Path Modeling The Antecedent Factors To Consumer Repurchase Intentions For Advanced Technological Food Products: Some Correlations Between Selected Factor Variables

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ABSTRACT

The major objective of this study is to test a model that explains consumer repurchase intention for technological advanced food products in developing economies. We address the core research themes of our study using a survey of 800 Greek households. Our intention is to test consumers' perceptions in order to investigate the potent influence of some set of variables, (discussed in the consumer research literature), in order to analyze repurchase intention for technological advanced food products in developing economies. The proposed model is not intended to explain all consumption behavior related to alternative food products. We believe that the final findings of our research can advance retailers' strategic tries as it seems that geographical differentiation is needed to be considered, in terms of pricing and promotion planning at a store level in developing countries.

INTRODUCTION

Some studies have concentrated on determining the basic antecedent variables to repurchase intention for food products such as Tomlison (1994) and van der Pol and Ryan (1996). Mai and Ness (1999) study has considered the critical encounters and relationships between these variables.

Furthermore, a consumer behavior model, which holistically defines the processes by which consumers make a choice between several competing brands or producers, is still to be developed. Some progress in this direction has been made by the evaluation of known alternatives being factored into consumer assessments (mostly in the service industry), via the disconfirmation of expectations (Bearden and Teel, 1983; Bolton and Drew, 1991; Boulding et al. 1993; Cadotte et al., 1987; Oliver 1980; Oliver and Bearden, 1985). While this approach measures the difference between pre and post consumption assessments, it provides only a partial explanation of how consumer retention mechanisms might operate.

The major objective of this study is to test a model that explains consumer repurchase intention for technological advanced food products in developing economies.

We address the core research themes of our study using a survey of 800 Greek households. Our intention is to test consumers' perceptions in order to investigate the potent influence of some set of variables, (discussed in the consumer research literature), in order to analyze repurchase intention for technological advanced food products in developing economies. The proposed model is not intended to explain all consumption behavior related to alternative food products.

The basis of our research model is derived from the repurchase intention analysis by Hellier et al. (2003). The theoretical basis of the research model is derived from several sources. The model is developed from the satisfaction, attitude and intention relationships examined by Oliver (1980, 1981), from the analyses of consumers' understanding of genetic modification technology by Frewer et al., (1994), Miller and Huttner (1995) and Jones (1996) and from the analyses of consumers' understanding of products' environmental friendliness by Sriram and Forman (1993).

RESEARCH ON REPURCHASE INTENTION FOR FOOD PRODUCTS

Brand Preference Upon Repurchase Intention

The relationship between consumer's attitudes with respect to a generic product and the evaluations they carry out of a specific product is double. On the one hand, the models that estimate an individual's attitude towards a product according to his/her perceptions - weighted or not - regarding a set of relevant attributes are well known. The pioneering and most outstanding models from this approach are those of Rosenberg (1960) and Fishbein (1963). Despite the immense influence of these models, a period of discussion with respect to aspects such as the importance certain non-cognitive antecedents may have in the generation of attitudes was initiated. It has been previously mentioned the increasing role affective processes are being granted. In fact, regarding to this question, some empirical evidence of the independence of these factors with respect to the cognitive ones has already been obtained (for example, in a recent article by Kim et al., 1998). Nevertheless, the discussion process is still alive as it is shown by the interesting debate held by Fishbein and Middlestadt (1997) with some of their critics like Miniard and Barone (1997).

On the other hand, the causal relationship between attitudes and evaluation may have the inverse direction. Thus, it is predictable that previous attitudes towards a product category may also affect the specific perceptions an individual obtains from a particular offer or brand. In this respect, Gardner (1985) showed that a consumer's affective responses are capable of influencing cognitive processes such as product evaluation or its recollection. In some other more recent studies, results that support this hypothesis were obtained. In this way, Allen et al. (1992) observed the effect of emotions on the cognitive component of attitudes (measured as opinions) and the influence of both dimensions on behavior. Also Kelley and Hoffman (1997) confirmed that the positive affects felt by the consumer when a product or service is provided affect the evaluation this one makes of its quality. Likewise, the theories about the distortion of information explain the differences among individuals when it comes to perceiving and evaluating products (Meloy 2000). On the other hand, previous global evaluations the consumer has made of the product influence posterior evaluations and purchase decisions (Lynch et al., 1988).

Consumer Satisfaction Upon Repurchase Intention

A direct positive relationship between consumer satisfaction and repurchase intention is supported by a variety of product and service studies (Anderson and Sullivan, 1993; Bolton, 1998; Fornell, 1992; Oliver, 1980; Woodside et al., 1989). These studies establish that overall consumer satisfaction is strongly associated with the behavioral intention to return to the same product or service provider. However, it must be kept in mind that the direct positive relationship of satisfaction upon repurchase intention is a simplification of the matter. While consumer satisfaction is a major factor, it is only one of the many variables that can impact upon consumer repurchase intention (Jones and Sasser, 1995; Srinivasan, 1996; Storbacka et al., 1994).

Perceived Value Upon Repurchase Intention

Kuznesof and Ritson (1996) suggest that the acceptability of genetically modified (GM) products increases with, among other things, higher use, perceived benefits, and perceived increase in quality of the product (particularly taste and naturalness). Frewer's (1997) results showed that perceived benefits had the most important influence on consumer purchase decisions, such as environmental impact and health-related concerns. Steenkamp (1989) and Kyriakopoulos and Oude Ophuis (1997) maintained that the concepts of perceived value can be applied to organic food research and have provided useful insights into buying behavior. Kyriakopoulos and van Dijk (1997) also applied the concepts of perceived value when examining how consumers form their purchase intentions for organic

extra virgin olive oil. They have presented a model for the evaluation of organic foodstuff at the "postconsumption" level.

Perceived Quality Upon Repurchase Intention

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Perceived Technological Risk Upon Repurchase Intention

Holm and MØhl study (2000) identified that the buying choice among relative meat products is determined by the way in which meat is produced and processed in modern agriculture and industry

BACKGROUND STUDY

It is generally recognized that, despite the green trend in consumer values and attitudes, there are still different barriers to the diffusion of the ecologically oriented food consumption style. The barriers of technological advanced food consumption stressed in the marketing literature include, for example, consumers' reluctance to pay higher costs, not only in money but also in time and effort, usually associated with organic products, and their unwillingness to accept sacrifices in the subjectively perceived quality of the organic variant.

In addition to this difficulty associated with conflict between personal and environmental benefits, technological advanced food consumption is restrained by the complexity of the information related to the characteristic associated to products and the impact of the mode of production on the environment.

Food Choice Decisions And Food Consumption Behavior

Food choice is often influenced more by the psychological interpretation of product properties than the physical properties of products themselves (Rozin et al., 1986). Perception of food safety risk is one such psychological interpretation, which influences the attitudes and behavior of consumers with respect to the purchase of food products. Thus, perception of food safety risk has consequences for both consumer and producer welfare, and the overall effectiveness and efficiency of the food supply chain. This is especially the case where there is considerable divergence between what might be called objective, technical assessments of risk and subjective, psychological assessments of risk. Such divergence may arise because of inadequacy of risk communication systems and/or a loss of confidence or trust in the food supply chain and its various agents, including regulators.

Through their food choice decisions and consumption behaviour, consumers may be exposed to a number of potential food hazards, associated with different degrees of harm. These can be related to diverse factors such as farming methods, food processing techniques, hygiene standards in the home and in the catering sector, lack of personal and/or expert knowledge (about, for example, the extent of the risk, or health protection mechanisms) and the availability of information. People's behaviors and associated attitudes towards a particular hazard are driven more by psychologically determined risk perceptions than the technical risk estimates (such as mortality rates). Research has consistently demonstrated that factors such as whether a given hazard is dreaded or worried about, perceived to be involuntary, unnatural or potentially catastrophic determine public perception of potential hazards (Sparks and Sheperd, 1994; Fife-Schaw and Rowe, 1996; Kuznesof and Ritson, 1996; Frewer at al., 1998; Marris et al., 1998). Risk perception can also be influenced by personal experience with a hazard (Barnett and Breakwell, 2001), and by affective factors, such as "worry" (Baron et al., 2000) and level of "anxiety" (Bouyer at al., 2001). It is these psychological factors, which determine people's risk-taking or self-protective behaviors.

There is some evidence of a difference between expert and public perceptions of the risks of food hazards (see Rowe and Wright, 2001). For example, whilst food safety experts judge microbiological hazards to be the main risk to health from food, public perception of the risk of microbiological hazards is considerably lower than the perceived risk of other potential hazards like pesticides and food additives (Brewer at al., 1994). In the past, expert groups have complained that public priorities for risk mitigation activity are different from those promoted by expert communities. However, Frewer and Salter (2002) argue that the "firewalls" created between expert groups and the wider public is no longer appropriate in a climate of regulatory transparency and information availability. The rise of the "consumer citizen" and informed consumer choice, and the diminished role of the "expert" as a result of the wide availability of specialist information also contribute to this conclusion. Regulators need to take account of both consumer priorities for risk mitigation and technical risk estimates when managing the risks associated with food hazards. Thus, it is necessary to understand exactly what consumers are worried about.

Early research into public risk perception focused on the nuclear industry and issues of power plant safety and radioactive waste management, and as such, focused on technological risks and regulatory institutions with responsibility for risk management within this hazard domain. Typically, comparisons were made between technological risks and risks that occurred naturally, the policy community frequently arguing that public responses to technological risk were out of proportion to their true potential for harm [see for example, Adams (1998), for discussion]. The assumption has been, therefore, that the public conceptualizes technological and naturally occurring hazards in fundamentally different ways. Research into risk perception and technological hazards (such as nuclear power, food irradiation, genetic modification of food) has focused on technology acceptance, whereas research into lifestyle hazards (such as individual nutrient consumption, hygiene practices and cigarette use) has focused on behaviour change.

There is evidence that public perception of different food safety issues (such as food poisoning, fat consumption, chemical residues in food, and genetically modified food) is characterized by quite different risk "profiles" (e.g. Frewer et al., 1994; Sparks and Shepherd, 1994; Fife-Schaw and Rowe, 1996; Miles and Frewer, 2001; Kirk et al., 2002). Food hazards can be classified as falling into a number of categories, including "technological" or "lifestyle", in terms of how they are perceived by consumers. The existence of such a classification has not, to date, been subject to rigorous empirical testing. There is evidence in the food domain that there are differences in perception of technological and lifestyle hazards, such that people believe that they have more knowledge and more personal control over lifestyle hazards than technological hazards; furthermore, some lifestyle hazards are judged to pose less of a risk than technological hazards (Frewer et al., 1994).

Technological Risk For Food Products

According to Yeung and Morris there are three (3) types of food risks: (a) microbiological risk, (b) chemical risk and (c) technological risk. Technological risk refers to the possible negative consequences of technological advancements in food products, such as genetic modification (GM) of food. Technology has contributed multiple benefits in terms of food safety and increased food availability in general (Marshall, 1994; Buckland, 1997). There may also be public health risks associated with potential toxic or allergic effects of the GM organisms or environmental effects resulting from the accidental release of GM organisms (Ford and Murphy, 1998). Most people have a limited understanding of GM technology because it is novel and complex (Frewer et al., 1994; Miller and Huttner, 1995; Jones, 1996). There is diversity of opinion expressed by scientists and other experts of the possible implications for public health (NOI, 1999a, b) and this scientific debate can raise the sense of uncertainty about GM foods amongst a less informed public (Gregoriadis, 1999; Pollack, 1999; Weiss, 1999).

People tend to be suspicious of new technologies, often perceiving that the risks will outweigh the potential benefits, especially when the relative advantage of the technology is untested or unclear (Frewer and Shepherd, 1998). It is difficult to predict how consumers will accept new products and processes (Clarke and Moran, 1995). In situations where the public is relatively uninformed, public attitudes are often dependent on the type and level of media coverage (Miles and Frewer, 1999). Indeed, the popular press in particular has often plugged the information gap in some cases, some would argue, more with a view to selling copy than increasing the knowledge base of their readership. Thus, while the public may be more informed, they may be none the wiser. Indeed, the European context

compares interestingly with that of the USA where consumers have been less aware of GM inputs into the food chain. In the USA, in the case of food additives such as soya, GM food technology has been less of an issue; at least until US GM exports were challenged in European markets (Jacobs, 1999). In an increasingly global market, food safety has become an integral part of the traded commodity, and global markets have served to raise general levels of awareness and concern.

Why The Existed Models Of Consumer Behavior Can't Explain Food Consumption Internationally?

Many behavioral theories, like theories about human needs, motivational processes, social comparison theory, social learning theory, theory of reasoned action and so on, all explain parts of the processes that determine consumer behaviour.

Throughout history our food consumption patterns have been changing continuously. Remarkable changes took place as regards the type of foods we eat (e.g. the introduction of the potato in Europe, the consumption of organ meat), the way we grow our food (e.g. the introduction of pesticides, bio-industry), how we process our food (e.g. frozen food, microwaves) and our table manners (e.g. the introduction of the fork in medieval Europe, fast food). All these changes more or less slowly conquered the food consumption habits of the masses, may it be in centuries (the use of the fork) or within a decade (the microwave). Many factors determine the speed and degree to which such changes diffuse through the population. Theory on the diffusion of innovation provides an inventory of the factors that affect the rate of adoption of this diffusion process. Moreover, this theory draws a perspective on consumer characteristics that determine if people are "innovators", or belong to the group of people that follow later in adopting a new practice.

An extensive review of the literature reveals that there is no simple framework that lends itself to a comprehensive study of consumer behavior in international markets. Problems with the existing frameworks make it essential to provide some structure to the study of consumer behavior across cultures. The Raju's model (1995) for consumption processes in developing economies, such as Eastern Europe, is considered in our study.

Considering The Raju's A-B-C-D Paradigm For The Study

Several comprehensive theories/models have been developed within the field of consumer behavior (Engel at al., 1968; Engel et al., 1995; Howard and Sheth, 1969; Nicosia, 1966). Models have also been developed for specific contexts, such as for family decision-making (Sheth, 1974) and information processing (Bettman, 1979). These theories/models have played an important role by detailing how various factors influence consumer behavior. However, the complexity of these models and the difficulties inherent in the operationalization of the numerous concepts has made their application in the international context especially difficult.

An extensive review of the literature reveals that there is no simple framework that lends itself to a comprehensive study of consumer behavior in international markets. Problems with the existing frameworks make it essential to provide some structure to the study of consumer behavior across cultures. Raju (1995) states that there are four sequential stages to represent the purchase and consumption processes in developing economies. These four stages are termed access, buying behavior, consumption characteristics, and disposal (with the acronym A-B-C-D). The A-B-C-D model provides a comprehensive framework for marketers to analyze consumer behavior findings (based on the particularities of Eastern Europe markets).

Research On The Cross-Cultural Differences In Attitudes In Food Consumption Between Consumers From Developed And Developing Economies Of EU Member States: The Case Of Organic Food Consumption

Research indicates that, while there is some evidence of cross-cultural differences in attitudes across different EU Member States (Gaskell et al., 2000; Gaskell et al., 1998; Saba et al., 1998; Schoderer et al., 1999), public perception of genetically-modified food across Europe tends to be negative. Genetically-modified food is associated with (unintended, particularly long term) risks for personal health and human health in general, risks to the environment, to future generations and to animal welfare. Genetic modification is seen as unnatural and unnecessary.

An extra dimension not found with many other food safety issues is the presence of moral and ethical concerns influencing perception. There are concerns that the various sectors of the food industry will consider profit over and above safety. There is also some societal cynicism about the adequacy of current regulations, and a preference for accountable regulatory structures. Additionally, people want public consultation about biotechnology (Gaskell et al., 2000; Saba et al., 2000; Gaskell et al., 1998; Scholten et al., 1991; Frewer et al., 1994).

The attitudes of European consumers are not ubiquitously negative. For example, the public recognize the *potential* for benefits associated with genetically-modified food (Miles and Frewer, 2001). The acceptability of specific products is contingent on whether specific benefits are actually desired by consumers, and who is perceived to be the recipient of such benefits. For example, benefits related to consumer safety or health, the environment, animal welfare, or reduced cost is appreciated by consumers, and benefits for the food industry are not (Frewer et al., 1997; Frewer et al., 1996). There is evidence that information about potential benefits does improve consumer acceptance of genetically-modified food (Lusk et al., 2004; Rowe, 2004). Furthermore, for some people the absence of perceived benefits is enough to lead to rejection of genetically-modified food (Gaskell et al., 2004).

HYPOTHESES & RESEARCH MODEL

We adopt the following definition for *repurchase intention*: "The consumer's judgment about buying again a designated food product from the same company, taking into accounts his or her current situation and likely circumstances" (Hellier et al., 2003).

Figure 1
The research model:
A Repurchase Intention Analysis for Technological Advanced Food Products
in Developing Economies

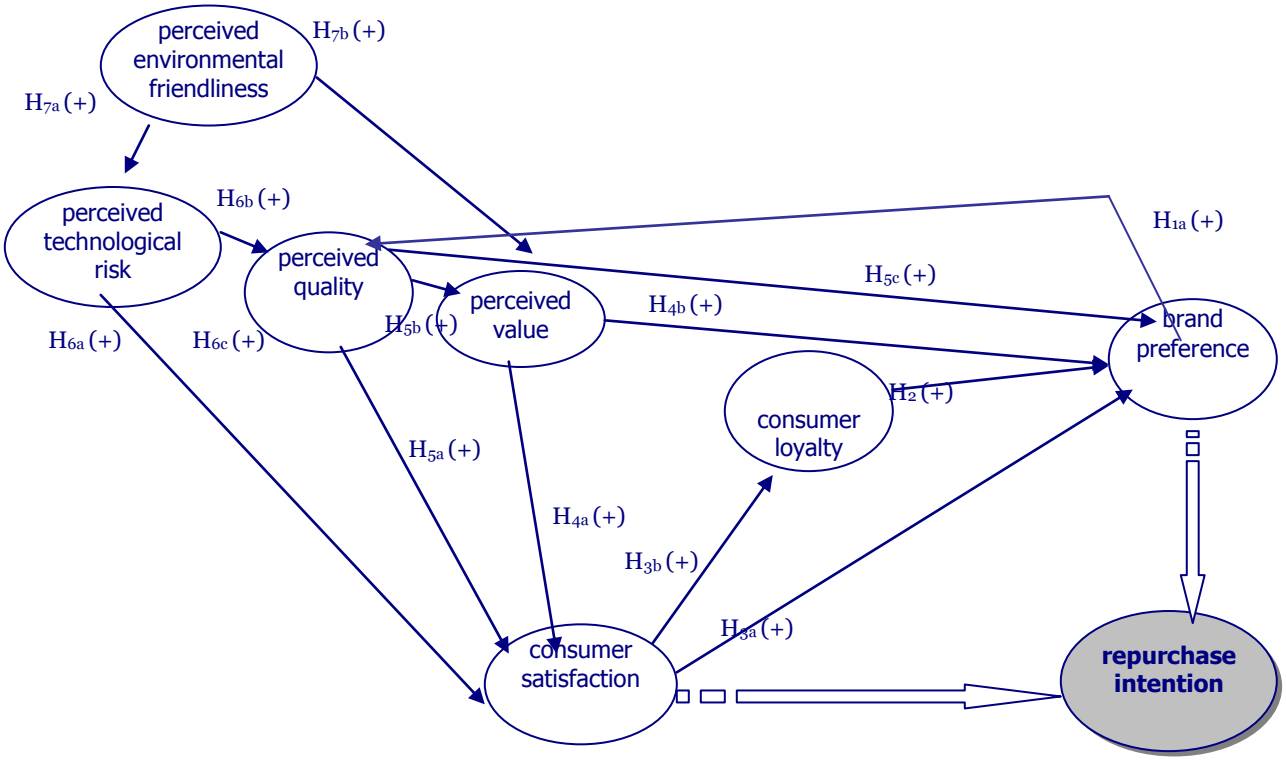


Figure 2
The structural model:

Constructs	Definition	References
1. Brand preference	The extent to which the consumer favors the designated food product provided by his or her present food producer, in comparison to the designated food products provided by other food producers in his or her consideration set.	Leuthesser et al. (1995); von Alvensleben (1997)
2. Consumer loyalty	The degree to which the consumer has exhibited, over recent years, repeat purchase behavior of a particular food producer; and the significance of that expenditure in terms of the consumer's total outlay on the particular food product.	Gannon and Sterling (2004)
3. Consumer satisfaction	The degree of overall pleasure or contentment felt by the consumer, resulting from the ability of the food product to fulfill the consumer's desires, expectations and needs in relation to the food product.	Mai and Ness (1999); Connor (1999)
4. Perceived value	The consumer's overall appraisal of the net worth of the food product, based on the consumer's assessment of what is received (benefits provided by the food product), and what is given (costs or sacrifice in acquiring and utilizing the food product).	Frewer (1997); Steenkamp (1989); Kyriakopoulos and Oude Ophuis (1997)
5. Perceived quality	The consumer's overall assessment of food product's attributes (cues are used by the consumer to evaluate the performance of the food product).	Becker (2000); Carlton and Perloff (1994)
6. Perceived technological risk	The consumer's overall assessment of possible negative consequences of technological advancements in the food product.	Frewer and Shepherd (1998); Rozin et al., (1986)
7. Perceived environmental friendliness	The consumer's overall assessment of the environmental friendliness of the food product.	Reijnders (2004); Szmigielski and Sobiczewska (2000)

The basis of our research model is derived from the repurchase intention analysis by Hellier et al. (2003). The theoretical basis of the research model is derived from several sources. The model is developed from the satisfaction, attitude and intention relationships examined by Oliver (1980, 1981), from the analyses of consumers' understanding of genetic modification technology by Frewer et al., (1994), Miller and Huttner (1995) and Jones (1996) and from the analyses of consumers' understanding of products' environmental friendliness by Sriram and Forman (1993).

The research model is used to test the following hypotheses: *H1(a).*=The strength of brand preference has a direct positive effect on perceived quality. *H2.*=Consumer loyalty has a direct positive effect on brand preference. *H3(a).*=Consumer satisfaction has a direct positive effect on brand preference. *H3(b).*=Consumer satisfaction has a direct positive effect on consumer loyalty to the food producer. *H4(a).*=Perceived value has a direct positive effect on consumer satisfaction. *H4(b).*=Perceived value has a direct positive effect on brand preference. *H5(a).*=Perceived quality has a direct positive effect on consumer satisfaction. *H5(b).*=Perceived quality has a direct positive effect on perceived value. *H5(c).*=Perceived quality has a direct positive effect on brand preference. *H6(a).*=Perceived technological risk has a direct positive effect on consumer satisfaction. *H6(b).*=Perceived technological risk has a direct positive effect on perceived quality. *H7(a).*=Perceived environmental friendliness has not a direct positive effect on perceived technological risk. *H7(b).*=Perceived environmental friendliness has a direct positive effect on perceived value.

Brand Preference Upon Perceived Quality

Research works on the halo effect have revealed the causal relationship between attitudes towards a brand and the perceptions the individual has of the product sold under this brand (e.g. Leuthesser et al., 1995). Specifically, in the field of agro-food products, it has been proved that attitudes towards a brand may even effect the perception of

the taste of food (von Alvensleben, 1997): *H1(a).*=The strength of brand preference has a direct positive effect on perceived quality.

Consumer Loyalty Upon Brand Preference

Consumers attempt to reduce the perceived risk by buying a well-known brand, seeking additional information and repeating the purchase of the brand that has provided satisfaction (Perry and Hamm, 1969; Roselius, 1971). The use of consumer loyalty segmentation in a firm's marketing strategy also increases the likelihood of a positive relationship between past patronage and present brand preference (Pritchard, 1991). The causal link between past repeat purchase and current brand preference may also be the result of consumer inertia (Roy et al., 1996): *H2*.=Consumer loyalty has a direct positive effect on brand preference.

Consumer Satisfaction Upon Brand Preference

Consumer satisfaction can influence attitudinal change (e.g. food product and food supplier preference), which in turn affects repurchase intention (Innis, 1991; Oliver, 1980; Oliver and Bearden, 1985; Stauss and Neuhaus, 1997). A high level of satisfaction is likely to increase the probability that the brand in question will be retained in the consumer's consideration set and will increase the consumer's preference for the brand (Westbrook and Oliver, 1981): *H3(a).*=Consumer satisfaction has a direct positive effect on brand preference.

Consumer Satisfaction Upon Consumer Loyalty

The positive relationship between consumer satisfaction and repurchase behavior has been challenged in the literature (Andreassen and Lindestad, 1998; Colgate et al., 1996; Fornell, 1992; Liljander and Strandvik, 1995; Srinvasan, 1996; Stauss and Neuhaus, 1997; Storbacka et al., 1994).

It has also been found that while dissatisfaction encourages switching, satisfaction does not ensure consumer commitment and loyalty (Danaher and Mattson, 1998; Heskett et al., 1994; Mittal and Lassar, 1998; Söderlund, 1998; Stum and Thiry, 1991). Bloemer and de Ruyter (1998) and Bloemer and Kasper (1995) have established that the positive relationship between satisfaction and loyalty is moderated by the extent to which consumers undertake brand expectation-performance comparisons: *H3(b).*=Consumer satisfaction has a direct positive effect on consumer loyalty to the food producer.

Perceived Value Upon Consumer Satisfaction

Recently, conceptual frameworks have been developed that integrate consumer perceived value and consumer satisfaction (Liljander and Strandvik, 1995; Storbacka et al., 1994). To date, however, only a small number of studies have provided empirical evidence of the causal links between perceived value and satisfaction (Andreassen and Lindestad, 1998): *H4(a).*=Perceived value has a direct positive effect on consumer satisfaction.

Perceived Value Upon Brand Preference

The relationship between consumer's attitudes with respect to a generic product and the evaluations they carry out of a specific product is double. On the one hand, the models that estimate an individual's attitude towards a product according to his /her perceptions - weighted or not - regarding a set of relevant attributes are well known. On the other hand, the causal relationship between attitudes and evaluation may have the inverse direction. Thus, it is predictable that previous attitudes towards a product category may also affect the specific perceptions an individual obtains from a particular offer or brand (Sanzo et al. 2003): *H4(b).*=Perceived value has a direct positive effect on brand preference.

Perceived Quality Upon Consumer Satisfaction

The literature has thoroughly tested the positive effect that perceptions about a product quality exercise on satisfaction (Anderson and Sullivan, 1993; Fornell *et al*., 1996; Spreng and Mckoy, 1996). The study of this relationship between perceived quality and satisfaction has been generally carried out in a global way so that the effects of the different perceived quality dimensions have not been analyzed separately. The individual consideration of these effects involves a more comprehensive knowledge and, consequently, it will allow improving the decision-making aimed at increasing consumer satisfaction. It seems reasonable to expect that each of the perceived quality dimensions will have a positive effect of different intensity on satisfaction. On the other hand, it is admissible that consumers may have different preferences with respect to which aspects of a product quality need to be improved, and, to what extent, to obtain a more satisfactory product.

Nevertheless, there exist certain factors that may affect quality perceptions and their relationship with satisfaction. Some of them, like affects and mood states, are receiving considerable attention in the literature. However, the effects of other possible elements related to previous attitudes towards a product category have not been sufficiently studied yet (Sanzo et al., 2003).: *H5(a).*=Perceived quality has a direct positive effect on consumer satisfaction.

Perceived Quality Upon Perceived Value

The listed types of quality, according to the *product attribute approach* are: a. *search quality* (quality attribute cues which become available at the time of shopping), and b. *experience quality* and c. *credence quality.* Although the concepts of search, experience, and credence quality are well established, their definition is ambiguous. In particular, the credence quality attributes sometimes are defined differently in the literature. *Search* and *experience quality* are both introduced by Nelson (1970), who was influenced from the *optimal search* literature and in particular by Stigler (1961). According to Nelson, shopping for a search quality good in several shops will increase the probability of finding a shop offering the good at a comparatively low price. The more shops are visited, the lower the expected best price available for the agent in one of the shops visited. In the case of experience goods, the agent has not only the usual search cost, but also the cost of testing the good. According to Nelson (1970), these costs have to be added: "Marginal cost will be different in the experience case from that of search ... the marginal cost of an experiment is the loss in utility from consuming a brand at random rather than using the best brand that one has already discovered". Regarding to the economic literature on *credence quality* goes back to Darby and Karni (1973), who introduced the following distinction among *search*, *experience* and *credence quality:* "We distinguish then three types of qualities associated with a particular purchase: search qualities which are known before purchase, experience qualities which are known costlessly only after purchase, and credence qualities, which are expensive to judge even after purchase". Relative to this concept is Anderson's and Philipsen's one (1998), who classify the quality features according to pre-purchase (pre-costs) and post-purchase (post-costs) of quality detection: *H5(b).*=Perceived quality has a direct positive effect on perceived value.

Perceived Quality Upon Brand Preference

A review of the literature reveals a fairly substantial number of studies dealing with various aspects of own-label shopping, including the assessment of the perceived quality of own-label products offered by the retailers (Senker, 1987; Ellis, 1988; Omar, 1992): *H5(c).*=Perceived quality has a direct positive effect on brand preference.

Perceived Technological Risk Upon Consumer Satisfaction

People tend to be suspicious of new technologies, often perceiving that the risks will outweigh the potential benefits, especially when the relative advantage of the technology is untested or unclear (Frewer and Shepherd, 1998). It is difficult to predict how consumers will accept new products and processes (Clarke and Moran, 1995). In situations where the public is relatively uninformed, public attitudes are often dependent on the type and level of media coverage (Miles and Frewer, 1999). Indeed, the popular press in particular has often plugged the information gap in some cases, some would argue, more with a view to selling copy than increasing the knowledge base of their

readership. Thus, while the public may be more informed, they may be none the wiser. Indeed, the European context compares interestingly with that of the USA where consumers have been less aware of GM inputs into the food chain. In the USA, in the case of food additives such as soya, GM food technology has been less of an issue; at least until US GM exports were challenged in European markets (Jacobs, 1999). In an increasingly global market, food safety has become an integral part of the traded commodity, and global markets have served to raise general levels of awareness and concern: *H6(a).*=Perceived technological risk has a direct positive effect on consumer satisfaction.

Perceived Technological Risk Upon Perceived Quality

Theoretical frameworks have been put forward to explain how different factors interact to determine food product quality judgments. Perceptions of fresh food products' quality are likely to reflect the ways in which consumers' process information (Becker, 2000). According to the "perceived quality" approach certain cues are used by consumers to predict product quality attributes (Northen, 2000). Product attributes can be categorized according to whether they relate to the production process, including animal welfare and food safety issues or to specific product attributes associated with nutritional content, sensory factors, and product image (Caswell et al., 1998). Taking into consideration Holm's and MØhl's study (2000) about buying choices among relative meat products (determined by the way in which meat is produced and processed in modern agriculture and industry): *H6(b).*=Perceived technological risk has a direct positive effect on perceived quality.

Perceived Environmental Friendliness Upon Perceived Technological Risk

Different factors affect perception of risk associated with various health-related and technological hazards (Drottz-Sjober, 1991). Societal risks (that is, risks which may be perceived as having widespread and generalized consequences should they occur) are perceived to have relatively low threat for the self, greater for other people, and greatest for society. This type of effect, where individuals believe that negative events are relatively unlikely to happen to them, has been termed "optimistic bias" by Weinstein (1986), (1987): *H7(a).*=Perceived environmental friendliness has not a direct positive effect on perceived technological risk.

Perceived Environmental Friendliness Upon Perceived Value

Reijnders study (2004) stress that food safety is a major public concern, especially in EU, following mishaps in the animal feed industry. These are associated with the handling of wastes. Financial gains to those responsible have been outweighed by economic losses. Reijnders study (2004) lists the safety risks, which include the presence of infectious bacteria and viruses, mycotoxins, additives, substances derived from packaging and conversion products originating in food processing. Present risks and presumable trends in food safety are highlighted in this study. Substantial improvement of food safety is possible. In part, such improvement is linked to environmental improvement, but there are also cases in which reductions in risk may increase the environmental burden of food supply. Improvement of food safety often entails increased costs. Major retailers and food producers apparently feel that consumers are willing to pay for substantially improved food safety: *H7(b).*=Perceived environmental friendliness has a direct positive effect on perceived value.

RESEARCH METHOD

The major objective of this study is to test a model that explains consumer repurchase intention for technological advanced food products in developing economies. We address the core research themes of our study using a survey. Our intention is to test consumers' perceptions in order to investigate the potent influence of some set of variables, (discussed in the consumer research literature), in order to analyze repurchase intention for technological advanced food products in developing economies. The proposed model is not intended to explain all consumption behavior related to alternative food products.

Participants, Procedure & Data Collection

The stratified random sample (see Table 3) included 800 Greek households. The sample size was determined with the goal of obtaining at least 100 respondents from each of the eight (8) largest cities (Athens, Thessalonica, Patras, Larissa, Chania, Edessa, Volos and Agrinio). Our intention is to reach consumers with different experiences, attitudes and level of knowledge for technological advanced food products. Data was collected by means of face-to-face interviews during the 8,5-week period. In total, 800 respondents (which were responsible for shopping meat products for their households) were asked to participate, and no one declined to take part to the study. Percent distribution of population by age groups has been considered (source: National Statistical Service of Greece).

A stratified random sample survey approach was adopted so that various subgroups according to the following contexts: a. decision-making and b. information processing were adequately represented in the sample. To ensure that respondents with reasonable experience of consuming meat products were included in the survey, 50 per cent of those selected for survey were consuming meat every day. Conversely, 50 per cent of those selected for survey were consuming meat once a week. The survey was stratified by sex, to control for an over or under-representation of respondents (58% women and 42% men).

The response rate was 100%. The participants in the study were 800 consumers, which were responsible for shopping meat products for their households. About fifty-eight (57,8%) were women and about forty-two (41,5%) were men. About nine (8,9%) aged less than 20, about thirty-seven (37,3%) aged 21-30 , about twenty-two (22%) aged 31-40, about sixteen (16,4%) aged 41-50, about ten (10,3%) aged 51-60, about five (5%) aged more than 60. Fifty three per cent (53%) were married and forty-seven per cent (47%) were single. Thirty-four per cent (34%) had a university/college degree and forty-eight per cent (48%) were graduates of a high school and eighteen per cent (18%) didn't graduate from a high school.

Measures

This study (Figure 1) is measuring seven (7) constructs: *brand preference, consumer loyalty, consumer satisfaction, perceived value, perceived quality, perceived technological risk and perceived environmental friendliness*. All constructs were measured using multiple items. All items were measured using a seven-point Likert-type scale (ranging from 1=strongly disagree to 7=strongly agree), in order to measure consumers' perceptions. The Appendix lists the variable questions constituting each factor measurement.

The construct and internal validity of each measurement scale is broadly supported by the research literature from which is it is derived. With establishing content validity, the questionnaire was refined through rigorous pre-testing. The pre-testing was focused on instrument clarity, question wording, and validity. During the pre-testing, ten undergraduate students, three doctoral students, and three professors (of University of Ioannina) were invited to comment on the questions and wordings. The comments of these sixteen (16) individuals then provided a basis for revisions to the construct measures.

Testing The Items

The test of the validity of the items was based on a focus group methodology using the serial moderating technique (SMT).

Focus group methodology traditionally calls for an individual, trained moderator who personally elicits information in accord with some pre-defined purpose. The information is obtained from an assembled group, often comprised of six to 12 eligible participants. Group participants are selected to be sufficiently diverse to generate lively and innovative ideas, but sufficiently similar to bring common discourse to the session (Morgan, 1996). Participants of focus groups are also expected to convene only once (Zmud, 1988). Accordingly, participants are typically exposed to a single moderator or facilitator who engages one or several groups to discuss directed research topics. Since moderators vary in their training, personality and leadership styles, and interests, focus groups are open to moderator bias.

In order to test the process, we advocate several moderators in succession over two classes of the Agribusiness Management Dept. of University of Ioannina, using moderately scheduled interviews (see Table 5). For the opening of the interviews, we have stated the purpose. The criterion for moderator selection included the following demographic criterion: "if students are raised to large urban centers, small towns, or villages". Previous focus group reviews (e.g. Fern, 1982; Morgan, 1996; Stewart and Shamdasami, 1990; Tynan and Drayton, 1988) have not considered this. For many marketing research projects resting on semi-structured and ill-structured problem domains that require alternative perspectives of multiple experts for both facilitating knowledge elicitation and verification (Grabowski et al., 1992), it would seem particularly appropriate.

For this pilot test, 3 moderator teams has been employed for time intervals that has been ranged from 20 to 40 minutes, sufficient to cover major sections of the overall focus interview guide (see Table 4). This overall guide was the joint product of all participating moderators.

The above process was prerequisite, in order to secure the success of the set of interviews (with focus groups) in Athens. The groups were structured according to the following demographic criteria: (a) where they are raised (urban centers, small towns, villages), (b) educational background (no education, high school, universities/colleges), (c) age (20-30, 31-41, 42-52, 53-63).

Table 1
The Items For The Seven Constructs

Constructs	Items	Variables
brand preference	BP1=company name	(1)
	BP2=product category attributes	(2)
	BP3=consumer's emotional involvement	(3)
	BP4=influences from family and friends	(4)
consumer loyalty	CL1=consumer's inertia	(5)
	CL2=reduction of perceived risk by buying a well-known brand	(6)
	CL3=repurchase behavior	(7)
consumer satisfaction	CS1=retained in consumer's consideration set	(8)
	CS2=result of brand expectation-performance comparisons	(9)
	CS3=repurchase intention	(10)
perceived value	PV1=health advantages	(11)
	PV2=taste	(12)
	PV3=user convenience	(13)
	PV4=competitive price	(14)
	PV5=design of the product	(15)
perceived quality	PQ1= credence quality	(16)
	PQ2=search quality	(17)
	PQ3=experience quality	(18)
perceived technological risk	PTR1=way that the food product it is produced	(19)
Perceived environmental friendliness	PEF1=packaging and food processing processes	(20)

FINDINGS

Sample Characteristics

The response rate was 100%. The participants in the study were 800 consumers, which were responsible for shopping meat products for their households. About fifty-eight (57,8%) were women and about forty-two (41,5%) were men. About nine (8,9%) aged less than 20, about thirty-seven (37,3%) aged 21-30 , about twenty-two (22%) aged 31-40, about sixteen (16,4%) aged 41-50, about ten (10,3%) aged 51-60, about five (5%) aged more than 60. Fifty three per cent (53%) were married and forty-seven per cent (47%) were single. Thirty-four per cent (34%) had a university/college degree and forty-eight per cent (48%) were graduates of a high school and eighteen per cent (18%) didn't graduate from a high school.

Descriptive Statistics

Characteristics of the distributions of the answers were obtained by calculating means and standard deviations (see Table 7) for each item. The largest standard deviations (2,27 , 2,24 , 2,22 2,20 , 2,11, 2,01 , 2,01 , 2,00) were found in relation to items 16, 14, 4, 5, 13, 19, 20, 7 . These items deal with: a. credence quality, b. competitive price, c. influences from family and friends, d. consumer's inertia, e. user convenience, f. way that the food product it is produced, g. packaging and food processing processes and h. repurchase behavior.

Comparisons Among The Independent Groups

Results based on Mann-Witney U test, show us that there are no significant statistical differences, for the grouping variable: "gender" (see Table 8). Results based on Kruskal Wallis test, show us that there are significant statistical differences for the grouping variable: "age" (see Table 9). Results based on Kruskal Wallis test, show us that there are significant statistical differences for the grouping variable: "educational background" (see Table 10). Results based on Kruskal Wallis test, show us that there are significant statistical differences for the grouping variable : "place of adobe" (see Table 11).

Research Results

Table 2
Research Results

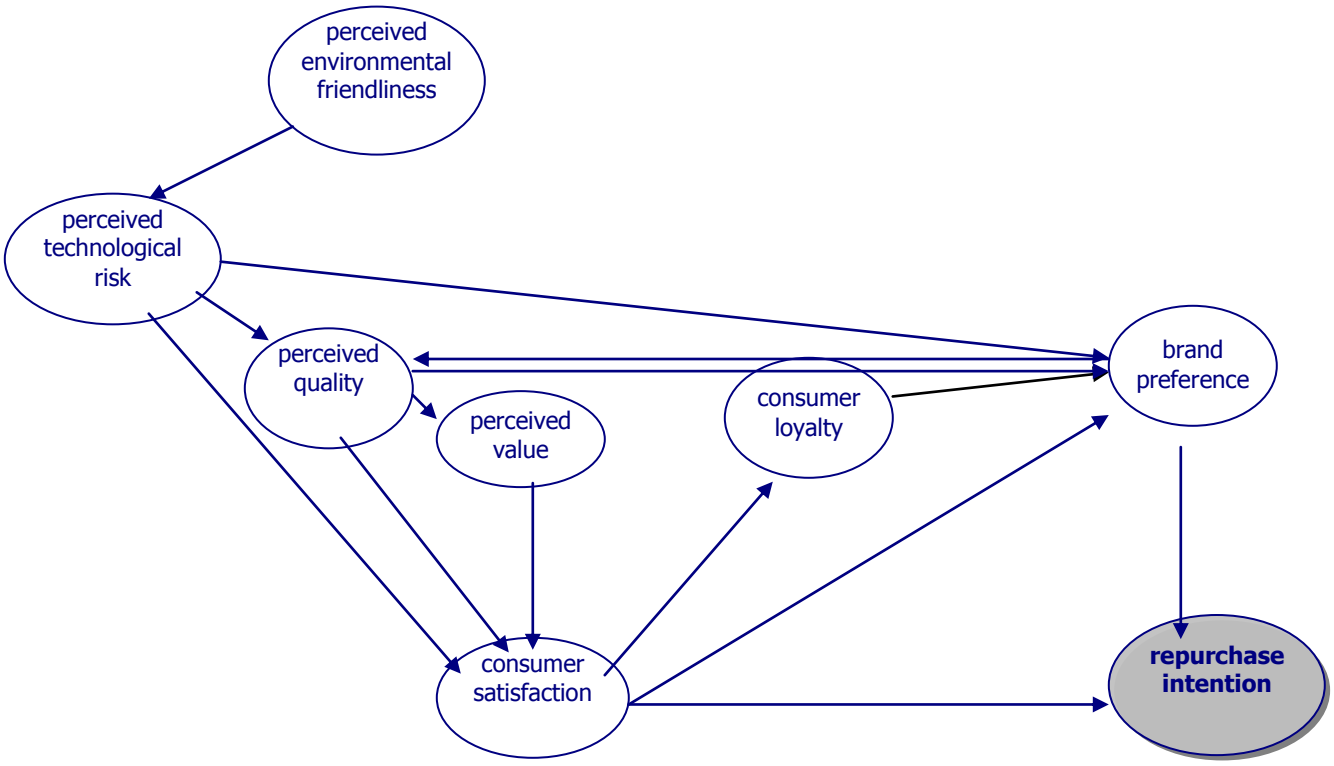
Hypothesis		Inter-item Correlations			Comments
		Relations	Pearson Correlations	Total N=800	
H1(a).	The strength of brand preference has a direct positive effect on perceived quality.	BP1→PQ1 BP1→PQ2 BP1→PQ3 BP2→PQ1 BP2→PQ2 BP2→PQ3 BP3→PQ2 BP3→PQ3	,171** ,183** ,272** ,149** ,146** ,167** -,122** -,103**	(n=797) (n=796) (n=797) (n=794) (n=793) (n=794) (n=797) (n=798)	BP1, BP2 and BP3 (except BP4) have the most significant effect on PQ items, so we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H2.	Consumer loyalty has a direct positive effect on brand preference.	CL1→BP3 CL1→BP4 CL2→BP1 CL2→BP2 CL3→BP1 CL3→BP4	,214** ,129** ,116** ,162** ,078* ,116**	(n=796) (n=796) (n=799) (n=795) (n=796) (n=797)	we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H3(a).	Consumer satisfaction has a direct positive effect on brand preference.	CS1→BP1 CS1→BP2 CS1→BP3 CS2→BP1 CS2→BP2 CS2→BP3 CS3→BP1 CS3→BP2 CS3→BP3 CS3→BP4	,208** ,158** -,164** ,200** ,190** -,112** ,202** ,153** -,121** -,055	(n=797) (n=794) (n=793) (n=796) (n=797) (n=796) (n=798) (n=795) (n=799) (n=799)	we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H3(b).	Consumer satisfaction has a direct positive effect on consumer loyalty to the food producer.	CS1→CL1 CS1→CL2 CS1→CL3 CS2→CL1 CS2→CL2 CS2→CL3	-,022 ,197** ,273** -,032 ,170** ,117**	(n=796) (n=799) (n=797) (n=795) (n=798) (n=796)	we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.

		CS3→CL1 CS3→CL2 CS3→CL3	-,051 ,115** ,148**	(n=797) (n=800) (n=798)	
H4(a).	Perceived value has a direct positive effect on consumer satisfaction.	PV1→CS1 PV1→CS2 PV1→CS3 PV2→CS1 PV2→CS2 PV2→CS3 PV3→CS1 PV3→CS2 PV5→CS1 PV5→CS2 PV5→CS3	,190** ,185** ,242** ,315** ,189** ,354** ,094** ,138** -,147** -,074* -,158**	(n=799) (n=798) (n=800) (n=799) (n=798) (n=800) (n=798) (n=797) (n=795) (n=794) (n=796)	PV1, PV2, PV3 and PV5 (except PV4) have the most significant effect on CS items, so we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H4(b).	Perceived value has a direct positive effect on brand preference.	PV1→BP1 PV1→BP2 PV1→BP3 PV2→BP1 PV2→BP2 PV2→BP3 PV3→BP2 PV3→BP3 PV5→BP1 PV5→BP3 PV5→BP4	,231** ,086* -,071* ,091* ,138** -,073* ,085* ,178** -,086* ,299** ,113**	(n=798) (n=795) (n=799) (n=798) (n=795) (n=799) (n=794) (n=798) (n=794) (n=795) (n=795)	PV1, PV2, PV3 and PV5 (except PV4) have the most significant effect on BP items, so we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H5(a).	Perceived quality has a direct positive effect on consumer satisfaction.	PQ1→CS1 PQ1→CS2 PQ1→CS3 PQ2→CS1 PQ2→CS2 PQ2→CS3 PQ3→CS1 PQ3→CS2 PQ3→CS3	,099** ,178** ,137** ,173** ,162** ,167** ,406** ,343** ,350**	(n=798) (n=797) (n=799) (n=797) (n=796) (n=798) (n=798) (n=797) (n=799)	we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H5(b).	Perceived quality has a direct positive effect on perceived value.	PQ2→PV1 PQ2→PV2 PQ2→PV4 PQ2→PV5 PQ3→PV1 PQ3→PV2 PQ3→PV5	,221** ,085* -,092** -,038 ,203** ,161** -,098**	(n=798) (n=798) (n=798) (n=794) (n=799) (n=799) (n=795)	PQ2 and PQ3 (except PQ1) have the most significant effect on PV items, so we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H5(c).	Perceived quality has a direct positive effect on brand preference.	PQ1→BP1 PQ1→BP2 PQ1→BP3 PQ2→BP1 PQ2→BP2 PQ2→BP3 PQ2→BP4 PQ3→BP1 PQ3→BP2 PQ3→BP3	,171** ,149** -,060 ,183** ,146** -,122** -,068 ,272** ,167** -,103**	(n=797) (n=794) (n=798) (n=796) (n=792) (n=797) (n=797) (n=797) (n=794) (n=798)	we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H6(a).	Perceived technological risk has a direct positive effect on consumer satisfaction.	PTR1→CS1 PTR1→CS2P TR1→CS3	,227** ,192** ,209**	(n=798) (n=797) (n=799)	we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.

H6(b).	Perceived technological risk has a direct positive effect on perceived quality.	PTR1→PQ1 PTR1→PQ2 PTR1→PQ3	,453** ,401** ,333**	(n=798) (n=797) (n=798)	we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H7(a).	Perceived environmental friendliness has not a direct positive effect on perceived technological risk.	PEF1→PTR1	,490**	(n=798)	we accept the hypothesis, as the chi-squared values of inter-item correlations are significant at the 5% level.
H7(b).	Perceived environmental friendliness has a direct positive effect on perceived value.	PEF1→PV1 PEF1→PV2 PEF1→PV3 PEF1→PV4 PEF1→PV5	,195** -,045 -,003 -,029 -,035	(n=800) (n=800) (n=799) (n=800) (n=796)	the hypothesis is not accepted

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Figure 3
The Final Model



DISCUSSION

The major objective of this study was to test a model that explains consumer repurchase intention for technological advanced food products in developing economies. The following supports the arguments for the value of such a model: a. the series of evidence that the existing consumer behavior models and theories can't explain food consumption patterns, internationally and b. the major cross-cultural differences related perceptions for food products in EU member states.

The results from the statistical analysis show that perceived technological risk affect perceived quality, consumer satisfaction and brand preference. According to the final model, it seems that the construct of perceived technological risk is of high value in our discussion for the repurchase intention of technological advanced food products in developing economies. Search and experience quality items affect significantly perceived value of technological advanced food products. The results show that all perceived value items (health advantages, taste, user convenience and design of the products (except competitive price) affect brand preference and consumer satisfaction.

The results related to the high significant differences for the perceptions between consumers of large and small urban centers confirm Raju's A-B-C-D paradigm. The underlined model and a series of evidence on cross-cultural differences in EU provide quite satisfactory arguments on consumer perception of food safety risk, which is varied from developed and developing economies. This means that the existing frameworks can't provide a comprehensive approach for food consumption internationally, so consumer behavior models must be developed under the prism of A-B-C-D paradigm.

Existing theories have played an important role by detailing how various factors influence consumer behavior. Throughout history our food consumption patterns have been changing continuously. Remarkable changes took place as regards the type of foods we eat (e.g. the introduction of the potato in Europe, the consumption of organ meat), the way we grow our food (e.g. the introduction of pesticides, bio-industry), how we process our food (e.g. frozen food, microwaves) and our table manners (e.g. the introduction of the fork in medieval Europe, fast food). All these changes more or less slowly conquered the food consumption habits of the masses, may it be in centuries (the use of the fork) or within a decade (the microwave). Many factors determine the speed and degree to which such changes diffuse through the population. Theory on the diffusion of innovation provides an inventory of the factors that affect the rate of adoption of this diffusion process. Moreover, this theory draws a perspective on consumer characteristics that determine if people are "innovators", or belong to the group of people that follow later in adopting a new practice.

Marketing Implications

This study provides valuable implications for international food companies wishing to enter eastern European markets and for eastern European food retailers. In contrast to the majority of cross-cultural consumer behavior studies that have used international student samples studying in developed economies (such as USA and UK), this study collected data from Greek consumers from large urban centers and very small towns in Greece. The final findings of our research can advance retailers' strategic tries as it seems that geographical differentiation is needed to be considered, in terms of pricing and promotion planning at a store level in developing countries.

Marketers should understand that food choice is often influenced more by the psychological interpretation of product properties than the physical properties of products themselves. Perception of food safety risk is one such psychological interpretation, which influences the attitudes and behavior of consumers with respect to the purchase of food products. Thus, perception of food safety risk has consequences for both consumer and producer welfare, and the overall effectiveness and efficiency of the food supply chain. This is especially the case where there is considerable divergence between what might be called objective, technical assessments of risk and subjective, psychological assessments of risk. Such divergence may arise because of inadequacy of risk communication systems, as usually happens in developing economies.

Health advantages, taste, user convenience and the design of the product are significant issues that affect significantly brand preference and consumer satisfaction. In terms of behavioral pricing, this means that marketers should seriously reconsider the existing practices of pricing, as competitive price seems not be of high value for the consumers of these category of food products.

Search and experience quality issues related to the promotion at a store level are needed to be considered by marketers, as divergence may arise because of inadequacy of risk communication systems, as usually happens in developing economies.

Further Research

Further research is needed on building integrated models that can fully explains the trigger events that will affect behavioral pricing and promotion planning at a store level in developing economies.

CONCLUSION

The major objective of this study was to test a model that explains consumer repurchase intention for technological advanced food products in developing economies. We addressed the core research themes of our study using a survey of 800 Greek households. Our intention was to investigate the potent influence of some set of variables, (discussed in the consumer research literature), in order to analyze repurchase intention for technological advanced food products in developing economies. The proposed model is not intended to explain all consumption behavior related to alternative food products but the final findings of our research can advance retailers' strategic tries as it seems that geographical differentiation is needed to be considered in terms of marketing strategies in a store level.

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APPENDIX

Table 3
Sample's Socio-Demographic Profile (N=800)

Frequencies	Percentages (%)
1. Age groups	
<20 21-30 31-40 41-50 51-60 >61	<20 21-30 31-40 41-50 51-60 >61
71 298 176 131 82 40	8.9 37.3 22 16.4 10.3 5
2. Gender	
male female	male female
332 462	41.5 57.8
3. Educational background	
none < high school high school university/ college	none < high school high school university/ college
74 68 386 270	9.3 8.5 48.3 33.8
4. Income per year (€)	
low income high income	low income high income
<10,000 10,001 -20,000 20,001 -30,000 30,001 -40,000 40,001 -50,000 >60,001	29 31.4 19.3 9.3 2.8 2.9
5. Marital status	
married with children married without children single	married with children married without children single
346 79 372	43.3 9.9 46.5

Table 4
Test Of Items With Focus Groups: Interview Guide

I. Brand Preference
A. company name B. product category attributes C. consumer's emotional involvement D. influences from family and friends
II. Consumer Loyalty
A. consumer's inertia B. reduction of perceived risk by buying a well-known brand C. repurchase behavior
III. Consumer Satisfaction
A. retained in consumer's consideration set B. result of brand expectation-performance comparisons C. repurchase intention D. positive word-of-mouth
IV. Perceived Value
A. health advantages B. taste C. user convenience D. competitive price E. design of the product
V. Perceived Quality
A. hormones and antibiotics B. reading the ingredients at the label C. taste D. color E. smell
VI. Perceived Technological Risk
A. way that the food product it is produced B. negative consequences of the technological advancements in foods
VII. Perceived Environmental Friendliness
A. packaging and food processing processes B. corporate image of eco-sensitivity

Table 5
Test Of Items With Focus Groups: The Moderately Scheduled Interview

I. As a food consumer, what makes you most to prefer a brand?
A. What about the company name? B. What about the product category attributes? C. What about emotional involvement? D. What about influences from family and friends?
II. As a food consumer, what loyalty to a brand means to you?
A. What about full trust to the food producer? B. What about full satisfaction and buying the product again and again? C. What about low risk?
III. As a food consumer, what satisfaction for a brand means to you?
A. What about keeping in mind the specific brand? B. What about a positive opinion from the comparison between expectations and performance of the brand? C. What about buying the brand again? D. What recommending the brand to my family and friends?
IV. As a food consumer, what is valuable for you?
A. What about health advantages? B. What about taste? C. What about convenience? D. What about low price? E. What about the design of the product?

V. As a food consumer, what are your quality criteria?
A. What about hormones and antibiotics? B. What about the information listed at the package? C. What about taste? D. What about color? E. What about smell?
VI. As a food consumer, what are the risks that fear you?
A. What about the way it is produced? B. What about the negative consequences of biotechnology? C. What about packaging? D. What about food processing?

Table 6
Variable Questions For The Research Model Constructs

Construct	Variable	Question
brand preference	BP1=company name	(1) "My preference to the particular brand depends on the extent that my requirements are satisfied by the particular company compared to the other companies."
	BP2=product category attributes	(2) "My preference to the particular brand depends on my attitudes to that product category."
	BP3=consumer's emotional involvement	(3) "I prefer to repurchase the particular brand because of emotional reasons."
	BP4=influences from family and friends	(4) "Family's and friends' influence is important to me on repurchasing the particular brand."
consumer loyalty	CL1=consumer's inertia	(5) "I repurchase the particular brand because of my inertia to search for other brands."
	CL2=reduction of perceived risk by buying a well-known brand	(6) "I prefer to repurchase the particular brand because I know it and I minimize any potential risks."
	CL3=repurchase behavior	(7) "I repurchase the particular brand because of my specific preference to it."
consumer satisfaction	CS1=retained in consumer's consideration set	(8) "I always repurchase the particular brand when I am satisfied with it."
	CS2=result of brand expectation-performance comparisons	(9) "Repurchasing the particular brand depends on the comparison between brand expectation and its performance."
	CS3=repurchase intention	(10) "I will repurchase the particular brand if I am totally satisfied with it."
perceived value	PV1=health advantages	(11) "I repurchase the particular brand because it is good to my health."
	PV2=taste	(12) "I repurchase the particular brand because I like the taste."
	PV3=user convenience	(13) "I repurchase the particular brand because its use is convenient to me."
	PV4=competitive price	(14) "I repurchase the particular brand because of its low price compared to other brands."
	PV5=design of the product	(15)" I repurchase the particular brand because I like a lot its design (shape, colour, size, etc.)."
perceived quality	PQ1= credence quality	(16) "When I am going to repurchase the particular brand I take into serious consideration the intangible ingredients (such as hormones and antibiotics) that contains."
	PQ2=search quality	(17) "When I am going to repurchase the particular brand I take into serious consideration the available product information (i.e. label)."
	PQ3=experience quality	(18) "When I am going to repurchase the particular brand I take into serious consideration my previous experience on this product."
perceived technological risk	PTR1=way that the food product it is produced	(19) "When I am going to repurchase the particular brand I take into serious consideration the way that the product is produced and processed (for example, use of antibiotics and hormones, animal welfare, hygiene standards)."
perceived environmental friendliness	PEF1=packaging and food processing processes	(20) "When I am going to repurchase the particular brand I take into serious consideration the environmental friendliness of its production (i.e., risk of environmental pollution, prudent use of natural resources)."

Table 7
Descriptive Statistics For The Items Of The Repurchase Intention

	Items	N	Scale	Mean	Std. Deviation	Skewness	Kurtosis
1.	company name	798	7	5,0777	1,85388	-,801	-,413
2.	product category attributes	795	7	4,8830	1,91577	-,645	-,663
3.	consumer's emotional involvement	799	7	2,4844	1,97907	1,032	-,346
4.	influences from family and friends	799	7	3,6421	2,22134	,150	-1,448
5.	consumer's inertia	797	7	3,3287	2,20947	,428	-1,294
6.	reduction of perceived risk by buying a well-known brand	800	7	5,1312	1,99097	-,939	-,365
7.	repurchase behavior	798	7	4,9035	2,00237	-,707	-,774
8.	retained in consumer's consideration set	799	7	6,1527	1,27997	-1,984	4,021
9.	result of brand expectation-performance comparisons	798	7	5,7719	1,61490	-1,555	1,688
10.	repurchase intention	800	7	6,2338	1,34680	-2,135	4,281
11.	health advantages	800	7	5,3850	1,88114	-,968	-,159
12.	taste	800	7	5,8600	1,58542	-1,639	2,076
13.	user convenience	799	7	4,2040	2,11740	-,241	-1,269
14.	competitive price	800	7	4,3200	2,24865	-,278	-1,380
15.	design of the product	796	7	3,0239	1,98502	,518	-1,014
16.	credence quality	799	7	4,7084	2,27525	-,278	-,285
17.	search quality	798	7	5,2231	1,98940	-,899	-,447
18.	experience quality	799	7	5,7922	1,38263	-1,452	1,982
19.	way that the food product it is produced	799	7	5,1940	2,01900	-,809	-,673
20.	packaging and food processing processes	800	7	4,8650	2,01975	-,591	-,902
	Valid N (listwise)	773					

Table 8
Comparisons Among The Independent Groups*
(Grouping Variable: Gender)

	Items	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
1.	company name	72139,500	126754,500	-1,317	,188
2.	product category attributes	68152,000	122767,000	-2,445	,014
3.	consumer's emotional involvement	76233,000	182724,000	-,101	,920
4.	influences from family and friends	74331,500	129609,500	-,702	,483
5.	consumer's inertia	75488,500	181518,500	-,207	,836
6.	reduction of perceived risk by buying a well-known brand	72010,000	127288,000	-1,510	,131
7.	repurchase behavior	75107,000	130053,000	-,382	,703
8.	retained in consumer's consideration set	72928,000	127874,000	-1,229	,219
9.	result of brand expectation-performance comparisons	70969,500	126247,500	-1,798	,072
10.	repurchase intention	74837,000	181790,000	-,681	,496
11.	health advantages	75631,500	130909,500	-,349	,727
12.	taste	74440,000	129718,000	-,759	,448
13.	user convenience	65763,500	120709,500	-3,406	,001
14.	competitive price	73851,000	129129,000	-,906	,365
15.	design of the product	72112,000	126397,000	-1,213	,225
16.	credence quality	72113,000	127391,000	-1,421	,155
17.	search quality	71970,500	127248,500	-1,537	,124
18.	experience quality	71585,000	126531,000	-1,608	,108
19.	way that the food product it is produced	70623,500	125901,500	-1,931	,054
20.	packaging and food processing processes	71408,500	126686,500	-1,692	,091

*Mann-Witney U test

Table 9
Comparisons Among The Independent Groups*
(Grouping Variable: Age)

	Items	Chi-Square value	df	Asymp. Sig.
1.	company name	34,647	5	,000
2.	product category attributes	21,088	5	,001
3.	consumer's emotional involvement	18,489	5	,002
4.	influences from family and friends	21,478	5	,001
5.	consumer's inertia	1,332	5	,932
6.	reduction of perceived risk by buying a well-known brand	12,006	5	,035
7.	repurchase behavior	7,231	5	,204
8.	retained in consumer's consideration set	26,869	5	,000
9.	result of brand expectation-performance comparisons	32,901	5	,000
10.	repurchase intention	40,226	5	,000
11.	health advantages	71,554	5	,000
12.	taste	4,782	5	,443
13.	user convenience	23,179	5	,000
14.	competitive price	50,838	5	,000
15.	design of the product	40,237	5	,000
16.	credence quality	15,024	5	,010
17.	search quality	31,960	5	,000
18.	experience quality	47,908	5	,000
19.	way that the food product it is produced	39,963	5	,000
20.	packaging and food processing processes	36,806	5	,000

*Kruskal Wallis test

Table 10
Comparisons Among The Independent Groups*
(Grouping Variable: Educational Background)

	Items	Chi-Square value	df	Asymp. Sig.
1.	company name	8,327	3	,040
2.	product category attributes	1,216	3	,749
3.	consumer's emotional involvement	9,960	3	,019
4.	influences from family and friends	15,541	3	,001
5.	consumer's inertia	,351	3	,950
6.	reduction of perceived risk by buying a well-known brand	12,117	3	,007
7.	repurchase behavior	1,995	3	,573
8.	retained in consumer's consideration set	6,429	3	,093
9.	result of brand expectation-performance comparisons	5,282	3	,152
10.	repurchase intention	23,486	3	,000
11.	health advantages	18,919	3	,000
12.	taste	20,828	3	,000
13.	user convenience	9,005	3	,029
14.	competitive price	21,195	3	,000
15.	design of the product	25,319	3	,000
	credence quality	2,622	3	,454
	search quality	9,158	3	,027
	experience quality	12,173	3	,007
	way that the food product it is produced	19,469	3	,000
	packaging and food processing processes	,410	3	,938

*Kruskal Wallis test

Table 11
Comparisons Among The Independent Groups*
(Grouping Variable: Place Of Adobe)

	Items	Chi-Square value	df	Asymp. Sig.
1.	company name	55,955	7	,000
2.	product category attributes	24,319	7	,001
3.	consumer's emotional involvement	128,868	7	,000
4.	influences from family and friends	24,947	7	,001
5.	consumer's inertia	20,473	7	,005
6.	reduction of perceived risk by buying a well-known brand	21,288	7	,003
7.	repurchase behavior	44,361	7	,000
8.	retained in consumer's consideration set	115,153	7	,000
9.	result of brand expectation-performance comparisons	91,514	7	,000
10.	repurchase intention	58,683	7	,000
11.	health advantages	33,865	7	,000
12.	taste	66,716	7	,000
13.	user convenience	51,786	7	,000
14.	competitive price	66,893	7	,000
15.	design of the product	73,431	7	,000
16.	credence quality	45,377	7	,000
17.	search quality	35,897	7	,000
18.	experience quality	90,801	7	,000
19.	way that the food product it is produced	41,933	7	,000
20.	packaging and food processing processes	23,199	7	,002

*Kruskal Wallis test

NOTES