Factors Affecting Buying Behavior of an Apartment an Empirical Investigation in Amman, Jordan

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Abstract: The objective of this study is to investigate the main factors that influencing the customers' buying behavior toward apartment, and tried to identify the most influencing factors that affect buying. A convenience sample consists of 120 persons who already bought an apartment in different areas in Amman. One sample t-test, independent sample t-test, and one-way ANOVA were used in testing the hypotheses. This study found that respondents would significantly adopt the main constructs when buying residential apartments, including aesthetic, economic, marketing, geographic, and social constructs. And the study concluded that there were significant differences in decision making regarding buying residential apartments according to the sample gender and Age. And there were significant differences in the respondents answer due to age and there were no significant differences according to the marital status or educational level.

INTRODUCTION

Buying an apartment is one of the most significant economic decisions that people make, and it requires gathering a lot of information regarding its features (Hua Kiefer, 2007).The role of marketing is one of the keys in the success of any businesses. This study concentrates on the factors that affect purchasing of the real estate; this kind of studies has not much been investigated in the Jordanian market, particularly in the real estate. It is one of the businesses that depend on many factors for purchasing. From investigations and field survey, researchers classified the important factors affecting the decision to buy a definite apartment and they are: Form, Views, Decoration, Entrance, Design, Finishing, Price, Advertising, Credibility, Reputation, Income, Interest, Apartment Area, Conversion and Taxes.

Statement of the problem: This study tried to answer the following questions; what are the factors that influence buying behavior of Jordanian people towards apartment? And what are the most influencing factors that affect buying the apartment. And are there any differences in the influencing factors towards the customers' demographic factors.

Objective of the study: The main objective of this research is to investigate the main factors that influence the customers' buying behavior.

Population and sample of the study: The Population of the study consists of the Jordanian people who bought an apartment in the last 10 years in greater Amman municipality. A convenience sample is selected consisting of 120 persons who already bought an apartment in different areas in Amman.

LITERATURE REVIEW

The Features of the apartment structure itself will be an important determinant of a household choice of residence (Quigley, 1976), households individual characteristics neighborhood quality as one of the determinants of a household's residential choice (Gabriel and Rosenthal, 1989). For example, Friedman (1980) estimated the role of local public services on residential location choice. The finding of his study suggests local public services and other community characteristics play only minor roles in determining the residential location choices, while the quantity of housing services that the household can obtain in a community plays a major role (Hua Kiefer, 2007). Quigley (1985) estimated recently moved renters choices in three stages, He found that school and public expenditures have small negative effects on the probability of a renter in choosing a community, he interpreted these results as households, Preferences toward residences. Nechyba and Strauss (1997) found that public expenditures, tax, crime rate, commercial activity are factors influencing buying decisions. And they found also that an individual household's location decision is significantly affected by local public services and community entry prices. Morel et al. (2000) describe the process of materials selection, design and construction used for small

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residential building in southern France, they found out that materials were resourced in situ in order to minimize the environmental impact of the new building, the process of materials selection, and the form construction are outlined.

Local tax rates, crime rate, parks, education level, median income, median age, capturing the features of the socioeconomic environment, Neighborhood variables.

Lenzen and Treloar (2006) analyze the wood and concrete design of Walludden building described by Borjesson *et al.* (energy policy 28 (2000) 575) in terms of their embodied energy, employing an environmentally extended input-output framework in a tiered hybrid life-cycle assessment, and in a structural path analysis.

A great deal of research in sociology and psychology points to the benefits of social interaction, as it promotes emotional and physical health (Diose and Mugny, 1984; Sampson *et al.*, 1997). The extent of social contact between two individuals is determined by the perceived cost and expected reward derived from that interaction. (Mithraratne and Vale, 2004) mentioned in their study life cycle analysis model for New Zealand houses that globally designers are concentrating on minimizing the impact their building make on the environment.

In economic terms, the benefits and costs from social interactions may affect an individual's utility function (Manski, 2000). Because of the important facilitative roles played by propinquity and similarity in the utility function, a household will tend to search for similarities between him/her self and potential neighbors in order to maximize its utility.

Households tend to feel less happy if they do not do well as their neighbors, which is consistent with the idea of searching for similarities; race, income, education and family size. Household's characteristics and its potential neighbor's characteristics, Hamilton's heterogeneous community model, high income households and low income households could co-exist only if the community had very strong zoning rules.

To obtain scale surplus Preference for living in a high income neighborhood is tested by finding a migrant household. Responses to the difference between their likely house value and its potential neighbors, house values.

Research hypotheses: In the literature discussed earlier, researchers might made discussions about the factors affecting the buyers` decision when buying a residential apartment. These arguments suggested the following hypotheses:

Ho1: Respondents did not significantly adopt the main constructs of the study when buying residential apartment.

Sub-hypotheses for (Ho1):
Ho11: Respondents did not significantly adopt economic construct when buying residential apartment.

Ho12: Respondents did not significantly adopt aesthetic construct when buying residential apartment.
Ho13: Respondents did not significantly adopt the marketing construct when buying residential apartment.
Ho14: Respondents did not significantly adopt the geographic construct when buying residential apartment.
Ho15: Respondents did not significantly adopt the Social construct when buying residential apartment.
Ho2: There were no significant differences among buyers of apartments with respect to specific demographic characteristics, such as; gender, marital status, age, and education level.

All the above-mentioned hypotheses were stated in terms of the null hypothesis. The decision rule would be accepting the null hypothesis if t-calculated was less than T-tabulated, and significant-T was more than (0.05).

METHODOLOGY

Sample and procedure: The questionnaire survey was conducted in November 2010. Questionnaires were given to (120) of the owners of apartments, who bought their apartment(s) during the last ten years. A total of 83 respondents (the response rate was 69.2%) returned questionnaires; among them (2) were found unusable due to errors in filling out the questionnaire statements. So, of the (120) questionnaires distributed, (81) were used for analysis, giving a net response rate of (67.5%).

Sources of data: Both secondary and primary data had been collected to this study. Books, Journals, Periodicals used as resources in collecting secondary data and the information regarding the study's topic. Primary data collected through questionnaire that had been made and distributed to the sample of the study.

Analysis: SPSS program was used in analyzing the data and testing the study hypotheses. In particular mean and standard deviation for descriptive statuses, one sample t-test, one-way ANOVA, and Factor analysis were used in analyzing data to find out the most factors that influence the criteria of Jordanian buying behavior.

The demographic profile of the sample: As can be seen from Table 1 the majority of the sample respondents (80.2%) were male, where only (19.8%) were female. Most of the respondents were married with children (43.2%), while married without children constitute (39.5%) and singles (17.3%) of the total sample. In relation to age, most of the respondents` age (34.6%) were ranging between 30-36 years old. On the other hand, (45.7%) of the respondents had Bachelor`s degree, while the lowest rate (6.2%) had a higher education degree.

Table 1: Demographic profile of respondents

	Demographics	Frequency	%
Gender	Male	65	80.2
	Female	16	19.8
	Total	81	100
Marital status	Single	14	17.3
	Married without children	32	39.5
	Married with children	35	43.2
	Total	81	100
Age	Less than 30 years	15	18.5
	30-36 years	28	34.6
	37-43 years	18	22.2
	44-50 years	12	14.8
	51 years and more	8	9.9
	Total	81	100
Educational level	Secondary School or Less	13	16.0
	College	17	21.0
	Bachelor`s Degree	37	45.7
	High Diploma	9	11.1
	Higher Studies	5	6.2
	Total	81	100

RESULTS AND DISCUSSION

Factor analysis: It was necessary to employ factor analysis before we tested all the variables in the questionnaire. A principal component factor analysis was conducted for the (19) items of the questionnaire analyzed. Using Varimax rotation method with Kaiser Normalization, rotation was converged in five iterations to obtain the best representation of the data collected. The results showed that Kaiser-Meyer-Olkin Measure of Sampling Adequacy was (0.683) which evidenced that the sample is adequate since the measure was above (0.50). On the other hand, the Chi-Square of the Bartlett`s Test of Sphericity was (748.595) with zero significance which supported the results of the factor analysis.

The factor analysis revealed five factors with eigenvalues greater than one. Based on parallel analysis relative to eigenvalues in the scree plot (Fig. I), a steep break in the plot was between the 5th (1.382) and 6th factor (0.771), also indicated the five-factor solution.

The results of the factor analysis indicated that the eigenvalues of each of the five components exceeded 1.00, and all of those factors explained (70.238%) of the total variance. Table 2, showed the initial eigenvalues of the five factors (4.174), (3.704), (2.341), (1.770), and (1.382). The initial variances accounted for by these factors were (21.828), (19.497), (12.321), (9.315), and (7.276), respectively. These five factors explained a cumulative percentage of (70.238) of the total variance in the data. The rotated sums of squared loadings are shown in Table 1 also.

Rotating components resulted in five factors which expressed the constructs affecting the decision for buying real estate in Jordan. Table 3 showed the components and the variables that belonged to each one of them. The first construct, which included income, interest rate, apartment area, conversion rate to Jordanian currency, and taxes on buying apartments, was given the name "Economic
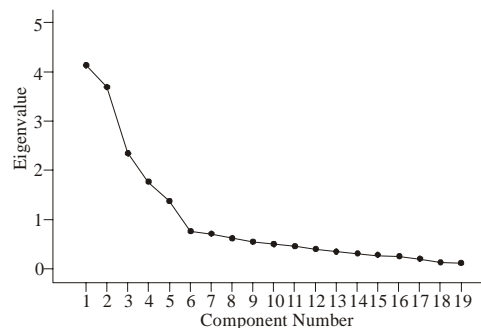

Fig. 1: Scree plot

Construct". The second, which included form, views, decoration, entrance, design and finishing, was given the name "Aesthetic Construct". The third which included price, advertising, credibility, and reputation, was given the name "Marketing Construct". The fourth factor which was named "Social Construct" included neighbors' standard of living, and social solidarity, while the fifth which included location, and nearness to shopping centers, was called "Geographic Construct".

Reliability analysis: The Reliability analysis following the factor analysis process was conducted by calculating the Cronbach`s alpha for each construct. Cronbach`s alpha for the five constructs well exceeded the recommended critical point of (0.70) (Sekaran, 2000), hence, established their reliability.

The results of Cronbach`s alpha was reported in Table IV, where it could be seen that alpha reliability coefficients for the five dimensions ranged from (0.733) for the marketing construct to (0.902) for the economic construct.

Descriptive statistics: Means, standard deviations, and correlations for each of the derived constructs were also

Table 2: Total Variance Explained

	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loading		
Component	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)
1	4.147	21.828	21.828	4.147	21.828	21.828	3.875	20.397	20.397
2	3.704	19.497	41.325	3.704	19.497	41.325	3.053	16.069	36.466
3	2.341	12.321	53.646	2.341	12.321	53.646	2.549	13.416	49.882
4	1.770	9.315	62.962	1.770	9.315	62.962	1.954	10.285	60.167
5	1.385	7.276	70.238	1.382	7.276	70.238	1.913	10.071	70.238
6	0.771	4.060	74.298						
7	0.713	3.754	78.052						
8	0.622	3.276	81.328						
9	0.551	2.897	84.226						
10	0.505	2.658	86.884						
11	0.460	2.420	89.304						
12	0.404	2.126	91.430						
13	0.357	1.878	93.308						
14	0.307	1.617	94.926						
15	0.271	1.424	96.349						
16	0.248	1.308	97.657						
17	0.200	1.053	98.710						
18	0.129	0.679	99.389						
19	0.116	0.611	100.000						

Extraction method: Principal component analysis

Table 3: Rotated component matrix

	Component				
	Economic	Aesthetic	Marketing	Social	Geographic
Form		0.533			
Views		0.707			
Decoration		0.781			
Entrance		0.689			
Design		0.610			
Finishing		0.751			
Price			0.744		
Advertising			0.810		
Credibility			0.724		
Reputation			0.675		
Income	0.872				
Interest	0.755				
Apartment area	0.863				
Conversion	0.897				
Taxes	0.816				
Location					0.831
Nearness to shopping					0.843
Standard of living				0.850	
Social solidarity				0.862	

reported in Table 4. The highest mean was (4.091) for Economic Construct with a standard deviation of (0.770), while the lowest mean was (3.549) for Aesthetic Construct with a standard deviation of (0.753) for the same construct.

Hypotheses testing: All hypotheses in this study were tested using one sample t-test, independent sample t-test, and one-way ANOVA.

Ho1: Respondents did not significantly adopt the main constructs of the study when buying residential apartment.

Ho1 was tested by using one sample t-test. Table 5 showed the results of this analysis:

Table 4: Means, standard deviations, and reliability

Constructs	Mean	S.D	Cronbach`s alpha
Economic	4.091	0.770	0.902
Aesthetic	3.549	0.753	0.806
Marketing	3.880	0.736	0.733
Social	4.012	0.877	0.764
Geographic	3.728	1.000	0.770
All constructs	3.830	0.437	0.763

Results showed that the null hypothesis was rejected since t-calculated (17.060) was higher than the t-tabulated. At the same time significant-t (0.000) was smaller than (0.05). Rejecting the null hypothesis required accepting the alternative one which stated that respondents would significantly adopt the main constructs of the study when buying residential apartment.

Table 5: One -sample test

	Test value =3				95% Confidence interval of the difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Allftr	17.060	80	0.000	0.82911	0.7324	0.9258
Economic	12.755	80	0.000	1.09136	0.9211	1.2616
Aesthetic	6.567	80	0.000	0.54938	0.3829	0.7159
Marketg	10.750	80	0.000	0.87963	0.7168	1.0425
Social	10.393	80	0.000	1.01235	0.8185	1.2062
Geographic	6.534	80	0.000	0.72840	0.5066	0.9502

Table 6: Independent samples t-test

Demographic characteristics		Levene`s test for equality of variances		t-test for equality of means		
Gender	Equal variances assumed	F	Sig.	t	df	Sig.
		1.234	0.270	3.519	79	0.001

Sub-hypotheses for (Ho1):

Ho11: Respondents did not significantly adopt economic construct when buying residential apartment.

Ho12: Respondents did not significantly adopt aesthetic construct when buying residential apartment.

Ho13: Respondents did not significantly adopt the marketing construct when buying residential apartment.

Ho14: Respondents did not significantly adopt the geographic construct when buying residential apartment.

Ho15: Respondents did not significantly adopt the Social construct when buying residential apartment.

The null hypotheses from Ho11 to Ho15 were tested by also using one sample t-test. Table 5 showed the results of the analysis. Results showed t-calculated for all the contracts as follows: (6.567) for aesthetic construct, (12.755) for economic construct, (10.750) for marketing construct, (6.534) for geographic construct, and (10.393) for social construct. Since each of the calculated values of t were higher than the t-tabulated, the decision to be made was to reject all the null hypotheses from Ho11 to Ho15. That decision was asserted by the value of significant-t (0.000) for all the five constructs which was less than (0.05). Rejecting all these null hypotheses required accepting their relative alternative ones which stated that respondents would significantly adopt every construct (aesthetic, economic, marketing, geographic, and social) when buying residential apartment.

Ho2: Sample responses regarding the buying constructs of residential apartments significantly differ according to the sample demographic characteristics, such as; gender, marital status, age, and education level.

Table 7: ANOVA tests

Demographic characteristics	F	df	Sig.
Marital Status	0.223	2, 78	0.800
Age	2.945	4, 76	0.026
Educational Level	0.765	4, 76	0.552

Independent samples t-test was performed for two group's comparisons for differences in decision making regarding buying residential apartments according to gender (male and female).

Results in Table 6 showed that there was a significant difference in decision making regarding buying residential apartments (t = 3.519, p = 0.001) between male and female.

As for the differences in decision making according to marital status, age and education level, one-way ANOVA tests were performed to compare differences among them. Results in Table 7 showed that there was not a significant difference in decision making regarding buying residential apartments (t = 0.121, p = 0.904) between single and married without children, and married with children.

On the other hand, there was a significant difference in decision making regarding buying residential apartments (f = 2.945, p = 0.026) between categories of age.

As for educational levels results showed in Table 7 that there was not a significant difference in decision making regarding buying residential apartments (f = 0.765, p = 0.552) between educational levels.

Conclusions and implications: This study found that respondents would significantly adopt the main constructs when buying residential apartments, including aesthetic, economic, marketing, geographic, and social constructs.

On the other hand, the study concluded that there were significant differences in decision making regarding buying residential apartments according to the sample

gender. At the same time, there were significant differences according to the sample age. The result of this study were consistent with Diskin`s (1982) study where it indicated that that there were significant differences in the respondents answer due to age. This study revealed also that there were no significant differences according to the marital status or educational level.

In fact, this study had notable practical implications for researchers and practitioners in the field of real estate. It might help individuals and decision makers in organization to select suitable apartments that could satisfy their requirements.

The constructs of this study could be used as a practical framework when an organization or an individual would buy an apartment. Moreover, findings of the study regarding demographic characteristics had considerable practical use mainly for real estate organizations to draw their attention to the demographic factors that might affect the decision.

RECOMMENDATION

Findings from this study determined new criteria for buying residential apartments, through the analysis of the response of an adequate sample representing buyers of these apartments. An important recommendation would be to expand the study to include apartments` buyers from other Arabian countries, which would provide a larger population from which to select a larger sample. A larger sample helped to ensure the answers would better reflect the population's opinion and would help to eliminate bias (Streiner, 2006).

To ascertain more degree of generalization for the study, further research could be conducted to include input from the real estate offices and companies, in addition to the buyers of residential apartments.

Moreover, it was strongly recommended that future research be done regarding the relationship between Further research may investigate the constructs that might affect buying other real estate types such as lands and villas. Another avenue for future research in this area concerns more research on the potential influence of apartments` buying decisions on other variables, such as organizations profitability and effectiveness, of resource allocation.

REFERENCES

Diose, W. and G. Mugny, 1984. The Social Development of Intellect. Oxford, Pergamen, England.

Diskin, B.A., 1982. The Condominium Conversion Process: A Study of Market Characteristics, Physical Factors, and Location Attributes Contributing to the Rate of Tenant Absorption. Ph.D. Thesis, Georgia State University, USA.

Friedman, J., 1980. A conditional legit model of the role of local public services in residential choice. Urban Stud., 18: 347-258.

Gabriel, S. and S. Rosenthal, 1989. Housing location and race: Estimates of a multinomial logit model. Rev. Econ. Stat., 71: 240-249.

Hua Kiefer, M.A., 2007. Essays on applied spatial econometrics and housing economics. Ph.D. Thesis, Ohio State University, USA.

Morel, J.C., A. Mesbah, M. Oggero and P. Walker, 2001. Building houses with raw materials: Means to drastically reduce the environmental impact of constructions. Buil. Environ., 36: 1119-1126.

Lenzen, M. and G. Treloar, 2006. Embodied energy in building: Wood Versus Concentrate - reply to Borjesson and Gustavssn. Energy Policy, 30: 249-255.

Manski, C., 2000. Economic analysis of social interactions. J. Econ. Perspect., 14(3): 115-36.

Mithraratne, N. and B. Vale, 2004. Life cycle analysis model for New Zealand houses. Buil. Environ., 39: 483-492.

Nechyba, T. and R. Strauss, 1997. Community choice and local public services: A discrete choice approach. Region. Sci. Urban Econ., 28: 51-73.

Quigley, J.M., 1985. Consumer choice of dwelling, neighborhood and public services. Region. Sci. Urban Econ., 15: 41-63.

Quigley, J.M., 1976. Housing demand in the short run: An analysis of polychromous choice. Explor. Econ. Res., 3: 76-102.

Sampson, J.R., S.W. Raudenbush and F. Earls, 1997. Neighborhoods and violent crime: A multilevel study of collective efficacy. Science, 277: 918-924.

Sekaran, U., 2000. Research Methods for Business: A Skill-Building Approach. John Wiley & Sons, Inc., USA.

Streiner, D.L., 2006. Sample size in clinical research: When is enough? J. Pers. Assess., 87(3): 259-260.