

Algerian final consumer behavior towards products: between quality and Price affordability (Case study)

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Abstract

This research paper aims to analyze and measure the impact of smartphone's quality dimensions on the ability to pay prices of smartphone, for a sample of university students' opinions at the Qasr Al-Shalala University Annex (Tiaret), relying on the use of parametric analysis tools appropriate for the study, where we designed a questionnaire and distributed it to a suitable random sample of 100 individuals.

The study reached a set of results, that revealed that all eight smartphone quality dimensions variables enter into the model, and none of them can be excluded, with the presence of a strong positive correlation between the dimensions of smartphone quality and the ability to pay prices of a sample university students' opinions at the Qasr al-Shalala University Annex (Tiaret) in paying their prices (smartphones), and the presence of a positive (impact, result) good relationship between the study variables.

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1. Introduction

With the spread of consumer awareness and culture among citizens and the increase in the volume of their requirements, interest in consumer behavior has become an inevitable necessity imposed by the accelerating changes on the ground, as the analysis of consumer behavior to understand the internal secrets is governed by many factors influencing this behavior, due to the large number of influences that control consumer behavior, social, economic, psychological, and even personal, which push the consumer to satisfy his needs by choosing one brand over another.

Hence, the importance of understanding and identifying the various influences emerges, to predict consumer behavior and how to influence it in the various stages that the purchasing decision goes through, from the emergence of the need to the actual purchase, which requires distinctive and high-quality products that satisfy the consumer's needs and desires, especially concerning electronic products, because the consumer, before making a purchase decision, balances and compares between the available electronic products, and then has the freedom to purchase his favorite electronic product, and this can only be achieved by offering high-quality electronic products while taking into account his purchasing power in acquiring such products.

- Research Problem:

Based on what was presented in the introduction, the problem of the study emerges by posing the following central question:

"How does the impact of the dimensions of product quality (smartphones) contribute to determining the ability of the Algerian consumer to pay its prices, from the point of view of a sample of students at the Qasr al-Shalala University Annex?"

- Sub-questions:

The following sub-questions branch out from this problem:

- Is there a relationship (effect, result) with a significance ($5\%=\alpha$) between the dimensions of product quality (smartphones) combined, and the ability of students at the Qasr al-Shalala University Annex (Tiaret) to pay their prices?
- Is there a relationship (effect, result) with a significance ($5\%=\alpha$) between the dimensions of product quality (smartphones) each separately, and the ability of students at the Qasr al-Shalala University Annex (Tiaret) to pay their prices?

- Study hypotheses:

The analysis of the problem requires testing a set of hypotheses, which are:

- There is no relationship (effect, result) between the dimensions of product quality (smartphones) combined, and the ability of the students of the university annex of Qasr al-Shalala (Tiaret) to pay their prices, at a level of significance of $\alpha=5\%$.

- There is no relationship (effect, result) between the dimensions of product quality (smartphones) each separately, and the ability of the students of the university annex of Qasr al-Shalala (Tiaret) to pay their prices, at a level of significance of $\alpha=5\%$.

- Research objectives:

The objectives of our research can be summarized by identifying:

- Providing an overview of the basic concepts of the dimensions of electronic product quality, and consumer behavior through the ability to pay prices.
- Identifying and determining the reality of the quality of the smartphone product under study.
- Identifying the behavior of university students towards purchasing smartphones, taking into account the ability to pay prices.
- Identifying the extent of the impact of the dimensions of smartphone quality in determining the behavior of the Algerian consumer, for the opinions of a sample of students at the university annex of Qasr al-Shalala (Tiaret) in paying its prices.

- Research methodology:

To conduct a scientific and systematic analysis of the problem of the research paper and its questions, to be consistent with each axis of the topic; and with the aim of testing the validity of the proposed hypotheses, we used in our research a method based on description, analysis and survey for the field study, by using the field method for all data from the study community of university students at the university annex of Qasr al-Shalala, Tiaret. The researchers also relied on the questionnaire form to collect data, before entering its data into the Statistical Package for the Social Sciences (SPSS v25) program, and analyzing its outputs as a subsequent tool to assist in reaching accurate scientific results.

2. Procedural concepts of study variables:

2.1 Consumer behavior:

- Definition of consumer behavior:

Several definitions of consumer behavior have been put forward from the point of view of authors and theorists in this field, each presenting his proposal and approach according to his scientific reference and professional fields, as it was defined as: "Those processes carried out by the final consumer during his search, selection, purchase, and use of products that he expects to satisfy his needs and desires" (Al-Sayyid Ali, 2000, p. 117).

Consumer behavior was also defined as: "The mechanism through which the individual responds to his needs, this mechanism is linked to basic stages (decision-making) and actual stages (purchase and consumption)" (Filser, 1993, p. 1).

It is also known as: "The study of the sum of the actions of individuals directly related to the purchase and use of economic products and services, which at the same time includes the purchasing decision-making process, which precedes and completes these actions", accordingly,

Kotler sees that the consumer market consists of "individuals and families who purchase or obtain goods and services for personal consumption (Dimaulo & Doygall, 1991, p. 62).

The simplest model of consumer buyer behavior is the stimulus-response model, where according to this model, the marketing stimulus (the four Ps 4) and other major forces according to this model (economic, technical, political, and cultural) enter the black box of the consumer and produce certain responses, and once they are in the black box, these inputs produce responses that the buyer notices, such as product choice, brand choice, purchase timing and quantity purchased" (Ali Ibrahim Surour, 2007, p. 335).

Molina agreed with this proposal, and considered consumer behavior as: "the actions and behaviors that individuals take in planning and purchasing the product, and then consuming it" (Al-Sumaidaie & Othman Yousef, 2000, pp. 18-19).

ANGEL Kotler also confirmed this when he defined consumer behavior as: "the actions and behaviors that result from a person, as a result of his exposure to an internal or external stimulus, regarding what is offered to him to satisfy his desires and fulfill his needs" (Salih Al-Muadhin, 1997, p. 24).

From the above definitions, we review another definition that summarizes for us that consumer behavior means: "The behavior that the consumer performs when he searches, buys, uses, evaluates and disposes of goods and services (after using them), which he expects to satisfy his needs" (Anabi, 2003, p. 12).

- The importance of studying consumer behavior for consumers in general:

To identify the purchasing motives of consumers, in addition to knowing what they want to get and how to get it? And where?, in addition to knowing the set of influences that make them tend to one product over another and one brand over another.

- The impact of income as an economic factor on consumer behavior:

Income represents the purchasing power that enables obtaining quantities of goods and services, and it is also the return that he receives as a result of doing a certain work and effort, as consumer behavior is related to its relationship with the level of income through the following (Aissam El-Din, 2002, p. 84):

- The ability to bear risks: as people with high incomes can make purchasing decisions faster, due to their ability to obtain an alternative easily if they make a mistake, and they prefer products with well-known brands and high quality, to avoid searching for maintenance, then searching and shopping. Due to the constant preoccupation that individuals live in our time, they do not find the necessary time to shop and search for products, new methods have developed such as buying products with a well-known brand, or buying from catalogs, and if the consumer has a high income, the process is done quickly, but if his income is low, shopping takes longer, and the purchasing decision is more difficult, so the individual is forced to search and find time

to shop. While experience and knowledge of products, high-income people usually buy high-quality products, but they do not have experience and knowledge of the products, because they do not care about their advantages and how to use them, due to the lack of time to care about these matters, while middle-income people are more interested and knowledgeable about the product, how to use it and the instructions related to it, after all, they have less money and more time, meaning that middle-income people have more experience and knowledge of products; When the demand for quality in general, high-income people look for products with high quality in terms of performance and general appearance that allows them to be distinguished from others, and to show the level of wealth and pride, while middle-income people care about quality in performance, in line with their financial level, and do not require luxury and pride.

- **Consumer purchasing decision and the factors affecting it:** Some factors may change and affect the consumer's decision, which are:

The influence of others: In many cases, the consumer intends to buy a certain product, but his family or friends interfere in his purchasing decision, and prevent him from buying the product he wants, or they may push him to buy another brand, while unexpected circumstantial factors may stand between the decision and the firm determination to buy, factors that the consumer did not take into account, and did not take into account, such as an unexpected decrease in his income, or the unavailability of the product or brand he wants to buy (kotler & Dubois, 1998, p. 219), which pushes him to change his mind unexpectedly, and thus we cannot consider the determination to buy as a sure indication of behavior; also, modifying, changing or canceling a purchasing decision may be related to the size and degree of risk compared to the purchase price, and here the consumer needs additional information, so marketing officials should take advantage of the state of uncertainty by providing sufficient data that enables the consumer to make his decision with greater confidence (Al-Hajj & others, 1997, p. 51).

Therefore, when the consumer makes a purchase decision, he does not make a single decision, but rather a set of decisions related to the different dimensions of the purchase, and usually related to the brand to be purchased, points of sale, quantity to be purchased, and method of payment; as the sequence of these decisions differs between individuals, and the time allocated for these decisions differs according to the individuals, and even the products to be purchased (kotler & Dubois, 1998, p. 220).

2.2 Product:

There are two main trends in defining the product: "It takes the material approach of the product and defines it based on being a mixture of tangible and intangible characteristics provided to the consumer to satisfy his needs and desires", and "It takes the comprehensive approach of the product (including service, issue, and idea), defining the product as: "the benefit

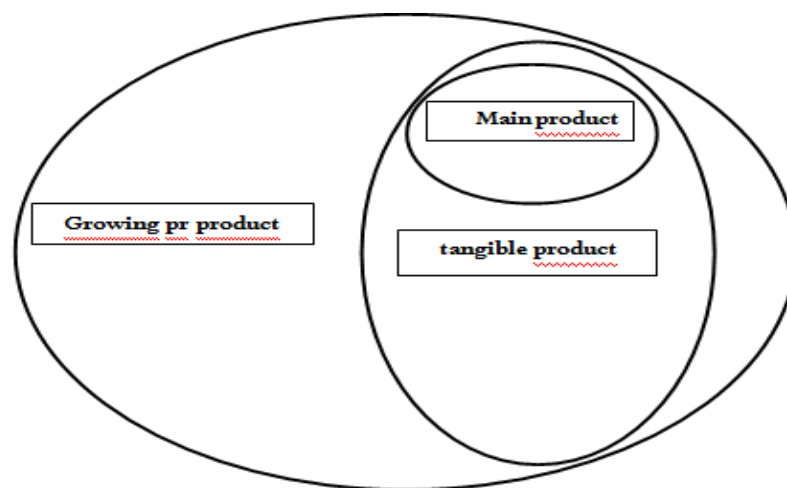
or set of basic benefits provided to the consumer to satisfy his needs and desires" (Al-Barwari & Ahmed Mohamed, 2004, p. 135).

The American Marketing Association (AMA) defines the product as "something that can be offered in the market, to attract attention, ownership, consumption, or use, and that can achieve a degree of satisfaction of a human need or desire, and this includes material goods, services, places, and ideas" (Maala, 2013, pp. 81-82).

While McCarthy sees the product as "a source of satisfaction of consumer needs and desires, as well as a source of profit sought by both the distributor and the producer, rather, it extends to all dimensions that can achieve the benefits that the consumer seeks to achieve (Maala, 2013, p. 82).

As for Kotler, he believes that the product "consists of three basic components: the basic product, the tangible product, and the growing product" (Nouri, 2007, pp. 36-37) , as shown in the following figure:

Fig 1. Basic components of the product



Source: Mounir Nouri, 2007, p. 37.

The above figure shows the following (Nouri, 2007, p. 37):

- **Basic product:** is the set of intangible benefits of the product, which the consumer believes he obtains from the exchange operations he performs;
- **Tangible product:** consists of the tangible physical features and dimensions, which facilitate the exchange process for the basic product;
- **Developing product:** includes the set of services accompanying the product, as well as the psychological aspects that improve the overall value received by the consumer in exchange for the money he paid, including the extent of the fame of this trade name or brand, the warranty, its duration and conditions, the extent of the sellers' friendship and assistance to the buyer, and the installation and maintenance of the product.

Kotler defined the product broadly and briefly as "everything offered in the market that can satisfy certain needs" (kotler & Dubois, marketing management, 2000, p. 91).

- The most important differences between goods and services:

Most products contain two aspects, tangible and intangible, and products are also classified into goods or services according to the increase of one aspect over the other; therefore, Kotler divided what is offered in the markets into five sections (Azzam & others, 2012, pp. 260-262), which are:

Complete tangible goods such as salt and soap; tangible goods supported by some services such as cars that need spare parts; and what is offered in the markets that need an equal proportion of tangible and intangible; and intangible services that are supported by tangible goods; as well as purely intangible services such as a psychologist and financial and legal consultations.

Then, the most important differences between services and goods can be explained as follows (Brianis, 2014, pp. 100-101):

Services are intangible while goods are tangible; Services are perishable while goods can be stored or their consumption postponed; and services are more variable and unpredictable compared to goods that are typical and predictable; and in services, production cannot be separated from consumption, while they are separate for goods; Also, what distinguishes services from goods is that the raw material processed in the case of services is the "customers", which is the secret of the utmost importance of the human dimension in the services sector.

2.3 Quality:

The word quality linguistically means "from goodness, and good is the opposite of bad (Al-Samra'i, 2007, p. 27); the concept of quality technically goes back to the Latin word (Qualitas), which means the nature of the thing and its degree of solidity, it has been synonymous since ancient times with precision and mastery through the manufacture of historical and religious monuments such as statues, castles, and palaces to boast about them, or for use for protection purposes, however, recently, with the development of management science and the emergence of large-scale production and the industrial revolution, as well as large organizations with the increasing intensity of competition, the concept of the term quality has acquired new and diverse dimensions. (Suayman Al-Daradkeh, 2006, pp. 15-16)

Philip Crosby sees quality as "suitability and conformity to requirements" (Hassan Al-Sarna, 2007, pp. 38-39), and according to Joseph Juran, quality means "suitability for use" (Sarhan, 2014, p. 13), while David sees quality as "the continuous achievement of the goals and desires of customers" (Sarhan, 2014, p. 24), and as for Fisher, quality "expresses the degree of brilliance and distinction" (Aalwan Al-Muhyawi, 2006, p. 24); Therefore, quality means "(freedom from defects) or (accomplishing the thing in the required manner when done (For the first time) (Aawad, p. 336).

- Product quality dimensions:

This research paper relies on the model of both (Graven, 1987) and (Stevenson, 2012), as it is the most common and widely used in determining the dimensions of quality, which can be explained in the following table:

Table 01. Quality dimensions from the perspective of some writers and researchers

Source	Dimensions	Content
Stevenson 2012, p373	1. Performance	Performance is the main characteristics of the product.
	2. Appearance	It means appearance, feel, smell and taste.
	3. Special Features	It expresses additional characteristics.
	4. Conformity	It shows the conformity of the product to the design specifications.
	5. Reliability	Reliability of performance.
	6. Durability	The ability to perform over time.
	7. Perceived Quality	Indirect assessment of quality (reputation).
	8. Serviceability	The ability to repair and process parts and components.
Gravin 1987, pp104- 107	1. Performance	Refers to the operational characteristics of the product.
	2. Features	It is like a bell for the product's features.
	3. Reliability	The extent of the product's success or failure within a specific period.
	4. Conformity	The product's conformity with the design.
	5. Durability	The product's resistance to conditions and its ability to operate continuously for hours without failure.
	6. Service	The speed and accuracy of repairing the product after failures.
	7. Aesthetics	The product's appearance, feel, sound, and smell.
	8. Perceived Quality	The quality that the customer perceives through reputation, and on the basis of which he differentiates between brands.

Source: Prepared by the researcher, based on the study literature

3. Conducting the field study at the Qasr al-Shalala University Annex, and testing the hypotheses:

3.1. Field study methodology:

3.1.1 Study tool:

The researcher designed a questionnaire to collect primary data for the study sample, where the study tool consists of three axes:

The questionnaire was designed in Arabic and English according to the theoretical aspect of the study, with the application of various dimensions about the phenomenon studied, to collect primary data from the study sample, where the study tool consists of three axes represented in:

- **The first axis:** Personal data, which is the characteristics and characteristics of the study sample such as gender, age, years of work, unemployed, marital status, name of the acquired smartphone;
- **The second axis:** Product quality dimensions, which consists of product performance, product characteristics, reliability, conformity, durability, serviceability, appearance, perceived quality;
- **The third axis:** The ability of the university student at the Qasr al-Shalala University Annex (Tiaret) to pay the prices of smartphones.

3.2 Determining the study community and sample:

To obtain the necessary data for the study, a special community was created for the field study, and a random sample was selected from the study community, where the study community consists of all students at the university annex of Qasr al-Shalala (Tiaret), of both sexes, then the questionnaire was distributed to a sample of 100 university students, where no questionnaire form was excluded due to its clarity and completeness, the number of valid forms for processing became 100 forms, to be followed by the process of emptying the data obtained in the SPSS program as inputs, and conducting the analysis process and testing hypotheses, and simulation.

3.3 Tool scale:

The five-point Likert scale was chosen, as it is considered one of the most used scales for measuring opinions due to its ease of understanding and balance of degrees.

3.4 Apparent validity of the questionnaire:

The questionnaire was designed based on previous studies to ensure the validity of the questionnaire and the extent to which it represents the dimensions of the study in the best way.

3.5 Questionnaire reliability:

One of the most important reliability coefficients, Cronbach's Alpha, was used using the SPSS program for all paragraphs and axes of the questionnaire, where the following results were reached:

Table 03. Internal consistency coefficient alpha for each axis of the questionnaire

Axis No.	Axis Statement	Cronbach's Alpha Coefficient
02	Dimensions Of Smartphone Quality	0,879
03	University Student's Affordability	0,810
The Total	Complete Questionnaire	0,860

Source: Prepared by the researcher based on the outputs of the SPSS v 25 program.

We note from Table No. (03) that the value of the total Cro-Nbach's alpha coefficient reached 0.860, which is very high. The results also indicate that the value of the Cro-Nbach's alpha coefficient for all questionnaire axes is greater than 0.60, exceeding 60%, which is the minimum required for the Cro-Nbach's alpha coefficient, and it is a value with high statistical significance, which shows the stability of the measurement tool and the extent of its suitability and reliance on its results for analysis, discussion, and simulation.

3.6 Study of modeling the relationship between the dimensions of the quality of smartphones and the ability of the university student to pay their prices:

To conduct the process of testing the study hypotheses, it is necessary to verify whether the answers of the sample members follow the normal distribution, and whether the data follow the normal distribution or not, and then we will conduct the test of each of Kolmogorov-Smirnov, and Shapiro-Wilk, as shown in the following table:

Table No. (04). Results of Shapiro-Wilk and Kolmogorov-Smirnov tests

Statement	SW Test Value	Sig Significance Level	KS Test Value	Sig Significance Level	Distribution Result
Smartphone Quality Dimensions	0,772	0,099	0,217	0,134	normal
Student's ability to pay prices	0,908	0,117	0,167	0,104	normal

Source: Prepared by the researcher based on the outputs of the SPSS v 25 program.

Table No. (04) shows the results of the Kolmogorov-Smirnov test and the Shapiro-Wilk test. The result indicates that the value of the level of significance for each of the axis of smartphone quality dimensions and the axis of Algerian consumer behavior (students' ability to pay their prices) is greater than the critical significance level of 5%, therefore, we conclude that the data of the study variables are moderate, and therefore parametric tests must be conducted.

- Testing the first hypothesis:

H₀: There is no relationship (effect, result) between the dimensions of product quality (smartphones) combined, and the ability of the students of the university annex of Qasr al-Shalala (Tiaret) to pay their prices at a level of significance of $\alpha=5\%$.

H₁: There is a relationship (effect, result) between the dimensions of product quality (smartphones) combined, and the ability of the students of the university annex of Qasr al-Shalala (Tiaret) to pay their prices at a level of significance of $\alpha=5\%$.

- Definition of the study variables:

y : The ability of the students of the university annex of Qasr al-Shalala (Tiaret) to pay the prices of smartphones (the behavior of Algerian students) as a dependent variable.

x: Expresses the dimensions of the quality of smartphones combined as an independent variable.

To test this hypothesis, we used a simple linear regression analysis model to verify the existence of a statistically significant relationship between the dimensions of smartphone quality combined and the behavior of Algerian students (ability to pay smartphone prices), as shown in the following table:

Table 05. Results of the simple linear regression test analysis estimated between the dimensions of smartphone quality combined and the ability of students of the university annex of Qasr al-Shalala (Tiaret) to pay their prices

Independent variable statement: (x)	Smartphone quality dimensions combined					
Dependent variable: (y) Students' ability to pay the prices of smartphones	Simple correlation coefficient: r_{yx}	Simple coefficient of determination: R^2_{yx}	Regression coefficient b	Calcul. F	Calcul. Sig	Significance level
	0,710	0,504	3,019	17,906	263,94	0,000

Source: Prepared by the researcher based on the outputs of the SPSS v 25 program.

Table No. (05) shows the results of the simple linear regression model analysis estimated between the dimensions of the quality of smartphones combined, and the ability of students at the university annex in Qasr al-Shalala (Tiaret) to pay their prices, where the results of the analysis showed the following:

- The value of the correlation coefficient was: $r_{yx} = 0.789$, which indicates that there is a strong positive correlation between the dimensions of the quality of smartphones combined, and the ability of students at the university annex in Qasr al-Shallala (Tiaret) to pay their prices.
- The value of the coefficient of determination was: $R^2 = (r_{yz})^2 = (0.710)^2 = 0.504$, which expresses that the dimensions of smartphone quality combined contribute to explaining the changes that occur in the ability of students at the university annex of Qasr al-Shalala (Tiaret) to pay their prices by 50.40%, and the remaining 49.60% expresses the other factors that enter into explaining the behavior of students at the university annex of Qasr al-Shalala (Tiaret), and thus, the margin is large and significant, which suggests the average explanatory power of the estimated model.
- The regression coefficient indicates the value $b=3.019$, that a one-degree increase in the dimensions of smartphone quality combined inevitably leads to an increase in the acquisition of smartphones by university students at the university annex of Qasr al-Shalala (Tiaret), by a value of 3.019.
- By conducting the Student test, we found its calculated value for the parameter b equal to: $T_b=17.906$, while the tabulated value (T_{tab}) extracted from the Student scale table is: $T_{tab}=1.9799$, and we also notice that: $T_{cal} > T_{tab}$, which indicates that the slope value of the estimated simple linear regression line equation b has high statistical significance, and this was confirmed by the value of the significance level equal to: 0.00, meaning that $\alpha \leq 5\%$, and

accordingly we reject the null hypothesis, and accept the alternative hypothesis that states that there is a significant significance level for the slope of the estimated simple linear regression line equation.

- From the Fisher test, we found its calculated value to be: $F_{cal}=252.94$, while the tabulated value (F_{tab}) extracted from the Fisher scale table is: $F_{tab}=3.940$, and accordingly, we note that $F_{cal}>F_{tab}$, which confirms that the representation equation is objective and good for studying the relationship between the dimensions of the quality of smartphones combined, and the ability of students at the university annex in Qasr al-Shalala (Tialet) to pay their prices, which was indicated by the value of the significance level equal to 0.00, meaning that $\alpha \leq 5\%$, and accordingly, we reject the null hypothesis and accept the alternative hypothesis, which states the significance of the simple linear regression line equation estimated as a whole.

- Testing the second hypothesis:

H_0 : There is a relationship (effect, result) between the dimensions of product quality (smartphones) each separately, and the ability of the students of the university annex of Qasr al-Shalala (Tialet) to pay their prices, at a level of significance of $\alpha=5\%$.

H_1 : There is a relationship (effect, result) between the dimensions of product quality (smartphones) each separately, and the ability of the students of the university annex of Qasr al-Shalala (Tialet) to pay their prices, at a level of significance of $\alpha=5\%$.

- **Study variables:** The variables that enter into the formation of the multiple model are defined as follows:

Table 06. Definition of the variables of the multiple linear regression model

Variable symbol	Variable name	Variable nature
x_1	Product Performance Dimension	Independent (interpreted)
x_2	Product Characteristics Dimension	Independent (interpreted)
x_3	Reliability Dimension	Independent (interpreted)
x_4	Conformity Dimension	Independent (interpreted)
x_5	Durability Dimension	Independent (interpreted)
x_6	Serviceability Dimension	Independent (interpreted)
x_7	Appearance Dimension	Independent (interpreted)
x_8	Perceived Quality Dimension	Independent (interpreted)
y_3	Student Ability at the University Annex of Qasr al-Shalala (Tialet) to Pay for Smartphone Prices	Dependent (interpreted)

Source: Prepared by the researcher

- Study of the simple binary correlation coefficients table:

To keep or exclude some independent variables that enter into the formation of the multi-linear model to avoid standard problems, we measure the binary correlation coefficients between the independent variables; as shown in the following table:

Table 07. Values of binary correlation coefficients for independent variables

Variables	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
X_1	1							
X_2	0,463	1						
X_3	0,478	0,163	1					
X_4	0,228	0,117	0,034	1				
X_5	0,117	0,198	0,341	0,047	1			
X_6	0,477	0,063	0,473	0,166	0,279	1		
X_7	0,108	0,114	0,079	0,281	0,008	0,008	1	
X_8	0,079	0,334	0,114	0,260	0,347	0,089	0,111	1

Source: Prepared by the researcher based on the outputs of the SPSS v 25 program.

From the table above, it is clear that there is a weak direct relationship between all the independent variables, as indicated by the binary correlation coefficients, and this result suggests keeping all the independent variables in the formation of the multi-linear model. - Forming the estimated multi-linear model equation:

By using the stepwise regression method, to choose the best representation equation, we obtained the following equation when performing this method:

$$y_i = -3,447 + 0,791 \cdot x_7 + 0,408 \cdot x_8 + 0,341 \cdot x_3 + 0,280 \cdot x_1 \\ + 0,254 \cdot x_6 + 0,247 \cdot x_5 + 0,211 \cdot x_2 + 0,134 \cdot x_4$$

We notice that when all eight independent variables are taken into account in the model, the largest coefficient of determination is met, meaning that it explains and explains the changes that occur in the behavior of the university student at the Qasr al-Shalala University Annex, through his ability to pay the prices of smartphones by 44.70%.

- Study of the correlation of the multiple linear model:

The value of the multiple linear correlation coefficient is equal to: $R_{y_{x_7, x_8, x_3, x_1, x_6, x_5, x_2, x_4}} = 0,668$ This value indicates the strength and durability of the direct correlation between the independent variables (dimensions of smartphone quality) each separately, and the dependent variable (the ability of the university student at the University Annex of Qasr Al-Shallal to pay their prices).

- Study of the explanatory power of the estimated multiple linear model:

The value of the multiple determination coefficient is equal to: $R^2 = (R_{y_{x_7, x_8, x_3, x_1, x_6, x_5, x_2, x_4}})^2 = (0,668)^2 = 0,447$; means that the independent variables contribute to explaining and

interpreting the dependent variable by 44.70%, and 55.30% remains, where it expresses the other factors that enter into explaining the phenomenon under study, in general, it is a significant margin indicating the average explanatory power of the proposed model.

- Student scale test for the free parameter (a):

The calculated value of the Student test for the free parameter in absolute value is: $T_a = 28,026$, while the tabulated value (T_{tab}) extracted from the Student scale table is $T_{tab} = 1,9799$, note that $T_{cal} > T_{tab}$, which indicates that the value of the free parameter a has statistical significance, which was confirmed by the value of the significance level equal to 0.000, meaning that: $\alpha \leq 5\%$, and accordingly we reject the null hypothesis, and therefore the value of the free parameter must be kept in the formation of the estimated model.

The value of the free parameter was: $a = -3,042$, which means theoretically that if the quality of smartphones is not available - the poor quality of the smartphones under study - and their quality is equal to zero, there will be a negative behavior towards them by the university student under study by not paying their prices, and there will be a reluctance to purchase them, because firstly they are not considered necessary products or products of wide consumption, and secondly due to their high prices in the market.

- Student's scale test for the coefficients of the estimated multiple linear regression line equation b_i :

When conducting the Student's test, we found that its calculated value for all parameters b_i is greater than the tabulated Student's value, i.e. $T_{cal} > T_{tab}$, which indicates that the values of the coefficients of the multiple linear regression line equation b_i have high statistical significance, which was confirmed by the value of the significance level equal to respectively: 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, i.e. : $\alpha \leq 5\%$, and accordingly we reject the null hypothesis and accept the alternative hypothesis that states that there is a significance level for all coefficients of the estimated multiple linear regression line equation.

- Testing the quality of the fully estimated multiple linear model:

When conducting the Fisher test, we found its calculated value equal to $F_{cal} = 208,347$, while the tabulated value (F_{tab}) extracted from the Fisher scale table, equals $F_{tab} = 2,03$.

We note that $F_{cal} > F_{tab}$, which indicates and confirms that the representation equation is objective and good for studying the relationship between the dimensions of the quality of smartphones, each separately, and the ability of the student at the university annex in Qasr al-Shalala (Tiaret) to pay their prices, which was indicated by the value of the significance level equal to 0.00, i.e. $\alpha \leq 5\%$, and accordingly, we reject the null hypothesis and accept the

alternative hypothesis that states the significance of the estimated multiple linear regression line equation.

4. Conclusion:

The current study aimed to determine the measurement of the impact of the eight dimensions of smartphone quality according to the model (Graven, 1987) and (Stevenson, 2012) on the ability of a sample of university students' opinions at the University Annex of Qasr al-Shalala (Tiaret) to pay the prices of smartphones, relying on the use of parametric analysis tools appropriate for this study; The following results were produced:

- The first hypothesis was not confirmed, which states: There is no relationship (effect, result) between the dimensions of product quality (smartphones) combined, and the ability of the students of the University Annex of Qasr al-Shalala (Tiaret) to pay their prices, at a significance level of $\alpha=5\%$.
- The second hypothesis was not confirmed, which states: There is no relationship (effect, result) between the dimensions of product quality (smartphones) individually, and the ability of the students of the University Annex of Qasr al-Shalala (Tiaret) to pay their prices, at a significance level of $\alpha=5\%$.

5. Suggestions:

Based on the results shown above, a set of suggestions and recommendations can be presented as follows:

- The necessity of providing and improving the quality of national products of smartphones (Condor, for example), taking into account the purchasing power in determining their prices, in line with the financial situation of the Algerian citizen.
- Re-conducting a field study comparing local smartphones (Condor, for example) and imported smartphones.
- _ Conducting a field study on home electronics products, to identify the trend of Algerian consumer behavior towards them.

6. Bibliography List :

1. Aalwan Al-Muhyawi, Q. N. (2006). Quality Management in Services (Concepts, Processes and Applications), First Edition. Amman, Jordan: Al-Shorouk for Publishing and Distribution.
2. Aawad, B. A.-H. Marketing of Banking Services, First Edition. Cairo: Al-Bayan for Printing and Publishing.
3. Aissam El-Din, A. A.-A. (2002). Marketing (Concepts, Strategies). Alexandria, Egypt: Horus International Foundation.

4. Al-Barwari, N. A., & Ahmed Mohamed, F. A.-B. (2004). Marketing Strategies (Concepts - Foundations - Functions), First Edition. Amman: Wael Publishing and Distribution House.
5. Al-Hajj, T., & others, a. (1997). Marketing from Producer to Consumer, Second Edition. Amman, Jordan: Al-Safa Publishing and Distribution House.
6. Ali Ibrahim Surour, S. (2007). Marketing Basics, Book One. Riyadh, Kingdom of Saudi Arabia: Mars Publishing House.
7. Al-Samra'i, M. (2007). Total Quality Management. Amman, Jordan: Jadeer Publishing.
8. Al-Sayyid Ali, M. A. (2000). Fundamentals of Marketing, Al-Warraq Foundation. Amman, Jordan.
9. Al-Sumaidaie, M. J., & Othman Yousef, R. (2000). Consumer Behavior: A Quantitative and Analytical Introduction. Amman, Jordan: Al-Manahij.
10. Anabi, A. (2003). Consumer Behavior (Psychological Influence Factors), Part One. Algeria: University Publications Office.
11. Azzam, Z. A., & others. (2012). Principles of Modern Marketing between Theory and Application, Fourth Edition. Amman, Jordan: Al-Masirah for Publishing, Distribution and Printing.
12. Brianis, A. (2014). Marketing of Services and Public Services, First Edition. Alexandria: Al-Wafaa for Printing and Publishing.
13. Dimaulo, K., & Doygall, M. c. (1991). Marketing from theory to practice. Quebec, Canada: Gaetan Morin publisher.
14. Filser, M. (1993). Consumer Behavior. Paris: Dalloz Editions.
15. Hassan Al-Sarna, R. (2007). Globalization of Banking Service Quality. Amman, Jordan: Al-Warraq Publishing and Distribution Foundation.
16. kotler, P., & Dubois, B. (1998). Marketing Management (9 ed.). Paris, France: public Union.
17. kotler, P., & Dubois, B. (2000). marketing management (Vol. 10th edition). Paris, France: public Union.
18. Maala, N. (2013). Marketing Management (An Integrated Strategic Approach), Second Edition. Jordan, Amman: National Library Department.
19. Nouri, M. (2007). Marketing (Information and Strategies Introduction). Algeria: University Publications Office.
20. Salih Al-Muadhin, M. (1997). Consumer Behavior. Amman, Jordan: Al-Ilm Wal-Thaqafa for Publishing and Distribution.
21. Sarhan, F. (2014). Total Quality Management (Modern Global Administrative Trends), Second Edition. Cairo, Egypt: Al-Sharif Mass Library for Publishing and Distribution.
22. Suayman Al-Daradkeh, M. (2006). Total Quality Management and Customer Service, First Edition. Amman, Jordan: Safa Publishing and Distribution.
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