

## International Journal of Applied Management of Change

Volume 1 Issue 2  
August 2006

A light gray world map is centered in the background of the page, showing the outlines of continents and major islands.

### The Relationship Between Consumers' Attitudes and Predicting their Behaviors: The Case of the United Arab Emirates (UAE)

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ISSN 1744-8190

## **Abstract**

This study looks into the relationship between consumers' attitudes (general and specific) and their buying behaviors in the United Arab Emirates (UAE). In particular, this study examines many elements like environmental issues, group membership and how much influence they may have on consumers' attitudes and, in turn, what influence attitudes may have on their buying behaviors. Based on a quantitative approach, this article investigates the association between consumers' attitudes and behaviors using the common method of measuring attitudes. The findings showed a strong association between consumers' attitudes and their buying behaviors in the United Arab Emirates. This explains the reasons for the strong emphasis on measuring attitudes as they have a lot to do with buying decisions.

Keywords: Marketing Environment, Attitudes, Beliefs, Buying Behavior, Marketing and Non-Marketing Stimuli, United Arab Emirates (UAE)

## **Introduction**

Abu Dhabi Emirate lies on the Arabian Gulf between latitude (22.5 & 25) North and longitude (51&55) East. The total area of Abu Dhabi Emirate is (67340) Square Kilometers representing almost (87%) of the state's whole area. The climate is desert one, absolute maximum temperature during summer (May-October) is between (39 and 46) degrees Centigrade. Humidity sometimes reaches (100%) at the coastal regions and diminishes in the internal parts of the desert. Rainfall is usually in winter and scarce or nil summer.

The Government of Abu Dhabi relies on liberal economic philosophy based on the adoption of market economy and liberalization of trade. It was also based on the concept of that with diversified economic activities and more expanded variety of economic sectors, the country's trends and policies would be better supported and helped to root firmly a strong economic base. The most significant GDP resources in the UAE are Oil & Gas, Private & Government Services and the business and financial activities.

Actually, Abu Dhabi Emirate has never found it difficult to adapt its own local laws with those international counterparts, as well as with those of the World Trade Organization with which it earlier became a member. This is of course, attributed to the nature of its national economy, which is based on the liberalization of trade.

The population of Abu Dhabi alone represents 40% of the UAE population, with an annual growth varying between 3% and 5%. According to "**Abu Dhabi Chamber of Commerce & Industry**" Annual Report of 2000, the annual growth of population rated 5.1%. However, the population of Abu Dhabi accounted for 1040000 inhabitants, that is an increase of 4% if compared with figure recorded in 1998. The ratio of unemployed persons to the workforce in Abu Dhabi varied between 1.3% for males and 2.4% for females, that is a percentage of 1.4% for both sexes. On the UAE level, the said percentages for males, females and both sexes together were found to be 1.7%, 2.4% and 1.8% respectively.

Abu Dhabi has always enjoyed a healthy and positive investment environment. It enjoys political and social stability, and maintain, at the same time, the social and civil value and traditions. Wisely and deliberately structured laws were enacted to

realize justice, equity and human rights. Side by side with the political and social stability, came the national economic stability to be an impetus for more efficient economic performance all over the country. All these were helped by an integral package of economic policies so oriented to support economic openness liberalization and market economy and mechanism.

## *Review of the Literature*

An attitude “is an individual’s enduring evaluation, feelings, and behavioral tendencies toward an object or idea. The objects toward which we have attitudes may be tangible, living or nonliving. For example, we have attitudes toward sex, religion politics, and music, just as we do toward cars, football, and what we eat for breakfast”, Pride and Ferrell (2000, p.205). Attitudes are usually made of three components such as cognitive, affective, and behavior (Werner and Makela, 1998; Sharon, 1990; Schultz and Oskamp, 2000; Zelezny and Schultz, 2000; Schmuck and 2002; Assael, 2004). The first component is related to someone’s knowledge about a product or an idea. The second component includes someone’s feelings and emotions towards a product or an idea. The third component has a lot to do with a person’s actions towards a product or an idea. Changes in any of these components may result in changes of other components. It is well known that consumer attitudes have an important link and influence on consumers’ behaviors regarding a firm’s marketing strategy (Ajzen and Fishbein, 1980, Clarke, 1998; Kaiser, Wolfing and Fuhrer, 1999). As consumers’ attitudes have an important role to play in determining consumers’ behaviors, marketing managers should do their utmost to measure their attitudes regarding all elements of the marketing strategy (Mittal, 1988; Krishnan and Smith, 1998) . Researchers evaluate attitudes based on attitude scales. An attitude scale is usually made of various adjectives, phrases, or sentences about an object. Respondents express their feelings regarding an object by reacting to the adjectives, phrases, or sentences in a particular way (Karp, 1996; Corral-Verdugo, 1997; Brechin, 1999; Dietz, Kalof and Stern, 2002; Midori, Henk and Atsuko, 2003; Meinhold and Malkus, 2005)

Consumer attitudes regarding a firm and its goods/services have a great influence on the success or failure of all marketing strategies. When consumers carry negative impressions and Attitudes regarding some aspects of a firm’s marketing practices, they may stop using its products and, also, they urge others to do the same (Seybold, 2001). Therefore, it is widely known that attitudes are of great importance to marketing and this importance comes from the concluded causal link between attitudes, intentions and behavior. When marketers decide that a substantial number of consumers carry unfavorable attitudes toward some aspects of the marketing mix, they will have to try to change those unfavorable attitudes to make them more favorable. This job is long, costly, and tuff and requires intensive promotional work. For example, the California Prune Growers, a firm of prune producers, has tried to use advertising to alter consumers’ attitudes toward prunes through introducing them as nutritious sandwiches high in potassium and fiber (Pride and Ferrell, 2000e). To change consumer’s reaction so that more consumers would buy a particular brand, a company might start an intensified information-focused campaign to alter the cognitive element of a consumer’s attitude, or a persuasive campaign to influence the affective element. Giving free samples would help in changing the behavioral element. All types of businesses (profit or non-profit) do their best to change consumer’s attitudes with regard to many issues (e.g., health, prices, products, ...,etc).

In a study carried out by Berger (1993), the findings indicated that environmental groups have had stronger attitudes than non-environmental groups. Of course Berger had his data divided as environmental groups and non-environmental groups, and this was done to test his study hypothesis. His study hypothesis was “Strong environmental attitudes are strong predictors of behaviors than weak environmental attitudes”.

Assael (2004) reported into details Katz development of a “functional theory of attitudes” to show how attitudes influence social behavior. According to Katz theory, attitudes are there because they have a lot to do with some function for the person, however, attitudes are highly influenced by an individual’s motives. Consumers who expect to deal with certain future situations, will be more likely to develop attitudes to deal with these situations. Some researchers (Poortinga, Steg and Vlek, 2004; Ryan, 2005; Verban and Jeung, 2005) reached a conclusion that has shown the importance of attitudes as a focal point for a substantial amount of marketing strategy. In addition, they found that attitudes have a direct impact on behavioral change. They also added that behavioral change is a function of change in behavioral intentions, however, changes in behavioral intentions are related to changes in attitudes. Two individuals may have an attitude regarding some object for various reasons and, this will be of great importance for a marketer to know why a particular attitude is developed before attempting to change it.

Through the process of doing things and learning, consumers develop attitudes. These attitudes influence buying behaviors. In a study carried out on the influence of brand attitudes found that consumers were equally divided in their preference for Diet Coke versus Diet Pepsi when tasting both products on blind bases (Kotler and Armstrong, 2005). Consumers carry different attitudes for almost everything, for example, cultural and social issues, politics, products and services. Consumers’ attitudes put these issues into a frame of mind of liking and disliking an object or a product/service. Consumers’ attitudes drive them to act in a particular and consistent way to all similar products/services. This means that consumers’ attitudes settle into a specific pattern and, therefore, changing a single attitude may need lots of adjustments into other attitudes. Hence, marketers would be highly advised to deal with products that suit existing attitudes rather than to try to change consumer’s attitudes, however, there will always be some exceptions where the cost of trying to change attitudes might be rewarding.

### ***Summary of some Attitude Models***

According to those models, consumers’ attitudes play an important role in the overall evaluation of products. Many studies (e.g., Ajzen and Fishbein, 1980; Anand, Holbrook and Stephens, 1988; Howard and Gengler, 2001; Oskamp and Schultz, 2005) have indicated that market researchers have assessed attitudes by asking bunch of respondents simple question(s), “How do you feel about such and such”? But investigating this issue can be more complicated. One problem can be related to the fact that most products and services may be composed of many attributes or qualities and some of these attributes or qualities may be more important than others to some consumers. Another problem related to a consumer’s decision to act may be influenced by friends and relatives (W-O-M). Thus, attitude models are developed to link the different elements that have an influence on consumers’ evaluation of attitude objects.

**The Multi-attribute Attitude Models** are designed to develop a clearer picture with regard to the many factors influencing behavior, of which attitudes are one. Consumer researchers have employed many multiattribute models for many years, but they are encountered with a real problem: In different situations, knowledge of a consumer's attitude is not a good predictor of behavior. Some studies have reported a relatively low correlation between respondents' attitude regarding something and their real behavior toward it. Many researchers were not encouraged with the results of their research, as the findings did not indicate whether attitudes are of any use at all in understanding behavior. The weak linkage between attitude and behavior is of a big problem to planners of promotion strategies. Consumers may fall in love with a commercial, however, they still may not buy the product/service. For example, one of the most famous TV advertisements in recent years in USA featured basketball player Players for Pepsi. In spite of the fact that the company invested \$67 million on this advertisement and other similar ads in one year, sales of Pepsi-Cola declined by almost two percent, even though the sales volume of Coca-cola increased by eight percent for the same period (Kotler and Armstrong, 2005). **The Fishbein Model** received the most attention by researchers and writers. This model measures three components of attitudes Assael, 2004:

1. **Salient beliefs** people have about an object (i.e., those beliefs about the object that are considered during evaluation).
2. **Object-attributes linkages**, or probability that a particular object has an important attribute.
3. **Evaluation** of each of the important attributes.

This model introduces many assumptions that may not be warranted. In addition, the model assumes that all relevant attributes that a consumer uses in evaluating his choice of products can be adequately specified. In contrast, previous research (e.g., Krishnan and Smith, 1998; Howard and Gengler, 2001; Assael, 2004) on attitude-behavior aspects based on Fishbein's model, could not reach consistent predictive relationships. However, this model can be viewed as a good platform for further developments,

Similar results reported by Foxall (1983) who indicated that there are a minimum of four relationships between attitudes and behavior:

- a) attitudes cause behavior
- b) behavior causes attitudes
- c) attitudes and behavior have a mutual effect
- d) there is no relationship between attitudes and behavior.

Examining Foxall's suggested four relationships would lead us to the elimination the fourth assumption as no one can completely eliminate the link between attitudes and behaviors. Even though the literature revealed a weak link between consumers' attitudes and their behaviors, this subject will remain a hot issue for sometime to come. Lots of research will be carried out to determine whether consumers' attitudes can be used to predict their behaviors. Yet, there are lots of researchers who believe in the importance of using consumers' attitudes in predicting their behaviors. If future research does not approve this relationship, then one should question the notion that "consumer attitudes can be used to predict their behaviors".

## ***Objective of the Study***

As was seen through the literature review, there was a substantial research to examine the relationship between consumers' attitudes and their behaviors. Thus, the main objective of the study is to investigate whether or not consumers' attitudes can be used to predict their behaviors in the United Arab Emirates.

## ***Methodology***

### **Sample and procedure**

Due to the lack of complete and accurate information on consumers living in Abu Dhabi and, hence, incomplete and inaccurate sampling framework, convenience sampling procedures were employed. Two branches of Carrefour shopping center in Al Ain & Abu Dhabi were chosen to be the settings for collecting the required data. A survey method of data collection was adopted and 1652 questionnaires, over a period of seven weeks, were hand delivered to consumers shopping at those locations. They were informed of the importance and significance of the study and asked to drop the completed questionnaires in a special box in the shopping centers. Of the delivered questionnaires, 634 usable ones were returned which means that the response rate was 38.4% and this number was thought to be adequate for the nature and scope of this study.

The questionnaire included behavioral and attitude measures and the development of both of them was based on their definitions and uses in the literature as attitudinal and behavioral questions. Demographic factors such as sex, age, income, social status and degree of urbanization were included.

All attitudinal and behavioral constructs were measured on a four-point likert type scales ranging from "strongly agree 4" to "strongly disagree 1", "highly desirable 4" to "highly undesirable 1" and "very likely 4" to "very unlikely 1". This type of questions is normally used in all areas of social studies to measure attitude related issues. Some constructs were developed to measure respondents' environmental attitudes in general (non marketing stimulus) and other constructs were developed to measure specific environmental issues (marketing stimulus) such as advertising, sales promotion and perception of ozone friendly products. Some nominal scales "dichotomous" (e.g., agree and disagree; likely and unlikely) were converted.

To improve validity and reliability of all measurements used in this study, previously developed measures were adapted (e.g., Ryan and Bonfield, 1975; Ajzen and Fishbein, 1980; Anand, Holbrook and Stephens, 1988; Hini, Dean and Gendall, Philip 1995; Heilman, Browman and Wright, 2000; Seybold, 2001; Howard and Gengler, 2001). To eliminate social and cultural differences and ensure validity, lots of attention was paid to securing equivalence of the measures. All constructs were translated into Arabic by many Arabic language specialists and this was done to find out if clarity and accuracy in translation would vary from one translator to another. Internal consistency was also assessed by computing Cronbach's alpha for all constructs and the results were greater than .65, and this meets the standards recommended by Nunnally (1978).

## Analysis and Discussion

As can be seen from Table (1), Stepwise regression was carried out to examine the ability of using attitudinal and demographic factors to anticipate some environmental behaviors (non marketing stimulus). Researchers may opt to use Stepwise regression if faced with a large number of candidate independent variables such as several demographics, lifestyle, and buyer behavior. Market researchers use regression analysis to make predictions. The basis of this technique is an assumed straight-line relationship existing between the variables. With Stepwise regression, one independent variable,  $x$ , is used to predict the dependent variable,  $y$ , using the straight-line formula of  $y = a + bx$ . A high  $R^2$  and a statistically significant slope indicate that the linear model is a good fit.

It is clear from Table (1) that the outcome of the stepwise regression (i.e., adjusted  $R^2$  values) indicates that respondents who expressed their association with a group had a stronger attitude than those who had no association. The results of this study have also indicated that there is a strong association between general attitudes and consumers' behaviors for all cases, environmental group members and non environmental group members. This can easily be detected as the highest adjusted  $R^2$  values are .73, .73 and .65 in "**general attitudes & demographics**". The findings related to "**general attitudes**" have also indicated a strong association as the highest adjusted  $R^2$  values fall within the range of .57 and .71. The results in "**general attitudes & demographics**" and "**general attitudes**" show a drop in the general predictive ability, however, the difference was a little and this could be related to difference in attributable attitudes. In addition, the statistical results of "**demographic, only**" have showed a strong association as the highest adjusted  $R^2$  values are .67, .64 and .55.

**Table (1)**  
**Influence of General (Non Marketing) Attitudes on Behavior (Adjusted  $R^2$ )**

| Issue<br>Member (++)                | Environmental (General)<br>Behavior (Non Marketing) | Adj. $R^2$ ** |                      |                |
|-------------------------------------|---|---------------|----------------------|----------------|
|                                     |   | All Cases     | Env. Group Memb. (+) | Non Env. Group |
| General Attitudes<br>& Demographics | Signed a written protest                            | .73           | .73                  | .65            |
|                                     | Joined Demonstrations                               | .68           | .69                  | .58            |
|                                     | Group membership                                    | .67           | .70                  | .65            |
|                                     | Financial Support                                   | .70           | .62                  | .69            |
| General Attitudes                   | Signed a written protest                            | .61           | .59                  | .53            |
|                                     | Joined Demonstrations                               | .65           | .63                  | .57            |
|                                     | Group membership                                    | .63           | .66                  | .54            |
|                                     | Financial Support                                   | .71           | .67                  | .56            |
| Demographics                        | Signed a written protest                            | .64           | .67                  | .55            |
|                                     | Joined Demonstrations                               | .63           | .59                  | .52            |
|                                     | Group membership                                    | .58           | .54                  | .52            |
|                                     | Financial Support                                   | .61           | .59                  | .55            |

\*\*  $R^2$  values are significant at the 0.01 level. (Adjusted Regression)

+ = 95 (Members of environmental groups)

++ = 539 (Have no environmental group membership)

634 Valid Observations (all respondents)

0 Missing Value

The results on specific attitude analysis, reported in Table (2) show the values of the adjusted R<sup>2</sup> using stepwise regression. The independent variables were attitudes and demographics, and the dependent variables were awareness of the importance of "Ozone friendly products" and whether a person would stop buying products if they are not "Ozone friendly" (e.g., body & hair spray).

As statistical analyses were progressing, the researcher had to convert data related to "awareness of ozone friendly products" into dichotomous. This was important to run Stepwise regression analysis. The ordinal data of four-point scale was, therefore, converted into "agree" and "disagree"; "highly desirable 4" to "highly undesirable 1"; "likely" and "dislikely" and, then Stepwise regression was carried out. It is clear from Table (2) that the overall specific predictive ability was high, as the results show that the highest R<sup>2</sup> value is .74 for all cases. The highest R<sup>2</sup> value for group membership is .76 and .69 for non-environmental group members.

**Table (2)**  
**Influence of Specific Attitudes (Marketing Stimulus) on Behavior (Adjusted R<sup>2</sup>)**

| Issue Member (++)                | Environment (Specific) Behavior (Marketing Stimulus) | Adj. R <sup>2</sup> ** |                      | Adj. R <sup>2</sup> ** |  |
|----------------------------------|--|------------------------|----------------------|------------------------|--|
|                                  |  | All Cases              | Env. Group Memb. (+) | Non Env. Group         |  |
| General Attitudes & Demographics | Ozone friendly products                              | .69                    | .70                  | .63                    |  |
|                                  | Buying the product                                   | .72                    | .73                  | .65                    |  |
| General Attitudes                | Ozone friendly products                              | .67                    | .71                  | .65                    |  |
|                                  | Buying the product                                   | .74                    | .70                  | .63                    |  |
| Demographics                     | Ozone friendly products                              | .68                    | .71                  | .66                    |  |
|                                  | Buying the product                                   | .72                    | .73                  | .68                    |  |
| Ozone attitudes only             | Ozone friendly products                              | .73                    | .76                  | .61                    |  |
| Buying attitudes only            | Buying the product                                   | .74                    | .75                  | .69                    |  |

\*\* R<sup>2</sup> values are significant at the 0.01 level. (Adjusted Regression)

+= 95 (Members of environmental groups)

++= 539 (Have no environmental group membership)

634 Valid Observation (all respondents)

0 Missing Value

The results of this study indicate a strong association between specific attitudes (marketing stimulus) and buying behavior of UAE consumers, and this was the case for all variables. Consumers' attitudes (general and specific) and demographics are good predictors of buying behavior in the UAE and this can be seen in both tables (1&2). Both tables revealed that the adjusted R<sup>2</sup> values for all variable fall between (.52-.76).

Ajzen & Fishbein (1980) reported that all attitudes that are specifically linked to a particular behavior could be better predicted than those behaviors that are linked to general attitudes. Though the findings of their study may carry some difference when compared with the findings of this study, however, Ajzen & Fishbein did not dismiss the fact that both attitudes (specific & general) could be good behavioral indicators.



## **Conclusions**

A strong association between attitude (general and specific) and the buying behavior of UAE consumers was clearly reported in this study. The findings of this study contradict the results reported in some previous studies which questioned whether attitudes are of any use at all in understanding behavior. This study has demonstrated that attitudes have a good predictive ability and this could be explained through the fact that Islam has a strong influence on Arabs' beliefs and hence their attitudes. The strong influence of Islam on Arab's attitudes would have a stronger influence on their buying behaviors.

It should be noted that every society has its own characteristic and, therefore, social and cultural environments vary. Attitudes in one society may not have the same association with behaviors as in other societies. There are strong religious habits, norms, taboos and practices in the UAE which influence young consumers as well as elderly ones. This influence has a big impact on UAE consumers' attitudes and then on their buying behaviors.

As was indicated earlier, the results of this study contradict the findings of other researchers who have underestimated the important association between attitudes and behaviors. Those researchers should not think that studies of the Western world or the USA can represent all societies of the globe. Instead, they should have suggested that similar studies should be carried out in other countries (e.g., Arabian Gulf countries) to examine if similar results can be reached. International marketers should always keep in mind that consumers' buying behaviors vary and, therefore, developing marketing strategies should take this into consideration.

Understanding the role of attitudes (general and specific) in predicting behaviors is critical to improving knowledge in the field of consumer behavior. It will be enhancing for academics to develop both theoretical and practical understanding of more realistic and real-world consumption behaviors and processes. This is likely to produce better insights to marketers in many ways, starting from producing representative, and more accurate models of forecasting consumers' purchases to designing more effective communication stimuli and better training of sales force.

## **Limitations of the Study and Directions for Future Research**

There are several limitations that should be taken into consideration and these limitations can provide opportunities for future research and this may be the case for most types of marketing research. First, the setting chosen to test the conceptual framework necessarily is restricted to the Emirate of Abu Dhabi. This Emirate is the richest amongst all other Emirates, other research covering other Emirates (e.g., Dubai, Sharjah, Ajman, ...,etc) is needed before generalizing the findings on all other Emirates. Second, this study indicated a strong association between attitudes and behaviors in the UAE and that attitude can influence buying behavior, however, it did not determine if behaviors can influence attitudes which is left for future research. Third, as the findings of this study contradict the findings reported in some previous research of the western world, comparative studies using similar or different research designs are encouraged. This sort of studies will give a clearer picture regarding the association of attitudes and buying behaviors in the west and the Arab world. Fourth, for sampling reasons, this research was based on convenience sampling procedures which implicate bias related to sampling and, therefore, this might have affected the finding of the study. Another study based on any type of probability samples could be carried out to investigate if similar results would be reached.

## References

- Ajzen, I. & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*, 1st edition, Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Assael, Henry (2004). *Consumer Behavior: A Strategic Approach*, Houghton Mifflin, 1st ed., Boston, USA.
- Annual Report (2000). Abu Dhabi Chamber of Commerce & Industry, United Arab Emirates.
- Anand, Punam; Holbrook, Morris; and Stephens, Debra (1988). The Formation of Affective Judgement: The Cognitive-Affective Model Versus The Independent Hypothesis, *Journal of Consumer Research*, 15(December), PP. 386-391.
- Berger, I (1993). The relationship between environmental attitudes and behaviour. *Canadian Journal of Marketing Research*, 12, 36-43.
- Brechin, S. (1999). Objective problems, subjective values, and global environmentalism: Evaluating the postmaterialist argument and challenging a new explanation. *Social Science Quarterly*, 80, pp. 783-809.
- Clarke, A. (1998). SEQUOIA-Survey of Environmental Quality Universal Orientation and Individual Attitudes (scale in development). USDA- Natural Resources Conservation Service, Fort Collins, Colorado.
- Corral-Verdugo, V. (1997). Dual 'Realities' of Conservation Behavior: Self-Reports vs. Observations of Re-Use and Recycling Behavior, *Journal of Environmental Psychology*, 17, PP. 135-145.
- Dietz, T., L. Kalof. and P. Stern. (2002). Gender, values, and environmentalism. *Social Science Quarterly*, Vol. 83, no.1, PP. 353-364.
- Foxall, G R (1983). *Consumer Choice*. The Macmillan Press Ltd: Hong Kong.
- Heilman, Carrie; Bowman, Douglas; and Wright, Gordon (2000). The Evaluation of Brand Preferences and Choice Behaviors of Consumers New to a Market, *Journal of Marketing Research*, PP. 139-155.
- Hini, Dean and Gendall, Philip (1995). The link between environmental attitudes and behavior, *Marketing Bulletin*, May, Vol. 6, p22, 10p.
- Howard, Daniel and Gengler, Charles (2001). Emotional Contagion Effects on Product Attitudes, *Journal of Consumer Research*, 28 (September), PP. 189-201.
- Kaiser, F.G., Wolfing, S., & Fuhrer, U. (1999). Environmental attitude and ecological behaviour, *Journal of Environmental Psychology*, 19, PP. 1-19.
- Karp, D. G. (1996). Values and their effect on pro-environmental behaviour, *Environment and Behavior*, Vol. 28, no. 1, PP. 111-133.
- Kotler, P. and Armstrong, G. (2005). *Marketing: An Introduction*, 7th ed., Prentice-Hall, Upper Saddle River, NJ. UAS.

Krishnan, Shanker and Smith Robert (1998). The Relative Endurance of Attitudes, Confidence, and Attitudes Behavior Consistency: The Role of Information Source and Delay, *Journal of Consumer Psychology*, 7, no. 3, PP. 273-298.

Meinhold, Jana and Malkus, Amy (2005). Adolescent Environmental Behaviors: Can Knowledge, Attitudes, and Self-Efficacy Make a Difference? *Environment and Behavior*, Vol. 37, no. 4, PP. 511-532.

Midori Aoyagi-Usui; Henk Vinken; and Atsuko Kuribayashi (2003). Pro-environmental Attitudes and Behaviors: An International Comparison, *Human Ecology Review*, Vol. 10, No. 1, PP. 23-31.

Mittal, Banwari (1988). The Role of Affective Choice Mode in The Consumer Purchase of Expressive Products, *Journal of Economic Psychology*, 4, no. 9, PP. 499-524.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Oskamp, S., & Schultz, P. W. (2005). *Attitudes and opinions* (3rd). Mahawa, NJ: Erlbaum, USA.

Poortinga, Wouter; Steg, Linda; and Vlek, Charles (2004). Values, Environmental Concern, and Environmental Behavior: A Study into Household Energy Use, *Environment and Behavior*, no. 36, PP. 70-93.

Pride, William (2000e). *Marketing*, Houghton Mifflin, Boston, USA.

Rayan, Michael and Bonfield, Edward (1975). The Fishbein Extended Model and Consumer Behavior, *Journal of Consumer Research*, 2, PP. 118-136.

Ryan, Robert (2005). Exploring the Effects of Environmental Experience on Attachment to Urban Natural Areas, *Environment and Behavior*, no.37, PP. 3-42.

Sharon, Shavitt (1990). The Role of Attitude Objects in Attitude Function, *Journal Of Experimental Social Psychology*, 26, PP. 124-148.

Schmuck, P., & Schultz, P. W. (2002). *The psychology of sustainable development*. Norwell, MA: Kluwer, USA.

Schultz, P. W., & Oskamp, S. (2000). *Social psychology: An applied perspective*. Upper Saddle River, NJ: Prentice-Hall

Seybold, Patricia (2001). Get Inside the Lives of Your Customers, *Harvard Business Review*, May, PP. 81-89.

Statistical Yearbook (2001). Emirate of Abu Dhabi, Department of Planning, United Arab Emirates.

Verderber, Stephen and Jeung-Haeng Song (2005). Environment and Aging in Japan: A Review of Recent Research, *Environment and Behavior*, 37: 43-80.

Werner, C.M. & Makela, E. (1998). Motivations and behaviors that support recycling, *Journal of Environmental Psychology*, 18, PP. 373-386.

Zelezny, L., & Schultz, P. W. (2000). Theory and research on environmental attitudes and behavior. *Journal of Social Issues*. . [Special Edition].