

# The paradox of progress: inexperienced consumers' choice of major household appliances

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## OPSOMMING

Beter werkgeleenthede en hoër inkomstes na die aanvaarding van 'n nuwe politieke en sosio ekonomiese bestel in Suid-Afrika in 1994, het meegebring dat groot getalle onervare swart verbruikers na meer welvarende stedelike gebiede migreer het om nuwe geleenthede aan te gryp in 'n poging om hulle lewenstyl te verbeter. Uiteraard sal verbruikers wat beperkte produkverwante verbruikerssosialisering ondergaan het en later in hulle lewe met die kompleksiteit van verbruikersbesluite gekonfronteer word, maklik oorweldig word deur 'n groot produkteuse. Ongelukkig kan hulle maklik uitgebuit word as gevolg van hulle onkunde en gebrekkige ervaring. Dit dui op die paradoks van vooruitgang wat 'n vrugbare teëlaarde skep vir uitbuiting van weerlose verbruikers in die mark. Baie min inligting kon gevind word wat lig werp op onervare verbruikers se beoordeling van die gehalte van produkte en die gebruik van spesifieke indikatore wat vir hulle as 'n aanduiding van die betroubaarheid van produkte kan dien. Hierdie navorsing het spesifiek gefokus op onervare verbruikers se evaluering van groot huishoudelike toerusting - 'n kommoditeit wat in groot aanvraag is in moderne huishoudings sowel as die huishoudings van verbruikers wat laat in hulle lewe eers huiseienaarskap kon ervaar en met die gebruik van elektrisiteit in hulle huise te doen gekry het. Die doel was om indikatore te identifiseer wat deur onervare verbruikers gebruik word om die gehalte van toerusting te onderskei tydens vooraankoopevaluering. Die verwagting was dat beperkte verbruikerssosialisering hulle sou noop om op surrogaatindikatore van gehalte staat te maak om te kompenseer vir 'n gebrek aan relevante produkkenis en persoonlike produkondervinding.

'n Positivistiese navorsingsbenadering is gevolg. 'n Kombinasie van kwalitatiewe en kwantitatiewe data-versamelingstegnieke is gebruik om die gehaltebeoordeling van groot huishoudelike toerusting te beskryf soos dit gedoen is deur onervare verbruikers van twee verskillende geografiese gebiede wat verskillende ouderdomsgroepe verteenwoordig het.

Die gebrek aan ervaring van beide groepe verbruikers is bevestig deur hulle beperkte ondervinding met elektrisiteit in hulle eie huishoudings en beperkte eienaarskap van toerusting oor tyd. 'n Teenstrydigheid is gevind tussen deelnemers se aanduiding van verwagte en gerapporteerde lewensduursyfers vir 'n lys van dertien tipes toerusting. Hoewel vervangingsaankope deur sosio-ekonomie-

se veranderlikes, produkeienskappe en tydfaktore beïnvloed word, is kommerwekkende lae gemiddelde lewensduursyfers vir toerusting aangeteken. *Handelsnaam* word blykbaar as 'n prominente aanduiding van gehalte deur alle verbruikers gebruik. Dit bevestig Dawar en Parker (1994) se siening dat sekere kriteria van "universele belang" is. Die gebruik *prys*, *waarborg* en *advertensie* as surrogaatindikatore van gehalte, was opvallend. Vriende en familie word oënskynlik meer dikwels geraadpleeg tydens gehaltebeoordeling as verkoopsmanse hoewel laasgenoemde beter in staat behoort te wees om dit te doen. Die lae mediaantellings wat in die produkkenistoets behaal is, bevestig die invloed van gebrekkige produkverwante verbruikerssosialisering en 'n behoefte aan gefokusde verbruikersfasilitering en beter diens aan verbruikers in die kleinhandelomgewing.

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## INTRODUCTION AND REASON FOR THE RESEARCH

In South Africa the living conditions of black consumers particularly have changed dramatically over the past decade as a result of the socio-political changes that began in 1994. Conscious efforts have since been made to raise the levels of well-being of previously disadvantaged consumers and to enlarge their choices in the market place (Bennett, 2001; Tatietsse *et al*, 2002). In this period millions of people have relocated to larger cities in search of better living conditions that *inter alia* allow home-ownership and access to electricity. Not surprisingly, sales figures indicate that these consumers have become a lucrative target market for companies selling major household appliances such as refrigerators, stoves and washing machines (Euromonitor, 2003; Holtz, 1998) because these appliances are increasingly considered necessary for modern living (Broadbridge & Marshall, 1995; LeBlanc, 1998).

Unfortunately, it must be kept in mind that limited consumer socialization during the various developmental phases of childhood restricts the development of specific cognitive skills required by consumers to cope later in life (Rose, 1999; Williams, 2002). Product choice becomes even more intricate when inexperienced consumers are confronted with many competing brands and diverse product characteristics, as is typically the case with household appliances (James, 1983:2). The expectations that are created and enthused by the media further contribute to the almost insurmountable obstacles facing inexperienced consumers in terms of their ability to make informed buyer decisions (Hipkin, 2004). Theoretically, these consumers acquire *symbolic knowledge* without possessing the relevant *structural* and *transaction knowledge* (knowledge and skills regarding stores, products, brands, processes and pricing) that is required to make informed buyer decisions (John, 1999). This creates fertile conditions for exploitation in the market place (Kamaruddin & Mokhlis, 2003; Moore-Shay, 1996; Nelson, 2002). The paradox of progress thus applies: consumers gain access to consumer goods and services (which is desirable) and are exposed to a *choice explosion* without the experience to deal with it (which is undesirable).

There is little available evidence on how inexperienced consumers choose household appliances for personal use and how they judge the *quality* of an appliance as an indication of product reliability during product evaluation. One hypothesis is that limited consumer socialization may result in and even necessitate a reliance on surrogate indicators of quality, such as price, brand name and store image, to enable product choices by compensating for the absence of appropriate product knowledge (Dawar & Parker, 1994; Kanwar & Pagiavlas, 1992; Williams, 2002).

This study specifically focuses on major household appliances as a desirable commodity in households of previously disadvantaged consumers. The intent is to shed some light on inexperienced consumers' choice

of major household appliances for personal use in an effort to specifically identify the indicators used during product evaluation to discriminate product quality. The findings will benefit industry and retail in terms of providing augmented customer service and appropriate post-purchase service delivery. The findings will also suggest guidelines for professionals in the field of consumer science in terms of proper consumer education and facilitation, in an effort to enhance responsible consumer decision-making (Crie, 2003; Phau & Sari, 2004). The academic contribution of this study will be a contribution to the limited available information about the decision-making behaviour of inexperienced consumers in third-world countries, especially in terms of sophisticated commodities such as household technology (Williams, 2002).

## RESEARCH PROBLEM

Major household appliances are quite expensive and imply long-term consequences with considerable financial implications in terms of maintenance, running costs and replacement. The major concern in this research project is that limited *product knowledge* as a result of limited *product-related consumer socialization* limits consumers' ability to formulate clear utilitarian evaluative criteria (i.e. rational, concrete purchase dimensions) that will help them to discriminate quality during product evaluation. Under such conditions, alternative measures such as the use of surrogate indicators, for example price, brand name and aesthetics, will probably dictate product choice. More mature consumers are expected to demonstrate an even bigger disadvantage in judging product quality than younger adults who generally adjust more easily and who tend to be more pretentious and thus more curious in terms of change. The potential for exploitation in the market place, due to ignorance amidst unequivocal enthusiasm to possess major household appliances, prompted this study. For reasons similar to those listed by Williams (2002), this study focuses on inexperienced consumers' inability to make informed buyer decisions, within the discipline of Consumer Science.

## THEORETICAL PERSPECTIVE

For this study consumers' judgment of appliances is considered within a systems perspective. Product quality is thus considered as being signified by several *interrelated, discernable product characteristics* (inputs) that may contribute towards the superiority of one particular appliance over others, in terms of expected performance and durability, so that a consumer accepts the product, or rejects it as inferior (Thang & Tan, 2003). The hypothesis is that these product characteristics are transformed through prioritization and a collective interpretation within an individual's knowledge frameworks to eventually determine how quality is perceived (output). The transformation of stimuli inevitably requires cognitive activity; perceived product characteristics are interpreted in terms of what is familiar (existing schemata in memory).

Thang and Tan (2003) describe the transformation process as a superseding internal process whereby a consumer translates stimuli into meaningful information before making a judgment. The consumer thus relies on existing knowledge, however limited, to evaluate a situation and to conclude a decision (Heylighen & Joslyn, 2002). Previous experiences determine judgment of quality through external stimuli, which are judged as positive or negative. The same conclusion (for example superior quality) might not necessarily result from the judgment of a single characteristic (e.g. extensive guarantee as a pre-condition for quality) because the collective contribution of several characteristics is considered in terms of priority and hierarchy (Heylighen & Joslyn, 2002; Whitchurch & Constantine, 1993: 325). Although each characteristic evokes a response, the collective contribution of elements eventually concludes the consumer's interpretation of quality. Equifinality refers to the interpretation of quality via different routes. High price (which often signals good quality) plus a shorter guarantee might for example provoke the same reaction as lower prices supported by an extensive guarantee, based on the compensatory rule where relative "weights" are allocated to certain product characteristic in terms of their perceived importance. Eventually low and high counts balance one another out in different product judgements (Shiffman & Kanuk 2000:445).

The cognitive perspective is vital to explain the transformation of actual stimuli/product characteristics within existing schemata in memory (familiar knowledge structures), into outputs (anticipated product characteristics) (Spears & Gregoire, 2003:26). The transformation process is considered to be an overruling internal process whereby stimuli are translated into information that makes sense (Thang & Tan, 2003). Existing knowledge, however imperfect and incomplete, is thus used to assess a situation (Shiffman & Kanuk, 2000:445). According to the cognitive perspective, consumers prefer constancy in their evaluation and interpretation of situations; if one characteristic (e.g. brand name) changes, another characteristic (e.g. guarantee) will probably be affected. Previous experiences, gained through product-related consumer socialization and stored in the memory, will determine the overall evaluation of the appliance as positive or negative. In terms of the systems approach, the collective contribution of several product characteristics will determine the outcome of the decision (Whitchurch & Constantine, 1993:325).

## RESEARCH OBJECTIVES

The objective for the research was to describe inexperienced consumers from previously disadvantaged backgrounds' choice of major household appliances for personal use with the intention to identify the product characteristics that are used to signify quality during product evaluation. The idea was to categorize these indicators in terms of those that are indicative of informed, responsible decision-making behaviour and/or hedonics that may not necessarily reflect informed decision-making.

## CONCEPTUAL BACKGROUND

The theoretical framework of this study is provided by the theory of *consumer socialization*, particularly *product-related consumer socialization*, and the basic theory of consumer decision-making as it applies to *quality judgment of household appliances* during pre-purchase evaluation.

### Consumer socialization and product-related consumer socialization

**Consumer socialization** Consumer socialization is defined as the process by which people acquire skills and knowledge relevant to their functioning as consumers in the marketplace (Assael, 1992:712; Schiffman & Kanuk, 1994:659). Consumer socialization is an ongoing process and is not confined to childhood. It has two components. The first, consumer socialization *directly* related to consumption, is concerned with the acquisition of skills and knowledge relevant to budgeting, pricing and brand attitudes; for example, shared shopping experiences give children an opportunity to acquire shopping skills. The second, consumer socialization *indirectly* related to consumption, is generally internal in kind and deals with the underlying motivations that would, for example, spur a consumer on to seek information and to purchase a product even though he/she has not been exposed to it before. Both types of consumer socialization are significant in terms of a consumer's eventual knowledge and skills that enable independent functioning in the marketplace (Schiffman & Kanuk, 1994:353-354). The impressive amount of research that has been done to date on the topic of consumer socialization (John, 1999) may be attributed to the notion that this socialization largely determines a consumer's ability to function independently in the market place and to conclude informed, responsible buyer decisions (John, 1999; Nelson, 2002; Williams, 2002). The bulk of research in this field, however, addresses the effect of *time* (in terms of cognitive development, age, education level etc.) on consumer socialization and concludes that, on average, older consumers are more experienced than younger consumers because of their more extensive exposure to markets and to learning opportunities over time. However, an exception that is significant for this study is the effect of *social context* on a consumer's learning experiences. Adults from deprived backgrounds will, for example, despite their age have undergone only limited consumer socialization during their lifetime, because of limited exposure and restricted access to certain products and services. Restricted resources further limit these consumers' activity in the market place so that they eventually possess limited cognitive structures to facilitate choice processes (Bahn, 1986).

**Product-related consumer socialization** Product-related consumer socialization consists of the opportunities encountered throughout life that facilitate learning and allow or increase for example, spur a consumer on to seek information and to purchase a product even though the involvement with specific products through which a consumer acquires skills, knowl-

edge and attitudes relevant to that product. This socialization eventually determines one's knowledge of product characteristics, consumer behaviour and product use. Product-related consumer socialization is affected by the decision-making strategies implemented in a family/household, for example, family members' involvement and participation in decision-making concerning certain products and services (Assael, 1992:467-470; Du Plessis *et al*, 1995:177; Hawkins *et al*, 1995:201-203). This eventually determines an individual's expectations about products based on what is familiar i.e. already existing as schemata in the memory.

### The effect of consumer socialization during the decision-making process

Consumer decision-making is influenced by external and internal variables. Needs are created and stimulated during daily interaction. These needs are transformed in terms of prior knowledge and experience frameworks to conclude purchase decisions that best serve the consumer's expectations and preferences at a specific point in time. Previous experience provides a frame of reference to guide similar product decisions. Lack of experience limits a consumer's ability to evaluate products objectively and results in the use of alternative strategies of product selection, such as using surrogate indicators of quality (Loudon & Della Bitta, 1993:559-560). Responsible buyer behaviour consists of purchase decisions that reflect a realization of the consequences of the purchase (Hornby, 2000). In terms of the acquisition of household appliances, responsible buyer behaviour involves some degree of maturity in judging price, quality indicators and service-life expectancy and the ability to motivate or explain a product decision in terms of relevant criteria. Limited consumer socialization greatly inhibits a consumer to a great extent, leaves a consumer in an adverse position in this respect.

### Product knowledge

In the context of this research, consumers can be regarded as relatively passive entities who acquire product knowledge by means of classical conditioning, through exposure and repetitive use of products, i.e. informal learning through personal use over time (Schiffman & Kanuk, 2000:162, 163). This conditioning process uses cognitive-associative learning, whereby the consumer as information seeker acquires new knowledge using logical and perceptual relations along with his/her own perceptions to understand a situation. Lack of exposure and lack of experience would thus limit a consumer's cognitive ability to evaluate appliances objectively/realistically. This study therefore uses a knowledge test that includes questions about the basic properties of a specific list of appliances to investigate and to confirm the ability of participants to formulate realistic evaluation criteria for judging the quality of appliances in view of their limited product experience.

### Quality

According to Day and Castleberry (1986), quality should be viewed as a hypothetical construct that consumers use to minimize perceived risk. Quality can be defined in various ways: as a conformance to certain requirements (Grosby, 1979 in Day & Castleberry, 1986); as the rated ability of a brand to perform its function (Kotler, 1983 in Day & Castleberry, 1986) or as the extent to which a product conforms to tight manufacturing standards considering the various dimensions of quality that include performance, durability, reliability, serviceability and aesthetic properties (Garvin, 1984 in Day & Castleberry, 1986). Quality can be evaluated both directly and indirectly: *directly* through the inspection of the product (e.g. to evaluate the materials and finishes used during the construction of an appliance) and or *indirectly* through surrogate indicators such as the recommendation of significant others (e.g. my friends are happy with a specific brand), brand name preference or the reputation of the brand (e.g. after-sales service) (Day & Castleberry, 1990). Surrogate indicators may be used in the absence of an ability to identify relevant indicators of quality. Consumers with limited product-related knowledge and experience might for instance trust cues such as store image, salespeople, friends and colleagues, advertisements and guarantees as indications of quality. Consumers with limited knowledge typically opt for expensive products, assuming that higher prices signal better quality (Terblanche & Boshoff, 2001).

### Evaluation of household appliances

Major household appliances include cooling, cooking, baking and laundry appliances that are generally referred to as white goods. These are and are viewed as long-term purchases (durables) due to their expected service life (Cox *et al*, 1983). The evaluation of household appliances is generally done through comparing product characteristics that may include a combination of *functional, financial, durability, status and aesthetic factors* against a set of parameters that the individual anticipates or expects. Anticipated product *characteristics* may be unrealistic, – especially with limited product knowledge or in the absence of personal product experience (Schiffman & Kanuk, 2004: 520 – 523). In order to investigate whether the product attributes used are relevant in terms of the evaluation of the quality of appliances, the questions that were included in the questionnaire were formulated to reflect the basic properties that could be considered during the pre-purchase evaluation of major appliances, namely:

- ◆ *functional characteristics*, which relate to performance factors and refer to the appliance's ability to perform as expected (e.g. the programmes of a washing machine, temperature control of refrigerators and materials used during manufacture) (Remich, 1991; Sabelli, 1998):
- ◆ *financial characteristics*, which refer to the relative cost and affordability of the appliances in the short- and long-term and would include existing and realistic price categories as well as running- and main-

- tenance cost (Perkins, 2003);
- ◆ *durability characteristics*, which include construction aspects and materials used in the manufacturing and design of the appliances that would affect its potential service life until replacement (It *inter alia* includes after-sales service);
- ◆ *status factors*, which refer to product characteristics that may reflect social status or prestige (e.g. such as brand names and price) and which is also referred to as the halo effect positing that consumers rely on reputation and thus accept or reject products based on inferences about their quality because of their brand name or country of origin, assuming that certain labels are superior (Kaynak & Kara, 2002);
- ◆ *aesthetical factors*, which describe the style and attractiveness of the appliances in terms of current fashion trends (e.g. at a specific point in time such as specific design features, materials and finishes that are used) (Assael, 1998:647).

Apparently the most important determinants to consumers' utility for consumer durable goods are social values, stimulation and materialism (Erdem *et al*, 1999), which explains why previously disadvantaged consumers who are eager to improve their lifestyles, might focus on status factors during product evaluation.

## RESEARCH DESIGN

### Research style

This research has followed a positivistic orientation and was conducted from a quantitative methodological paradigm. Both qualitative and quantitative data collection techniques were used to reduce error and to increase the validity and reliability of the data (Babbie & Mouton, 2001:49-53).

### Sample and sampling

The sample was chosen to include both more mature black consumers, who have had to adjust to having electricity as a household commodity during adulthood, as well as young adults, who have had some experience of electricity and ownership of appliances before moving into their own apartments. Black consumers from two specific geographical areas in Tshwane were sampled under the supervision of two of the researchers who were postgraduate student researchers, to produce two sample groups called group A and group B.

**Group A** Sunnyside, a high-density residential area of Pretoria that is within reach of various retail outlets that sell household appliances, was targeted. The area is characterised by relatively affordable housing to which where many young people, especially those from previously disadvantaged communities, have flocked to in recent years. Problems with gaining access to dwellings and safety issues necessitated the implementation of convenient sampling. Specially trained assistants who were fluent in the relevant Afri-

can language recruited young adults between the ages of 20 and 35 years for participation. Participants were selected if they were in this age group and had limited experience and limited exposure to appliances in their homes during childhood years: 137 individuals participated. Twelve participants who completed the questionnaire before their exact age was determined were between 36 and 39 years old, but are included in the sample because they already completed the questionnaire when their exact ages were determined. Because they confirmed less than five years' experience with electricity in their own homes, it was decided not to discard their questionnaires.

**Group B** Consumers in a predominantly black township (Themba Unit D: approx 1127 households) was targeted. The majority of residents are from previously disadvantaged backgrounds and it was assumed that most of them would not have had electricity in their homes prior to their occupation of these houses, so that their personal experience with household appliances would be limited until recent years. Purposive sampling was applied to identify at least ten percent of the households in the area, resulting in a sample of 124 households that owned at least one major appliance and of which the main decision-makers were over 30 years of age.

### Development of the questionnaire

The questionnaire consisted of seven sections. Section A (six questions) covered basic socio-demographic information; section B (five questions) determined the participant's ownership, experience and involvement with major appliances over time; section C (twelve questions) investigated quality judgment; section D (two questions) examined expected and reported service life figures for a specific list of appliances; section E (22 questions) involved a product knowledge test; section, F (consisted of two open-ended questions) investigated participant's use of and perceived apparent need for product information; and section G involved (22 questions) participants' buyer behaviour.

The content of the questionnaire was initially developed based on extant literature. Realising that this would represent a highly theoretical research approach, *projective techniques* were then also used as an additional tool to enter into the private worlds of the participants to uncover their inner perspectives on the issues at hand, in a non-threatening manner (Donoghue, 2000). These techniques were used to confirm the questionnaire's content and wording and to identify additional constructs that might otherwise have been overlooked (Fern, 1983).

- ◆ In **Area A**, 25 willing households were asked to complete the following written task in which they had to discriminate indicators/product features that are used by consumers to indicate quality. The task took this form: "Assume that your best friend has approached you to assist her in purchasing to purchase a good quality washing machine from whatever would be available in the store. Give a

*detailed description of how you would advise her to identify and select an appliance that would last many years without giving her any hassles”.*

- ◆ In **Area B**, a similar task exercise was carried out with the intent to find out which criteria households use to select appliances, but this time without directing the participants to criteria of quality. The task took this form: “*Imagine that your friend wants you to assist her in selecting household appliances because she has been informed that she has won a competition that allows her to spend R15000 on any major household appliances from any of the stores in a specific shopping complex. Identify and describe the appliances that you would recommend in as much detail as possible. Also identify the store/s where you would go. Explain your recommendations*”.

The content analysis of the written tasks was done: open coding and axial coding were used to organize the text in terms of coherent and relevant constructs that are indicators of quality (Babbie & Mouton, 2001:492). Codes were therefore assigned to the various concepts and these codes were compared to the existing questionnaire to identify additional factors that had been overlooked. Content analysis of the two written tasks revealed no new concepts in terms of those that were already incorporated into the questionnaire. It was however noticeable that the guidelines that were provided by both groups in the written tasks, mostly mentioned included price- and brand-related concepts and as well as type of appliances (e.g. top loading washing machines) as quality signifiers. Thus the questionnaire was adapted to make a definite distinction between different types of washing machines and stoves, and so that participants would be guided to think about factors such as the role of salespeople and stores. These indicators were eventually listed in Table 7 or integrated in the knowledge test.

Section E of the questionnaire, the knowledge test, contained 21 basic statements about the performance and functional attributes of various major appliances, to which participants had to answer and which required True/ False/ Do not know responses. In some instances True was the correct response while in others False was the correct option. This section enabled a calculation of some quantifiable value of participants' knowledge of appliances as an indication of their ability to make informed, responsible buyer decisions.

The questionnaire was then pre-tested on ten households from each sample area that complied with the specific preconditions to ensure that the questions were clear enough to be understood, and to determine whether the length of the questionnaire was acceptable (Babbie & Mouton, 2001:244-245; Leong *et al*, 1997). Because the participants were relatively inexperienced with tasks of this kind, the questionnaire took approximately 30 minutes to complete. It was then decided that an interview format would be used to complete the questionnaires to prevent participants' from losing interest or becoming despondent.

## Data collection

Five sections of the questionnaire were completed in an interview format in the homes of willing individuals with the assistance of the researchers after hours on weekdays or over weekends. Thereafter the participants independently completed Sections A (demographic information) and F (open ended questions) while the researcher was waiting. This approach helped to ensure that questionnaires were returned, which was necessary since the recruitment of participants proved to be a time-consuming and expensive undertaking. It was unfortunately later found that some participants did not complete all of the required demographic information and that a few participants in group A had admitted that they were slightly older than the required 35 years. As explained above, the data from these questionnaires was included, mainly because of the participants' limited ownership of household appliances.

## Data analysis

Data was coded in order to apply descriptive statistics to quantify the demographic profile of the groups of participants, to comprehend appliance ownership figures as well as participants' prioritization of evaluation criteria. Mean scores were calculated for both groups, using their prior experience with electricity as an indication of their potential to make *informed buyer decisions*, and whether or not their *experience with electricity* affected their performance in the knowledge test (Table 8). The knowledge test was interpreted in terms of the performance of the group, which was then compared using the Kruskal-Wallis test.

## RESULTS

### Demographic information

Participants were predominantly female (Table 1). Group B's experience (more mature consumers) with electricity seemed more limited than that of group A. Approximately one third of the younger group indicated life long exposure to electricity in their homes while the majority of the older group's experience was less than ten years.

### Ownership and experience with appliances

Table 2 shows the extent of participants' ownership of a specific list of major appliances over time as an indication of their personal experience with the use and maintenance of major appliances at the time of the study. For both groups, ownership of refrigerators and freestanding stoves were the highest, followed by a noteworthy ownership of microwave ovens. Vacuum cleaners were owned by a proportionately higher percentage of participants in area A, compared to B. These figures confirm the ownership trend indicated in the 2002 “World Major Household Appliances Report for Developing Countries”. Top loader washing machines were apparently more popular with both groups while the low ownership of twin tub machines by the

**TABLE 1: SELECTED DEMOGRAPHIC INFORMATION OF PARTICIPANTS**

	Age group (years)				Gender		Years of experience with electricity in the home			
	25-35	36-45	46-55	56+	Male	Female	5 or less	6-10	11-15	Life long
<b>Area A (n=137)</b>	*119	12	0	0	19	*118	22	22	*46	*45
<b>Area B (n=124)</b>	0	*96	19	3	28	*96	3	*82	32	6
<b>Total (n=261)</b>	119	108	19	3	47	214	25	104	78	51

\* Majority for the area

**TABLE 2: PER CENTAGE OF OWNERSHIP OF APPLIANCES OVER TIME**

Appliance	% of ownership of appliances over time									
	Group A (n=137)					Group B (n=124)				
	None	Max 3 yrs	4-5 yrs	6-10 yrs	>10 yrs	None	Max 3 yrs	4-5 yrs	6-10 yrs	>10 yrs
Refrigerator	2,2	9,6	11,8	36,0	40,4	0	4,1	8,1	<b>64,0</b>	22,8
Separate freezer	<b>60,3</b>	3,1	15,3	10,7	10,7	<b>73,2</b>	0,8	4,1	13,8	8,1
Stove: freestanding	12,5	8,1	14,0	25,7	39,7	23,6	1,6	4,9	<b>54,5</b>	15,5
Oven & hob: separate	<b>83,1</b>	3,1	4,6	5,4	3,9	<b>79,7</b>	0,8	9,8	7,3	2,4
Cooker hood	<b>93,9</b>	0	3,1	3,1	0	<b>75,4</b>	0,8	9,8	10,7	3,3
Washer: top loader	<b>54,6</b>	12,3	23,1	5,4	4,6	<b>78,9</b>	4,9	8,1	8,1	0
Washer: front loader	<b>67,9</b>	5,3	20,0	4,6	2,3	<b>92,7</b>	0	4,1	2,4	0,8
Washer: twin tub	<b>80,5</b>	7,5	6,8	4,5	0,8	<b>55,3</b>	8,9	16,3	17,9	1,6
Dishwasher	<b>89,3</b>	6,9	2,3	0,8	0,8	<b>99,2</b>	0	0	0,8	0
Tumble dryer	<b>55,3</b>	6,1	29,6	6,1	3,0	<b>98,4</b>	1,6	0	0	0
Microwave oven	15,9	22,0	39,4	18,9	3,8	40,7	17,1	30,9	9,8	1,6
Vacuum cleaner	32,6	9,9	21,2	24,2	12,1	<b>65,6</b>	6,6	18,0	8,2	1,6

**Bolded figures** indicate those that represent the majority of participants for that area**TABLE 3: PER CENTAGE OF YOUNGER CONSUMERS' OWNERSHIP OF APPLIANCES (N=137)**

Appliance	% Ownership of appliances			
	Current ownership	Have never owned one	Not interested	Would like to have
Refrigerator	94,9	0,7	0,7	2,2
Separate freezer	24,6	14,6	10,8	34,6
Stoves (all types)	97,5			
Integrated stove	88,3	5,1	0,7	4,4
Separate oven & hob	9,2	29,0	40,5	16,8
Cooker hood	6,2	38,3	14,1	39,8
Washing machines (all types)	69,3			
Washer: top loader	37,6	22,6	11,3	26,3
Washer: front loader	22,5	24,8	37,2	13,3
Washer: twin tub	9,2	21,4	48,1	13,7
Dishwasher	6,1	17,4	17,4	58,3
Tumble dryer	38,9	13,7	13,0	32,1
Microwave oven	81,2	3,8	1,5	11,3
Vacuum cleaner	59,3	9,6	1,5	23,7

**TABLE 4: PER CENTAGE OF OLDER CONSUMERS' OWNERSHIP OF APPLIANCES (N=124)**

Appliance	% Ownership of appliances			
	Present ownership	Have never owned one	Not interested	Would like to have
Refrigerator	99,2	0	0	
Separate freezer	26,6	68	4	8
Stoves (all types)	93,5		4	
♦ Integrated stove	72,6	23	2	2
♦ Separate oven & hob	23,4	65	2	18
Cooker hood	24,2	66	3	16
Washing machines (all types)	72,6			
♦ Washer: top loader	21,8	53	5	26
♦ Washer: front loader	5,6	86	14	5
♦ Washer: twin tub	45,2	54	6	3
Dishwasher	0	72	28	13
Tumble dryer	0	77	27	10
Microwave oven	56,5	23	1	25
Vacuum cleaner	32,2	45	14	15

**TABLE 5: AVERAGE REPORTED SERVICE LIFE OF APPLIANCES IN YEARS (N=261)**

Appliance	Service life of appliances in years							
	Area A				Area B			
	n	Mean	Std Dev	Max	n	Mean	Std Dev	Max
Refrigerator	80	6,7	3,31	22	117	9,2	2,19	17
Separate freezer	19	5,5	3,15	15	33	8,9	2,42	11
Stove (hob & oven combined)	72	6,2	2,12	15	87	9,3	1,90	15
Separate oven plus hob	6	8,2	4,35	15	24	7,0	2,54	11
Extractor /cooker hood	3	6,0	3,00	9	29	7,0	2,27	11
Washing machine: top loader	12	6,2	3,95	15	23	5,0	1,87	9
Washing machine: front loader	4	6,8	2,87	10	7	6,9	2,67	11
Washing machine: twin tub	6	8,0	8,92	26	53	5,9	2,80	15
Dishwasher	4	5,0	2,44	8	0			
Tumble dryer	5	6,8	4,65	15	1	6,0		6
Microwave oven	38	4,2	2,19	10	70	4,3	1,61	10
Vacuum cleaner	46	5,1	2,90	20	41	4,8	1,75	12



younger group A could be ascribed to them being "out dated/ old fashioned" – as was indicated in the written projective technique.

Tables 3 and 4 expand ownership figures by indicating whether participants currently owned, had owned any of the listed appliances before. The tables also reflect the respondents' interest in and whether they would like to own certain appliances. The following became clear (Tables 3 and 4):

- ◆ Refrigerators and stoves were currently owned by more than 80% of both groups while more than 80% of group A (younger group) also currently own microwave ovens. More than 50% of group B (older group) currently own the latter and a noteworthy percentage expressed the need to have one in the future. About 70% of both groups currently own a washing machine. For both groups, top loaders seemed preferable to front loaders.
- ◆ Dishwashers and cooker hoods were the only appliances currently owned by less than 10% of the younger group while the lowest ownership figures for the older group were calculated for dishwashers and tumble dryers. Totalling the *present ownership* and *would like to own one in future* figures, however suggested that more than 80% of the sample would like to own these appliances eventually.

#### Reported versus expected service life of appliances

Tables 5 and 6 reflect the reported and expected service life figures that were indicated by the participants for a list of major appliances. The older consumer groups' expected service life figures were considerably higher than those of the younger group (Table 6). For both groups a discrepancy between *anticipated* and the *reported* service life figures and disappointingly low average service life figures were reported in general acknowledging an average life span for household appliances of 10 to 15 years. Certain appliances like stoves and refrigerators generally last even longer (LeBlanc, 1998). The significant difference between the *expected* and the *reported service life figures* may be indicative of several problems. Inexperienced consumers may for example be influenced by strong promotional messages and might develop unrealistic expectations, which are not met (Phau & Sari, 2004). This could be investigated further keeping in mind that more than 75% of appliance purchases the world over, are indeed *replacement purchases* (LeBlanc, 1998). Replacement purchases may however also be influenced by socio-economic variables, product characteristics and time factors. Higher income is generally associated with a higher probability of early replacements. Households that can afford it, often upgrade appliances that are still functional to acquire latest trends and new technology (Fernandez, 2001; Morelli, 2001). A great concern is the fact that participants indicated that it was more affordable to replace appliances than to have them repaired: service and maintenance costs are very high and must generally be paid for in cash while new purchases can be done using attractive credit facilities that allow generous pay back periods.

An average of 10 to 15 years was used as the norm for the average service life of major household appliances (Cooper, 1994; Cox *et al*, 1983:395). Replacement figures in this study revealed that most appliances are replaced within half of that period.

#### Quality judgment of appliances

Findings revealed a remarkable incongruity with respect to participants' personal rating of the importance of quality during the evaluation of household appliances and their apparent ability to do so. In a specific question only 12, 9% of the young inexperienced and 3,2% of the older inexperienced consumers indicated *quality per se* to be of *Little importance* or *No importance* during their evaluation of major appliances. The rest indicated quality to be *Important* or *Very important*.

#### Use of surrogate indicators for quality judgment

Participants were asked to react to twelve questions pertaining to their use of specific indicators during the judgment of the quality of major appliances in terms of always, sometimes and never. Table 7 reveals a substantial reliance on surrogate indicators in terms of the use of these indicators on an *Always* and *Sometimes* basis. *Brand name* was the only indicator apparently used *Always* to discriminate quality by the majority in both areas. The importance of brand name in terms of quality judgment confirms Dawar and Parker's findings (1994) that certain criteria are of universal importance irrespective of the country, culture or social status of consumers. They reported *brand name* to be most important, followed by *price* and then *retailers' reputation*. Lancaster's theory of consumer demand postulates that it is not the products itself that are the objects of utility (traditional theory) but that certain properties that are embodied in the products, are of greater concern (for example status that is supported through owning a desirable, admirable branded appliance). Findings also support Erdem *et al* (1999) who reported that materialistic values and consequent aspirations generally result in dominance of social factors (e.g. brand name) during product evaluation. In this research the indicators that were apparently least used by the younger inexperienced consumers to discriminate quality, were *design factors*; *advertising*; *recommendations of salespeople* (Table 7). It is noteworthy and even alarming that *salespeople* were also specified by the older group as the least used to indicate the quality of appliances. This may indicate a hesitancy to trust salespeople to assist them during the evaluation of products in store while this is supposed to be a perfect opportunity to facilitate consumers towards responsible buyer decisions.

#### Consumers' knowledge of functional and performance attributes of appliances

When confronted with specific questions relating to product evaluation and quality judgment in the knowledge test, both groups demonstrated an inability to conclude informed, responsible buyer decisions with respect to major household appliances. A mean score

**TABLE 6: AVERAGE EXPECTED SERVICE LIFE OF APPLIANCES IN YEARS (N=261)**

Appliance	Average expected service life of appliances (years)							
	Area A				Area B			
	n	Mean	Std Dev	Max	n	Mean	Std Dev	Max
Refrigerator	127	<b>9,9</b>	4,99	30	122	<b>15,4</b>	3,74	20
Separate freezer	104	<b>9,2</b>	4,78	30	69	<b>15,4</b>	4,10	20
Stove (hob & oven combined)	124	<b>9,9</b>	6,38	37	104	<b>15,86</b>	3,92	20
Separate oven plus hob	50	<b>9,4</b>	5,80	27	66	<b>14,4</b>	4,10	20
Extractor /cooker hood	82	<b>8,5</b>	4,05	25	65	<b>13,6</b>	4,50	25
Washing machine: top loader	104	<b>7,9</b>	3,97	27	65	<b>12,8</b>	4,10	20
Washing machine: front loader	69	<b>7,3</b>	2,95	15	49	<b>11,5</b>	3,78	20
Washing machine: twin tub	51	<b>7,3</b>	3,71	17	81	<b>12,5</b>	3,50	20
Dishwasher	89	<b>6,2</b>	3,56	20	41	<b>11,6</b>	3,95	20
Tumble dryer	103	<b>6,9</b>	2,62	15	42	<b>12,5</b>	4,74	20
Microwave oven	118	<b>6,4</b>	4,46	30	105	<b>13,5</b>	4,22	20
Vacuum cleaner	111	<b>6,4</b>	4,38	27	78	<b>12,3</b>	4,56	20

**TABLE 7: PERCENTAGE OF CONSUMERS USING DIFFERENT SURROGATE INDICATORS FOR QUALITY JUDGEMENT (n=261)**

Indicator	% of consumers					
	Area A (n=137)			Area B (n=124)		
	Always	Some-times	Never	Always	Some-times	Never
Price (more expensive considered better)	44,1	<b>51,5</b>	4,4	<b>64,5</b>	35,5	0
Country of origin (imported preferred)	22,1	<b>63,2</b>	14,7	42,7	44,4	12,9
Salespeople's recommendations	11,1	<b>60,7</b>	28,2	15,3	<b>63,7</b>	21,0
Brand names	<b>62,5</b>	32,4	5,2	<b>71,0</b>	22,6	6,5
Friends' and family's recommendations	32,4	<b>59,6</b>	8,1	16,9	<b>75,0</b>	8,1
Guarantee/ warranty	<b>61,0</b>	26,5	12,5	<b>79,0</b>	16,9	4,1
Design elements	14,0	<b>50,0</b>	36,0	48,4	34,7	16,9
Trendy	6,6	48,5	44,9	<b>50,8</b>	33,1	16,1
Widely advertised products	10,4	<b>64,4</b>	25,2	14,6	<b>73,2</b>	12,2
Locally manufactured	27,9	<b>64,0</b>	8,1	35,5	<b>55,7</b>	8,9
Retailers reputation/image	<b>66,9</b>	26,5	6,6	<b>71,8</b>	24,2	4,0

\*\*\* All **bolded figures** indicate use by more than 50% of the participants in that area; shaded areas indicate the least used criteria

**TABLE 8: MEAN SCORES FOR THE PRODUCT KNOWLEDGE TEST (N=261)**

Area	Mean % correct	Std Dev	Max % correct	Years of experience with electricity irrespective of area**	Mean % correct	Std dev	Max % correct
Area A (n=137)	32,21	10,4199	52,38	5 years and less (n=25)	27,83	13,0331	61,90
Area B (n=124)	29,15	10,8825	61,90	6-10 years (n=104)	30,06	9,2994	57,14
				11-15 years (n=78)	32,25	12,9422	61,90
				Lifelong (n=51)	44,17	16,3686	100

\*\* Included a third group of more experienced consumers in terms of experience with electricity and ownership of appliances. This group was recruited in Tshwane in middle socio-economic suburbs and their results are included only to illustrate the effect of experience with electricity on an increase in product knowledge.

below 33% does not convince that any of the groups possessed the structural knowledge of functional and performance attributes of appliances to transform stimuli in terms of informed product choices that would represent informed, responsible buyer decisions. No significant difference could be found between the mean scores of the younger group A versus the older group B ( $p < 0,05$ ). The procedure was repeated to indicate the influence of years of experience on their knowledge, irrespective of area of residence. The Kruskal-Wallis test revealed that there was no significant difference in the knowledge status of comparative groups from the different areas for all with 15 years or less experience ( $p < 0,05$ ) although the mean score did improve with more years of experience. Those with lifelong experience with electricity, however, performed significantly better than the other groups ( $p < 0,05$ ). This confirms the theory of product related consumer socialization that proposes an increase in product knowledge over time with product experience. Unfortunately the mean average for the group with lifelong experience with electricity was still disappointingly low (44,17%) – to the extent that it would probably not support informed buyer decisions.

From participants' mean score for questions pertaining to specific performance and functional attributes of the most common appliances (refrigerators, washing machines, stoves, separate ovens and hobs, tumble dryers, dishwashers and vacuum cleaners), it became clear that consumer decisions would probably not be based on rational utilitarian evaluative criteria (e.g. the majority did not know that most upright automatic washing machines draw hot water from the geyser and barely one third of the participants knew that a vacuum cleaner's wattage is higher than that of a refrigerator). Reliance on surrogate indicators during quality judgment was evident for both consumer groups. Brand names seem to be the single most important signifier of quality for all. The following illustrate the results for selected questions that were included in the knowledge test. Figures in brackets indicate the mean scores for groups A and B respectively:

- ◆ The rotation speed of a tumble dryer will influence its effectiveness (8,9%; 3,3%).
- ◆ A ceramic glass hob will crack if cold water is spilt

on the hot surface (39%; 38,7%)

- ◆ A dishwasher with a concealed element is less likely to produce an electric shock than one with a visible element (3, 2%; 4,1%).
- ◆ 800 rpm is a particularly high rotation speed for a washing machine (16,3%; 5,7%).

The younger group A probably scored better than the older group B, because of more extensive experience with electricity (Table 1) and opportunities through improved education in recent years. Participants' ignorance in terms of basic properties were evident: less than 10% of any of the groups understood that the rotation speed of a tumble dryer has no bearing on its effectiveness and less than 5% understood the merit of a concealed element in a dishwasher (which would also be relevant in terms of kettles).

## CONCLUSION

The results supported the initial notion that limited consumer socialization may result in, and even necessitate inexperienced consumers' reliance on surrogate indicators of quality, such as price, brand name and store image, as compensation for lack of appropriate product knowledge (Dawar & Parker, 1994; Kanwar & Pagiavlas, 1992; Williams, 2002). Unfortunately the use of surrogate indicators of quality does not necessarily imply informed, responsible buyer behaviour. This means that consumers who rely on so-called surrogate indicators of quality do not necessarily understand the consequences of their purchase decisions and may not necessarily be aware of their responsibilities regarding the use and maintenance of appliances.

The results also confirmed limited product knowledge for both the younger and older inexperienced consumer groups, which confirmed a probable inability to conclude informed, responsible buyer decisions among members of these groups. Further evidence that appliances are generally prematurely replaced within half of their expected service life-period and prematurely in terms of suggested service life figures for major household appliances, confirms the paradox of progress that previously disadvantaged consumers

are faced with on an everyday basis. On the one hand, these consumers demonstrate and admit the need, ambition and financial ability to acquire major household appliances for personal use, but on the other hand these purchases, which represent various kinds of risk (e.g. functional-, financial-, performance-, social- and even safety risk) require an ability to make informed, responsible buyer decisions, which these buyers often lack. Limited product-related consumer socialization prevents these buyers from formulating relevant purchase criteria. Although participants apparently trusted certain retailers/dealers, they are also hesitant to consult salespeople for assistance in the sales environment. This highlights a desperate need for proper, focused consumer facilitation by properly trained, trustworthy individuals. It further suggests a need for cooperation between retail and industry to address the situation, which is an area where professionals in Consumer Science could make a valuable contribution. Almost two decades ago, Elias (1987), when discussing changes in household technology, projected that consumer facilitation would shift from "helping people to use technology" to "solving problems that are created by technology". Judging from the findings of this study, these words may have come true in the twenty-first century.

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