

The Investigation of the Effects of Demographic Factors and Physical Characteristics of Goods on the Behavior of Purchase in Cell Phone Market in Middle East (Case Study: Iran, United Arab Emirates, Saudi Arabia and Egypt)

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ABSTRACT

The objective of the paper is to investigate the effects of demographic characteristics and physical specifications of goods on the behavior of purchase in cell phone market in Middle East and 12 hypotheses were tested. The sample size was 246 people and the data were collected by distribution of questionnaire and interview. For sampling, simple sampling method was used. The method in this paper is descriptive-survey method and by receiving information from the cell phone users in Middle East, the effect of these variables is studied. The applied tests were Pearson Chi-square (X^2), binominal test and the analyses were done by SPSS software. The results showed that the effect of the characteristics of the goods on the purchase behavior is supported and demographic variables didn't have significant effect except income that its effect on the purchase behavior was supported.

KEYWORDS: The consumer behavior; purchase decision; value; viability; volume; variety and virtue.

INTRODUCTION

Marketing management is including demand management, that includes customer relationship preservation management is to maintain (Jobber, 2007). Today, most marketers are seeking more than just a one-time exchange or transaction with customers. The focus of market-driven companies is on developing and sustaining relationships with their customers (Belch&Belch,2003:7).For purpose, understanding demographic factors and physical characteristics of goods are essential.

LITERATURE REVIEW

Purchase behavior process

The behavior of the consumer is the set of actions and processes that consumers use during information search, selection, evaluation and application of the goods and services to meet their demands (Belch&Belch,2003:105).

The investigation of the consumer behavior and understanding the external and internal environment of the buyer is a wide science using the concepts of other sciences including psychology, sociology, social sciences and economics.

The study of the behavior of the consumer is including the analysis of the effective factors on purchase decision and using the product (Paul and Jerry and Klans,2004). The consumers have various selections and decision making processes because they have different personalities, values and preferences. The behavior of people during purchase is influenced by various factors such that purchase behavior is called also situational behavior (Peer and Olson and Grunert,1999:110). There are various models to analyze the consumer behavior including Nicosia Model, Howard – sheth Model, Engel – Kollat – Blackwell Model, etc. All these models consider common aspects in terms of nature. The consumer behavior stages are briefly shown in Figure 1:

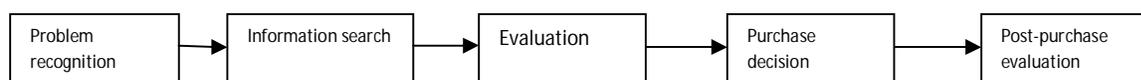


Figure 1: Buyer behavior process

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When a consumer is motivated, he tries to search information from different sources, if the collected information convinces him, he will buy the required goods, and otherwise he bears it in his mind (*Kotler and Armstrong, 2007*). After the purchase, the consumer memorize as positive experiences, the collected information in the previous stage if it is in accordance with his expectations and this will be an information source for other people. If the information is not in accordance with his expectations, they are called negative experiences and this information is forgotten gradually and is unreal information (*Jobber, 2009*).

Buyers in Middle East

As it was said before, in this research we are going to investigate the effects between demographic factors, goods and purchase behavior in Middle East. Normally, the countries in Middle East are developing countries. Developing countries are countries that are in transition path of agriculture to industrialization and they focus on technology. One of the main problems in these societies is communication and communication in selling and buying is done by traditional style (<http://en.wikipedia.com>).

V5 Model

The framework model in this research is V5 (Five Vs) that was proposed for the first time by Bennett that later explained new marketing mix consisting of the five Vs. In the identification of purchase process, the best condition is that marketers imagine themselves as consumers and view from their perspective that what criteria are important to attain the customer satisfaction. These criteria are defined in the form of 5V (*Bennet, 1997*) that is used in this research as value (Quality, suitable for goal, reliability, price, performance, provider background), viability (access to product, the power of brand, purchase results, consumer expectations, etc), volume (quantity, number, stability, spare parts, etc), variety (product variety, price variety, payment variety, delivery time, etc), virtues (coherence, source research process).

Correct recognition of marketing factors, manufacturing enterprises help goods and services in achieving goals such as the received profit, market share and sale amount. As it was said before, the consumers decide based on different criteria. It is worth to mention that taking decision is before purchasing and continues after that. Considering effective various factors on the behavior of purchase and as progress in cell phones had been progressed recently and there are various brands of cell phones in competitive market, being informed of effective factors on the behavior of buyer has vital role for manufactures in the survival of producers in competitive market (Middle East) and will have more share in this market.

Thus, one of the main issues in the market of cell phones is that what factors define the final decision of buying the product. Thus, considering the above issues, the current research was done to determine the effectiveness and demographic characteristics and goods on the consumers purchase behavior of cell phones in Middle East.

METHODOLOGY

Research Questions

The main objective of the current study is the investigation of the effects of demographic factors and physical characteristics of goods on the purchase behavior of the consumer in Middle East that to achieve this goal, at first we investigate at first the effects of demographic effects on consumer purchase behavior and then we investigated value, viability, volume, variety, virtue of the goods on the buying behavior. Finally, we will present more sale solutions for the manufacturers. Thus, according to the purposes of the research, some questions are raised as: What are the values of each of the brands in the mind of the buyers? That buyer answers them considering the components being defined for the value and answer them and the components are including robustness, new, uniqueness, anti-scratch, water –proof, good price, etc. It can be said that regarding other factors, it is done in this form.

Research Hypotheses

1. The age of the customers affects the purchasing behavior of cell phones.
2. The gender of the customers affects the purchasing behavior of cell phones.
3. The number of household of the customers affects the purchasing behavior of cell phones.
4. The marital status of the customers affects the purchasing behavior of cell phones.
5. The income of the customers affects the purchasing behavior of cell phones.
6. The education degree of the customers affects the purchasing behavior of cell phones.
7. The job of the customers affects the purchasing behavior of cell phones.
8. The value of goods affects the purchasing behavior of cell phones.
9. Viability affects the purchasing behavior of cell phones.
10. Volume affects the purchasing behavior of cell phones.

11. Variety affects the purchasing behavior of cell phones.
12. The virtues of the goods affect the purchasing behavior of cell phones.

Study population and Sampling method and data collection

The study population in this research is including all the users of cell phones in 2011 in Middle East. As many people in this research are addressed, sampling method is simple random method. If the ratio of the success of the population (p) is 0.8, error level (α) is 0.05 and precision of estimation 5%; at least sample size is determined 246 persons by the following formula.

$$n = \frac{(z_{\alpha/2})^2 \times p \times (1 - p)}{\varepsilon^2} = \frac{(1.96)^2 \times 0.8 \times (.2)}{0.05^2} = 246$$

To collect adequate questionnaires for the entire sample size, 300 questionnaires were distributed and 250 questionnaires were used.

The questionnaire designed for this research is including 5 questions that is closed question and they are based on Likert scale to extract the data. The required questionnaire is made considering value, viability, volume, variety and virtue variables and the dimensions of each of them are investigated. This can be said that it is possible that a component of research variables is common in some variables. The distribution of the components of research questions is shown in Table 1.

Table 1: Distribution of the components of research questions of questionnaire

No	Variable	Number	Aspects
1	value	39 components	Robustness, anti-scratch, service life, sending Bluetooth, etc
2	viability	12 components	Color variety, access to internet, battery capacity, etc
3	volume	7 components	Lightness, spare parts, 2 SIM cards, etc
4	variety	17 components	The fame of producer, memory card, camera, etc
5	virtue	18 components	Access to internet, voice quality, after sale services, etc.

The questionnaire was distributed by internet and face-to-face methods among Iran, United Arab Emirates, Arabia and Egypt in terms of population and its distribution is shown in Table 2.

Table 2: The distribution of questionnaire among 4 countries of the study

	Iran	Emirate	Arabia	Egypt
Population (2006)	70472846	4496000	24573000	75452320
The number of distributed questionnaires	101	10	30	109

Validity and reliability of the research

Validity of the questionnaire in this study was supported by some of university lecturers, top experts and marketing experts; the reliability of the study was calculated by Cronbach’s alpha by SPSS.15 software. The achieved coefficients for pre-test and posttest samples were 0.845, 0.815, respectively and the reliability of the research was supported.

the relationship between the variables of the research and Hypotheses test

In this study, by descriptive and inference methods, the data were analyzed. At descriptive level, by statistical characteristics such as frequency, mean percent, median, mode, standard deviation and variance, the characteristics of the population were studied and in inference level, Kolmogorov-Smirnov test, single factors ANOVA, Chi-square (X2) Pearson and binomial test were used.

Demographic factors

The first part of the questionnaire is related to the demographic factors including age, gender, education, income, the Marital status and job. The results of demographic characteristics are shown in Table 3.

Table 3: Descriptive results of sample population

Demographic factors	Age	Gender		Education		Income		
Sample size	246	246		246		246		
Descriptive statistics	20 years old and less	18.7%	Man	57.5%	Below Diploma	8.5%	Less than 150\$	56.5%
	20 to 35	72%	woman	42.3%	Diploma	30.1%	150-250 thousands	54.4%
	35-50 years	7.3%			Associate degree	20.3%	dollar	13%
	Above 50	2%			B.A	39.4%	250-400 thousands	10.2%
					M.A and above	10%	dollar	4.9%
							400-650 thousands	
							dollar	
							More than 650 thousands	
							dollar	
Demographic factors	Marital status	The number of household		Job				
Sample size	246	246		246				
Descriptive statistics	Single	68.7%	Less than 4	22.8%	Student	50.8%		
	Married	31.3%	Between 4-7	60.6%	Businessperson	38.6%		
			Between 7-10	15%	Employee	30.6%		
			Above 10	1.6%				

The comparison of the average of demographic variables and 5v model and (K-S) Test

The comparison of the averages shows that value component with the average of 3.9 is the highest and after that virtue, variety, viability, volume, literacy, the number of households, age, income, job status, gender, marital status of people is the highest.

One of the tests that investigate goodness of fit is Kolmogorov-Smirnov test that is used in this study. Considering the results of Table 4, the significance value of all the data is 0.119 as this is higher than 5%, H_0 is not rejected and it can be said that study population has normal distribution thus, parametric test can be used for data analysis.

Table 4: The results of K-S test

Variable	Mean	SD	SIG	Test result
Total data	3.7	0.67	0.119	Supported

Single-factor variance analysis

To compare the effect of demographic variables (independent variable) on value, viability, variety and virtue variables (dependent variables), ANOVA test was used. The applied statistical hypothesis is as follows:

$$H_0 : \mu_1 = \mu_2 = \dots = \mu_k$$

At least the average of two groups is not the same: H_1

In the comparison of the value of goods as dependent variable and education level as independent variable considering significance number 0.129 that is more than 5%, H_0 is not rejected. It means that there is no significant difference between the averages of the value of goods among different education groups.

Considering the above sample, in order not to go too much to the extreme, we briefly mention the comparisons:

Thus, in the comparison of the average between viability and gender, value and gender, variety and gender, virtue and gender, variety and income, value and the number of household, viability and the number of household, viability and the number of household, variety and the number of household, virtue and the number of household variables, H_0 hypotheses were rejected, it means that there was significant difference between their average.

In the result of comparisons, there was not significant relationship between the averages.

Binominal test of the components (value, viability, volume, variety and virtue)

Considering the binominal test, the people who answered as “much and very much” to the question of whether the value, viability, volume, variety and virtue of the goods affected the buying behavior of cell phones were consisting of 90% of the total sample (about volume is 80%). As the validity of test is 0.000 and is less than 5%, the above factors have significant effect on buying behavior of cell phones.

In this study, to investigate the independence hypothesis of two variables that one of them is qualitative and the other is quantitative or qualitative, chi-square test was used. At first, all the variables were divided into two groups

and by paired independence matrix and Pearson test (X^2), the effect of demographic variables on buying behavior was tested and the results are as follows:

As it is shown in Table 5, the effect of age and buying behavior was investigated at sig level 0.158 and the effect of age on buying behavior was not supported. The effect of gender, marital status, the number of households, job and education on buying behavior is investigated as shown in Table 5 and finally the effect of each the above variables on buying behavior was not supported.

Table 5: Pearson Chi-square statistics

	Component	Value	Degree of Freedom	Sig
X ²	Age	1.990	1	0.158
	Gender	0.130	1	0.791
	Marital status	0.035	1	0.851
	Household number	1.134	1	0.293
	Job	0.053	1	0.046
	Education	0.018	1	0.089
	Income	0.912	1	0.034

Among all the variables, as it is shown in the above table, only significance level of income was 0.034 and as it is less than 5%, H_0 hypothesis is supported, calculated chi-square value is less than chi-square of the table and the effect of income on buying behavior is supported. In addition, paired matrix of independence between the variables was calculated but it is not mentioned here.

RESULT AND CONCLUSION

Demographic hypotheses were tested and the results are as followings:

First hypothesis: This test was tested at significance level 5% and H_0 hypothesis was supported. It means that age doesn't affect buying behavior.

Second hypothesis: Gender factor was tested and the lack of influence of gender on buying behavior was supported.

Third hypothesis: This hypothesis was rejected like marital status factors and its influence on buying behavior.

Fourth hypothesis: This test was tested at significance level 5% and it was concluded that the number of household is not effective on buying behavior.

Fifth and sixth hypotheses: In these tests the effect of job and education on buying behavior were rejected.

Seventh hypothesis: Here the amount of income was tested and its effect on the buying behavior was supported that is important.

5 hypotheses of 5V were tested by binominal test and the results are as follows:

Eighth hypothesis: This test was tested at significance level 5%. According to the results, 99% of total sample stated that the value of good is effective on purchasing cell phones.

Also, based on binominal test, as validity value of the test was 0.000 and it is less than 5%, it can be said that the value of goods has significant effect on buying behavior of cell phones.

Ninth, tenth, eleventh and twelfth hypotheses test: These hypotheses were tested and all of them were supported as follows:

Viability has significant effect on buying behavior of cell phones.

Volume has significant effect on buying behavior of cell phones.

Variety has significant effect on buying behavior of cell phones.

Virtue has significant effect on buying behavior of cell phones.

The paper results can be useful for production companies, retailers and marketers. The marketers that are going to use this paper should consider to time and place conditions and analysis competitive strategies in this industry. Marketers can use quantitative methods, to find the target market tastes and then by importance of the factors listed in this paper in view of consumers, decision to important the appropriate marketing strategy.

One of effective factors in purchase behavior is income, so the production of cheaper cell phones can motivates low-income people and this is important for small companies and business. Also Value, viability, volume, variety and virtue in manufacturing products can motivate buyers to buy the goods; also it can be a reason to improve competition power with other products.

Establishment of after-sale services and selling spare parts and creating good conditions for the guarantee of cell phone can have great influence on selling the products.

Limitations in this paper is :

Any research defines a domain for its subject, space and time and it can be said that all the researches have unavoidable limitations. The limitations of this study are studied from temporal, spatial and subject aspects. This study was carried out in the second 6 months in 2011 in Middle East. The researchers who want to use this study should consider the temporal conditions on the market on that period and research location. Indeed, focusing on one issue distracts us to concentrate on other issues. We should bear this in mind.

Further research avenues

Some of our study provide avenues for future research opportunities.

This study uses an experimental methodology. First, this study has used a single product category (cell phone) and a special sample (Middle East) while these can be change for example East Asia or North Africa region market. And second, can be change product and service, for example study on car or notebook and other goods. Future studies are necessary in order to evaluate the research findings in different situations.

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