



Factors Affecting Malaysian Consumers' Purchase Intentions of Mobile Devices: An Integration of the Theory of Planned Behaviour and Technology Acceptance Model

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KEYWORDS

Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), Purchase Intentions Millennials Generation Z

ABSTRACT

This study uses the Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM) to explore the reasons behind consumers' purchasing decisions in the mobile device category. Despite the growing smartphone market and media hype, consumers face social dilemmas and exhibit irrational buying behaviour influenced by emotions and external expectations. A quantitative research method, utilising a voluntary online questionnaire for data collection, was employed in this study. Data was statistically analysed using the IBM Statistical Package for Social Sciences (SPSS). The study employs convenience and random sampling methods, drawing 200 respondents, including current students and alumni, from an Association to Advance Collegiate Schools of Business (AACSB)- accredited university in Sarawak. The study finds that attitude has the strongest correlation with purchase intention ($r = 0.565$), while perceived behavioural control has the weakest ($r = 0.322$). Consumers' purchase decisions for smartphones and tablets are primarily influenced by their attitudes. Significant relationships were also found between subjective norms, perceived usefulness, and purchase intention. This study is valuable for both academics and industry marketers, aiding in understanding consumer purchase intentions for smartphones and tablets and maintaining business competitiveness.

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1. INTRODUCTION

As the world continues to globalize, driven by factors such as international investment, production, marketing, advances in telecommunications and the Internet, increased global travel, and the expansion of global media contributing to the emergence of a 'global consumer culture' (Alden et al., 2006), the consumer electronics (CE) industry is also benefiting from this trend. This industry, valued at \$240 billion, is dominated by a few highly competitive global players who control large market shares to achieve economies of scale (Sodhi & Lee, 2007). By 2019, the global consumer electronics market reached a value of \$1 trillion, spurred by the rapid growth of Internet connectivity and services in both developed and developing countries, further driving this lucrative market's strong growth (Wadhvani & Saha, 2020).

There is a consistently high adoption rate for connected mobile devices like smartphones and tablets. Electronic devices and gadgets are rapidly becoming essential for every consumer, which explains the swiftly growing demand in this industry (Janse et al., 2010). Additionally, tablets are increasingly used for entertainment, such as watching videos, playing games, and listening to music during screen time. Olmsted and Shay (2016) noted that while not all smartphone users own tablets, all tablet users own smartphones, indicating that dual ownership of mobile devices is common despite different usage patterns.

The emergence of smartphones and tablets has proven to be a disruptive computing technology, aiming to deliver enhanced computing power through evolutionary innovation on smaller mobile devices (Cortimiglia et al., 2013). With the continuous increase in individual disposable income, there has been a significant shift in consumer attitudes and aspirations

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regarding buying behaviour and brand preference, driven by their diverse characteristics and the rising trend of mobile device adoption, such as smartphones. Consequently, research in this area is growing (Mohan, 2014). Scholars agree that the impressive growth in smartphone usage has sparked increased interest among researchers and academics due to the constant addition of new product features that lead to more excellent product selection choices, ultimately influencing consumers' purchase intentions (Appiah et al., 2017).

Undoubtedly, brand switching occurs when consumers are motivated to evaluate their available purchase alternatives due to many highly competitive technology brands in the market (Seiders & Tigert, 1997). The future will see average consumers having unlimited access to a market of mobile devices with new, high-tech features at lower prices. For instance, the latest tablet computers, now more affordable, come with advanced technological features such as high-speed Internet, lightweight design, and long battery life. Once considered luxuries, these features have become basic necessities (Ray, 2009).

As of 2021, Malaysia's population exceeds 32 million (World Population Review, 2021), with approximately 29 million smartphone users. The younger generation, including Millennials and Gen Z, tend to own smartphones more frequently than the older generation (Müller, 2021). Generation Z in Malaysia, born between 1995 and 2010, makes up 26% of the population, with most owning smartphones due to growing up with the Internet and seamlessly navigating between online and offline worlds (Media, 2019). Meanwhile, Gen Y or Millennials are technologically sophisticated, dominating a large segment of the smartphone market, with their purchase intentions influenced by factors such as perceived ease of use and perceived usefulness (Hussein, 2016).

Since the onset of the Covid-19 pandemic in early 2020, there has been a significant increase in market demand for smartphones and tablets. Before the pandemic, consumer demand for new smartphones was lacklustre due to market saturation. However, the demand for these mobile devices surged again, bringing positive news for electronic companies (Oomen, 2020). Recently, global sales of tablets have soared as the pandemic has forced many people to switch to remote work and home-based activities. The demand for these popular devices has grown enormously in Malaysia due to the imposed and extended stay-at-home Movement Control Order (MCO) 3.0, which has prepared many Malaysians to work and study remotely (Hassan, 2021).

The Movement Control Order (MCO) 3.0 has prepared many Malaysians to work and study remotely (Hassan, 2021). Globally, the number of smartphone users has been increasing significantly due to the smartphone industry's growth, which continually develops new operating systems with rich software applications (Martins et al., 2019). However, despite the constant media hype around the latest smartphone releases like iPhones, many consumers face a social dilemma regarding whether to buy for collective social gain or prioritize self-interest (Gupta & Ogden, 2009). This dilemma is heightened by the vast array of consumer electronic brands, including dominant players like Samsung, Huawei, and Apple, as well as smaller competitors such as Oppo and Xiaomi. Conventional wisdom suggests that consumers act rationally by choosing goods that offer the most significant value at the least cost. However, research has shown that this is only sometimes the case, as consumers often act irrationally and may focus on

emotions like happiness or pleasure that influence their buying behaviour (Bilge, 2015).

Past studies have concluded a significant relationship between human behaviours, such as obedience to others' expectations and uncertain circumstances, and the intention to buy (Rai, 2019). Additionally, the theory of planned behaviour has been widely used to predict consumers' food choice intentions (Armitage & Conner, 1999). However, more research is needed on the purchase intention and usage behaviour of smartphones and tablets in this context. Similar issues arise with the technology acceptance model (TAM) theory. Scholars have identified several limitations of TAM, including its insufficiency in explaining user behaviour regarding buying, rejecting, or accepting technology. Some argue that TAM cannot adequately predict the acceptance of information communication technology (Ajibade, 2018). Another limitation of TAM is that it needs to account for the variety of user task environments and constraints (Olushola & Abiola, 2017).

Therefore, this study aims to understand the reasons behind consumers' purchasing decisions in the mobile device category using the Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM) as guiding frameworks. Based on primary data from customer insights regarding purchase choices and usage behaviour, the research outcome can provide consumer electronics companies with valuable information to develop more effective marketing strategies for mobile devices aimed at the mass market. The general objective of this study is to understand better the factors influencing mobile device purchase intentions among current students and alumni of an Association to Advance Collegiate Schools of Business (AACSB)- accredited university in Sarawak.

Specifically, the identified research objectives of this study are:

Research Objective 1: To investigate the impact of attitude on purchase intentions of mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

Research Objective 2: To investigate the impact of subjective norms on purchase intentions of mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

Research Objective 3: To investigate the impact of perceived behavioural control on purchase intentions of mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

Research Objective 4: To investigate the impact of perceived usefulness on purchase intentions of mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

Research Objective 5: To investigate the impact of perceived ease of use on purchase intentions of mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

2. LITERATURE REVIEW

2.1 Mobile Devices- Smartphones and Computing Tablets

Mobile phones and smartphones have become a global phenomenon, with the number of subscribers increasing daily (Ebrahim et al., 2016). These devices are regarded as compact personal computers, combining full cell phone functionality with complete wireless data connectivity. They operate as fully functional pocket PCs, utilizing the Global System for Mobile Communication (GSM) for voice and General Packet Radio Service (GPRS) for data (Ammenwerth, 2000).

Tablets, or "tablet PCs," are fully functional standalone computers the size of a thin LCD monitor, utilizing the screen for control and data input (Székely et al., 2012). Sales statistics for computing devices have shown that users are not simply replacing their units one by one but are instead adding more devices to their collections. Consequently, the top three smartphone brands by global market share and shipment volume are Samsung, Xiaomi, and Apple. As of 2021, Apple and Samsung lead the global tablet market, with Apple holding a 31.9% share and Samsung a 19.6% share (Vailshery, 2021).

The market environment for consumer electronics, particularly the smartphone segment, is fiercely competitive and constantly evolving. Key factors influencing consumer purchase intentions include price, brand, and interface (Karjaluo et al., 2005). According to Ismail et al. (2012), the most crucial factors affecting a consumer's final purchase decision are the price and quality of the product. Additionally, in the quest for social status, consumers often prefer global brands as they are associated with higher prestige, enhancing their self-image as sophisticated, modern, and cosmopolitan.

Furthermore, brand awareness enhanced by celebrity endorsement will foster a positive attitude, positively influencing purchase intention (Hameed et al., 2023). Burt and Davies (2010) noted that academics are interested in understanding the healthy sales growth of specific retail product categories and the reasons behind their popularity among consumers. Consequently, various factors can influence a consumer's decision to purchase a smartphone or tablet, such as the need to upgrade, community trends, new software releases, personal needs, dependency, and convenience. Marketers must understand these motivations to develop effective marketing strategies (Yee et al., 2013). However, it is essential that engaging in mobile-based advertising by encroaching on consumer privacy and without their permission is not an appropriate way to achieve its desired benefits (Hadi & Aslam, 2023).

2.2 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) is a conceptual framework that elucidates human behaviour and is extensively utilized across various domains such as health, marketing, and education. This theory, an enhancement of the theory of reasoned action developed by Ajzen and Fishbein in the early 1970s and 1980s, addresses the original model's shortcomings in accounting for behaviours over which individuals have limited volitional control (Ajzen, 1991). Since its inception in 1985, the TPB has become one of the most frequently referenced and impactful models for predicting human behaviour (Ajzen, 2011).

The central premise of this concept is that an individual's actual behaviour is directly influenced by their behavioural

intention, which is shaped by three constructs: attitude towards the behaviour, subjective norms, and perceived behavioural control. This well-established framework is used for "conceptualizing, measuring, and empirically identifying factors that determine behaviour and behavioural intention" (Vermeir & Verbeke, 2008). According to the TPB model, human behaviour is influenced by three types of beliefs: behavioural beliefs, normative beliefs, and control beliefs. These lead to specific outcomes such as attitudes towards the behaviour, subjective norms, and perceived behavioural control (Yadav & Pathak, 2017). Understanding human behaviour is complex and challenging, but it becomes more comprehensible when considering environmental and biological influences (Kassim et al., 2019). Most human actions result from full control or a complete lack of self-control. For instance, a person exhibits total control when there are no constraints on adopting a behaviour. At the same time, another may lack self-control to prevent an action if adopting the behaviour requires specific skills, resources, or opportunities (Godin & Kok, 1996).

There has been limited research on applying the TPB to the context of purchasing consumer electronics, such as smartphones and tablets. However, the theory has been extensively explored in other areas, such as purchasing green products. Previous studies have demonstrated that the TPB has been applied to various eco-friendly products and services, including energy-efficient items (Ha & Janda, 2012). Thus, the same TPB constructs can be utilized to explain consumers' behavioural intentions in the electronics market. The decision to buy a smartphone or tablet is heavily influenced by recurring factors such as ease of use, access to product information, previous experience, and perceived product quality, which vary among different consumers (Ahmad & Anders, 2012). Moreover, the price-quality relationship influences mobile gamers' purchase intentions. Price sensitivity affects the price-quality relationship and purchase intentions, while perceived quality impacts price sensitivity. Additionally, referrals from other gamers influence perceived quality and gamer identity (Mainardes et al., 2023).

Previous studies have demonstrated that a consumer's satisfaction with a retail brand and their likelihood of repurchasing is partly influenced by their perceptions of front-line store employees' performance, conscientiousness, and the additional roles they perform to assist consumers, which ultimately affect purchase intentions (Maxham et al., 2008). Additionally, store employees' ability to effectively employ adaptive selling (AS) techniques—adjusting sales behaviour during consumer interactions based on different selling situations—has significantly enhanced in-store purchases (Rippé et al., 2016).

2.3 Technology Acceptance Model (TAM)

Additionally, a consumer's intention to purchase mobile devices is influenced by their perceived usefulness and ease of use, which are the core constructs of the Technology Acceptance Model (TAM). TAM is the most influential and widely used theory for explaining an individual's acceptance of information systems (Lee et al., 2003). This framework, developed by Fred Davis and Richard Bagozzi in 1986, examines behaviour in technology adoption. Davis (1989) defined perceived usefulness (PU) as the extent to which a person believes that using a specific information system will improve their job performance and perceived ease of use (PEOU) as the extent to which a person believes that using the

system will be effortless (Fayad & Paper, 2015). These two TAM constructs have been extensively researched, validated, and replicated by information system (IS) scholars to predict individual acceptance and adoption of various IT-enabled devices from the perspective of user and usage behaviour (Yadav & Mahara, 2017). Previous studies have also explored TAM's application in retail contexts (Gillensen & Sherrell, 2012), which aligns with the focus of this research on the intention to purchase smartphones and tablets.

Scholars have suggested that in the TAM, perceived ease of use (PEOU) and perceived usefulness (PU) positively influence individual attitudes toward an information system, affecting their intentions to use it. Researchers have extensively employed this model to predict information technology acceptance, adoption, and use (Chen et al., 2011). Consequently, the PEOU and PU constructs of TAM have demonstrated high reliability, validity, and robustness in instrument design. Therefore, TAM can effectively evaluate user acceptance of information systems in various domains, including mobile device adoption, consistently explaining variations in usage intentions and behaviour (Ghazizadeh et al., 2012).

2.4 Purchase Intention

A consumer's prediction of purchase intention can also be explained by their identities, attitudes, values, or beliefs, which form an extended part of the TPB model. Scholars have proposed a direct relationship between self-identity and one's behaviour or the expectations of others (Terry et al., 1999). Generally, a positive attitude correlates with a positive behavioural outcome, while a negative attitude result in a negative one. Jee and Ernest (2013) define *personal values* as educated beliefs that serve as guiding principles in life, influencing product and brand preferences. Additionally, TPB can positively affect consumer satisfaction and repurchase intentions in consumer electronics, leading to consistent repeat purchases of their preferred technology brands and reducing the impact of other compelling brands (Chinomona & Sandada, 2013).

3. DEVELOPMENT OF RESEARCH FRAMEWORK AND HYPOTHESES

3.1 Attitude (ATT)

The first of the three TPB constructs is the attitude towards behaviour, which refers to the extent to which a person has a favourable or unfavourable evaluation of the behaviour in question (Ajzen, 1991). This attitude is shaped by personal beliefs that influence an individual's performance of a specific behaviour. As TPB uses the expectancy-value model to describe how attitudes towards a behaviour are formed, Ajzen et al. (2020) suggested that a behavioural belief is an individual's subjective probability that engaging in a particular behaviour will result in a specific outcome or experience. Therefore, the following hypothesis is proposed:

Hypothesis 1: Attitude has a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.

3.2 Subjective Norms (SN)

Another hypothesized dimension of TPB is the subjective norm, which includes reference groups—individuals who significantly influence a person's core values, such as their beliefs, aspirations, and choices, thereby affecting their purchase intentions (Lin & Chen, 2009). Influential reference groups that exert social pressure, either supporting or opposing a given behaviour, include friends, peers, spouses, children, and older adults (Sangkakoon et al., 2014). According to TPB, when a person has a positive attitude, the subjective norm will be stronger, along with a greater perceived control over the behaviour, increasing the likelihood of performing the behaviour (Rise et al., 2010). This study hypothesizes that:

Hypothesis 2: Subjective norms have a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.

3.3 Perceived Behavioural Control (PBC)

In perceived behavioural control (PBC), there can be a conflicting relationship between a consumer's attitude and their intention because their intention to purchase a new smartphone or tablet might be influenced by factors such as price, preventing an actual purchase despite initial interest (Kim & Chung, 2011). Ketabi et al. (2014) explain that this behaviour reflects an individual's perception of the availability or lack of necessary resources and opportunities to engage in that behaviour. When an individual intends to perform a behaviour and has a high level of behavioural control, they are likely to follow through (Hamilton & Smit, 2018). This is the belief that individuals can perform the behaviour if they choose to do so (Chen, 2007). Therefore, the third hypothesis is suggested below:

Hypothesis 3: Perceived behavioural control has a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.

3.4 Perceived Usefulness (PU)

The second aspect of TAM, Perceived Usefulness, refers to the degree to which an individual believes that using a specific technology will improve their job performance, and it is hypothesized to directly predict an individual's intention to use the technology in question (Hamid et al., 2016). Some scholars argue that Perceived Usefulness is the primary predictor of technological adoption in developing countries, as per conventional wisdom (Brown, 2002). For instance, Malaysian consumers may perceive that smartphones or tablets will enhance their daily productivity. Therefore, the following hypothesis is proposed:

Hypothesis 4: Perceived usefulness has a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.

3.5 Perceived Ease of Use (PEOU)

The last dimension of TAM, Perceived Ease of Use, refers to the extent to which potential users believe using a system will be effortless. A system perceived as challenging to use is likely to be seen as less applicable by users, potentially leading to abandonment (Mangin et al., 2011). Previous research has proposed that Perceived Ease of Use directly influences IT

adoption, particularly when the primary task for which the IT is used is associated with intrinsic characteristics that ultimately serve as the primary "ends," such as products and services for which the IT is utilized (Gefen & Straub, 2000). For instance, consumers may purchase their smartphones or tablets through e-commerce apps or websites. Therefore, the final hypothesis is proposed below:

Hypothesis 5: Perceived ease of use has a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.

Figure 1 represents the framework used in this study with attitude, subjective norms, perceived behavioural control, perceived usefulness, and perceived ease of use as independent variables, and intention to purchase mobile devices as the dependent variable.

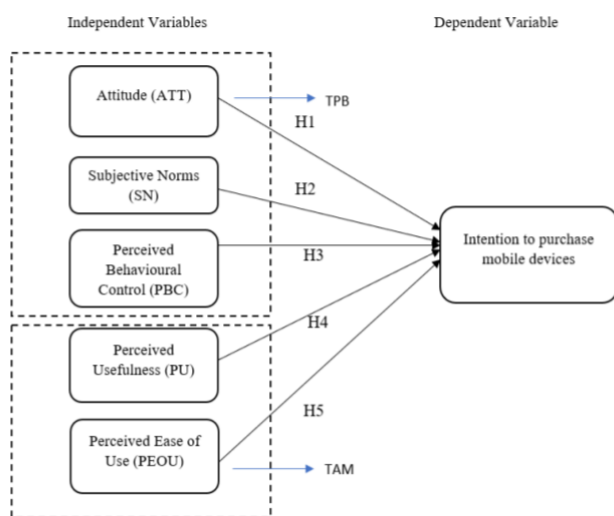


Fig. 1. Research Framework

4. METHODOLOGY

4.1 Research Design

This study utilized a quantitative approach, employing survey questionnaires for data collection, which is subsequently analysed statistically to extract insights. Quantitative research, being non-experimental and descriptive, examines objective theories by investigating the relationships between variables. These variables are measured using questionnaire, allowing numerical data to be analysed through statistical procedures. Descriptive and correlational research aids in collecting data about current conditions, situations, or events without manipulating independent variables (Khaldi, 2017).

4.2 Sample Size and Sampling Technique

Participation in this research was voluntary, with respondents not being pressured into participating. Before their involvement, participants were provided with informed consent regarding the research procedures, and they consented to participate with the assurance of confidentiality protection. Conducting online surveys and gathering primary research data from them is preferred due to several advantages. Online surveys offer flexibility in various formats, can be administered to the public promptly, often quicker than field surveys, and

respondents can answer at their convenience, taking as much time as needed for each question (Evans & Mathur, 2005). This study's target population consists of students and alumni of an AACSB-accredited university in Sarawak. This group of individuals is particularly suitable for this research study because they are more technology savvy, and some tend to own multiple mobile device brands. This university typically has an annual student population of approximately 3500 students across various levels, as indicated by internal data from the Marketing Department and marketing publications such as the undergraduate prospectus.

The researchers utilized convenience and random sampling methods to gather samples. This approach was chosen because of the researchers' easy access to the nearby population and willingness to participate in the study (Kivunja, 2015). A total of 200 research participants were selected to complete the survey, all of whom were current students or alumni of an AACSB-accredited university in Sarawak. Having a minimum of 200 samples is recommended to achieve statistical significance in research, which helps reduce sampling error. Using a smaller group of people (200 participants) can make statistical inferences about larger groups that would otherwise be too costly to study (Bartlett et al., 2001). Therefore, the researchers recruited up to 200 students and alumni by leveraging social media platforms such as Facebook, Instagram, and LinkedIn to publicly invite friends and followers to participate in the survey research.

4.3 Research Instrument

The research instrument used in this study was an online survey questionnaire. The questions for the Attitude (ATT) construct in the TPB were adopted from Ajzen (2006) and Flowers et al. (2017), while those for Subjective Norms (SN) and Perceived Behavioural Control (PBC) were adopted from Ajzen (2006) and Peña-García et al. (2020). For TAM, the constructs for Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) were adapted from Davis (1989). The questions related to the dependent variable, purchase intention, were adapted from Ajzen (2006) and Zhang et al. (2019). The questionnaire used a 7-point Likert scale, allowing participants to express their agreement or disagreement with statements, reflecting their opinions, attitudes, or feelings on specific issues (Nemoto & Beglar, 2014).

5. DATA ANALYSIS

The data was analyzed using the IBM Statistical Package for Social Sciences (SPSS). Initially, the researcher conducted descriptive analysis, including Frequency, Mean, and Standard Deviation, to measure demographic variables. Subsequently, correlation analysis was employed on the five research hypotheses to determine the strength of association between variables. SPSS software was also utilized for validity and reliability testing. In SPSS Statistics, Cronbach's Alpha (α) is the most common measure of internal consistency or reliability, mainly when survey questionnaires contain multiple Likert-scaled questions, addressing potential concerns about their reliability (Laerd Statistics, 2018). Cronbach's Alpha results range from 0 to 1, with a score of 0.7 or higher indicating acceptable reliability (Shuttleworth, 2015). Higher Cronbach's Alpha values also signify better relevance between different measurement items, thus indicating higher internal consistency and reliability (Jin & Qi, 2018).

5.1 Validity of the Instrument

Validity pertains to the extent to which an instrument measures what it is intended to measure, while reliability refers to the ability of a research instrument to measure consistently (Tavakol & Dennick, 2011). Face validity was ensured by two experienced researchers reviewing the research instrument before gathering data from the target respondents. Additionally, the instrument underwent pre-testing with five randomly selected respondents. Based on their feedback, the questions were reviewed and amended accordingly.

5.2 Reliability of the Instrument

A reliability test was conducted to assess the internal consistency of the instruments. Cronbach's Alpha is the average reliability coefficient value derived from standardized items within a specific research context. Table 1 presents the reliability test results for all variables, showing Cronbach's Alpha values for 20 items ranging from 0.703 to 0.897. According to Ursachi et al. (2015), a Cronbach's Alpha value between 0.6 and 0.7 indicates an acceptable level of reliability, while a value of 0.8 or higher indicates excellent reliability. It is important to note that values exceeding 0.95 may suggest redundancy and are not necessarily desirable. Nonetheless, the results indicated that all variables were valid and reliable for the study.

Table 1. Reliability Test

Construct	Cronbach's Alpha	No. of Items
Attitude	0.749	3
Subjective Norms	0.897	3
Perceived Behavioural Control	0.860	3
Perceived Usefulness	0.856	3
Perceived Ease of Use	0.874	4
Perceived Intention	0.703	4

6. RESULTS

6.1 Characteristics of the Respondents

The initial stage of the data analysis involved examining the participants' demographic profiles. This evaluation included gender, age, and years of work experience. Female participants outnumbered male participants, making up 58.0% compared to 42.0%. The most common age group among respondents was 21-24 (64.5%). Those aged 25-28 comprised 15.0%, followed by 10.0% in the 18-20 age range. Participants aged 37-40 represented 5.0%, those aged 29-32 accounted for 3.5%, and a small fraction of 2.0% fell within the 33-36 age range. Most participants, 51.0%, had no work experience. Respondents with 1-10 years and less than one year of work experience made up 22.5% and 20.0%, respectively. Additionally, 4.5% of participants had 11-20 years of work experience, while a minority, comprising 1.0%, had over 30 years and 21-30 years of work experience. A detailed breakdown of the respondents' demographic profiles is provided in Table 2.

Table 2. Demographic Profile of Respondents

Characteristics		Frequency	Percent (%)
Gender	Male	84	42.0
	Female	116	58.0
Age	18 to 20 years	20	10.0
	21 to 24 years	129	64.5
	25 to 28 years	30	15.0
	29 to 32 years	7	3.5
	33 to 36 years	4	2.0
	37 to 40 years	10	5.0
Working Experience	1 to 10 years	45	22.5
Experience	11 to 20 years	9	4.5
	21 to 30 years	2	1.0
	Less than 1 year	40	20.0
	More than 30 years	2	1.0
No working experience		102	51.0

6.2 Means and Standard Deviations of the Variables

As shown in Table 3, the integrated descriptive findings indicated a very positive attitude towards using smartphones and tablets (overall mean = 6.070, overall standard deviation = 0.996). Additionally, their subjective norms and perceived behavioral control were moderate (overall mean = 4.987, overall standard deviation = 1.399) and (overall mean = 5.270, overall standard deviation = 1.567), respectively. The perceived usefulness among respondents was very high (overall mean = 6.177, overall standard deviation = 0.935). Their perceived ease of use was the highest (overall mean = 6.255, overall standard deviation = 0.781), and their purchase intention was also at a good level (overall mean = 6.063, overall standard deviation = 1.009).

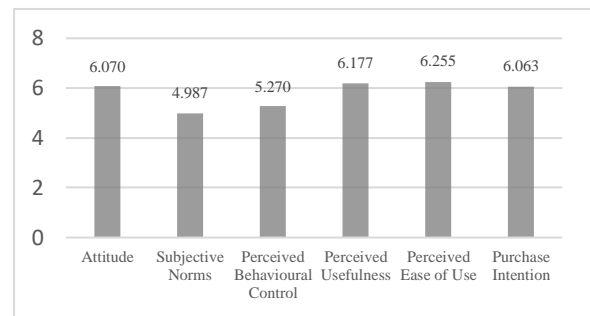


Fig. 2. Levels of Attitude, Subjective Norms, Perceived Behavioral Control, Perceived Usefulness, Perceived Ease of Use, and Purchase Intention

6.3 Hypotheses Testing

Pearson Correlation was employed to assess the significance of the five hypotheses. Before this, a normality test was conducted using skewness of distribution. The results indicated that the variables were negatively skewed and normally distributed, as indicated in Figure 3, justifying using the Pearson Test.

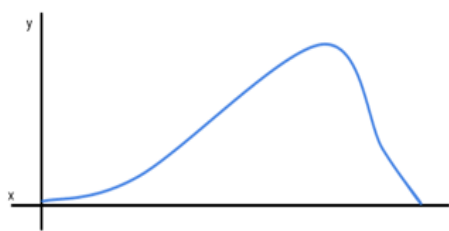


Fig. 3. Negatively Skewed Normal Distribution

6.4 Correlation of Attitude and Purchase Intention

According to Table 3, Attitude and Purchase Intention exhibit a moderate correlation (Correlation, $r = 0.565$, $p = 0.000$). This indicates that as the likelihood of a positive attitude increases, the likelihood of purchase intention also rises. This signifies a significant relationship between a consumer’s attitude and their intention to purchase mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

Table 3. Attitude and Purchase Intention

Correlations			
Variables		Attitude	Purchase intention
Attitude	Pearson Correlation	1	0.565**
	Sig. (2-tailed)		0.000
	N	200	200
Purchase Intention	Pearson Correlation	0.565**	1
	Sig. (2-tailed)	0.000	
	N	200	200

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

Correlation of Subjective Norms and Purchase Intention

The results from Table 4 indicate a moderate correlation between Subjective Norms and Purchase Intention (Correlation, $r = 0.504$, $p = 0.000$). This suggests that as the influence of subjective norms increases, the likelihood of purchase intention also rises. This signifies a significant relationship between a consumer’s subjective norms and their intention to purchase mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

Table 4. Subjective Norms and Purchase Intention

Correlations			
Variables		Subjective norms	Purchase intention
Subjective Norms	Pearson Correlation	1	0.504**
	Sig. (2-tailed)		0.000
	N	200	200
Purchase Intention	Pearson Correlation	0.504**	1
	Sig. (2-tailed)	0.000	
	N	200	200

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

6.5 Correlation of Perceived Behavioural Control and Purchase Intention

Table 5 reveals a weak correlation between Perceived Behavioural Control (PBC) and Purchase Intention (Correlation, $r = 0.322$, $p = 0.000$). This indicates that as

perceived behavioural control increases, the likelihood of purchase intention also increases, but the relationship is weak. This suggests that perceived behavioural control has a limited influence on their intention to purchase mobile devices among current students and alumni of an AACSB-accredited university in Sarawak. This is likely because consumers have the confidence, ability, time, and resources to make informed purchase decisions, which are entirely under their control.

Table 5. Perceived Behavioral Control and Purchase Intention

Correlations			
Variables		Perceived behavioural control	Purchase intention
Perceived Behavioural Control	Pearson Correlation	1	0.322**
	Sig. (2-tailed)		0.000
	N	200	200
Purchase Intention	Pearson Correlation	0.322**	1
	Sig. (2-tailed)	0.000	
	N	200	200

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

6.6 Correlation of Perceived Usefulness and Purchase Intention

Table 6. Perceived Usefulness and Purchase Intention

Correlations			
Variables		Perceived usefulness	Purchase intention
Perceived Usefulness	Pearson Correlation	1	0.505**
	Sig. (2-tailed)		0.000
	N	200	200
Purchase Intention	Pearson Correlation	0.505**	1
	Sig. (2-tailed)	0.000	
	N	200	200

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

Table 6 shows a moderate correlation between Perceived Usefulness and Purchase Intention (Correlation, $r = 0.505$, $p = 0.000$). This indicates that the likelihood of purchase intention also rises as the perceived usefulness increases. This signifies a significant relationship between a consumer’s perceived usefulness and their intention to purchase mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

6.7 Correlation of Perceived Ease of Use and Purchase Intention

Table 7 indicates a moderate correlation between Perceived Ease of Use and Purchase Intention (Correlation, $r = 0.453$, $p = 0.000$). This suggests that as perceived ease of use increases, the likelihood of purchase intention also rises. This signifies a significant relationship between a consumer’s perceived ease of use and their intention to purchase mobile devices among current students and alumni of an AACSB-accredited university in Sarawak.

Table 7. Perceived Ease of Use and Purchase Intention

		Correlations	
Variables		Perceived ease of use	Purchase intention
Perceived Ease of Use	Pearson	1	0.453**
	Correlation		
	Sig. (2-tailed)		0.000
	N	200	200
Purchase Intention	Pearson	0.453**	1
	Correlation		
	Sig. (2-tailed)	0.000	
	N	200	200

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

Table 8. Summary of Hypotheses Testing

Hypotheses	Supported / Not Supported
H1: Attitude has a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.	Moderately Supported
H2: Subjective norms have a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.	Moderately Supported
H3: Perceived behavioural control has a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.	Weakly Supported
H4: Perceived usefulness has a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.	Moderately Supported
H5: Perceived ease of use has a significant relationship with the purchase intentions of mobile devices among consumers who are current students and alumni of an AACSB-accredited university in Sarawak.	Moderately Supported

7. DISCUSSIONS

Based on the findings, it can be concluded that attitude has the strongest correlation with purchase intention ($r = 0.565$, $p = 0.000$), while perceived behavioural control has the weakest correlation with purchase intention ($r = 0.322$, $p = 0.000$). This indicates that most consumers base their decision to purchase smartphones and tablets on their attitudes, as they find these devices moderately beneficial and enjoyable to use daily. This finding is supported by Lei et al. (2009), who suggested that consumers' attitudes towards using smartphones and tablets are influenced by convenience, personal efficiency, information immediacy, and contact ability. prospectus.

The results show a moderate relationship between a consumer's attitude and purchase intention. Scholars suggest that attitudes are relatively stable and enduring predispositions that influence consumer behaviour, making them helpful in predicting how consumers will react to a product or service (Sallam & Algammash, 2016). Positive feelings and a strong brand image are crucial factors that shape consumers' attitudes and purchase intentions (Suki, 2016). Consequently, Malaysian consumers generally have a favourable attitude towards purchasing smartphones and tablets. prospectus.

The findings indicate a significant relationship between subjective norms and the purchase intention of smartphones and tablets. Subjective norms refer to the social pressure individuals feel from essential people to perform or avoid a specific behaviour (Zubaidi, 2020). This social pressure, influenced by social interactions, can cause someone to act in ways that might not be typical (Rachmawati et al., 2020). When new smartphones like iPhones or tablets like iPads are released, Malaysians with a favourable view of the brand will likely consider purchasing them after consulting with loved ones and friends who also use the same brand.

Interestingly, a significant relationship exists between perceived behavioural control and the intention to purchase mobile devices. Actual behavioural control pertains to an individual's ability to perform a behaviour, moderating the impact of their intentions (Billari et al., 2009). Previous research has shown that product availability and price primarily influence an individual's perceived difficulty in performing a behaviour (Wijyaningtyas et al., 2019). For instance, the availability and cost of a newly released smartphone can restrict, impede, limit, or even prevent someone from forming a purchase intention. However, the relationship between these variables is weak, possibly due to the busy and hectic lifestyles of modern society, especially among dual-career couples who juggle work and home responsibilities (Roberta & Dierdre, 2005), leaving them with insufficient time and resources to buy a smartphone or tablet.

The findings reveal a significant relationship between perceived usefulness and the purchase intention of smartphones and tablets among students and alumni of an AACSB-accredited university in Sarawak. Some scholars argue that some individuals own smartphones primarily for prestige rather than their valuable features, such as excellent screen display and the latest technology, because they need to fully understand the device's features (Ismail, 2016). In this context, perceived usefulness refers to how well consumers believe mobile devices can be integrated into their daily activities. As perceived usefulness increases, so does the user's positive attitude towards using a smartphone, influencing their intention to use and ultimately leading to a purchase intention (Park & Chen, 2007).

The results also indicate a significant relationship between consumers' perceived ease of use and their intention to purchase smartphones and tablets. Convenience has been a crucial factor influencing customers' attitudes and behaviours in the online environment (Cho & Sagynov, 2015). In consumer electronics, ease of use refers to how effortlessly a person can operate a smartphone or tablet.

8. THEORETICAL IMPLICATIONS

Theoretically, this study confirms the applicability of the Theory of Planned Behavior (TPB) and Technology

Acceptance Model (TAM) frameworks in predicting consumers' buying intentions and behaviours towards mobile devices, specifically smartphones and tablets, during the COVID-19 pandemic in Malaysia. Practically, there has been limited research on purchase intentions and behaviours towards mobile devices during the pandemic. This study aims to fill that gap by demonstrating that all the variables (constructs) of TPB and TAM have positive relationships with purchase intention. Additionally, this research offers current and future academic scholars' insights into how attitude, subjective norms, perceived behavioural control, perceived ease of use, and perceived usefulness influence consumers' purchase intentions for smartphones and tablets.

9. PRACTICAL IMPLICATIONS

The present study reveals that attitude has the highest correlation coefficient with purchase intention among the tested variables. Tech-savvy consumers tend to base their buying decisions primarily on their attitudes. To foster a positive or appealing attitude among phone or tablet buyers, marketers representing major technology brands such as Apple, Huawei, and Samsung must continually refine their marketing mix strategies to win consumers' hearts. With the current shift towards digital marketing, marketing managers and executives need to establish robust, permanent digital strategies. Interactive videos and well-crafted content marketing are among the best tools to capture buyers' attention. Mobile device manufacturers must also ensure that user interfaces are simple and easy to use, as complicated designs can negatively impact the consumer's usage experience.

10. LIMITATIONS OF THE STUDY

Several assumptions have been made regarding this research and the use of existing variables from past literature. Firstly, the researcher will collect primary data from up to 200 survey participants due to potential time constraints. Consequently, the final results of this research may not accurately reflect the opinions of the broader population, leading to a sampling error. This might result in less accurate insights into the factors influencing customers' purchase intentions for smartphones and tablets. Another potential limitation is that it is a quantitative study that does not allow in-depth or detailed responses. This limitation can introduce bias, as respondents might become bored and lose interest, causing them to select responses quickly without thoroughly considering the questions.

11. RECOMMENDATIONS

Future academic scholars can enhance this research by increasing the sample size for greater data reliability, leading to more accurate interpretation results. Additionally, the current research's conceptual framework can be expanded by incorporating other recently identified extended constructs of TPB, such as a customer's past behaviour and personal beliefs, as independent variables. This expansion would provide deeper insights into consumers' purchase behaviour regarding mobile devices and further contribute to the academic body of knowledge.

12. CONCLUSION

The primary focus of this study is to predict the purchase intention of smartphones and tablets during the COVID-19 pandemic among Malaysian consumers, specifically current students and alumni of an AACSB-accredited university in Sarawak who are working adults. The correlation test using SPSS revealed that attitude strongly influences a consumer's decision to purchase a smartphone, tablet, or both, with a positive attitude significantly prompting purchase. Other factors, such as subjective norms and perceived usefulness, also play essential roles in influencing purchase decisions, though to varying degrees. The independent variable with the weakest influence on consumer purchase decisions is perceived behavioural control.

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