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**RESEARCH ARTICLE**

## Identifying the Factors Influencing Youths Decision in Afghanistan for the Purpose of Smartphone Purchasing

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### ABSTRACT

The current study aims to investigate the variables influencing customer intent to purchase smartphones and to smooth the way and increase investor interest in investing in Afghanistan considering the identified factors (Subjective Norm, Personal Factor, Operational Factor, Software Performance, and Product Physical Features). Data was collected through a Google Forms structured questionnaire, which was developed from previous studies, using a 5-point Likert scale. This study determined that a sample size of 800–1000 respondents would be appropriate for the survey; 892 replies in all were gathered. The factor analysis test was applied to test the variables' validity. In the study, Binary Logistic Regression Analysis (LR) was performed to assess whether there is a significant relationship between smartphone purchasing decisions and the following factors: Subjective Norm, Personal Factor, Operational Factor, Software Performance, and Product Physical Features. The research showed that there is a significant relationship between the mentioned factors and smartphone purchase decisions. There are a variety of elements that influence consumers' intentions to buy smartphones, but subjective norms, personal factors, operational factors, software performance, and physical features are the factors that drive consumers to purchase.

### KEYWORDS

Smartphone, Purchasing Decision, Binary Logistic Regression, Factor Analysis.

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### 1. Introduction

The passion for getting smartphones today has greatly increased. It is evident that everyone now owns a cellphone, and some even purchase multiples (Elammari and Cavus 2019). The smartphone market is expanding significantly because it creates new operating systems that cater to young people's wants (Martins, Costa et al. 2019). Additionally, because humans are social beings who require communication on both a personal and professional level, using smartphones may be an inspiring aspect of people's lives (Derks, Bakker et al. 2016). All throughout the world, smartphones have taken on a significant role in daily life. In addition to being used for texting and phone conversations, smartphones are now being used for a wide range of humanitarian causes. (Montag, Błaszczewicz et al. 2015). Since smartphones are different from standard mobile phones and can be used for a variety of tasks, including social networking, social media, photography, instant messaging, sending messages, reading e-books, taking notes, amending office documents, making online purchases, responding to e-mails, playing games, automation, modeling, water turbidity sensing, and environmental epidemiology, many young people are drawn to buy and use them (Wong 2019),(Joo and Sang 2013),(Malviya, Saluja et al. 2013), (May and Hearn 2005), (Rezazadeh, Seidi et al. 2019). Also, smartphones are a phenomenon that could have improved humankind's quality of life in the present day, and as a result, their use is growing. In turn, the promotion of their features and capabilities is also accelerating (Rezazadeh, Seidi et al. 2019). A pleasant relationship between users could be

established and maintained by the fact that young and older people use online social networking in equal measure today. Almost 80% of young people, according to an estimate, have social media accounts. Even so, the majority of university students own smartphones, as do 80% of students in the US and UK and 85% of Canadian university students. The use of the aforementioned technologies for educational purposes could be a fantastic opportunity for students (Park, Kim, et al. 2013), (Yeh, Wang et al. 2016), (Latif, Hussain, et al. 2019). According to studies, the students frequently use their smartphones for educational purposes. With a smartphone, students have rapid, portable access to many of the same features that an Internet-connected PC offers to improve their education, including online information retrieval, file sharing, and engaging with teachers and fellow students (Hossain and Ahmed 2016). Since most teachers and students have access to the internet and use smartphones, the students can share their problems, suggestions, pictures, audios, and videos, have chats, and easily receive their requested feedback and as well as the teachers'. As the social media has become a main tool among the learners for knowledge sharing, therefore, through the social media; the talented young generation can reach the considerable opportunities by a single click; and as a result, they will develop their personal and professional talents. Also, the accessibility of smartphones and the internet could globally enhance friendlier connectivity. (Latif, Hussain et al. 2019), (Ralph and Ralph 2013). The use of networks is rising dramatically in the twenty-first century, and a record number of new user interfaces, search engines, and functionalities are becoming available. Many people now have immediate access to an ever-growing variety of information sources and services because to the increasing computing power and recent development of information technology like smartphones. (Ma, Chan et al. 2016). In summary, smartphones provide adequate and affordable media for all facets of life interventions. (Okumus, Ali et al. 2018).

Young people's excitement for cell phones is growing, and manufacturers are responding by creating updated models with additional capabilities. Customers find it challenging to make decisions when acquiring smartphones (Elammari and Cavus 2019). Customers aren't being pushed to buy smartphones because some models may be familiar to them while others may not, which could pose problems for the market for this product. (Armstrong, Morwitz, et al. 2000). Also, due to Afghanistan's unstable political, social, economic, and security environments (BBC 2021) and rapid fluctuation of prices, including smartphones (MWP 2021), In Afghanistan, it is challenging to predict consumer demand. Hence, it is important to evaluate and identify the factors impacting young Afghans' decisions to purchase smartphones, which is the focus of this study. (Armstrong, Morwitz et al. 2000).

### **1.1 Research Questions**

Are there any notable relationships between the subjective norm, personal Factors, operational Factors, software performance, product physical features, and intention to purchase smartphones?

### **1.2 Objectives:**

The current study aims to accomplish the following objectives. 1. To investigate the variables influencing customer intent to purchase smartphones. 2. To smooth the way and increase investor interest in investing in Afghanistan.

### **1.3 Research Hypotheses**

- H1: There is a significant relationship between Subjective Norm and purchasing intention of smartphones
- H2: There is a significant relationship between Personal Factor and purchasing intention of smartphones
- H3: There is a significant relationship between Operational Factor and the purchasing intention of smartphones
- H4: There is a significant relationship between Software Performance and the purchasing intention of smartphones
- H 5: There is a significant relationship between Product Physical Features and the purchasing intention of smartphones

### **1.4 Significance of the Study**

First off, current research might serve as a good guide and point of reference for upcoming studies. Second, the new study will be able to give manufacturers the knowledge they need to pinpoint the elements driving young people's smartphone purchases and create effective marketing campaigns. Thirdly, smartphone companies will be able to create their future strategic plans based on client demand, and finally, this will make it easier for businesses to increase sales among Afghan youth.

### **1.5 Scope of the Study**

The current study is being carried out in Afghanistan's capital city of Kabul. The responders were young people from various social strata. The questionnaires were generated and given to (892) youths through an online Google form after the sample volume, which was determined using categorization as this study employed a quantitative methodology. Data was collected, and then SPSS was used to analyze it.

## **2. Literature Review**

### **2.1 Purchase decision**

According to Keller and Kotler (2012), making a purchasing decision is a process that any individual, group of individuals, or organization does to choose and obtain things to satisfy their requirements. Moreover, choosing a choice when two or more things

are available might be referred to as a purchasing decision. Rachmawati, Shukri, et al. (2019) highlighted that when specifying and choosing goods or services, a customer must go through a procedure known as the purchasing decision. The current paper aims to find the factors that significantly influence the purchasing decision. By reviewing the related literature, a variety of factors have been detected Malviya, Saluja et al. (2013). According to (Moschis, 1976), "Consumer behavior is affected by a lot of variables, ranging from personal motivations, needs, attitudes, and values, personality characteristics, socioeconomic and cultural background, age, sex, professional status, to social influences of various kinds exerted by family, friends, coworkers, and society as a whole." Numerous elements that affect consumers' purchase intentions when buying smartphones have been identified after reading the pertinent literature.

## **2.2 Physical features**

Uddin, Lopa, et al. (2014) found that, among other crucial aspects, including recommendations from coworkers, weight and size, operational capabilities, charging, pricing, and advertising, a mobile phone's physical features have the most influence on a consumer's decision to buy one. In addition, RAI (2021) mentioned that Lavuri (2019) conducted an investigation regarding smartphone purchase decisions; the result shows that mobile features like style, camera, design, power of processing, and price have a significant impact on consumer purchase decisions. Sujata, Yatin, et al. (2016) Said that factors like smartphone physical features and its hardware have a direct impact on the consumer purchase decision. Raghubir, Inman et al. (2004) Mentioned that a factor that can encourage people to make purchasing decisions is the Scheme characteristic of a product. Elammari and Cavus (2019) Executed an investigation to inquire about the factors influencing consumers to purchase smartphones. The research detected that among factors like physical features, brand image, price, and social influence, only price factors do not affect consumers' purchasing decisions. However, the other mentioned factors have a direct significant impact on purchase decisions.

In the current investigation, broadcasters demonstrated effective physical characteristic signals through customers' fictitious product testing. Then, by contrasting similarities between their physical attributes and those of the broadcasters, consumers can assess product fit uncertainty (Lu and Chen 2021).

## **2.3 Subjective Norm**

The influential activity of relatives, friends, or others is defined as subjective norm Azeema, Jayaraman et al. (2016). Jayaraman, Ng et al. (2016) said that one of the important factors affecting the customer purchase decision is the subjective norm. Hsu, Kang, et al. (2006) noted that most consumers think that the idea of the other person is much more reliable and added that even 80% of customers' decisions in order to purchase are affected by others' encouragement. Rahim, Safin, et al. (2016) mentioned that, as stated by Kotler and Armstrong (2007), People like customers' friends, family members, spouse and peers influence the consumers' purchase decision while buying smartphones.

Social influences imply that one person causes another to modify, whether purposefully or unintentionally, his or her feelings, attitudes, thoughts, and conduct. This is the outcome of their engagement with one another. Media, parental, and peer influence are all examples of social influence, according to Nelson and McLeod (2012). In general, friends, media, and parents are the three biggest impacts on young people. Also, according to Agbonifoh, Ogwo, Nnolim, and Nkamnebe (2007), a person's purchasing behavior is influenced by the people they copy. Additionally, according to a 2009 study by the NAR's center for Realtors, which was cited by Chow et al. (2012), the most popular category of Smartphone applications is social media applications. As a result, Smartphone users use their phones to stay in touch with their friends, coworkers, and families on social network sites. This indicates that while making any kind of purchase, people will be influenced by their relatives and peers. We can infer from the foregoing that there is a connection between social factors and young people's smartphone purchase behavior (Ayodele and Ifeanyi-chukwu 2016).

Kotler and Armstrong (2007) assert that the people in a consumer's immediate environment have an impact on their behavior. They would look for ideas, counsel, and firsthand accounts from those who have previously purchased and used smartphones. They might have a propensity to acquire it from various types of people, particularly from those who are close to them, such as friends, peers, family, and spouses. According to earlier research carried out in Malaysia by Mohd Azam Osman et al. (2012), 35.6% of the respondents prefer to buy smartphones in line with the fashion in the neighborhood. This can be corroborated by research done by Suki and Suki (2013), who found that young people, especially students, rely heavily on those around them to buy smartphones. According to the features of smartphones, consumers frequently ask their friends and relatives for advice and comments, and they then buy the same cell phones that they use (Rahim, Safin et al. 2016).

## **2.4 Personal Factor:**

Life-cycle stage and age. Over the course of a lifetime, people modify the items and services they purchase. Age is frequently a factor in tastes in cuisine, clothing, furnishings, and leisure activities. The stage of the family lifecycle—the stages a family may go

through as they develop over time—also has an impact on buying. Marketers frequently categorize their target markets according to the stages of the life cycle and create products and marketing strategies that are suitable for each stage. Job and Financial Situation. The goods and services that are purchased depend on a person's vocation. Executives tend to purchase more business suits, whereas blue-collar workers prefer to purchase more tough work attire. Marketers look for professional organizations with greater-than-average interest in their goods and services. A person's psychological characteristics will reveal their way of living, which is known as their lifestyle. Personality. Each person's unique personality affects how they choose to make purchases. The term "personality" refers to the distinctive psychological traits that cause a person to react to their immediate surroundings in a predictable and long-lasting way (Pemani and Massie 2017).

### **2.5 Operational Factor**

Fauzi and Ali (2021) found that the smartphone purchase decision is influenced by the operation quality, and the results of their research found that operation quality significantly affected the purchase decision. Kotler & Armstrong (2010), the physical traits, technical features, functionality, and extended properties of a product that can satisfy a variety of consumer wants are all considered to be product operation, according to a prior study by Gülfem and Büyüközkan (2007). According to several researchers, a product's operational characteristics, such as its art and fashion design, storage space and capacity, battery life, screen size, button placement, and other associated parts and procedures, can affect consumer choice (Haverila, 2011; Mohd Suki, 2013; Pirhonen, Brewster, & Holguin, 2002). This is backed up by a study by Safin et al. (2016) that claimed different people would select a smartphone with various features to suit their requirements and preferences (Rashid, Nasuredin, et al. 2020).

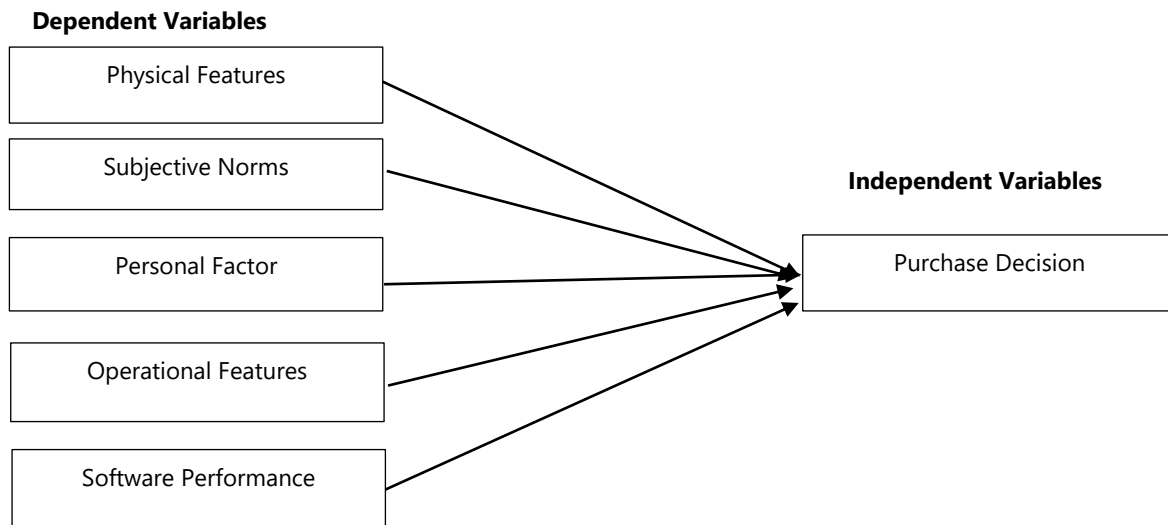
Hardware and software features of smartphones can be categorized in this study. Software is a collective name comprising computer programs, processes, and documentation, whereas hardware is a description of a tangible thing (Lay-Yee, Kok-Siew et al., 2013). Here, the hardware of a smartphone is the body of the phone itself, such as size, weight, color, and design. (Russell, 2012) stated that here, a smartphone's body, including its size, weight, color, and design, constitutes its hardware. In the meantime, a smartphone's software serves as the platform for running the device's operating system, storing data, or executing applications like IOS from Apple, Windows from Microsoft, Android, Blackberry, and Symbian. According to Rahim, Safin et al. (2016), the majority of young college and university students preferred to buy smartphones or contemplate them based on their operational characteristics, such as size, weight, color, and menu organization, as well as associated applications and processes. Features and design are among the primary criteria influencing whether a person will buy a mobile phone, according to other studies. (Dziwornu 2013), (Rashid, Nasuredin, et al. 2020).

### **2.6 Software Performance**

Lazim and Sasitharan (2015) Determined that the features of a smartphone, such as smoothness, software, application, brand, price, and speed of processing, persuade the consumer to purchase it. Paulrajan and Rajkumar (2011) attempted to find the factors influencing consumers when purchasing smartphones in India. The findings expressed that the quality, price, functions, and availability of smartphones have an important impact on purchase decisions. Oulasvirta, Wahlström et al. (2011) Determined that smartphones' modern features like file management system, high-resolution displays, multimedia presentation, full programmability, high storage capacity, application installation, and wireless connectivity motivate the customer to purchase it. According to Lay-Yee, Kok-Siew et al. (2013), smartphone software like operating platform, storage or applications, and its hardware like the body of the smartphone, design, color, weight, and size can attract consumers to increase their purchasing level. As per Lay-Yee, Kok Siew & Yin Fah (2013), "Feature" is an attribute of a product that helps it satisfy the needs and wants of customers through ownership, use, and utilization. Hardware and software are included in a product's features. Software, on the other hand, is the collective term for software, process, and documentation. The operating system, memory storage, or applications that power a smartphone are considered its software (Kaushal and Kumar 2016).

### **2.7 Research Framework**

Figure 1 shows the research framework of the relationships between Physical features, Subjective Norm, Personal Factor, Operational Features, and Software Performance toward the purchase decision of youths on Smartphone in Afghanistan.



**Figure 1: Research Framework**

### **3. Methodology**

This section discusses research methodologies, which cover the study's approach, the research's design, methods for gathering data, and the design of sample questionnaires and data analysis.

#### **3.1 Sample**

This study determined that a sample size of 800–1000 respondents would be appropriate for the survey. 892 replies in all were gathered.

#### **3.2 Sampling Method**

Convenience sampling was employed in this study. Given the time constraints on data collection, convenience sampling makes it simpler to reach the target samples because the questionnaires were disseminated through an online questionnaire platform. Using a convenience sampling strategy could increase the response rate.

#### **3.3 Questionnaire Design**

In order to assess the importance of the relationship between the independent and dependent constructs as well as the strength of that relationship, a quantitative approach was used in this study. The questionnaires consist of a series of inquiries for respondents to record their answers to specific inquiries (Sekaran and Bougie 2016). In order to get information from the participants regarding the variables influencing Afghan adolescents' decisions to purchase smartphones, a questionnaire was made available on an internet platform.

The questions used in the questionnaires are in a 5-point scale format, in which questions were provided, and the respondents were asked to offer their preferences from strongly agree to strongly disagree. This is because the design of questions determines how effective the results found are. When using a Likert scale, the options are strongly disagree (1), disagree (2), neuter (3), agree (4), and Strongly agree (5). Likert scale questions are used to improve the respondents' efficiency and effectiveness in completing the questionnaires. Because they might be utilized to support the research paradigm of this study, the questions in the questionnaire were taken from a variety of literature sources and as well as expert interviews. The questionnaire was made up of 28 questions that covered the six different dimensions of factors that influence young Afghans' decisions to buy smartphones.

#### **3.4 Respondents' Profile**

Basic questions regarding the respondents' profiles were also included in the questionnaire for this study. There are five questions in this part about the respondent's demographic profile: gender, age, marital status, degree of education, and income level.

#### **3.5 Data Collection Method**

The questions were submitted using a Google form, and the link to the Google form-generated questions was sent via several internet channels, including Facebook, WhatsApp, and email. These channels were chosen because they are well-known social media sites and would make it easier to reach the Afghan youths, who are the study's target respondents. As a result, the response rate would be higher.

### 3.6 Data Analysis

Testing for validity and reliability was done to make sure the data was appropriate for further statistical analysis.

## 4. Results and Discussion

A total of 892 responses were gathered for statistical evaluation. The demographic profile of the respondents was the focus of descriptive analysis, and afterward, reliability and validity were tested, and binary logistic regression testing was done.

### 4.1 Descriptive Analysis

The findings of the descriptive analysis performed on the data are shown in Table 1 below.

Table 1. Demographic Data, Descriptive Analysis

Variables	Frequency	Percentage (%)
<b>Gender</b>		
Female	280	31.4
Male	612	68.6
<b>Age</b>		
18-25	452	50.7
25-35	396	44.4
35-45	44	4.9
<b>Education</b>		
Illiterate	4	0.4
School Graduated	104	11.7
Bachelor	628	70.4
Master	144	16.1
PhD Holder	12	1.3
<b>Marital Status</b>		
Single	532	59.6
Married	360	40.4
<b>Income Level</b>		
Below 100 USD	392	43.9
100-500 USD	356	39.9
500-1000 USD	80	9.0
1000-2000 USD	48	5.4
Above 2000 USD	16	1.8
Total	892	100.0

The distribution of male and female respondents among the 892 participants was 612 for men and 280 for women, or 68.6% male and 31.4% female. 50.7% of those who responded were between the ages of 18 and 25; 44.4% were in the 25 to 35 age range; and the remaining 23.5% were in the 35 to 45 age range. Seventy-four percent (70.4%) of the respondents had bachelor's degrees. Similar to that, 59.6% of them were single, while the remaining were married. The income level of the respondents was less than US\$ 100.00 for 43.9% of them; consequently, US\$ 100.00 to US\$ 500.00 for 39.9% of them; and US\$ 1000.00 or more for the remaining 43.9% of respondents who were considering purchasing smartphones.

**4.2 Validity Test**

Table 2. Displays the outcomes of the exploratory factor analysis used to assess the validity of the acquired data.

Table 2. Factor Loadings

Measurement Item	Component				
	PF	SN	PF	OF	SP
Physical Features (PF1)	0.723				
Physical Features (PF2)	0.857				
Physical Features (PF3)	0.748				
Physical Features (PF4)	0.792				
Physical Features (PF5)	0.732				
Subjective Norms (SN1)		0.816			
Subjective Norms (SN2)		0.776			
Personal Factor (PF1)			0.883		
Personal Factor (PF2)			0.836		
Personal Factor (PF3)			0.788		
Operational Features (SQ1)				0.728	
Operational Features (SQ2)				0.744	
Operational Features (SQ3)				0.722	
Operational Features (SQ4)				0.856	
Operational Features (SQ5)				0.780	
Operational Features (SQ6)				0.849	
Operational Features (SQ7)				0.738	
Software Performance (SP1)					0.786
Software Performance (SP2)					0.749
Software Performance (SP3)					0.843
Software Performance (SP4)					0.781
Software Performance (SP5)					0.978
Software Performance (SP6)					0.786

Data reduction techniques such as factor analysis were employed to narrow down the vast number of underlying factors for the observed variables. Factor analysis generates factor loadings, which are the Pearson correlation coefficients of an original variable or item with each found factor. For samples with a size of at least 350, factor loadings of 0.50 are meaningful. All factor loadings exceeded the value of 0.50, according to the findings of the factor analysis. The dependability of each factor was examined using Cronbach's alpha. It is a metric used to evaluate the validity of a collection of scales or test items. Cronbach's alpha should generally be higher than 0.70. (Tan 2009). For all subscales of Physical Characteristics, Subjective Norms, Personal Factor, Operational Features, and Software Performance, Cronbach's alpha coefficients were found, and they ranged from 0.722 to 0.978.

**4.3 Reliability Test**

Examining the consistency and stability of the collected data allows for the measurement of reliability (Amirrudin, Nasution et al. 2021). To assess how well the items work together to measure a construct as a whole, examine the consistency of the questions. When the coefficient alpha value is less than 0.70, it indicates that the correlation is weak and the dependability is not sufficient, according to Cronbach's alpha (Ercan, Yazici et al. 2007). In terms of the reliability test outcome, the Cronbach alpha score is greater than 0.70, indicating a high degree of internal consistency. All of the main category variables were significantly higher than the generally recognized standards, as shown in Table 3. (0.70).

Table 3. Reliability test using Cronbach's Alpha

Variables	Cronbach's Alpha	Number of Items
Physical Features (PF1, PF2, PF3, PF4, PF5)	0.742	5
Subjective Norms (SN1, SN2)	0.712	2
Personal Factor (PF1, PF2, PF3)	0.701	3
Operational Features (SQ1, SQ2, SQ3, SQ4, SQ5, SQ6, SQ7)	0.789	7
Software Performance (SP1, SP2, SP3, SP4, SP5, SP6)	0.735	6

Cronbach's alpha values for physical features is 0.742, subjective norms is 0.712, personal factor is 0.701, operational features is 0.789, and software performance is 0.735, as shown in Table 3. As a result, all of the aforementioned figures meet the required level (0.70).

The binary logistic regression was used to test the factors influencing purchasing decisions.

Table 4 - Variable of logistic regression analysis

Categories	Variables
Socio-Demographic Factors	Gender (X1)
	Age (X2)
	Education (X3)
	Marital Status (X4)
	Income level (X5)
Physical Features	Design (X6)
	Weight (X7)
	Size (X8)
	Camera Quality (X9)
Subjective Norms	Color (X10)
	Price (X11)
Personal Factor	Family Encouragements (X12)
	Work Needs (X13)
	Financial Ability (X14)
Operational Features	Educational Needs (X15)
	Battery Durability (X16)
	Privacy (X17)
	File Management System (18)
	Display Quality (19)
	Reprograming Facility (20)
	Storage Capacity (21)
Water Proof (X22)	
Software Performance	Version Expiration Speed (23)
	Process Speed (24)
	Application Installation (25)
	Internet Performance (X26)
	Wi-Fi System (27)
	Having Bluetooth (28)



To get around the multicollinearity issue of strongly correlated variables in logistic regression analysis, the forward selection method was adopted. Forward selection is a kind of stepwise regression that starts with a blank model and gradually adds variables. The variable that improves the model the most significantly when added alone gets added in each subsequent phase. SPSS created a model in 16 steps as a result of the analysis. Table 5 displays the outcome of the final stage. The characteristics in Table 5 were shown to be useful in differentiating between consumers who are deciding to purchase smartphones and those who do not. Wald statistics are employed in the logistic regression analysis (LR) to assess the coefficients; when Table 5 is reviewed, it is shown that X5 ( $P = 0.011$ ), X7 ( $P = 0.000$ ), X8 ( $P = 0.000$ ), X9 ( $P = 0.000$ ), X11 ( $P = 0.001$ ), X19 ( $P = 0.001$ ), X21 ( $P = 0.023$ ), X23 ( $P = 0.000$ ), and X26 ( $P = 0.000$ ) added significantly to the model ( $P < 0.05$ ). Using information from Table 5 and the following formula, the likelihood of purchasing a smartphone [ $P(Y=1)$ ] is determined.

**Table 5-** Variables in the equation.

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step	Constant	2.947	0.693	18.094	1	0.000	19.057
9	Income Level (X5)	0.243	0.096	6.453	1	0.011	1.275
	Weight (X7)	-0.647	0.088	54.271	1	0.000	0.524
	Size (X8)	-0.807	0.138	34.305	1	0.000	0.446
	Camera Quality (X9)	0.332	0.069	23.075	1	0.000	1.394
	Price (X11)	-0.493	0.145	11.618	1	0.001	0.611
	Display Quality (X19)	0.286	0.089	10.245	1	0.001	1.331
	Storage Capacity (X21)	0.218	0.096	5.170	1	0.023	1.244
	Version Expiration Speed (X23)	-0.298	0.085	12.152	1	0.000	0.742
	Internet Performance (X26)	0.820	0.130	39.482	1	0.000	2.270

\*\*B, estimated coefficient; S.E., standard error; Walt, the ratio of B to S.E., Squared; df, degrees of freedom; sig., the level of statistical significance (P value); Exp(B), odds ratio.

$$P(Y=1) = 1/1 + e^{(-2.947 + 0.243 \times X5 - 0.647 \times X7 - 0.807 \times X8 + 0.332 \times X9 - 0.493 \times X11 + 0.286 \times X19 + 0.218 \times X21 - 0.298 \times X23 + 0.820 \times X26)}$$

In the table, odds ratios greater than 1 (Exp(B)) show that the likelihood of smartphone purchasing ( $P(Y=1)$ ) rises as the related independent variable rises, whereas odds ratios less than 1 (Exp(B)) show that the likelihood of smartphone purchasing falls as the related independent variable rises. For instance, if X5 increases by one unit, the purchasing decision's probability will increase 1.275 times, which means there is a positive relationship between income level and purchasing decision. The result supports that X9 also affects the purchasing decision significantly and positively ( $B = 0.332$ ,  $Exp(B) = 1.394$ ).

Accordingly, it is resulted that when the variables of X19 and X26 increase, it will enhance the purchasing decision respectively ( $B = 0.286$ ,  $Exp(B) = 1.331$ ) and ( $B = 0.820$ ,  $Exp(B) = 2.270$ ).

The results also show that increases in the variables such as X7, X8, X11, and X23 will decrease the level of purchasing decision respectively as ( $B = -0.647$ ,  $Exp(B) = 0.524$ ), ( $B = -0.807$ ,  $Exp(B) = 0.446$ ), ( $B = -0.493$ ,  $Exp(B) = 0.611$ ) and ( $B = -0.298$ ,  $Exp(B) = 0.742$ ).

As a result of the investigation, the Hosmer-Lemeshow test was used to determine the goodness of fit. The correlation between the dependent variable's actual and expected values is assessed using this statistical test. A lower discrepancy between the actual and projected classification in this instance signifies better model fit (Roussel, Preys et al. 2014). The data fitting the model is the null hypothesis ( $H_0$ ) for the Hosmer and Lemeshow test. The test result showed that  $H_0$  was valid, and at the 0.05 level of significance ( $p = 0.001$ ), it was concluded that the developed model was compatible with the dataset (Park 2013).

The cut off value is 0.500, according to a subscript in Table 6. Thus, a case is categorized into the "yes" group if there is a likelihood of it being classified into that category larger than 0.500. In all other cases, the case is categorized as "no."

**Table 6-** Classification Table<sup>a</sup>

Observed	Purchasing Decision	Predicted		Percentage Correct
		No	Yes	
	No	104	176	37.1
	Yes	60	552	90.2
Overall Percentage				73.5

a. The cut value is .500

When the model's classification Table 6 is analyzed, 104 of 280 people who did not decide to purchase a smartphone were accurately estimated by the model. It is noted that 37.1% of smartphone consumers and 90.2% of those who decided to consume are estimated accurately.

At a rate of 73.5%, the model's estimation of consumer preference for purchasing a smartphone was accurate.

In the study, logistic regression analysis (LR) was performed to assess whether there is a significant relationship between smartphone purchasing decisions and its physical features (such as its design, weight, size, camera quality, and color), Subjective Norms (in terms of price and friends encouragements), Personal Factor (in terms of financial ability, work needs, and educational needs), Operational Features (in terms of Battery Durability, Privacy, File Management System, Display Quality, Reprogramming Facility, Storage Capacity, and Water Proof), Software Performance (in terms of Version Expiration Speed, Process Speed, Application Installation, internet performance, Having Bluetooth and Wi-Fi System) and Socio-Demographic Factors (in terms of Gender, Age, Education, Marital Status and Income Level).

Following the investigation, it was found that the variables of "Income Level, Smartphone's weight, Size, Camera Quality, Price, Display Quality, Storage Capacity, Version Expiration and Internet Performance" had influence over the purchasing decision.

Under the Software Performance Variables, "Internet Performance (X26)" was identified as the first factor that has the greatest influence on smartphone purchase decisions. The use of smartphones among young people has increased significantly for activities other than communication, such as gaming and internet browsing (Bhamra, Naqvi et al. 2021). The use of smartphones has increased substantially during the past ten years. Due to the availability of internet connections on smartphones and the prevalence of mobility, the manner in which customers interact with companies has altered (Martins, Costa, et al. 2019). In addition, as mobile internet services grow, more and more customers are switching to smartphones as their main mode of communication (Gartner 2011). Given the importance of the internet, telecommunications firms have just started to advertise smartphone models in an effort to spread the word about mobile internet services and boost sales. Moreover, (Bigne, Ruiz, et al. 2005) stated that wireless Internet access through mobile devices (WIMD) is introducing the globe to a new range of communications and methods for carrying out daily tasks and activities. Mobile phones will be used more frequently for Internet transactions than fixed network devices in the next few years. Online ticketing, hotel and flight bookings, and theater tickets are currently among the most alluring WAP applications because they give users convenience, spontaneity, and mobility. In this study, it was determined that an increase in internet performance would increase the purchasing decision as (B= 0.820, Exp(B)= 2.270).

The "Camera Quality (X9)" variable, which served as the second factor, was found to be significant [B= 0.332, Exp(B)= 1.394]. While Kim, Lee, et al. (2013) said that new smartphones typically come with a high-resolution camera, Boubezari, Le Minh, et al. (2016) mentioned that the quality of the smartphone camera has a big impact on how well the system performs. Pongnumkul, Chaovalit, et al. (2015) Explained that smartphone camera applications in the agricultural industry, such as crop produce readiness Analysis. Determining fruit ripeness is a creative application of smartphone-based sensors. With the aid of smartphone cameras, a program was created. For the purpose of determining the freshness of green fruits, photographs of fruits taken in white and UV-A light were taken. By grouping fruits of various states of ripeness into heaps before distributing them to marketplaces, farmers can integrate the method into their farms. Instead of farmers personally checking each fruit, this process might be performed in mass with the use of computer vision technology.

The third element, "Display Quality of Smartphone (X19)," was determined to be effective [B= 0.286, EXP(B)= 1.331]. Roda, Michellini et al. (2016) Stated that a good display of a smartphone can facilitate the relevant operation and added that Smartphones can also be used for analytical purposes by connecting to the bio analytical device by Bluetooth, Wi-Fi, or a micro USB connector. In a similar manner to how a little laptop computer works, the device takes the measurement while the smartphone controls the trial

set-up and shows the test results on the screen. While it is considerably simpler to create than a fully integrated system, this approach is less frequently documented in the literature but still has some interesting commercial applications.

The consumer's level of income (X5) is the fourth factor ( $B= 0.243$ ,  $\text{Exp}(B)= 1.275$ ) that affects their decision to buy. Several studies have looked into how consumers' demographic traits affect their purchase decisions. When the demographic features of purchasers and non-buyers were analyzed, it was discovered that income level and educational background were the variables most strongly associated with the purchasing attitude (Magnusson, Arvola, et al. 2001, O'Donovan and McCarthy 2002, Armağan and Özdoğan 2005, Yiridoe, Bonti-Ankomah et al. 2005, Gunduz and Bayramoglu 2011). Some research claims that purchasing decisions are not significantly impacted by income level (Van Loo, Caputo, et al. 2010, Karabaş and Gürler 2012). In our study, it was found that the socio-demographic features of income level (X5) had an impact on consumer purchasing behavior and that the income level increased the likelihood of purchasing accordingly.

The fifth important consideration when purchasing a smartphone is storage capacity (X21). Today's smartphones offer a promising digital platform for mobile point-of-care diagnostics, given their high resolution cameras, strong processors, large storage capacities, wireless networking, real-time geo-tagging, secure data management, and computing (Eltzov, Guttel, et al. 2015). According to Eltzov, Guttel et al. (2015), many smartphones still have extremely little storage space for data. Another difficulty is storing data in the backend using a network connection. Some mobile apps require to save a lot of data, which offline caching cannot adequately accommodate. Nguyen, Zhou et al. (2013) Found that there is a significant connection between a smartphone's storage capacity and a person's motivation and work efficiency. According to the findings of this poll, expanding the storage capacity of smartphones will motivate young people to make more smartphone purchases ( $B= 0.218$ ,  $\text{Exp}(B)= 1.244$ ).

On the other hand, a rise in the variables X7, X8, X11, and X23 will result in a reduction in the purchase decision. The first negative variable that will reduce the purchasing level is the Size of the Smartphone (X8). Some research discorded that it has a positive impact on purchasing. As Hamka, Bouwman et al. (2014) concluded, the way that people live, work, and study has been profoundly altered by smartphones. Modern designs for smartphones have larger screens and touch screens. Smartphones can now offer advanced functionality to their users, such as seamless communication, social networking, information, multimedia entertainment, m-commerce, personal productivity tools, and much more, thanks to technological advancements such as technological convergence, integration of voice, texting, video, gaming, mobile internet, and GPS, as well as the growing capacity of mobile networks. Moreover, Lombard (1995) mentioned that a significant body of research in the fields of communication and psychology has repeatedly found that increasing screen size has a positive impact on a number of cognitive and affective user perceptions, including presence, enjoyment, satisfaction, immersion, and realism. Furthermore, according to Kim and Sundar (2014), larger screens are thought to produce a more sensory-rich experience by boosting the number of perceptual channels available for information processing, giving consumers a more realistic and organic experience than they would with a smaller screen. Screen size is anticipated to be a prominent technological feature of smartphones that influences psychological factors influencing adoption and usage, given these effects on user perceptions that have been well-documented. As smartphone screen sizes rise and larger screens make it possible to use a variety of communication modalities, exchanging and accessing information becomes more comfortable and convenient. Yet, this study found that when people are carrying their own smartphones, it is easier to transfer the smaller size. As a result, increasing smartphone size will have a negative influence on consumer purchasing ( $B= -0.807$ ,  $\text{Exp}(B)= 0.446$ ).

The second factor that will negatively affect the purchasing decision is the Weight of the smartphone (X7). Smartphones provide a new channel for mobile users to communicate and interact with significant others (relatives, friends, classmates, coworkers, etc.) anytime, anywhere because of their low weight, tiny size, and high portability (Chang, Shen, et al. 2016). The fact that weights are increasing on smartphones is accurate. The screen is enormous in current handsets, as can be seen by looking at the design of them. New smartphones are also made of glass and metal. The handset is more practical due to the use of glass and aluminum in its construction. Their battery is an additional factor. More powerful batteries are used in the new phones being produced. This makes the ears heavier. The approach has been adopted by manufacturers, who now produce their phones with extra weight. The most recent generation of phones is also made with heavy materials (kalafaratel 2023). But, according to our research, a smartphone's carrying discomfort has a bad effect on buying decisions because of its large weight ( $B= -0.647$ ,  $\text{Exp}(B)= 0.524$ ).

The third variable that will negatively impact the purchasing decision is the Price of the smartphone (X11). Every product should be priced to a particular degree of consumer approval, according to the literature by Sata (2013). When things are priced below market value, people lack the confidence to purchase them because they assume that a lower price equates to a lesser level of quality. They question whether the quality can be ensured. Customers will assess the goods based on brand and price. Hence, the reason why smartphones are so expensive is that all smartphone manufacturers insist that their products are of great quality, so they charge a premium price for them. According to Wong (2019), several scientists have recognized price as a significant factor

affecting smartphone purchase decisions. Yet, they also argued that price is not the main factor affecting consumers' decisions to buy. However, our research indicates that as prices rise, purchase decisions will also decline ( $B = -0.493$ ,  $\text{Exp}(B) = 0.611$ ).

Version Expiration Speed (X23) is the fourth and last aspect that will have a negative impact on purchasing decisions. The handset actually acquired a great deal of permanence in the last few years. You purchased a Nokia, which you may easily use for four or five years if you protect it from damage and theft. But, in the modern world of mobile technology, it appears that a two-year delay is ideal before upgrading the handset. Compared to the Nokia phone, a smartphone is a little more complicated. More quickly depleted batteries steadily lose capacity after one or two years; their frame and big sheets can become worn. Moreover, the receiver's memory fills up, and its speed drops. The fact that you will inevitably need to get a new phone is the most crucial of all. The excellent ones, though, can continue for three years. If your phone doesn't endure this time, the manufacturer is unreliable and ineffective, and you shouldn't put your trust in them again (click. ir 2023). According to this claim, our study shows that a high rate of smartphone expiration will lead to less purchases ( $B = -0.298$ ,  $\text{Exp}(B) = 0.742$ ).

## 5. Conclusion

Afghan youth use smartphones as a support device for a variety of purposes in their daily lives because the country is still in the early stages of development. As a result, the expansion of the smartphone market will make their daily lives easier. In order to facilitate the sale of smartphones, marketers will need to segment the market while taking consumer trends into consideration, and this will be made easier with the aid of knowing the elements influencing the purchasing choice. The investigation revealed that the variables "Internet Performance (X26)", "Camera Quality (X9)", "Display Quality (19)", "Income Level (X5)" and "Storage Capacity (X21)" had a favorable impact on consumer preference. The variables "Size of Smartphone (X8)", "Weight of Smartphone (X7)", "Price of Smartphone (X11)" and "Smartphone Version Expiration Speed (X23)" however had a negative impact on consumer preference.

Therefore, given their importance in Afghan youths' daily lives, smartphones are crucial. Thus, in smartphone marketing, it is important to stress the following points to increase consumer awareness: using a smartphone will make it easier to meet official and educational requirements; it serves as a good global connector device; it keeps people informed about a variety of issues; it keeps the information they might need close at hand in case of emergency; and it can be a good friend when you're free. Also, in order to promote smartphone usage, investors should take steps to establish a perfect market environment for competition, which would hopefully encourage customers to make more purchases.

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