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# Examining the behavioral intention toward using smartphone among the university students in Bangladesh

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## Abstract

This study endeavors to explore the factors affecting the behavioral intention toward using smartphone by university students in Bangladesh. In this study, "Technology Acceptance Model" (TAM) and "Theory of reasoned action" (TRA) have been integrated to examine the factors that influence attitude as well as an intention toward using smartphone. Factors used in the basic "Technology Acceptance Model" (TAM) include "Perceived Ease of Use" and "Perceived Usefulness". "Subjective Norm", deriving from "Theory of Reasoned Action" (TRA), is integrated with the theoretical framework. In this study, a survey is conducted on 428 students of 10 different universities in Bangladesh. Based on a theoretical framework of the study, a questionnaire is adopted from TAM using a seven point Likert's scale. Statistical techniques such as multicollinearity test, reliability test, construct and discriminant validity, path analysis, and hypothesis testing are used to analyze the primary data. Findings reveal that "Perceived Ease of Use", "Perceived Usefulness" along with "Subjective Norm" have significant influence on "Attitude toward using smartphone" that directly impact "Behavioral Intention".

**Keywords** Smartphone, Behavioral intention, University students, TAM, TRA

**Paper type** Research paper

## Introduction

Smartphone has been a great communication tool that connects the people globally. Needless to say, people at different ages use smartphones. Among different categories of customers based on their ages, young generation represent the most intensive users of it. It has become so indispensable of our life that no one can think of living a day without it. It serves us in myriads of ways that we could never imagine even a few years ago. By bringing a multitude of information resources within reach and bridging the communication gap through social networking sites, it has shortened the distance between people. The invention of smartphones

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has revolutionized our life so dramatically. Every day, we wake up by the alarm set in our smartphones and spend a significant amount of time with this device before we go to sleep. Besides making phone calls, texting, and emailing, people around the world now use these devices to read books or articles, to learn different types of skills, to compare product reviews and prices, to watch the news, to watch movies, to listen to music, to play video games, to learn playing musical instruments and, not least of all, to join in social media. Everyone remains in touch of it in any event whether it is in a public space, the workplace, or a family gathering. Research studies found that most individuals, especially the younger generation, are constantly busy on the phone, checking messages, watching or sharing movies, updating their status on social media, conversing, and other activities. So, it has become an inevitable aspect of people's lives and their life would be difficult to manage without it. The innovation of smartphone has significantly changed the way that consumers, industries or businesses operate. Unquestionably, smartphone technology has benefited our society in many ways. For example, it has made financial transactions possible for millions of people who do not have access to banks, or it has made it possible for rescue workers in disaster zones to locate the exact location where their assistance is most urgently needed. This ground breaking technology has completely created a new market and industry. According to The Bangladesh Telecommunication Regulatory Commission, total number of mobile phone subscribers reached 182.92 million in the first quarter of 2022 and the total number of mobile Internet subscribers has reached 122.89 million in the first quarter of 2022(FE Report, 2022). According to the Global System for Mobile Communications Association's most recent report, Bangladesh's smartphone adoption rate will rise from 47% last year to 63% by 2025. (GSMA) (Islam, 2022). Impact of smartphone on people's lifestyle reached so high that no one can imagine a day without it. According to recent census, mobile phone users reached 55.89% of total population of Bangladesh and 30.68% of them use the internet. (Census, 2022). The objective of this study is to investigate the behavioral intension toward using smartphone. A thorough literature study shows that several studies have been conducted on the factors affecting behavioral intension toward using smartphone in different countries. However, no such work has been found in Bangladesh context combining two models of technology adoption (TAM and TRA).

**Literature review**

The intense use of smartphone is soaring so rapidly at different ages of people. Easy access to the internet and use of different application software

enabled smartphones more user friendly (Kwon, Kim, Cho, & Yang, 2013). It is not mere a communication device now, rather it has become an indispensable object of our life (Sata, 2013). People use smartphone for a myriad of activities and use of social media is the most common and frequently used activity among them (Silver, Aaron, Courtney, Jingjing, Monica, & Lee, 2019). However, this device is not only linking individuals with social networks, but also getting people connected, creating entertainment, surfing the web, releasing from monotonous life and keeping the people busy (Kriswanto, PS, Meikahani, & Suharjana, 2018). Many executives, academics, and researchers have shown their interest in the aspects that affect consumers' buying intentions and behavior due to the rise in mobile phone users and usage (Walia & Singla, 2017). A good number of factors, impacting attitude and intention to use smartphone, were uncovered through their studies. These considerations include things like product cost, product attributes, perceived quality, brand name, durability, social considerations, simplicity of use, comfort of handling, brand marketing, phone size, and appearance, among others. (Park & Chen, 2007; Azad & Safaei, 2012; Keelson, 2012; Sata,2013; Kaushal & Kumar, 2016). However, very little research has been conducted in the context of Bangladesh, specifically on young consumers represented by university students and their attitude and intention toward using it. A number of theoretical models have been proposed and developed by academics and researchers that have concentrated on identifying variables that affect the behavioral intention toward using smartphone. Although diverse theories and models have long been developed to analyze consumers' intention to accept and use technology, TAM (Technology Acceptance Model) is considered as the most widely used model.

TAM shows that a technology's *"Perceived Usefulness"* (PU) and *"Perceived Ease of Use"* (PEOU) are the main determinants that influence people's attitude and *"Behavioral Intention to Use"* it. "Perceived Usefulness" (PU), "Perceived Ease of Use" (PEOU), "Attitude toward using smartphone" (ATS), "Behavior Intention" (BI), and "Actual use" (AU) are the five elements that construct the basic structure of TAM. It explains the causal connections between the design elements of the system, their "perceived usefulness", "perceived ease-of-use", "attitude toward use", "behavioral intention" and "actual use". In a study, Holden and Rada (2011) stated that TAM had been constructed initially for technology usefulness assessments and, therefore, did not include essential measures relating to users' perceived usefulness of the technology. However, Davis (1989) added that the

subjective norm is not considered in TAM, while it was a very influential factor in the "Theory of Reasoned Action" (TRA) model. Later, he wrote, *"It is difficult to disentangle direct effects of subjective norm on behavioral intention from indirect effects via attitude"*. Researchers have used a variety of models, including Technology Acceptance Model, as well as more traditional theories to understand how these technologies are embraced and purchased. For instance, Thokchom employed a modified model based on a combination of TAM and the marketing mix idea to demonstrate the strong impact of brand image and price as the main determinants of customer intention to purchase a Smartphone. Legris, Ingham, and Collerette, (2003) stated, "TAM is a useful model, but has to be integrated into a broader one which would include variables related to both human and social change processes, and to the adoption of the innovation model". As a result, while 'TAM' served as the study's basic framework, the subjective norm, as an influencing factor, is taken into account while developing the theoretical framework. This model has two factors Perceived Usefulness (PU) and Perceived ease of use (PEOU) that are the determinants of attitude and intention to use of technology.

**Perceived usefulness**

"Perceived usefulness" refers to the degree to which a person believes that the use of a system will ameliorate his/her performance. The "technology acceptance model" (TAM) has been broadly applied as a very effective research framework for understanding users' adoption of technology, and it significantly reduces the research cost (Davis, Bagozzi, & Warshaw, 1989). TAM demonstrates that beliefs about technological acceptance are significant for *"Perceived Usefulness"* and *"Perceived Ease of Use"*. It is apparent that people would use a system, if they thought it would improve their ability to accomplish their jobs. Users, on the other hand, would refuse to use a technology that deteriorate their job performance. A study conducted by Teo (2010) on the attitude of teachers toward using the computer found that *"Perceived Ease-of-Use"* had significant impact on *"Perceived Usefulness"* and *"Attitude toward Use"* of smartphone. In addition, he also found that *"Perceived Usefulness"* has a significant influence on *"Attitude toward Use"* (Teo, 2012). In another study, it has been revealed that *"Attitude toward Use"* significantly influenced *"Behavioral Intention"* (Lee, Hsieh, & Chen, 2013). Based on the review of above literature, the researcher developed the underlying hypotheses:

*H1: "Perceived Usefulness"* (PU) would have a significant impact on *"Attitudes toward Use"* (ATS)

*H2: "Attitudes Toward Using Smartphone"* (ATS) have a significant impact on *"Behavioral Intension"* (BI).

**Perceived ease of use**

The term "perceived ease of use" was first coined by Davis (1989) in his Technology Acceptance model. It refers to the degree to which a system or technology can be used effortlessly. Many studies revealed that "perceived usefulness" and "perceived ease of use" can be considered as two different parameters (Hauser & Shugan, 1980; Larcker & Lessig, 1980; Swanson, 1987). Davis, Bagozzi, and Warshaw (1989) claimed that a useful technology may sometimes become cumbersome or difficult to use. Thus, "perceived ease of use" may have influence on "perceived usefulness". Another study reveals that "perceived ease-of-use" strongly influenced "attitude toward use" (Abramson, Dawson, & Stevens, 2015). The above literature supported the researcher to develop following hypotheses:

*H3:* "Perceived ease-of-use" (PEOU) has a significant influence on "Perceived Usefulness" (PU)

*H4:* "Perceived ease-of-use" (PEOU) has a significant influence on "Attitude toward Using Smartphone". (ATS)

Since Davis (1989) first introduced TAM, the model has served as the foundation for a number of strategies that concentrate on the level of technical acceptance (Mathieson, 1991; Adams, Nelson, & Todd, 1992; Igbaria, Guimaraes, & Davis, 1995). TAM, however, simply offers generic data regarding whether technology has been embraced by users. Additional details on its application in particular fields are required so that the development of the technology acceptance model can be directed in the appropriate direction (Mathieson, 1991). TAM is originated from the "Theory of Reasoned Action" (TRA) model (Davis, Bagozzi, & Warshaw, 1989; Taherdoost, 2018), which was developed by Fishbein and Azjen in 1975. TAM is further developed by Davis, Bagozzi, and Warshaw (1989). In 2000, Davis and Venkatesh (2000) developed the Extended TAM or known as TAM 2.

**Subjective norm**

A perceived social pressure to engage in the behavior in issue is known as a subjective norm (Ajzen, 1991). "Subjective norm" is the belief of a person that the majority of the people, who matter to them, believe that they should or should not engage in any activity (Ajzen & Fishbein, 1980). It is observed that, the more significant others perceive a behavior to be, the more they will strive to exhibit it. "Subjective norm" is incorporated into TAM by Sánchez

and Hueros (2010), who demonstrate that it significantly affects behavioral intention. Subjective norm reflects to external pressures (from important people in one's life, such as family, friends, and supervisors at work). According to the theory of reasoned action, a person's behavioral intention is influenced by subjective norm, (Fishbein & Ajzen, 1975), which indicates that a person's intention is influenced by how others perceive and comment on it (Davis, 1989). As a result, a person should act in accordance with the opinions of their esteemed friends, family, or senior members (Fishbein & Ajzen, 1975). In addition, studies accomplished by Abramson, Dawson, and Stevens (2015), and Teo (2012) concluded that attitudes toward usage and behavioral Intension were significantly influenced by the subjective norm. As a result, hypotheses are developed as:

*H5:* "Subjective Norm" (SN) has a significant impact on "Perceived Usefulness" (PU) of smartphones.

*H6:* "Subjective Norm" (SN) has a significant impact on "Attitude toward Using Smartphone" (ATS)

*H7:* "Subjective Norm" (SN) has a significant relationship with "Behavioral Intention" (BI) of buying smartphones.

**Theoretical framework of the study**

According to Sekaran and Bougie (2009), theoretical framework provides the basis for a network of relationships among the variables judged relevant to the problem situation and identified through methods including observations, and literature reviews. The theoretical model that is adapted from TAM and TRA is illustrated below.

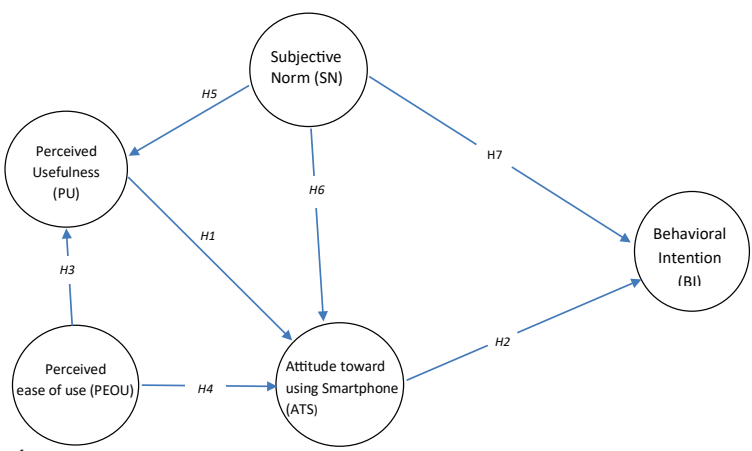


**Figure 1**

*Theoretical Framework [Adapted from TAM (Davis,1989) and TRA (Fishbein & Ajzen, 1975)]*

**Research methodology**

Sample data collection

The researcher surveyed 428 students from ten universities of Bangladesh. All respondents joined the survey voluntarily. Prior to completing the questionnaires, participants were informed about the objectives of the survey and given the assurance that any information they provided would be kept confidential. Among them, 65% of the respondents were male, and 35% were female. Almost 70% of the students replied that their phone costs were beard by their parents, and rest of 30% manage their purchase by their earned money.

Survey instrument

In this study, an online survey was conducted and a questionnaire is adopted from the "Technology Acceptance Model" (TAM). The questionnaire items were used in educational contexts and validated in earlier studies. 450 pupils were given the questionnaires online. However, 22 students did not respond to the survey. Participants in the study provided demographic data and answered 21 questions on five components. Questionnaire Items of *"Perceived Usefulness", "Perceived Ease-of-Use",* and *"Behavioral Intention"* were adapted from Davis's (1989) TAM model. The items used for *"Attitude toward Use"* were used from Compeau and Higgins (1995) and Thompson, Higgins, and Howell (1991). And items used to indicate *"Subjective Norm"* were developed by Taylor and Todd (1995).

Data analysis

"Structural equation modeling" (SEM), that is synonymously used as partial least squares (PLS), has been employed to evaluate the data in this study. The reasons for using this method include its ability to explore multiple dependent relationships simultaneously, especially when there are direct and indirect effects among the constructs in the model; to analyze the structural relationship between measured variable and latent variable. The researcher prefers this method since it estimates various interrelated dependence in a single investigation. This approach employs two types of variables: endogenous variables and exogenous variables. Endogenous variables are the same as dependent variables and have the same value as the independent variable. This technique is also used for simulating random errors in measured variables to provide further accurate estimation; assessing latent variables with multiple indicators; and testing hypotheses (Hair Jr, Hult, Ringle, Sarstedt, Danks, & Ray, 2021). In this paper, the researcher calculated construct reliability and validity, assessed discriminant validity using the

Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio and the path coefficients for hypotheses testing. (Ab Hamid, Sami, & Sidek, 2017).

## Results

Convergent validity

Convergent validity is the degree to which the new scale is related to other variables and measures of the same construct. Convergent validity is established statistically when the Average Variance Extracted (AVE) is greater than 0.50 (Fornell & Larcker, 1981). In this study, convergent validity of data are established because all values of AVE are greater than 0.5. The factor loading of items' reliability are also adequate as the values are greater than 0.5 (Hair, Black, Babin, Anderson, & Tatham, 2006). Nunnally and Bernstein (1994) considered CR values between 0.7 and 0.9 to be satisfactory. Table 1 shows all values of CR are between .7-.9.

**Table 1**

*Convergent validity for the measurement model*

| | Cronbach's alpha | Composite reliability (rho_a) | Composite reliability (rho_c) | Average variance extracted (AVE) |
|---|---|---|---|---|
| ATS | 0.783 | 0.785 | 0.86 | 0.606 |
| BI | 0.871 | 0.871 | 0.921 | 0.795 |
| PEOU | 0.946 | 0.946 | 0.957 | 0.787 |
| PU | 0.933 | 0.936 | 0.947 | 0.749 |
| SN | 0.938 | 0.939 | 0.96 | 0.89 |

Discriminant validity

Discriminant validity explains how a construct is truly identifiable from other constructs. It can be tested through using 1) Fornell-Larcker Criterion, 2) Cross-loading and 3) Heterotrait-Monotrait ratio. A novel approach for assessing discriminant validity was introduced by Henseler, Ringle, and Sarstedt (2015): the Heterotrait-Monotrait ratio of correlations (HTMT). The HTMT is a measure of similarity between latent variables. According to Henseler, Ringle, and Sarstedt (2015), 0.90 is the threshold value; that is, the HTMT value above 0.90 depicts a lack of discriminant validity. Table 2 shows that all HTMT values are less than 0.9.

## Factor loading

A confirmatory factor analysis is conducted in this study and results show that items of each dimensions are related to each other. An item's factor

loading indicates how effectively it represents the underlying construct. In social science studies, researchers usually find weaker outer loadings if values are less than 0.70. That's why, factor loading above 0.70 is typically advised (Vinzi, Chin, Henseler, & Wang, 2010). Table 3 shows that factor loading of each item is more than 0.70.

**Table 2**
*Heterotrait-Monotrait ratio:*

| | ATS | BI | PEOU | PU | SN |
|---|---|---|---|---|---|
| ATS | | | | | |
| BI | 0.898 | | | | |
| PEOU | 0.793 | 0.671 | | | |
| PU | 0.839 | 0.766 | 0.873 | | |
| SN | 0.54 | 0.508 | 0.584 | 0.504 | |

*Hypotheses testing*

In this study, path coefficient is measured through bootstrapping with 5000 resamples that ultimately helped to test hypotheses. From Table 4, it is apparent that the beta value (β=0.475), and P-value (p= 0.000) provides a clear indication that *"Perceived Usefulness"* had significant impact on *"Attitude Toward Using Smartphone"* and supporting the first hypothesis H1. The table also indicates that there is a significant impact of *"Attitude toward Use"* on "Behavioral intention to use". The beta value (β=0.678) and P-value(p=0.000) are supporting H2. Similarly, *"Perceived Ease-Of-Use"* had significant impact on *"Perceived Usefulness"* (β .807, p 0.000) and *"Attitudes toward Use"* (β=0.231, p=0.000). Beta values and p-values are confirming the acceptance of the hypotheses H3 and H4. Moreover, *"Subjective Norm"* shows no significant influence on *"Perceived Usefulness"* (β =0.031, p=.226), rejecting hypothesis H5. However, *"Subjective Norm"* significantly impact *"Attitude Toward Using Smartphone"* (β=.114, p=0.005) and *"Behavioral Intension To Use"* (β=.144, p=0.001), supporting H6 and H7. The model's goodness of fit is by the coefficient of determination (R square). From the resuls, it showed that model explained 55.2% of the variance in Behavioral Intention (BI), 57.2 percent in *"Perceived Usefulness"*(PU) and 68 percent in *"Attitudes Toward Use"*(ATS). Therefore, all hypotheses, except H5, were accepted. Cohen (1988) suggested that r square values for endogenous latent variables can be considered as : 0.26(substantial), 0.13(moderate), 0.02(weak).

**Table 3**

*Factor loading*

| | ATS | BI | PEOU | PU | SN |
|---|---|---|---|---|---|
| ATS1 | 0.781 | | | | |
| ATS2 | 0.751 | | | | |
| ATS3 | 0.805 | | | | |
| ATS4 | 0.775 | | | | |
| BI1 | | 0.883 | | | |
| BI2 | | 0.889 | | | |
| BI3 | | 0.904 | | | |
| PEOU1 | | | 0.87 | | |
| PEOU2 | | | 0.882 | | |
| PEOU3 | | | 0.914 | | |
| PEOU4 | | | 0.906 | | |
| PEOU5 | | | 0.851 | | |
| PEOU6 | | | 0.896 | | |
| PU1 | | | | 0.867 | |
| PU2 | | | | 0.861 | |
| PU3 | | | | 0.855 | |
| PU4 | | | | 0.905 | |
| PU5 | | | | 0.898 | |
| PU6 | | | | 0.847 | |
| SN1 | | | | | 0.944 |
| SN2 | | | | | 0.944 |
| SN3 | | | | | 0.942 |

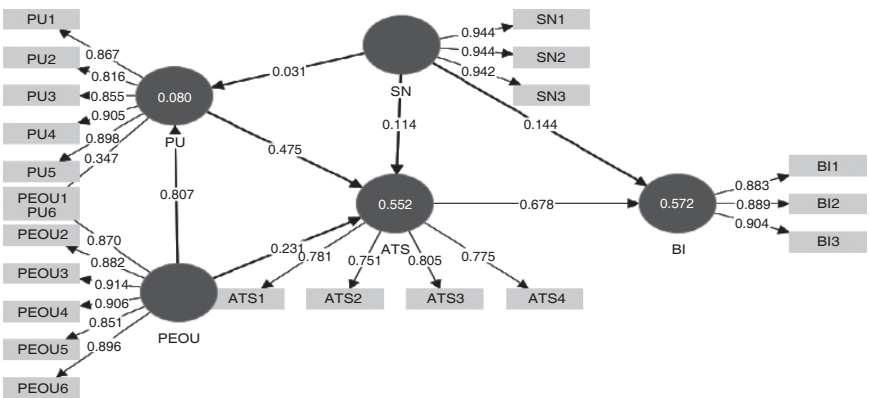


**Figure 2**

*PLS results for structural model*

**Table 4**
*Path coefficient*

| Hypotheses | Path | Path Coefficient(β) | T-statistics | p-value | Results |
|---|---|---|---|---|---|
| H1 | PU➔ATS | 0.475 | 8.473 | 0.000*** | Accepted |
| H2 | ATS➔BI | 0.678 | 18.501 | 0.000*** | Accepted |
| H3 | PEOU➔PU | 0.807 | 25.501 | 0.000*** | Accepted |
| H4 | PEOU➔ATS | 0.231 | 3.617 | 0.000*** | Accepted |
| H5 | SN➔PU | 0.031 | 1.210 | 0.226 | Rejected |
| H6 | SN➔ATS | 0.114 | 2.820 | 0.005*** | Accepted |
| H7 | SN➔BI | 0.144 | 3.473 | 0.001*** | Accepted |

*Notes: ATS, attitude toward use; BI, behavioral intention; PEU, perceived use of ease; PU, perceived usefulness; SN, subjective norm. **p>0.005; ***p>0.001*

**Table 5**
*Direct, indirect and total effects of the research model*

| Endogenous Variable | Coefficient of determination (R Square) | Determinants | Direct Effect | Indirect Effect | Total Effect |
|---|---|---|---|---|---|
| BI | 0.572 | ATS | 0.69 | - | 0.69 |
| | | PU | - | 0.32 | 0.32 |
| | | PEOU | - | 0.416 | 0.416 |
| | | SN | 0.14 | 0.09 | 0.23 |
| ATS | 0.552 | PU | 0.48 | - | 0.48 |
| | | PEOU | 0.23 | 0.38 | 0.61 |
| | | SN | 0.11 | 0.02 | 0.13 |
| PU | 0.680 | PEOU | 0.81 | - | 0.81 |
| | | SN | 0.03 | - | 0.03 |

**Path analysis**

In this study, Path coefficient showed overall as well as a direct and an indirect effect on "Behavioral Intention" (BI) in Table 5. A coefficient in the path analysis, connecting one determinant to another, illustrates the direct influence of an independent variable on measured variable. In a study, an indirect effect is measured when an independent variable has an effect on the dependent variable, through the other independent variable. The overall effect is calculated by summing up the direct and indirect effect. The effect sizes were described using Cohen's (1988) criterion and the values of 0.02, 0.15, and 0.35 indicate minor, medium, and substantial effects respectively. The degree of the correlation between the factors under consideration is determined by the impact of one factor on another. From Table 4, "Attitude toward Use" showed substantial impact on "Behavioral Intention", with an

overall effect of 0.69. "Subjective Norm" showed the direct moderate effect of 0.23 on "Behavioral Intention"., "Perceived Ease of Use" had the highest total effect of 0.61 on "Attitudes toward Use". This was followed by "Perceived Usefulness" with a substantial effect of .48 and "Subjective Norm" with a small effect of 0.13. Again, "Perceived Usefulness" showed a moderate indirect effect of .32 on "Behavioral Intention to Use" and "Perceived Ease of Use" was found to be the dominant determinant with a total effect of 0.81 showing substantial influence on "Perceived Usefulness". Among three endogenous variables, "Perceived Usefulness" had the highest amount (68%) of impact by its determinants "Perceived Ease of Use" and "Subjective Norm".

**Discussion**

The purpose of this study was to investigate and clarify college students' intentions to utilize smartphones. The results indicated that behavioral intention was most significantly impacted by attitude. "Behavioral intention" was indirectly affected by "perceived usefulness". Overall, three variables ("Subjective Norm", "Perceived Usefulness", and "Perceived Ease of Use") account for 57.2% of the variations in "behavioral intention to use". This shows that the model's ability to explicate and anticipate *"Behavioral Intention"* of the university students was good. This indicates the model adequately explained *"Behavioral Intention"* among students in Bangladesh. Furthermore, the most significant factor influencing "behavioral intention" to use was *"Attitude Toward Using Smartphone"*. Among all path coefficients toward "Behavioral Intention" in the model, the path from "attitude toward use" to *"Behavioral Intention"* had the highest value. It is emphasized here how crucial it is for people to adopt a favorable attitude about using technology. *"Perceived Usefulness"* had a slight indirect influence on intention. This implies that university students might be interested in using smartphones when they find it advantageous and valuable. A significant predictor of attitude was also discovered to be "perceived usefulness". The results of this study are consistent with earlier ones (Teo & Schaik, 2012). Similarly, *"Perceived Ease of Use"* significantly affect *"Perceived Usefulness"*. This suggests that if a technology is perceived as being difficult to use, students won't use it, regardless of how effective the system may be. "Subjective norm" was discovered to be relevant in predicting "perceived usefulness" in the integrated model. This demonstrates that other people who are important to the students do not influence on students' perception of usefulness. Additionally, subjective norm had a moderate impact on BI's decision to use smartphone, suggesting that "important others" will have the impact on

users' intention to use the gadget.

**Policy implications**

According to the study, attitude was the main factor influencing intention to use. Therefore, it is crucial to foster a good attitude toward using technology. Luan et al. in 2005 claimed that users having a good attitude toward using technology are more inclined to use it. Additionally, "perceived ease of use" had a significant impact on "perceived usefulness". No matter how useful a smartphone is, students decline to use that if it is complicated to use. According to Heafner (2004), technology training has a direct impact on students' sense of self-worth and moral convictions, which in turn affects how they utilize technology.

So, the smartphone companies should focus more on developing perceived usefulness and perceived ease of use to improve attitude toward use of smartphone that ultimately lead behavioral intention to use it.

**Limitations and future research**

Firstly, this survey only included university students that is a particular segment of the smartphone market. Future research may take into account altering the participants, and data collection method to evaluate findings from different segments. Secondly, refering to the technique used to gather the data. Data were gathered using an instrument that was self-reported. The validity of the outcome may be impacted by this. Together, students' attitudes about smartphones, *"Subjective Norms", "Perceived Usefulness"*, and *"Perceived Ease of Use"* showed 57.2% of variability in their behavioral intention for using smartphones, and remaining 42.8% percent of the variation was unexplained. Future study can be continued to test the model with other factors that may affect *"Behavioral Intention"* in order to resolve this unexplained disparity. Last but not least, because this sample was gathered in Bangladesh, there are restrictions on extrapolating the findings to other nations because of cultural variances in technology usage.

**Conclusion**

In conclusion, the idea of integrating TAM and TRA models, used in this study with a view to evaluate students' behavioral intention to use smartphone has made it simpler to explain how students' adopt technology. The model also explained how endogenous and exogenous elements relate to one another. This is because structural equation models that measure the explicit and implicit impact among the dependent and independent variables,

whereas conventional linear models only include the direct connection between endogenous and exogenous variables.

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