studies (Hernandez, R., 2010).

For example, to determine the covariance and correlation, the study employs AMOS (Analysis of Moment Structure) to calculate the regression weight, the probability or (p) value is less than 0.05, it means that the variables meet the validity. Thus, the hypothesis is accepted.

3.7.2 Structural Equation Modelling (SEM)

Structural Equation Modelling is a multivariate analysis. It was used to analyse the collected data. A two-step approach (Anderson & Gerbing, 1988; Chong et al., 2012; Mohammadi, 2015) applied by testing the reliability of the data, validate the measurement of the model fitness, then using Structural Equation Modelling (SEM) to examine the hypotheses. This is relatively useful when the study involves multiple relationships among variables with multiple measurement items. This study was carried out with data collection and preparation, model specification, variable measurement, model estimation using AMOS, model assessment, hypothesis testing, model modification, Interpretation, reporting and peer review and validation. To test these 4 hypotheses.

H1. Perceived Ease of Use has a positive impact on 5G adoption.
H2. Perceived Usefulness has a positive impact on 5G adoption.
H3. Trust has a significant effect on 5G adoption.
H4. Attitude to Adopt has positive effect on 5G adoption

CHAPTER 4
4.0 DATA ANALYSIS AND RESULTS

4.1   Introduction

This chapter focuses on the analysis of questionnaires that were collected from the respondents via google form online survey. In the first section presented is the demographic results of respondents, followed by the mobile operators that the respondent's subscriber; do they have 5G mobile phone; subscribing to 4G only or 4G and 5G services. Follow with quantitative aspect, where it presents the validity and reliability of the measures tested prior to reporting the results upon examining the hypotheses. Continue with the measurement models to show positive relationship within the variable in relation to the research objective. At the end, conclude the study with the chapter summary.

4.2   Respondents Demographics Analysis

In this study, 750 questionnaires were distributed to random mobile subscribers through WhatsApp 656, WeChat 58, Facebook 16 and in person 20 to participate in the survey. The respondents were distributed throughout Malaysia. However, only 390 questionnaires were returned representing 52% response rate of the overall study. Based on (ESOMAR, 2018; Daikeler et al., 2020) in the year of 2017, for the first time, online surveys constituted most of all quantitative survey modes implemented worldwide. Stated by Fosnacht et al. (2017) surveys with a smaller sample size (for example less than 500) need 20%–25% response rates to provide confident estimates.

From the data collected, total 390 respondents consist of 54.87% female and 45.13% are male. The age group distributed into 5 groups. Which is Gen Z age group 11-26, with 37 or 9.49% respondents; Millennials current ages 27-42, the highest respondents with 197 or 50.51% response.

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Following with Gen X current ages 43-58 respondents with 135 or 34.62% responses; Boomers II also known as Generation Jones current ages 59-68 with 15 respondents and Boomers I current ages 69-77 with 6 respondents each recorded 3.85% and 1.54% respectively. Further detail can refer to Table 2 interpretations of the demographics results (1) as below:
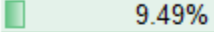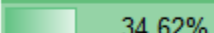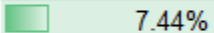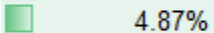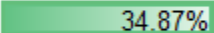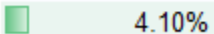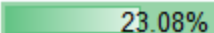
Variable	Frequency	Percentage	Chart
Gender			
Male	214	54.87%	54.87%
Female	176	45.13%	45.13%
Age Group			
11 – 26	37	9.49%	9.49%
27 – 42	197	50.51%	50.51%
43 – 58	135	34.62%	34.62%
59 – 68	15	3.85%	3.85%
69 – 77	6	1.54%	1.54%
States			
Perlis	0	0.00%	0.00%
Kedah	53	13.59%	13.59%
Penang	29	7.44%	7.44%
Perak	19	4.87%	4.87%
Selangor	136	34.87%	34.87%
Negeri Sembilan	12	3.08%	3.08%
Melaka	5	1.28%	1.28%
Johor	12	3.08%	3.08%
Pahang	5	1.28%	1.28%
Terengganu	5	1.28%	1.28%
Kelantan	1	0.26%	0.26%
Sabah	16	4.10%	4.10%
Sarawak	5	1.28%	1.28%
Wilayah Persekutuan - Kuala Lumpur	90	23.08%	23.08%
Wilayah Persekutuan - Putrajaya	1	0.26%	0.26%
Wilayah Persekutuan - Labuan	1	0.26%	0.26%

Table 2: Demographic Profile (n=390)

Table 3 interpretations of respondent with respondents' Telco related information. The Top 3 respondents from the states of Selangor (136 or 34.87%), Wilayah Persekutuan – Kuala Lumpur (90 or 23.08%) and Kedah (53 or 13.59%) contributed a total of 71.54%. Following with Penang 29 respondents, Perak 19 respondents, Sabah 16 respondents, Johor and Negri Sembilan 12

respondents. The rest of the states like Perlis 0 respondent, Melaka, Pahang, Terengganu, and Sarawak each 5 respondents, Kelantan, Wilayah Persekutuan – Putrajaya and Labuan all recorded with 1 respondent.

In terms of Mobile Operators that the respondents subscribing are Maxis 166 respondents with 42.56%, CelcomDigi 38.72% with 151 respondents, U Mobiles with 30 respondents and 7.69% and UniFi Mobile with 3.85% or 15 respondents total consist of 92.82%. The remaining are redOne 6 respondents or 1.54%, XOX Mobile 4 respondents or 1.03%, Yes Mobile 3 respondents or 0.77%, Tune Talk 1 respondent with 0.26% and Merchantrade Asia 0% and others 3.08%. A total of 235 or 60.26% of respondents have 5G ready Mobile Phone and 174 or 44.62% of respondents subscribing to 4G and 5G services.

Variable	Frequency	Percentage	Chart
Mobile Operators			
CelcomDigi	151	38.72%	38.72%
Maxis	166	42.56%	42.56%
U Mobile	30	7.69%	7.69%
UniFi Mobile	15	3.85%	3.85%
Yes Mobile	3	0.77%	0.77%
XOX Mobile	4	1.03%	1.03%
redONE	6	1.54%	1.54%
Yoodo	2	0.51%	0.51%
Merchantrade Asia	0	0.00%	0.00%
Tune Talk	1	0.26%	0.26%
Others	12	3.08%	3.08%
5G ready Mobile Phone			
Yes	235	60.26%	60.26%
No	155	39.74%	39.74%
Subscribing to			
4G services	216	55.38%	55.38%
4G and 5G Services	174	44.62%	44.62%

Table 3: Demographic Profile (n=390) Frequency and Percentage Telco relevant information

4.3   Confirmation Factor Analysis

Confirmatory factor analysis also known as CFA is a technique used to analyse the efficacy of measurement models where the number of factors and their direct relationship are specified (Larry,2023). Researchers using CFA attempt to understand why the variables are correlated and the degree or level of accuracy the variables and factors provide relative to a theory (Price, 2016). In this study, factor analysis was performed on 25 items to understand whether each item and the number of components involved are correlated. For statistical analysis, Statistical Package of the Social Science (SPSS) version 29.0.1.0 (171) was used to run the CFA for the validity of sampling.

4.3.1 Factor Analysis Validity

Table 4 represents measure sampling for each variable, which are perceived ease of use, perceived usefulness, trust, attitude to adopt, and intention to adopt. The results show the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is equal to perceived ease of use .881, .898 for perceived usefulness, trust with .778, attitude to adopt with .822, and .872 for intention to adopt. If KMO values less than 0.6 indicate the sampling is not adequate and remedial action should be taken. (Noora, 2021).

All the sampling result show <.001 for Bartlett's test of Sphericity (BTS). The Bartlett's test of Sphericity is highly significant at p < 0.001 which shows that the correlation matrix has significant correlations among at least some of the variables (Noora, 2021). With the result of <.001 confirm that the inter correlation and all the factor analysis are valid.

With the KMO test and BTS results show that the sampling was adequate to proceed with factor analysis.

Table 4: KMO and Bartlett's Test for items group

	Perceived Ease of Use	Perceived Usefulness	Trust	Attitude to Adopt	Intention to Adopt
Kaiser-Meyer-Olkin of Sampling Adequacy.	.881	.898	.778	.822	.872

Approx. Chi-Square	1411.392	2314.916	641.114	859.846	1249.341
Bartlett's Test of Sphericity df	10	15	10	6	10
Sig.	<.001	<.001	<.001	<.001	<.001

Further validity for the sampling has been performed with the factor loadings and commonalities based on principle components analysis with varimax for 25 items. Total of 25 items have been assigned into 5 groups. 5 Items for perceived ease of use, 6 items for perceived usefulness, 5 items for trust, attitude to adopt with 4 items, and 5 items for intention to adopt. Below are the details of the 25 items:

There are five items under perceived ease of use. They are:

1. I find 5G services to be easy to use.

2. I find it easy to get 5G services to do what I want it to do.

3. Using 5G services does not require a lot of my mental effort.

4. I find using 5G services is clear and understandable.

5. I find learning how to use 5G services is not too difficult.

For perceived usefulness, there are six items fall in this construct. They are:

1. Using 5G services improves my Internet use.

2. 5G services increases the effectiveness of my Internet use.

3. I found 5G services valuable for me.

4. I found the content provided via 5G services useful for me.

5. I found 5G services to be convenient for people.

6. Overall, I find 5G services useful.

For trust, there are five items fall in this construct. They are:

1. To what extent do you expect 5G to improve business and other areas of our lives?

2. To what extent are you concerned about the harmful effects that 5G might have on our health or the environment?

3. To what extent are you convinced that before the launch of the 5G network, it will be ensured that there are no negative effects on our health or the environment?

4. What is your overall opinion on the 5G network capabilities?

5. To what extend are you agree with this statement: 5G is a revolutionary improvement over 4G and will dramatically change the way we live and work.

For attitude to adopt, there are four items fall in this construct. They are:

1. Using 5G services is a good idea.

2. I like the idea of using 5G services to replace the traditional services e.g. ADSL, Fixed broadband & Mobile Broadband

3. I find using 5G services is an interesting experience.

4. I found the content provided via 5G services useful for me.

Lastly, intention to adopt there are five items fall in this construct. They are:

1. How important do you think 5G will be to you?

2. I will use 5G services when I have need for them.

3. I found 5G services valuable for me.

4. Assuming I use 5G services, I intend to use 5G services provided by my current operator.

5. Given that people have access to 5G services, I predict that people would use them more.

The correspondence index for factor loading analysis validity is shown in Table 5. In this factor analysis, the commonalities for 24 items are ranging from 0.511 to 0.858 and 1 item recorded .285. Principle components analysis was used to identify and compute all items into specific factors or components that should be 0.5 (50%) or better as suggested by Garson (2012) and Azrul et. al. (2020). This item "To what extent are you concerned about the harmful effects that 5G might have

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on our health or the environment?" might be posted under different construct as the rest under the

Trust is relative higher. It could be that due to the awareness of the people on the 5G technology

and health relevance.

Table 5: Factor loading, and communalities based on principle components analysis with varimax

Construct	Mean	Std. Deviation	Factor Loading
Perceived Ease of Use			
I find 5G services to be easy to use	3.83	0.991	.755
I find it easy to get 5G services to do what I want it to do	3.62	1.047	.699
Using 5G services does not require a lot of my mental effort.	3.78	0.977	.739
I find using 5G services is clear and understandable.	3.8	0.953	.771
I find learning how to use 5G services is not too difficult	3.9	0.925	.751
Perceived Usefulness			
Using 5G services improves my Internet use	4.02	0.957	.806
5G services increases the effectiveness of my Internet use	3.96	0.965	.822
I found 5G services valuable for me.	3.82	0.963	.835
I found the content provided via 5G services useful for me.	3.69	0.992	.790
I found 5G services to be convenient for people	3.95	0.954	.844
Overall, I find 5G services useful.	3.98	0.956	.858
Trust			
To what extent do you expect 5G to improve business and other areas of our lives?	4.06	0.896	.781
To what extent are you concerned about the harmful effects that 5G might have on our health or the environment?	3.48	1.098	.285
To what extent are you convinced that before the launch of the 5G network, it will be ensured that there are no negative effects on our health or the environment?	3.54	1.023	.511
What is your overall opinion on the 5G network capabilities?	3.82	0.922	.787
To what extend are you agree with this statement: 5G is a revolutionary improvement over 4G and will dramatically change the way we live and work	4	0.898	.770
Attitude to adopt			
Using 5G services is a good idea.	4.11	0.902	.823
I like the idea of using 5G services to replace the traditional services e.g. ADSL, Fixed broadband & Mobile broadband	4.09	0.997	.668
I find using 5G services is an interesting experience.	4.01	0.928	.829
I think using 5G services is modern.	4.01	1.018	.726

Intention to adopt

How important do you think 5G will be to you?	3.86	0.957	.778
I will use 5G services when I have need for them	4.14	0.864	.728
Assuming I use 5G services, I intend to use 5G services provided by my current operator	4.07	0.911	.728
Given that people have access to 5G services, I predict that people would use them more	4.15	0.876	.767
I will recommend 5G services to other people	4.03	0.925	.796

Note: Factor loading ≥ 0.5 (50%)

4.3.2 Reliability Analysis

In this study, 3 measures Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE) employed under reliability analysis of measures across all construct items. According to Hair et al. (2018), when the Cronbach's alpha co-efficient alpha is greater than 0.70, it indicates that high internal consistency of all instruments, hence convergent validity is supported.

The results show that all the variables for Cronbach's alpha co-efficient have acceptable reliability (internal consistency). From Table 6, Cronbach's alpha value for perceived ease of use 0.921, perceived usefulness with 0.949 the highest among the 5, trust with value of 0.762 the lowest among all however it still greater than 0.70, attitude to adopt with 0.882, and intention to adopt with 0.909. All instruments had high internal consistency (>0.70).

In the table 6, Composite Reliability was also calculated to determine the consistency of construct validity of sampling measure. Composite Reliability is said to be valid if the value is more than 0.7 (Purwanto et al., 2021) In Table 6, the composite reliability value for perceived ease of use 0.861, perceived usefulness with 0.928 the highest among the 5, trust with value of 0.776 the lowest among all however it still greater than 0.70, attitude to adopt with 0.848, and intention to adopt with 0.872. All instruments and all variables are reliable as a measurement tool in this study because the composite reliability value is high internal consistency (>0.70).

Average Variance Extracted (AVE) employ in this study to measure convergent validity by determine whether the construct adequately captures the variance of its indicators. Besides the loading values, other considerations in determining the convergence validity are the composite reliability and average variance extracted (AVE). (Azwan et al., 2022) The minimum recommended Average Variance Extracted (AVE) value is 0.5. the value of 0.4 is acceptable due to condition that if AVE value is less than 0.5, but composite reliability is higher than 0.6, the convergent validity of the construct is acceptable (Fornell and David, 1981). In Table 6 shows the results of AVE, it indicates that the AVE value for value for perceived ease of use 0.553, perceived usefulness with 0.683 the highest among the 5, trust with value of 0.433 the lowest among all and below cut-off value of 0.50. Due to its composite reliability is 0.776 and greater than 0.60, hence it is acceptable. For attitude to adopt with 0.584, and intention to adopt with 0.577.

To summarize, all the constructs are accepted by meeting the measurement requirement or cut-off criteria.

Table 6: Cronbach's Alpha, Composite Reliability and AVE

Items	Constructs and Measurement	Cronbach's Alpha, α	Composite Reliability	AVE
Perceived Ease of Use		0.921	0.861	0.553
PEOU1	I find 5G services to be easy to use			
PEOU2	I find it easy to get 5G services to do what I want it to do			
PEOU3	Using 5G services does not require a lot of my mental effort.			
PEOU4	I find using 5G services is clear and understandable.			
PEOU5	I find learning how to use 5G services is not too difficult			
Perceived Usefulness		0.949	0.928	0.683
PU1	Using 5G services improves my Internet use			
PU2	5G services increases the effectiveness of my Internet use			

PU3	I found 5G services valuable for me.			
PU4	I found the content provided via 5G services useful for me.			
PU5	I found 5G services to be convenient for people			
PU6	Overall, I find 5G services useful.			
Trust		0.762	0.776	0.433
TT1	To what extent do you expect 5G to improve business and other areas of our lives?			
TT2	To what extent are you concerned about the harmful effects that 5G might have on our health or the environment?			
TT3	To what extent are you convinced that before the launch of the 5G network, it will be ensured that there are no negative effects on our health or the environment?			
TT4	What is your overall opinion on the 5G network capabilities?			
TT5	To what extend are you agree with this statement: 5G is a revolutionary improvement over 4G and will dramatically change the way we live and work			
Attitude to adopt		0.882	0.848	0.584
ATT1	Using 5G services is a good idea.			
ATT2	I like the idea of using 5G services to replace the traditional services e.g. ADSL, Fixed broadband & Mobile Broadband			
ATT3	I find using 5G services is an interesting experience.			
ATT4	I think using 5G services is modern.			
Intention to adopt		0.909	0.872	0.577
INT1	How important do you think 5G will be to you?			
INT2	I will use 5G services when I have need for them			
INT3	Assuming I use 5G services, I intend to use 5G services provided by my current operator			

INT4	Given that people have access to 5G services, I predict that people would use them more
INT5	I will recommend 5G services to other people

Table 6 remark: Reliability Cronbach's Alpha, α. Cutoff Value (>0.70), Composite Reliability.

Cutoff Value (>0.70), Average Variance Extracted (AVE). Cutoff Value (>0.50).

4.4   Measurement Model

This section we test the research hypothesis proposal findings between the variables if there is a significant influence. Structural Equation Modelling (SEM) is applied for quantitative combinations and correlation or fundamental assumption between variables into the model. This section is to explain the research hypothesis proposal findings between the variables if there is a significant positive influence or not. (SEM) was chosen to comprehensively verify the research hypotheses (Ostic et al.,2021)

Thus, when the findings show relationship results positively between perceived ease of use, perceived usefulness, trust, attitude to adopt, is the key factors intention to adopt 5G. An analyse has been done through SPSS AMOS 26.0.0 and generate the output of measurement model with various tables include test on the proposed hypothesis, the covariance and correlation.

4.4.1   Hypothesis Testing

From Table 7, the results indicated that Perceived Ease of Use has significant positive influence on Intention to adopt 5G where (Estimate = 0.462, CR = 9.707, p < 0.001). Thus, this means that H1 is supported.

H1   Perceived Ease of Use has a positive relationship on Intention to adopt 5G Services.

Table 7: Research hypothesis test finding for Perceived Ease of Use.

Hypothesized Effect	Estimate	S.E.	C.R.	P	Support
H1. Perceived Ease of Use has a positive impact on 5G adoption.	0.462	0.048	9.707	***	Yes

***: p<0.001; **: p<0.01; *: p<0.05

Table 8 present the results indicated that Perceived Usefulness also has significant positive influence on Intention to adopt 5G where (Estimate = 0.058, CR = 10.399, p < 0.001), therefore that H2 is accepted.

H2   Perceived Usefulness has a positive relationship on Intention to adopt 5G Services.

Table 8: Research hypothesis test finding for Perceived Usefulness.

Hypothesized Effect	Estimate	S.E.	C.R.	P	Support
H2. Perceived Usefulness has a positive impact on 5G adoption.	0.058	0.049	10.399	***	Yes

***: p<0.001; **: p<0.01; *: p<0.05

Table 9 present the results indicated that trust also has significant positive influence on Intention to adopt 5G where (Estimate = 0.498, CR = 10.554, p < 0.001), therefore that H3 is accepted.

H3   Trust has a positive relationship on Intention to adopt 5G Services.

Table 9: Research hypothesis test finding for Trust.

Hypothesized Effect	Estimate	S.E.	C.R.	P	Support
H3. Trust has a significant effect on 5G adoption.	0.498	0.047	10.554	***	Yes

***: p<0.001; **: p<0.01; *: p<0.05

Table 10 present the results indicated that Perceived Usefulness also has significant positive influence on Intention to adopt 5G where (Estimate = 0.535, CR = 10.904, p < 0.001), therefore that H4 is accepted.

H4   Attitude to Adopt has a positive relationship on Intention to adopt 5G Services.

Table 10: Research hypothesis test finding for Attitude to Adopt.

Hypothesized Effect	Estimate	S.E.	C.R.	P	Support
H4. Attitude to Adopt has positive effect on 5G adoption	0.535	0.049	10.904	***	Yes

***: p<0.001; **: p<0.01; *: p<0.05

In summary, all four hypotheses are supported with estimates are significantly greater than zero, the standard errors are relatively small, the critical ratios are high, and the p-values are marked with "***" indicating very high levels of statistical significance. These findings suggest that perceived ease of use, perceived usefulness, trust, and attitude to adopt all have positive and statistically significant impacts on intention to adopt 5G.

4.4.2   Structural Equation Modelling (SEM)

Structural Equation Modelling (SEM) is a comprehensive analysis tool for researchers. It helps to analyse the complex relationships, testing of theoretical models and the exploration of intricate patterns within data. Employ SEM may help the researchers to amend the model to have better fit through the output data. However, it also based on research objective. This study has made a slide change to have a better fit and the research objective. The model shown in Figure 8 in the next page, are the modified structural model has shown more corelated of the variables and yielded a significant chi-square which is (848.998, p<0.001) given the large sample size employed in this research study this is acceptable fit. Other fit indices were also used to support chi-square and

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measure the goodness of fit for example (TLI = 0.922, CFI = 0.931, RMSEA = 0.075 and SRMR = 0.0366). With TLI and CFI above 0.90 is an excellent fit. RMSEA below value of 0.08 is reasonable fit and SRMR value indicate a very good fit in terms of the standardized residuals. From this result, it can be concluded that the model achieved well for the data, and it is consistent with hypothesis and research objective. The next study can be covering more extensive from here.

Fitness Index
1. Chi-Square= 848.998
2. DF=265
3. P-value <0.001
4. TLI=0.922
5. CFI=0.931
6. RMSEA=0.075
7. SRMR=0.0366

PEOU: Perceived Ease of Use
PU: Perceived Usefulness
TT: Trust
ATT: Attitude to adopt
INT: Intention to adopt
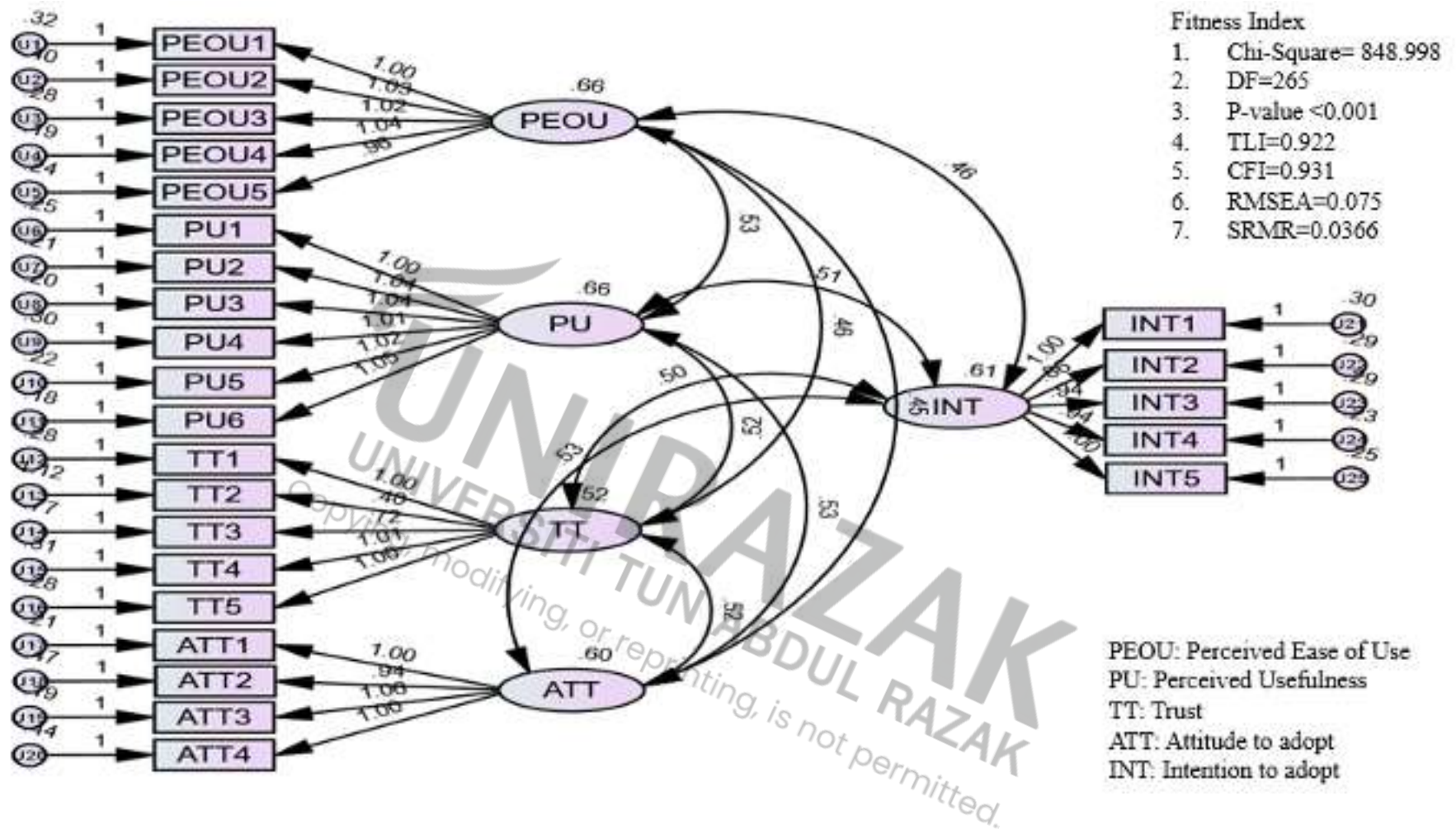
Figure 7: Structural Equation Model.

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4.5   Chapter Summary

This chapter cover the survey response from the respondents and analysis, apply Confirmatory factor analysis (CFA) establishes measurement validity and reliability, apply SPSS for factor analysis for all the constructs and hypotheses testing. Employ SPSS AMOS to generate the sequential equation modelling for this study and validate the hypothesis. All the hypotheses are accepted as significant, showing that perceived ease of use, perceived usefulness, trust, attitude to adopt has significant impact of intention to adopt of 5G services.

CHAPTER 5
5.0 CONCLUSION AND RECOMMENDATIONS

The focus of this study is to determine the factors of perceived ease of use, perceived usefulness, trust, attitude to adopt has significant influencing mobile subscribers of their intention to adopt of 5G. This is to adding value from empirical study by MIER (2022). The study tested by using questionnaire create in the google form and distributed through electronics channel as it is the right suit for the targeted respondent. The collected data using the SPSS for CFA and factor analysis, and SPSS AMOS using the SPSS data to perform the sequential equation modelling. Both software from IBM.

This chapter further analyse the results from the previous chapter. Following up with the discussion on both theoretical and managerial implication of the study. Conclude with recommendations for future research and summary.

5.1 Discussion of Research Finding

In this research there are three main objectives 1. To identify and examine the primary factors that influence mobile subscribers' decisions to adopt or resist 5G network in Malaysia. 2. To explore potential variations in adoption based on demographic such as age, gender, service provider, 5G ready mobile phone, existing 4G/5G user and location. 3.To demonstrate the positive relationship between Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt and Intention to Adopt.

5.1.1 The Primary factors that influence mobile subscribers

In this study analysis, the results indicate that attitude to adopt (40.32%), intention to adopt (37.49%) and perceived usefulness (33.33%) captures the highest Strongly Agree. Some key points need to take note, i) Perceived Ease of use (2.51%) and trust (2.36%) capture the highest Strongly Disagree at the same time both Perceived Ease of use (33.03%) and trust (32.26%) capture the highest Neutral. ii) PEOU2: I find it easy to get 5G services to do what I want it to do and TT2: To what extent are you concerned about the harmful effects that 5G might have on our health or the environment? These 2 questions might be good for service providers to take note and create more 5G awareness about the 5G services and use cases to the people to increase the adoption rate. iii) ATT2(169 responses), ATT1(162) and INT3(160) capture the highest Strongly Agree. ATT2: I like the idea of using 5G services to replace the traditional services e.g., ADSL, Fixed broadband & Mobile broadband, ATT1: Using 5G services is a good idea. And INT4: Given that people have access to 5G services, I predict that people would use them more. Base on the respondent would like to have 5G to replace their ADSL, Fixed broadband & Mobile Broadband. And find that 5G services is a good idea and once the subscribe the 5G services, people will consume more data and 5G services. In this case, it is more important for marketing personnel to understand consumers' readiness to adopt technologies (Blut and Wang, 2020). This will be relevant to services provider to consider easy and affordable on boarding 5G services to subscribers and eventually monetize through the 5G services.

Table 11:Frequency table for product quality questionnaire survey

Items	SD		D	N	A	SA
PEOU1	9		14	135	110	122
PEOU2	15		28	143	110	94
PEOU3	11		15	128	132	104
PEOU4	8		17	125	136	104
PEOU5	6		13	113	140	118
PEOU(%)	2.51%		4.46%	33.03%	32.21%	27.79%
PU1	7		12	97	126	148
PU2	5		19	102	124	140
PU3	6		17	134	116	117
PU4	9		24	143	115	99
PU5	7		14	104	133	132
PU6	5		15	107	119	144
PU(%)	1.67%		4.32%	29.36%	31.32%	33.33%
TT1	6		5	94	139	146
TT2	20		41	146	98	85
TT3	12		32	167	92	87
TT4	5		16	128	135	106
TT5	3		15	94	145	133
TT(%)	2.36%		5.59%	32.26%	31.23%	28.56%
ATT1	3		11	88	126	162
ATT2	10		13	79	119	169
ATT3	4		13	103	126	144
ATT4	12		14	85	125	154
(ATT%)	1.86%		3.27%	22.76%	31.79%	40.32%
INT1	5		22	113	132	118
INT2	4		9	71	151	155
INT3	5		10	89	135	151
INT4	3		13	68	146	160
INT5	5		11	97	130	147
INT(%)	1.13%		3.33%	22.46%	35.59%	37.49%

*Details items refer to Table 11. (SD=Strongly disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly agree)

Based on the above discussion, it shows the importance of attitude to adopt, intention to adopt and perceived usefulness in adopting 5G services. if individuals recognize that no additional effort or learning cost is required in the process of using innovative technologies and media, their perceived benefits and perceived functionalities will enhance (Rauniar et al., 2014; Manis and Choi, 2019; Wang et al., 2020). Perceived usefulness is an intuitive feeling of consumers when they find the efficiency advantages brought using innovative technologies and media. (Michael et al.,2022).

Thus, it is suggested that 5G services provider to promote 5G and create more awareness with use cases on how 5G can be easily apply and utilise by the consumer easily.

5.1.2 Potential variations in adoption based on demographic

The study shows us some variations in adoption based on demographic such as age, gender, service provider, 5G ready mobile phone, existing 4G/5G user and location as below:

1. Based on 390 responses, 92 respondents subscribing to 4G and 5G services willing to recommend 5G services to other people.

2. Current 174 responses 4G services subscribers only 57 respondents Strongly Agree to take up the 5G services provided by their current operator.

3. Currently 46% or 183 respondents are subscribing to 4G & 5G services, 53% are female and 47% are male.

4. Base on the age-group 27-42, consist of 197 respondents and age group 43-58, consist of 135 respondents, with total of 332 respondents, 91 responses under age-group 27-42 and 68 responses under age-group 43-58 with total responses 159 having 5G ready devices and subscribes to 4G and 5G services. 65 out of 159 responses or 40.9% will recommend 5G services to other people.

5. Based on the age-group 27-42, 81 out of 197 respondents without 5G devices. 34 out of the 81 Strongly Agree I like the idea of using 5G services to replace the traditional services e.g., ADSL, Fixed broadband & Mobile Broadband

6. The respondents mainly subscribe to this 3 Mobile Operators. Maxis 93 out of 166 (56.02%) responses subscribe 4G and 5G services., CelcomDigi 81 out of 151 (53.64%)

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responses subscribe 4G and 5G services. and U Mobile 16 out of 30 (53.33%) responses subscribe 4G and 5G services.

This study shows that more initiative to promote 5G is to create more awareness of the 5G services are needed from service providers. Female willing to experience latest 5G services. Due to demographic that most of the responses from Central Region (Selangor, Wilayah Persekutuan Kuala Lumpur and Putrajaya) 227 and following with 101 responses from Northern region (101) hence we have limitation to analyse further to compare with other region or state due to domination by these 2 regions only. According to Gajanova et al. (2019), demographic segmentation is dividing customers into distinct groups based on shared characteristics such as age, gender, income level, etc. Patel and Bansal (2018), demographic indicators are assigned to chosen population features as utilized in society, government, or other marketing areas. The relevant parties can base on the demographic segmentation to offer customer centric offering to speed up the 5G adoption.

5.1.3   Relationship Between Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt and Intention to Adopt

Perceived ease of use to customers are important for the adoption of 5G service required the Technologies that are easier to use are considered more useful (Cai et al., 2021, Davis, 1989). And Perceived usefulness will motivate the customers to adopt 5G. Many prior studies suggest that PU motivates users to continue there IS usage (e.g., Dai et al., 2020). Trust plays a critical role in technology adoption and continued use (McKnight et al., 2002, 2011; Nguyen, 2021; Venkatesh et al., 2011). It is conceptualized as the degree of confidence in a product (Nguyen et al., 2021). Bhattacherjee (2001a) argued that PU was a significant predictor of IS adoption intention, which resulted in actual behavioural usage. This is aligned with our study in SEM model where all Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt and Intention to Adopt

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have a better fit when they are link up each other. This study demonstrates the importance of Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt and Intention to Adopt 5G services. The results are aligned with other study, where PEOU has a positive impact on PU, satisfaction, and attitude (Cai et al., 2021, Cheng, 2018, Liao et al., 2009). That shows positive relationship between Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt and Intention to Adopt.

5.2 Implication of the Research

5.2.1 Theoretical Implication

This study confirmed that there is a positive relationship between Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt and Intention to Adopt. Thus, this study supported the existing theory and past study about the factors influencing mobile subscribers adopt 5G in Malaysia.

5.2.2 Practical Implication

The finding of this study has shown that service providers need to create more 5G awareness, education and uses cases to share with public. Tapping on their existing customers offering 5G phone with affordable rate plan may extend the customer stickiness and boost the adoption of 5G services. As the 5G network coverage is expanding, it will be good to have roadshow to demonstrate the 5G services to educate how easy to enable 5G services and use the 5G to improve their lifestyle. It also will build trust to consumer before they adopt the new technologies. Through word-of-mouth the 5G uses most likely will share their experience with others. This aligns with our finding that it can influence the adoption of 5G service.

5.2.2 Policy Implication

The latest 5G RAHMAH Package program an initiative by government also one of the factors that influence the 5G adoption. As it offers device and affordable mobile data plan enable customer easier access to 5G services and demonstrate ease of use and usefulness to adopt 5G services. Government may educate about consumer on the 5G impact on our health and environment to increase consumer confident and trust on the 5G services that have low impact to their health and environment.

5.3   Limitations of the Research

There are several limitations in this study that can be improved and open opportunities for future research. The first limitation of this study is the sample size is limited due to the time and resources constraint, the respondents (i) are based on direct invite and friend reference, hence location and age group are mainly within central and northern region and the age group are mainly Gen X and Millennials. Hence, the results cannot be generalized for the whole population of mobile subscribers in Malaysia. (ii) The 5G services should be further research if there are "killer apps" to attract or ease to use enable users to adopt the 5G service. (iii) more factors such as value, awareness, brand loyalty, innovativeness, 5G services and others can be take into consideration to improve the findings. (iv) focus on typical 5G service on specific industry like Smart City, Education, Manufacturing, Oil and Gas, ICT, Digital Healthcare and Tourism, what is the factors that can influence the adoption of 5G service.

As summary, considering 5G services is widely apply in various industry and personal use, researcher can consider factors and industry specific as stated above for future research and demonstrate others key factors for increase the adoption of 5G services and strategies.

5.4 Recommendation for Future Research

As the 5G services is currently consider early stage of adoption and with the boost of government to encourage users to adopt the 5G services, foresee by end of the year it will be easily increase 100,000 users under B40 segment will take up the 5G RAHMAH package. The demographic will be different by then. Adopt TAM theory by consider adding more factors like job relevance, subjective norms, usage behavioural, value, awareness, and brand loyalty focus on dedicate coverage areas or states might create more insights for the service providers and enterprises for reference on the result and eventually increase the adopt of the 5G services. Do consider to involve involved industries focus. For example Smart City, Education, Manufacturing, Oil and Gas, ICT, Digital Healthcare and Tourism. For instance, if a school implement smart education, it might boost the 5G adoption rate and the township will start to adopt based on the user experience and word-of-mouth.

This study focuses on quantitative approach to test the factors influence mobile subscribers adopt of 5G services, it is valuable to consider implement qualitative techniques to gain better insights and suggestion on the factors that essential role to boost the adoption of 5G services.

5.5 Conclusion

In Malaysia, currently 5G services is in service expansion and commercially launching stage. Adoption for individual and enterprises still limited, it would be good to have research to cover the limitation of this research from time to time and expand if the new factors might be relevant to apply this research for individual and it will be attracting service providers to have better strategies to convert 4G users to adopt 5G services. Enterprises normally more conservative in adopt new technology, research may expand with more proposed factors and add more success cases from other country to influence their adoption of 5G.

The study on factors in Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt and Intention to Adopt shown that it has relevant on the influence of Intention to adopt 5G. The four hypotheses related to Perceived Ease of Use, Perceived Usefulness, Trust, Attitude to Adopt have positive significant relationship and relevant on Intention to Adopt 5G. This meets the research objective for this study.

The studies have theoretical, practical and policy implication for respective organization, service provider and government who want to improve the adoption of 5G services by promoting the ease of use for individual, usefulness to improve like their lifestyle, trusted, reliable and safe technology to be used, Attitude to Adopt the 5G will improve the user experience and Intention to Adopt will encourage user to adopt 5G services and share with others on their user experience. There are no one size fit all and ideal result for research. I would encourage researcher to consider the limitation of this study, refer to the suggestion above for future research and add on the factors that this study to make the study more relevant to meet the future market dynamic.

REFERENCES

Affandy Johan. (2023, July 24). 5G in Asia Pacific: Deployment Momentum Continues. https://www.ookla.com/articles/5g-asia-pacific-q3-2023

Anser, M. K., Tabash, M. I., Nassani, A. A., Aldakhil, A. M., & Yousaf, Z. (2021, December 14). The role of e-satisfaction, e-word of mouth, and e-trust on repurchase intention of online shop.

Anubhav Mishra. (2023, February). Re-examining post-acceptance model of information systems continuance: A revised theoretical model using MASEM approach. *International Journal of Information Management, 68*, 102571.

Azrul Fazwan K., Norazura A., Zaida M., Ku Faridah K. I., Darvinatasya K., (2020). *Application of structural equation modeling (SEM) in estimating the contributing factors to satisfaction of TASKA services in East Coast Malaysia*. Asian Journal of Assessment in Teaching and Learning. Vol. 10, Issue 1, 2020 (68-76).

Christensen, L.T. & Askegaard, S. (2001). Corporate identity and corporate image revisited: A semiotic perspective. *European Journal of marketing*, Vol 35, 292-315.

Daniel Belanchea, Luis V. Casaló b, Carlos Flaviána. (2012, July 15). Integrating trust and personal values into the Technology Acceptance Model: The case of e-government services adoption. *Cuadernos de Economía y Dirección de la Empresa.*

Garson, G.D (2012). Testing statistical assumptions. *Asheboro, NC: Statistical Associates Publishing*.

Gaus, N. (2017). *Selecting Research Approaches and Research Designs: A Reflective Essay. Qualitative Research Journal, 17*(2): 99-112. Available from: www.emereldinsight.com

Hair, J. F., Jr., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2018). *Multivariate Data Analysis (8th ed.) Upper Saddle River, N.J*: Pearson Prentice Hall.

Harish K. Thakur. (2021, July). *Research Methodology in Social Sciences (A Short Manua)*. New Delhi: Corvette.

Hernandez, R., (2010). A Short Form of the Subjective Well-Being Scale for Filipinos. *Educational Measurement and Evaluation Review, 1: 105-115*.

Ignatius Jericho, Riyanto Jayadi. (2023). *An Empirical Study on the Factors Affecting Intention to Use 5G Technology. Journal of System and Management Sciences, 13*(2), 301-315.

Jitendra Patel. (2018, January). Effect of demographic variables on e-marketing strategies: A review. *International Journal of Academic Research and Development, 311*.

Kabir Ahuja, Fiona Hampshire, Alex Harper, Annabel Morgan, and Jessica Moulton. (2022, September 28). *A better way to build a brand: The community flywheel*. McKinsey

Malaysian Communications and Multimedia Commission. (2019, December). *5G Key Challenges and 5G Nationwide Implementation Plan*. https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/The-National-5G-Task-Force-Report.pdf

Malaysian Communications and Multimedia Commission. (2023). Communications & Multimedia - Facts & Figures (Q1 2023).

Marikyan, D. & Papagiannidis, S. (2023) *Technology Acceptance Model: A review. In S. Papagiannidis (Ed), TheoryHub Book*. Available at http://open.ncl.ac.uk / ISBN: 9781739604400

Md. Tanvir Alam Himel, Shahrin Ashraf, Tauhid Ahmed Bappy, Md Tanaz Abir, Md Khaled Morshed, Md. Nazmul Hossain. (2021, July 15). *Users' attitude and intention to use mobile financial services in Bangladesh: an empirical study. South Asian Journal of Marketing*.

Michael Yao-Ping Peng, Xin Yan. (2022, March 31*). Exploring the Influence of Determinants on Behavior Intention to Use of Multiple Media Kiosks Through Technology Readiness and Acceptance Model. Front Psychol*, 13, 852394.

MIER. (2022). *Economic Impact Analysis of 5G Technology Implementation in Malaysia*. The Malaysian Institute of Economic Research, Kuala Lumpur.

Mohd Yusrizal Ab Razak(2022, July 29). *Current Population Estimates, Malaysia, 2022*. THE OFFICE OF CHIEF STATISTICIAN MALAYSIA, DEPARTMENT OF STATISTICS MALAYSIA. https://dev.dosm.gov.my/portal-main/release-content/current-population-estimates-malaysia-2022

Muhamad Safiih, L., Nor Azreen M. A. (2016, March). *Confirmatory Factor Analysis Approach: A Case Study of Mathematics Students' Achievement in TIMSS. Malaysian Journal of Mathematical Sciences,* 10(Special Issue: The 10th IMT-GT International Conference on Mathematics, Statistics and its Applications 2014), 41-51.

Munir Ahmad, Cem Isik, Zeeshan Fareed. (2023,March). *Eco-Innovation and green productivity for sustainable production and consumption*. Frontiers in Environment Science.

Munshi, J. (1990). *A Method for Constructing Likert Scales CA*: Sonoma State University.

Noora Shrestha. (2021, January 20). *Factor Analysis as a Tool for Survey Analysis. American Journal of Applied Mathematics and Statistics, 9*(1), 4-11.

Qualcomm.com (2016,December), *5G Economy Global Public Survey Report Commissioned by Qualcomm. PSB Research* https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/5g_economy_psb_global_public_survey_report_december_2016.pdf

Shah, S.K., Tang, Z., Sharif, S.M.F. et al. (2021). *An empirical study of Chinese students' behavioral intentions to adopt 5G for smart-learning in Covid-19. Smart Learn. Environ. 8, 25* https://doi.org/10.1186/s40561-021-00172-9

Shikha Sargam. (2023, October). *Adoption of 5G in developing economies: A supply-side perspective from India.* Telematics and Informatics, 84.

Suprapto, W., Stefany, S., & Ali, S., (2020). Service Quality, Store Image, Price Consciousness, and Repurchase Intention on Mobile Home Service. *SHS Web of Conferences 76, 01056 (2020) ICSH 2019*. https://doi.org/10.1051/shsconf/20207601056

Stojanović, M., Radenković, M., Popović, S. et al. (2023). *A readiness assessment framework for the adoption of 5G based smart-living services. Inf Syst E-Bus Manage* 21, 389–413. https://doi.org/10.1007/s10257-023-00625-3

The Star. (2023, January 2). *DNB on target for 80% 5G nationwide coverage in 2024.* https://www.thestar.com.my/business/business-news/2023/01/02/dnb-on-target-for-80-5g-nationwide-coverage-in-2024

Tommi J. Tapanainen. (2018, February 13). *Investigating adoption factors of 3G services: An empirical study in Vietnam. Volume 84, Issue 2, March 2018.*

World Bank. (n.d.). Mobile cellular subscriptions (per 100 people). https://data.worldbank.org/indicator/IT.CEL.SETS.P2

Zhongjun Tang, Sayed Kifayat Shah. (2022). *Modeling Consumer's Switching Intentions Regarding 5G Technology in China. International Journal of Innovation and Technology Management, 19*(4), 2250011.

APPENDIX A: QUESTIONNAIRE

Dear all, I am student at Universiti Tun Abdul Razak (UNIRAZAK) undergoing Master in Business Administration program. I am conducting this research study to fulfill the requirement of my final year research project. The objective of this study's survey attempted to study the Factors Influencing Mobile Subscribers' Adoption 5G Services in Malaysia.

This survey consists of 6 sections.

Section A : Demographic

Section B : Perceived Ease of Use

Section C : Perceived Usefulness

Section D : Trust

Section E : Attitude to Adopt

Section F : Intention to Adopt

Kindly respond to every single one of inquiries as best as possible. None of the responses to whichever of these assertions is incorrect. All responses and data collected will be handle in the strictest confidentiality and will only be utilized for research purposes.

The survey is entirely anonymous, and your response will be kept confidential. Your participation is very valuable and helpful during this study. You may share this survey with your friends and family.

Your participation is fully appreciated and thank you for spending your precious time in advance.

MBA Research Project

Dear all, I am student at Universiti Tun Abdul Razak (UNIRAZAK) under going Master in Business Administration program. I am conducting this research study to fulfill the requirement of my final year research project. The objective of this study's survey attempted to study the Factors Influencing Mobile Subscribers' Adoption 5G Services in Malaysia.

This survey consist of 6 sections.
Section A : Demographic
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Section C : Perceived Usefulness
Section D : Trust
Section E : Attitude to Adopt
Section F : Intention to Adopt

Kindly respond to every single one of inquiries as best as possible. None of the responses to whichever of these assertions is incorrect. All responses and data collected will be handle in the strictest confidentiality and will only be utilized for research purposes.

The survey is entirely anonymous, and your response will be kept confidential. Your participation is very valuable and helpful in the course of this study. You may share this survey with your friends and family.

Your participation is fully appreciated and thank you for spending your precious time in advance.

* Indicates required question

Section A : Demographic

General Demographic Information
This section would be personal detail of the respondent

1. Gender *

   Mark only one oval.

   ◯ Female

   ◯ Male

Figure 8: Questionnaire

2. Age Group *

   Mark only one oval.

   ( ) 11 – 26
   ( ) 27 – 42
   ( ) 43 – 58
   ( ) 59 – 68
   ( ) 69 – 77

3. State *

   Mark only one oval.

   ( ) Perlis
   ( ) Kedah
   ( ) Penang
   ( ) Perak
   ( ) Selangor
   ( ) Negeri Sembilan
   ( ) Melaka
   ( ) Johor
   ( ) Pahang
   ( ) Terengganu
   ( ) Kelantan
   ( ) Sabah
   ( ) Sarawak
   ( ) Wilayah Persekutuan - Kuala Lumpur
   ( ) Wilayah Persekutuan - Putrajaya
   ( ) Wilayah Persekutuan - Labuan
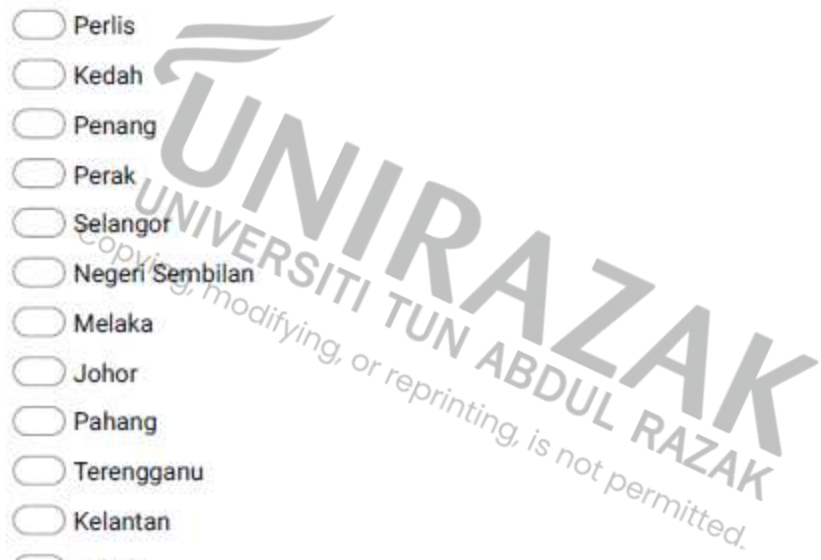
4. Currently I am subscriber to

   Mark only one oval.

   ◯ CelcomDigi

   ◯ Maxis

   ◯ U Mobile

   ◯ UniFi Mobile

   ◯ Yes Mobile

   ◯ XOX Mobile

   ◯ redONE

   ◯ Yoodo

   ◯ Merchantrade Asia

   ◯ Tune Talk

   ◯ Others

5. I have 5G ready Mobile Phone *

   Mark only one oval.

   ◯ Yes

   ◯ No

6. I subscribing to *

   Mark only one oval.

   ◯ 4G and 5G Services

   ◯ 4G services

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Section B : Perceived Ease of Use

This Part B have 3 sections which in total have 5 variables to be answer by respondent.
Answer Scale :
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree.

7. I find 5G services to be easy to use *

    Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

8. I find it easy to get 5G services to do what I want it to do. *

    Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

9. Using 5G services does not require a lot of my mental effort. *

    Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

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10. I find using 5G services is clear and understandable. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

11. I find learning how to use 5G services is not too difficult. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

Section C : Perceived Usefulness

Answer Scale :
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree.

12. Using 5G services improves my internet use. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

13. 5G services increases the effectiveness of my Internet use. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

14. I found 5G services valuable for me. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

15. I found the content provided via 5G services useful for me. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

16. I found 5G services to be convenient for people. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

17. Overall, I find 5G services useful. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

Section D : Trust

Answer Scale :
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree.

18. To what extent do you expect 5G to improve business and other areas of our lives? *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

19. To what extent are you concerned about the harmful effects that 5G might have on our health or the environment?

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

20. To what extent are you convinced that before the launch of the 5G network, it will be ensured that there are no negative effects on our health or the environment?

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

21. What is your overall opinion on the 5G network capabilities? *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

22. To what extend are you agree with this statement: 5G is a revolutionary improvement over 4G and will dramatically change the way we live and work.

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

Section E : Attitude to Adopt

Answer Scale :
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree.

23. Using 5G services is a good idea. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

24. I like the idea of using 5G services to replace the traditional services e.g. ADSL, Fixed broadband & Mobile Broadband

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

25. I find using 5G services is an interesting experience. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

26. I think using 5G services is modern. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

Section F : Intention to Adopt

Answer Scale :
(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree.

27. How important do you think 5G will be to you? *

Mark only one oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly Agree

28. I will use 5G services when I have need for them. *

Mark only one oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly Agree

29. Assuming I use 5G services, I intend to use 5G services provided by my current operator.

Mark only one oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly Agree

30. Given that people have access to 5G services, I predict that people would use them more.

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

31. I will recommend 5G services to other people. *

Mark only one oval.

	1	2	3	4	5	
Stro	○	○	○	○	○	Strongly Agree

Thank you so much for your time in completing our survey. It is greatly appreciated. Please share this survey with your friends and family members to help on this study and make this study meaningful.

Kindly click the Submit button below and share the link. Thank you.

………. End of Questionnaire ……….

APPENDIX B: APPROVAL PAGE

TITLE OF PROJECT: FACTORS INFLUENCING MOBILE SUBSCRIBERS'

ADOPTION 5G SERVICES IN MALAYSIA

NAME OF AUTHOR: LON KAR WOH

The undersigned is pleased to certify that the above candidates have fulfilled the condition of the

project paper prepared in the partial fulfilment for the awards of the degree of Master of Business

Administration.

SUPERVISOR

Signature **:** _____

Name **:**

Date **:**

ENDORSED BY:

_____

Dean

Graduate School of Business

Date**:**

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