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## Article

# An Empirical Study of the Factors Influencing Consumer Behaviour in the Electric Appliances Market

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# An Empirical Study of the Factors influencing Consumer Behaviour in the Electric Appliances Market

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## ABSTRACT

This study contributes to a deeper understanding of the impact of different factors on consumer buying behaviour. It analyses the relationship between several independent variables, such as cultural, social, personal, psychological and marketing mix factors, and consumer behaviour (as the dependent variable) in the electric appliances market.

The purpose of this study is to determine the factors affecting consumer preferences and behaviour in the electric appliances market in Iraq. The data employed to analyse the factors influencing consumers' purchase decision-making processes were obtained through a questionnaire that was conducted in December 2011 in Basra, a city in southern Iraq. The major findings of the study indicated that, overall, the set of independent variables are weakly associated with the dependent variable. However, the in-depth analysis found that social factors, physical factors, and marketing mix elements are strongly associated with consumer buying behaviour. These analyses make it possible to discover consumer decision-making rules. The results may assist producers and retailers in understanding consumer behaviour and improving consumer satisfaction.

**KEY WORDS:** financing structure, selection of financing sources, financial crisis

**JEL Classification:** D1, M3

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## Introduction

For companies to attain commercial success, it is important that managers understand consumer behaviour. The relationship between consumer behaviour and marketing strategy is emphasised because the success of companies' marketing strategies depends upon managers' understandings of consumer behaviour (understanding of consumer behaviour is especially important during a recession – see Kotler and Caslione (2009). Consumer buying decisions indicate how well

the company's marketing strategy fits market demand. Thus, marketing begins and ends with the consumer.

The study of customer behaviour is based on consumer buying behaviour, with the customer playing three distinct roles: user, payer and buyer. Research has shown that consumer behaviour is difficult to predict, even for experts in the field (Armstrong & Scott, 1991). Consumer behaviour involves the psychological processes that consumers go through in recognising their needs, finding ways to solve these needs, making purchase decisions (e.g., whether to purchase a product and, if so, which brand and where), interpret information, make plans, and implement these plans (e.g., by engaging in comparison shopping or actually purchasing a product).

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Consumer behaviour research attempts to understand the buyer decision-making process, both individually and collectively. It studies individual consumer characteristics such as demographics and behavioural variables in an attempt to understand people's wants. Consumer behaviour research allows for improved understanding and forecasting concerning not only the subject of purchases but also purchasing motives and purchasing frequency (Schiffman & Kanuk, 2007).

One of the current fundamental assumptions in consumer behaviour research is that individuals often purchase products for their subjectively perceived values rather than their primary functions (Stávková, Stejskal & Toufarova, 2008). This does not mean that the products' basic functions are not important, but that the contemporary role of a product is more than its basic use-value (Solomon, 2004). Frequently, consumers do not rate products according to their core attributes (i.e., the primary utility they provide) but, above all, according to the so-called real product (i.e., a particular products' qualities) and the extended product, which represents the set of intangible factors that confer a desired perceived advantage on the consumer – including image, consultancy, and after-sale service (Foret & Procházka, 2007).

In sum, modern marketers first attempt to understand consumers and their responses and then study the

basic characteristics of their behaviour. Studying consumer behaviour helps to ascertain who the customers are, what they want, and how they use and react to the product. The wants of the customer are carefully studied by conducting surveys on consumer behaviour.

Factors Influencing Consumer Behaviour

The stimulus-response model (or the black box model) is a well-developed and tested model of buyer behaviour and is summarised in the diagram below (see fig. 1.). The black box model shows how stimuli, consumer characteristics, decision processes and consumer responses interact. The stimuli can be distinguished between interpersonal stimuli (between people) or intrapersonal stimuli (within people) (Sandhusen, 2000, pp. 218-219). The black box model is related to the black box theory of behaviourism, where the focus is not on the processes inside a consumer but the relationship between the stimuli and consumer responses. Marketing stimuli are planned and produced by firms, whereas the environmental stimulus is generated by social factors, based on the economic, political and cultural circumstances of a society. The buyer's black box contains the buyer's characteristics and the decision process, which determines the buyer's response.

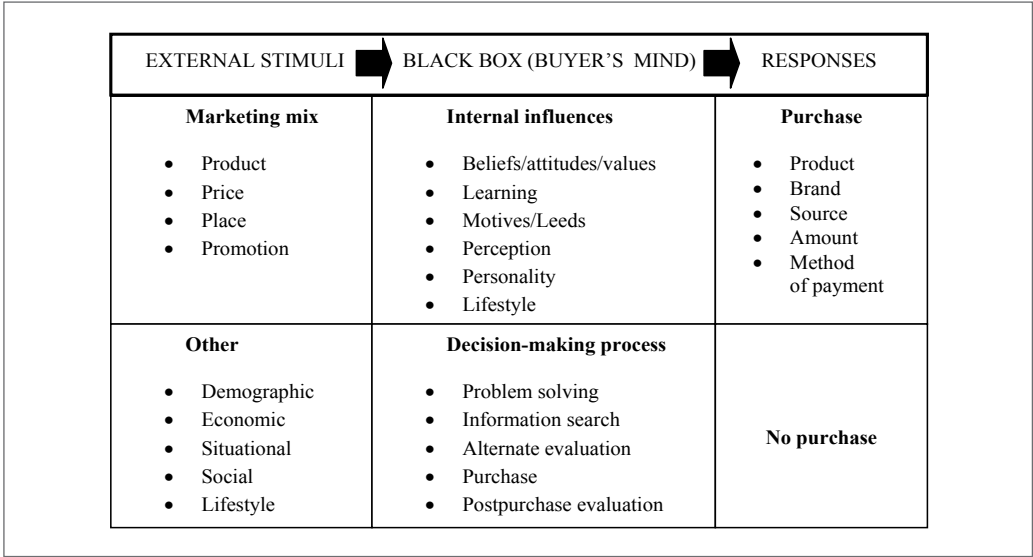


Figure 1. The Black Box Model of Consumer Behaviour. Adapted from "Marketing" by W. Keegan, S. Moriarty, T. Duncan, 1992, p. 193. Englewood Cliffs, NJ: Prentice-Hall.

In the above model, marketing and other stimuli enter the customer's "black box" and produce certain responses. The aim of marketing management is to discover what goes on in the mind of the customer – the black box. The buyer's characteristics influence how s/he perceives the stimuli; the decision-making process determines what buying behaviour is undertaken. The first step in understanding buyer behaviour is to focus on the factors that determine the buyer's characteristics in the black box model.

Many factors influence a consumer's purchasing decisions and buying behaviour. The literature classifies and structures these factors in various ways (see table 1.). Despite these differences, consumer behaviour is generally influenced by factors that can be classified into five groups: cultural factors, social factors, physical factors, personal factors and the marketing mix. A description of the major factor groups is presented in table 2.

These factors are identified to discover the impacts they have on consumer behaviour and assist marketers

with selecting consumer targeting strategy. Therefore, these factors are used to segment the market and target specific consumer groups. The aim of this paper is to understand the influences of the factors that were measured in a survey on purchasing behaviour.

Types of Consumer Behaviour

Studies suggest that customers generally go through a five-stage decision-making process whenever they make a purchase. This is summarised in fig. 2. The model implies that customers pass through all of the stages in every purchase. However, in more routine purchases, customers frequently omit or reverse some of the stages. The buying process begins with need recognition. At this stage, the buyer recognises a problem or need or responds to a marketing stimulus. Next, the consumer needs to decide how much information (if any) is required to make the decision. If the need is strong and a product or service that meets the need is easily available, a purchasing decision is likely to be made immediately. If this is not the

Table 1. Factors Affecting Consumer Buying Behaviour – Literature Review

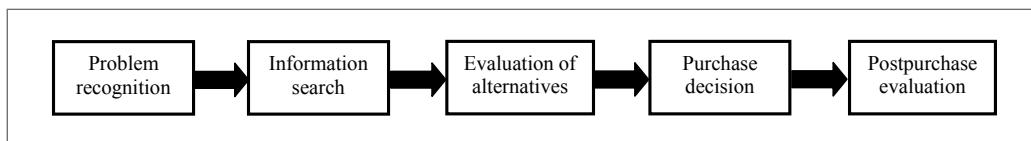
Researcher	Major factors
Enis (1974)	personal factors, social factors
Cross and Peterson (1987)	social factors, physical factors
Dibb and Etal (1991)	personal factors, social factors, physical factors
Cohen (1991)	marketing mix, physical factors
Zikmond and Amico (1993)	social factors, environmental factors, individual factors
McCarthy and Perreault (1993)	physical factors, social factors
Narayyana and Raol (1993)	physical factors, social factors, cultural factors
Keegan (1995)	social factors, cultural factors, economic factors, geographic factors
Setlow (1996)	personal factors, marketing mix, environmental factors
Stanton (1997)	social factors, physical factors, attitudinal factors
Lancaster and Reynold (1998)	physical factors, social factors, cultural factors
Kotler and Armstrong (2007)	physical factors, social factors, cultural factors, personal factors
Straughan and Roberts (1999)	demographic factors, lifestyle
Pride and Ferrell (2000)	social factors, physical factors, attitudinal factors

Note: Own elaboration based on Obaidat, 1995; Stávková, Stejkal, Toufarová, 2008; Suleiman, 2000.

**Table 2.** Major Factors Affecting Consumer Behaviour

Major factor	Sub-factors	Description
Cultural factors	Culture	Factors refer to the set of basic values, wants and behaviours learned by a member of a society from the family and other important institutions.
	Sub-culture	Each culture contains smaller sub-cultures. Sub-culture includes nationalities, religions, racial groups and geographic regions.
	Social class	Society's relatively permanent and ordered divisions, the members of which share similar values, interests and behaviours. Social class can be determined by a combination of occupation, income, education, wealth and other variables.
Social factors	Groups	Group refers to 2 or more individuals who interact to accomplish individual or mutual goals. A person's behaviour is influenced by many small groups or reference groups. These groups involve family, religious groups, friends circle, neighbours etc.
	Family	Members can strongly influence a buyer's behaviour. Marketers are interested in the roles and influences of the husband, wife and children on the purchase of different products and services.
	Roles & status	The person's position in each group can be defined in terms of both role & status. Each role carries a status that is conferred by society.
Personal factors	Age & life cycle stage	People change their purchases over their lifetimes. Marketers define their target markets in terms of family life-cycle stage and develop appropriate plans and products for each stage.
	Occupation	A person's occupation affects the goods and services bought.
	Economic situation	A person's economic situation affects product choice. Marketers of income-sensitive goods should monitor trends in personal income, savings and interest rates.
Psychological factors	Motivation	When a consumer recognises that they have a need, the inner drive to fulfil the need is called motivation. A motivated person is ready to act.
	Perception	It is the process by which people select, organise and interpret information to form a meaningful picture of the world.
	Learning	When people act, they learn. Learning can be described as changes in an individual's behaviour arising from experience.
Marketing mix	Product	It is a tangible good or an intangible service that is mass produced or manufactured on a large scale with a specific volume of units.
	Price	The price is the amount a customer pays for the product.
	Promotion	It represents all of the communications that a marketer may use in the marketplace. Promotion has four distinct elements: advertising, public relations, personal selling and sales promotion.
	Placement	A way of getting the product to the consumer and/or how easily accessible it is to consumers.

Note: Own elaboration based on (Hasslinger, Hodzic, Obazo, 2007; Kotler and Armstrong, 2007; Stávková, Stejkal, Toufarová, 2008).



**Figure 2.** Consumer Buying Decision Process. Own elaboration based on Pride and Ferrell, 2007; Hansen, 2005

case, the information search process begins. A customer can obtain information from several sources: personal sources (family, friends), commercial sources (advertising, retailers, packaging), and public sources (newspapers, magazines, radio, television, Internet). The usefulness and degree of influence of each of these sources of information will vary by product and by consumer. It is worth noting that marketers today have a greater degree of control over the information that is provided (or is not provided) to consumers and the manner in which this information is presented (Kivetz & Simonson, 2000).

In the evaluation stage, the customer must choose between alternative brands, products and services. An important determinant of the extent of the evaluation is whether the customer feels “involved” in the product. A buyer’s level of involvement determines why s/he is motivated to seek information about a particular product or brand while virtually ignoring others. The involvement level, as well as other factors, affects an individual’s choice of one of three types of consumer buying behaviour: routine response behaviour, limited decision making, and extended decision making (Pride & Ferrell, 2007, pp. 177-179). Table 3 presents a comparison of the behaviour types.

A consumer uses routine response behaviour when buying frequently purchased, low-cost items that demand very little search-and-decision effort (e.g., milk, eggs, bread or socks). Customers spend very little time deciding whether to purchase these items and do not typically need to read reviews or consult with friends for their opinions before making routine purchases. However, when confronted with ‘ethical’ products, consumers often become more involved, and this results in a more extensive information search (Carrigan & Attalla, 2001; Zander & Hamm, 2011). These are usually small purchases, on the lower end of the pricing spectrum. When buying such items, consumers may prefer a particular brand but are familiar with several brands in the product class and view more than one as being acceptable. Typically, low-involvement products are bought almost automatically.

Limited decision making is a combination of an extensive purchase decision and a routine one. Consumers who participate in this type of buyer behaviour typically know what type of product they want but are attempting to select a brand. Purchasing clothing is a good example of how limited decision making works. A customer who needs a new pair of jeans goes into a store looking for jeans but investigates a variety of brands to determine which pair is the best fit. When customers engage in purchases that require limited decision making, they may seek advice or a suggestion from a friend. This type of decision making requires a moderate amount of time for information gathering and deliberation. The search is not as thorough or as time consuming as it is with higher priced items.

The most complex type of buying behaviour, extended decision making, occurs when purchasing unfamiliar, expensive, or infrequently purchased products (e.g., a computer, television, car or house). Consumers spend substantial amounts of time researching a large number of potential options before they buy. They speak with trusted friends, family, colleagues and sales professionals and read reviews and ratings online and in consumer magazines. Consumers participating in an extended decision-making process typically take more time to make a final purchase decision and spend more time researching their options. Many of these consumers experience cognitive dissonance. Extended decision making is frequently used for purchasing high-involvement products.

Purchasing a particular product does not always elicit the same type of problem solving process. Most consumers occasionally make purchases solely on impulse, rather than on the basis of any of these three buying behaviours. Impulse buying is an unplanned decision to buy a product or service, made just prior to a purchase. Such purchases range from small (chocolate, candy, gum) to substantially large (clothes, jewellery, art) and sometimes lead to problems such as financial difficulties, family disapproval, or feelings of guilt or disappointment (Business Dictionary, 2012). For more information on this topic, see Wood (2005).

**Table 3.** Comparison between Types of Behaviour

	Routine response behaviour	Limited decision making	Extended decision making
Level of involvement	low	low	high
Product cost	low	low to moderate	high
Brand preference	more than one is acceptable, although one may be preferred	several	varies, usually many
Search effort	little	little to moderate	extensive
Time spent	short	short to medium	long

Note: Own elaboration based on Pride and Ferrell, 2007.

## A Study of the Factors Influencing Consumer Behaviour in the Electric Appliances Market

### Study Goals and Objectives

The purpose of this study is to determine the factors that affect consumer preferences and behaviour in the electric appliances market in Iraq. There are few studies related to these products, and this is the first study that has attempted to explore the growing electric appliances market in this country. In Iraq, there are few researchers who are interested in consumer behaviour, and the studies in this area are scarce and inadequate. Researchers working on the topic of consumer behaviour and competition in the Iraqi market are Abo Ahmad (2004), Abood Al-Janabi (2000), Ibrahim and Husin (2009). Furthermore, researchers such as Jtheer, Al-Mosssawi and Hussen study and measure consumer behaviour regarding drugs using a sample of consumers in Baghdad, (Jtheer, Al-Mosssawi, Hussen, 2009).

### Study Methodology

The aim of the survey was to obtain information regarding the influences of the above-mentioned factors (see table 2.) on consumer behaviour when consumers purchase electrical appliances. After completing the literature review, the authors of the paper decided to create a research model (fig. 3.) and implement it to understand and analyse how Iraqi consumers made purchase decisions in the electric appliances market.

The graphical research model can be written in mathematical form. The mathematical model of the research is stated below:

$$\text{FactorImpactOnBehavior}_{c,t} = \alpha_0 + \beta_1 \text{Cultural}_{c,t} + \beta_2 \text{Social}_{c,t} + \beta_3 \text{Personal}_{c,t} + \beta_4 \text{Psychological}_{c,t} + \beta_5 \text{Product}, t + \beta_6 \text{Price}_{c,t} + \beta_7 \text{Promotion}_{c,t} + \beta_8 \text{Place}_{c,t} + \varepsilon_{c,t}$$

where:

$\alpha$  – constant,

$\varepsilon$  – model error,

$c$  – consumer,

$t$  – making a purchase at a particular time.

The hypotheses formulated after reviewing the relevant literature are presented below:

H1: cultural factors have a strong association with consumer behaviour.

H2: social factors have a strong association with consumer behaviour.

H3: personal factors have a strong association with consumer behaviour.

H4: psychological factors have a strong association with consumer behaviour.

H5: the product factor has a strong association with consumer behaviour.

H6: the price factor has a strong association with consumer behaviour.

H7: the promotion factor has a strong association with consumer behaviour.

H8: the place factor has a strong association with consumer behaviour.

Tests of the hypotheses were confined to the primary data collected from the area of Basra (the second largest city in Iraq with an estimated population of two million).

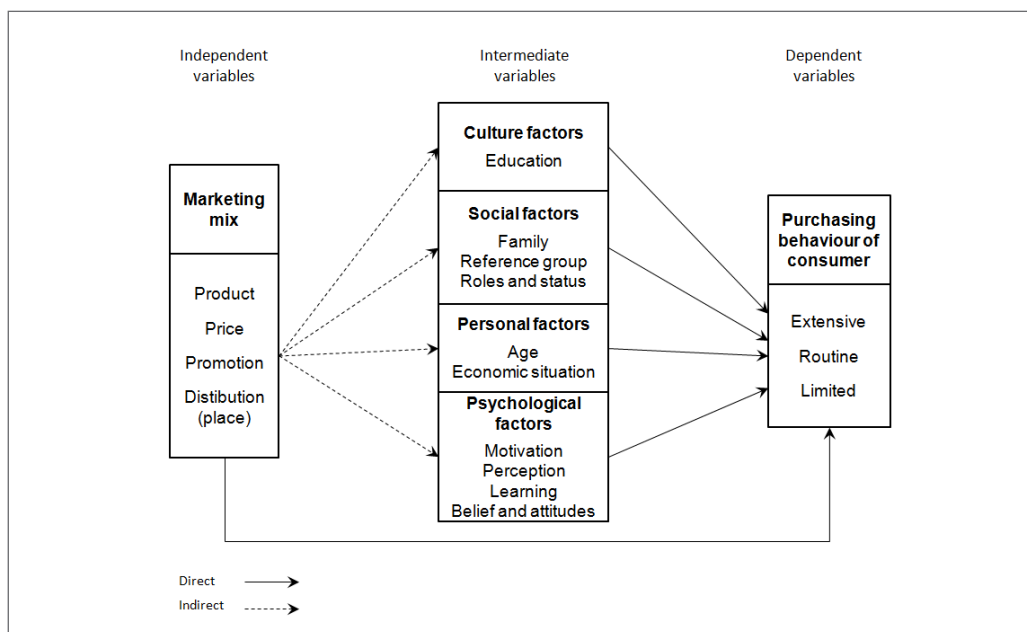


Figure 3. Research Model

### Instrument and Study Sample

The data employed to analyse the factors influencing consumers' purchase decision-making processes were obtained through a marketing survey. The instrument used to collect the primary data was a questionnaire. The authors selected this tool because of its numerous advantages. Because each respondent receives the same questions and an interviewer is not present, the process is identical for each respondent. One advantage of using a questionnaire is that it reduces errors made by an interviewer while recording the responses. Questionnaires guarantee confidentiality; hence, respondents act without any fear or embarrassment. Another advantage is that the interviewer, whose personal appearance, mood or conduct may influence the results of an interview, is not present when the questionnaire is being completed (Burns, 2000, p. 566). Furthermore, a questionnaire is a quick and efficient way to obtain information from a large number of consumers. However, designing a questionnaire is complex and time-consuming, and the quality of the data that are collected is determined by the quality of the questionnaire.

The authors intended that the questionnaire be simple and the questions straightforward and to the

point. The questions were divided into three segments as follows:

1. questions on demographic information, including characteristics such as age, education, income, and gender,
2. questions on the factors that impact consumers and consumer behaviour,
3. one question on brand loyalty.

The second part of the questionnaire contained nine sections, and each section represented a variable in the research model (the independent, dependent, and intermediate variables). In this part responses were measured on a 5-point Likert scale, ranging from one (definitely disagree) to five (definitely agree). The third part of the questionnaire contained a single open-ended question about brand loyalty.

The survey was conducted in December 2011 in Basra, a city in southern Iraq, and 200 survey responses were gathered. However, after removing invalid data, 176 correctly completed, acceptable questionnaires remained for the analysis. The data were evaluated using specialised software – the Statistical Package for Social Sciences (SPSS) ver. 17.

Respondents in this study were asked to complete the questionnaire on a voluntary basis. Regarding income,



36% of respondents had monthly incomes in excess of 1 million Iraqi dinars (ID), 43% had monthly incomes between 500,000 and 999,000 ID and 21% received less than 499,000 ID per month. Concerning sex, 56% of the respondents were male and 44% were female. Of the 176 people who completed our questionnaire, 6.0% were between the ages of 18-24, 28.5% were between 25-34, 34.0% were between 35-44, 21.5% were between 45-54 and 10% were over 55 years old. Regarding education level, the majority of respondents had received higher education (58.8%), 21.6% received secondary education, 12.6% received intermediate education, 5.0% received primary education and only 2.0% have no formal education.

### Results and Discussion

Cronbach's alpha (a measure of internal consistency or how closely related a set of items are) was used to assess the inter-item reliability for each variable. As reported in table 4, Cronbach's alpha scores were over 0.75, suggesting that the items have a relatively high degree of internal consistency (note that a reliability coefficient of 0.70 or higher is considered "acceptable" in most social science research (Hair et al., 2006)). These alpha scores are acceptable for an exploratory analysis, indicating that the factors within each variable are inter-related.

There was a relationship between each factor and type of consumer behaviour. This operation was divided into two parts as follows:

1. The authors found Pearson's correlation coefficients between the variables associated with questions answered on the Likert scale such as social factors, psychological factors, marketing mix and consumer behaviour. As shown in table 5, the Pearson's  $r$  for the correlation between each factor and consumer behaviour was positive. This means that as one variable increases in value, the second variable also increases in value. Similarly, as one variable decreases in value, the second variable also decreases in value. The values of the Pearson's correlation coefficients in this study were rather low; there is not a strong relationship between the variables. The strongest correlation was between psychological factors and behaviour – 0.434. The significance (2-tailed) values were less than 0.05. Therefore, we can conclude that there was a statistically significant correlation between each factor and consumer behaviour.
2. To find the relationship between cultural and personal factors and different types of consumer behaviour, a one-way ANOVA was used. Data that represented these factors were divided into three groups: education (a cultural factor), age and

**Table 4.** Reliability Statistics

Variables	Cronbach's Alpha
Cultural factors	0.81
Social factors	0.83
Personal factors	0.89
Psychological factors	0.75
Product	0.80
Price	0.79
Promotion	0.95
Place	0.83
Routine response behaviour	0.93
Limited decision making	0.92
Extensive decision making	0.95

Table 5. Pearson's Correlation of Variables

Variables	Behaviour	
	Pearson's Correlation	Sig. (2-tailed)
Social factors	0.299	0.000
Psychological factors	0.434	0.003
Product	0.269	0.000
Price	0.293	0.000
Promotion	0.249	0.000
Place	0.206	0.000

Table 6. One-way ANOVA

Factors	Types of behaviour	SS	df	MS	F	Sig.
Education	Extensive decision making	1.916	4	0.479	0.764	0.550
	Routine response behaviour	2.309	4	0.577	1.162	0.329
	Limited decision making	17.904	4	4.476	0.750	0.559
Age	Extensive decision making	0.481	4	0.120	0.190	0.943
	Routine response behaviour	0.426	4	0.107	0.208	0.934
	Limited decision making	12.155	4	3.039	0.509	0.729
Monthly income	Extensive decision making	2.584	4	0.646	1.041	0.387
	Routine response behaviour	5.188	4	1.297	2.664	0.034
	Limited decision making	18.036	4	4.509	0.759	0.553

Note: SS – sum of squares, df – degrees of freedom, MS – mean square, F – F ratio, Sig. – significance value.

monthly income (personal factors). The outcome of the ANOVA is presented in table 6. The results reveal that there is not a statistically significant difference between the influences of education and age on consumer behaviour ( $p>0.05$ ). Only monthly income has an impact on behaviour, and only under routine response behaviour. In this case, the F ratio is the highest ( $F=2.664$ ) and the significance value was below 0.05 ( $\text{sig.}=0.034$ ).

It was found out that there is a multiple regression between behaviour and all factors. The data presented in table 7 show the results of the multiple regression, which was used to learn more about the relationships between the independent variables and the dependent

variable. Testing the previously developed hypotheses developed provided results that made it possible to modify the research model as follows:

$$\text{FactorImpactOnBehavior}_{c,t} = \alpha_0 - \beta_1 \text{Cultural}_{c,t} + \beta_2 \text{Social}_{c,t} - \beta_3 \text{Personal}_{c,t} + \beta_4 \text{Psychological}_{c,t} + \beta_5 \text{Product}_{c,t} + \beta_6 \text{Price}_{c,t} + \beta_7 \text{Promotion}_{c,t} + \beta_8 \text{Place}_{c,t} + \varepsilon_{c,t}$$

These modifications of the mathematical model indicate that hypotheses 1 and 3 are rejected because the relationships between the variables are weak ( $p>0.05$ ). The other hypotheses are accepted based on the strong association among the variables ( $p<0.05$ ). Psychological factors strongly affected behaviour. Psychological factors ( $\beta=0.43$ ) influenced consumer

Table 6. One-way ANOVA

Hypothesis & relationship	Unstandardised coefficients		Standardised coefficients	t-value	Sig.	Verification results
	B	Std. error	Beta			
H1 cultural factors→behaviour	-0.076	0.040	-0.136	-1.926	0.056	Rejected
H2 social factors→behaviour	0.181	0.041	0.299	4.387	0.000	Accepted
H3 personal factors→behaviour	-0.055	0.031	-0.123	-1.738	0.084	Rejected
H4 psychological factors→behaviour	0.310	0.046	0.434	6.754	0.000	Accepted
H5 product→behaviour	0.179	0.046	0.269	3.924	0.000	Accepted
H6 price→behaviour	0.142	0.033	0.293	4.303	0.000	Accepted
H7 promotion→behaviour	0.158	0.044	0.249	3.607	0.000	Accepted
H8 place→behaviour	0.124	0.042	0.206	2.958	0.003	Accepted

behaviour more than social factors ( $\beta=0.30$  and marketing mix. The relationship between personal factors and consumer behaviour was insignificant, with a p-value of 0.08. A similar result was obtained for the relationship between cultural factors and consumer behaviour ( $p=0.06$ ).

## Conclusions and Future Research

This research contributes to the understanding of consumer buying behaviour in the electric appliances market. The major findings of the study indicated that the overall set of independent variables was weakly associated with the dependent variable. However, the in-depth analysis found that social factors, physical factors, and marketing mix elements were strongly associated with the buying behaviours of Iraqi consumers. These analyses make it possible to discover consumer decision-making rules. Moreover, our analysis helped us to identify several promising directions for future research. The primary goal of this future research will be to develop methodological bases for consumer behaviour analysis using Multi-Agent Based Simulation (MABS) and simulation tests using the developed methodology. As a result of our research, we plan to develop a computer simulation model that will allow us to investigate consumer behaviour. The simulation model of the electric appliances market will be elaborated with a multi-agent approach.

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