

# **A Theoretical Framework for Consumer Willingness to Adopt Novel Food Products**

Magdalena Kraszewska (MSc)  
Warsaw Agricultural University  
Ul. Nowoursynowska 166  
02-787 Warszawa  
Poland

Jos Bartels (PhD)\*  
Wageningen University and Research Centre  
Agricultural Economics Research Institute  
P.O. Box 29703, 2502 LS The Hague  
The Netherlands  
\*Corresponding author: email: jos.bartels@wur.nl

**Keywords:** conceptual framework, consumer innovativeness, fruit context

## **Abstract**

**This paper presents a theoretical framework for the adoption of new fruits and new fruit products by consumers. Based on an extensive literature review, various elements of consumer adoption behaviour are presented and discussed. First, several consumer innovativeness approaches are examined, some of which are incorporated into the proposed new theoretical framework. Second, important correlates of the consumer acceptance of novel products are described and presented in the context of fruit. Finally, a conceptual model for new fruit and fruit product adoption by consumers is described. This model will be the basis for further qualitative and quantitative empirical research.**

## **INTRODUCTION**

Despite constant developments in product design and marketing, most new products in the food and drink industry ultimately fail (Martinez and Briz, 2000). Some authors estimate the success rate to be as low as 10-25% (Cooper, 2001; Martinez and Briz, 2000; Van Trijp and Steenkamp, 2005). This raises the question of how to improve the predictability of new product performance in the market. One possible answer could be arrived at by developing an understanding of how and why new products are accepted by consumers (where acceptance is expressed in terms of actual buying behaviour).

A vast amount of literature on the acceptance of new products has focused on personal characteristics of consumers (e.g., Hirschmann, 1980; Foxall and Haskins, 1986; Venkatraman and Price, 1990; Im et al., 2003; Lassar et al., 2005), identification of innovators and adopters (e.g., Raju, 1980; Labay and Kinnear, 1981; Goldsmith and Hofacker, 1991; Goldsmith and Flynn, 1992; Steenkamp and Baumgartner, 1992), consumer attitudes towards new products (Rogers, 1995; Venkatraman and Price, 1990; Bäckström et al., 2004; Geissler and Edison, 2005; Hirunyawipada and Paswan, 2006) and barriers to and motives for accepting new products (e.g., Foxall, 1995; Rogers, 1995; Bäckström et al., 2004).

The aim of this paper is to identify what determines consumer acceptance of novel fruit products by presenting a literature review and developing a theoretical framework. First, a review of the most up-to-date literature in consumer innovativeness will be presented and discussed. The novel theoretical model, which is based on this literature, will be the basis for further empirical research by means of focus group interviews and a quantitative study across four European countries.

The research context of the current study is fruit and fruit products. In this paper, we first deal with consumer innovativeness. Second, we consider how the characteristics of the fruit market can influence consumer behaviour toward novel fruit products. Although prior research into consumer innovativeness was conducted in specific markets (e.g., electronic goods, food products, or online shopping), the characteristics of those markets were seldom

considered to be predicting variables (Goldsmith and Hofacker, 1991; Im et al., 2003). In this study, we suggest that an approach in which both consumer and market characteristics are considered will result in better understanding and predictability of consumer behaviour towards novel fruit and fruit products.

## **APPROACHES TO INNOVATIVENESS**

Most studies that treat consumer innovativeness comprise two approaches: 1) innovativeness as a general personality trait (e.g., Hirschman, 1982), and 2) innovativeness as a domain-specific construct (e.g., Goldsmith and Hofacker, 1991). Both approaches are described below.

## **CONSUMER INNOVATIVENESS AS A PERSONALITY TRAIT: EARLY CONCEPTUALISATIONS**

The concept of consumer innovativeness has been of great interest in the literature for decades and has developed tremendously in recent years (Roehrich, 2004). Early notions of the concept were introduced by Rogers (1962), who defined innovativeness as the “degree to which an individual is relatively earlier in adopting a new idea than other members of the system” (Rogers, 1962; p.475). Rogers’ approach was used to categorise consumers at various stages of adoption. His approach offered basic concepts and definitions for subsequent research into consumer innovativeness. However, Rogers’ concept of categorisation was also widely criticised. According to several scholars, this approach cannot be used for future behaviours, as it is not possible to evaluate its validity and reliability and the research findings among different studies are not comparable (Hurt et al., 1977; Midgley and Dowling, 1978; Goldsmith and Hofacker, 1991).

A major body of research into consumer innovativeness has appeared in the consumer psychology and marketing literature. This research has focused on the concept of innovativeness as a personality trait (Hirschman, 1980; Venkatraman and Price, 1990; Venkatraman, 1991; Steenkamp and Baumgartner, 1995; Manning et al., 1995; Steenkamp et al., 1999). The goal was to identify consumer innovators based on their predisposition toward innovative products. The trait of innovativeness was defined as “the degree to which an individual is receptive to new ideas and makes innovation decisions independently of the communicated experience of others” (Midgley and Dowling, 1978, p.47). Innovativeness as a general personality trait reflects an innate tendency to seek out new information, stimuli or experiences (Hirschman, 1980). Steenkamp et al. (1999) described it as the preference to try out and buy a new and different product rather than maintaining prior behaviour. Innovativeness as a personality trait can be referred to using several different terms, such as variety seeking (Van Trijp et al., 1991), need for stimulation (Raju, 1980; Steenkamp and Baumgartner, 1992; Baumgartner and Steenkamp, 1996), novelty seeking (Pearson, 1970; Hirschman, 1982; Manning et al., 1995), dispositional innovativeness (Steenkamp and Gielens, 2003), willingness to change (Hurt et al., 1977) and global innovativeness (Goldsmith et al., 2006).

All consumers possess innovativeness to a certain extent. Innovators are people who have a higher degree of this personality trait, which makes them eager for novel products to a greater extent than other people.

The aforementioned studies mainly focus on aspects of innate innovativeness. From these studies it is possible to create measurement instruments that can be used to identify innovators. However, identifying innovativeness was found to be insufficient to explain consumer purchase behaviour with regard to innovative products. It turned out to be a weak predictor of such behaviour (Foxall and Bhate, 1993b; Goldsmith et al., 1995; Im et al., 2003).

## **PRODUCT CLASS RESEARCH - DOMAIN SPECIFIC INNOVATIVENESS**

Research into innate innovativeness (innovativeness as a trait) was unable to comprehensively identify antecedents of consumer adoption behaviour. Results published to date are insufficient to explain consumers' actual behaviour. Innate innovativeness has a global character and is applied across product classes. Although it is positively correlated with adoption of new products (Foxall and Bhate, 1991, 1993b), it appears to be a weak predictor of actual innovative behaviour (Foxall and Bhate, 1993b; Goldsmith et al., 1995; Im et al., 2003). Consequently, there exists a need for a construct of consumer innovativeness that can be applied to different product domains and that will predict consumer innovative behaviour more precisely (Goldsmith and Hofacker, 1991; Goldsmith and Flynn, 1992).

Such a domain-specific approach was first suggested by Midgley and Dowling (1978). They proposed an intermediary level of innovativeness specific to product category. Their approach mediated the effect of innovativeness on the actual adoption of innovations by taking into account other variables and situational factors. Following this approach, Goldsmith and Hofacker (1991) introduced the concept of domain specific innovativeness (DSI), which refers to a tendency to acquire new products or new product-related information within a specific domain. Successful application of DSI has been reported in many studies across various domains (e.g., food domain - Bäckström et al., 2004; travel services and fashionable clothes - Flynn and Goldsmith, 1993; Internet users - Goldsmith, 2001). DSI appears to predict actual adoptive behaviour more precisely than does innate innovativeness. Furthermore, DSI has been described in the literature as a mediator between innate innovativeness and actual behaviour (Goldsmith, 2002). DSI seems to be an answer to the drawbacks of the innate innovativeness framework – it can be more readily applied to specific product categories.

## **CORRELATES OF INNOVATIVENESS**

### **Socio-Demographic Data**

Various studies have explored the influence of socio-demographic status on consumer innovativeness as a personality trait (Steenkamp and Burges, 2002; Clark and Goldsmith, 2006). Other research has explored the impacts of socio-demographic status on domain-specific innovativeness (Goldsmith and d'Hauteville, 1998; Goldsmith et al., 2005). In all cases, the results were ambiguous. Summers (1971) found that income is an important personal characteristic that influences new product adoption. Rogers (1962) stated that innovators control substantial financial resources, which are helpful in covering potential losses associated with buying novel and unfamiliar products. Similarly, Labay and Kinear (1981) indicate that personal characteristics such as age, education, income, occupational status and life stage influence adoption process. In contrast with these studies, Ostlund (1974) reports that socio-demographics are weak predictors of new product adoption. Furthermore, Im et al. (2003) found no significant correlation between education and innovative behaviour. Steenkamp et al. (1999) found that only age had a significant influence on innovation adoption, while income and education did not.

Steenkamp and Gielens (2003) proposed an explanation for these contradictory findings. They studied the effects of consumer disposition and market factors on actual new product purchasing behaviour. The magnitudes of these interactions suggested that the effects of consumer characteristics were heavily influenced by both marketing and product category variables. Systematic moderating effects were uncovered for socio-behavioural covariates (age, income, education). For two constructs (age and education), the moderating role of market factors was so strong that no evidence was found for a generalised main effect of those socio-demographic variables on innovation adoption. Steenkamp and Gielens (2003) indicate that new product adoption literature has typically focused on either consumer or

market variables, but their findings suggest that detailed analysis of their interplay is necessary to understand the full complexity of the relevant adoption processes.

In summary, the results of socio-demographic research are not consistent for the construct of global consumer innovativeness. However, socio-demographic data might still constitute a relevant group of variables for certain specific domains. One possible explanation for the inconsistencies articulated by Steenkamp and Gielens (2003) is that these variables should be studied together with the characteristics of the domain and the influence of marketing. Socio-demographic data are therefore included in our conceptual model that treats consumer innovativeness with respect to fruit and fruit products.

### **Opinion Leadership**

The construct that seems most strongly related to consumer innovativeness is opinion leadership. Rogers and Cartano (1962) defined opinion leaders as “individuals who exert an unequal amount of influence on the decisions of others” (p.435). Opinion leaders are likely to communicate with others and seem to have a high involvement with a specific product category. Opinion leaders influence the attitudes and purchasing behaviours of other consumers (Flynn et al., 1996; Gatignon and Robertson, 1985; King and Summers, 1970). They are eager to use new products and are profound consumers of mass media (Rogers, 1962). Furthermore, they are conscious of their appearance and self-confident (Baumgarten, 1975; Summers, 1971). Several studies show positive relationships between opinion leadership and innate innovativeness (Hurt et al., 1977; Workman and Kidd, 2000; Bertrandias and Goldsmith, 2006), domain specific innovativeness (Goldsmith and Hofacker, 1991; Grewal et al., 2000) and actual innovative behaviour (Ruvio and Shoham, 2007; Summers, 1971). Studies on opinion leadership all show unambiguous results, and opinion leadership is said to be domain specific (Engel et al., 1993). Accordingly, we include this metric in our conceptual model that treats consumer innovativeness with respect to fruit and fruit products.

### **Market Mavenism**

The concept of market mavenism (MM) has received substantial attention in recent marketing literature (Feick and Price, 1987; Clark and Goldsmith, 2005; Geissler and Edison, 2005). A market maven is a consumer who has extensive knowledge and experience with markets rather than in a specific domain. Market mavens are described as “expert shoppers” (Geissler and Edison, 2005, p.74). Market mavens are unique in their searching activities for new products and information related to it. They use numerous sources of marketing information, and they use each source extensively. They intensively participate in marketing activities such as couponing and loyalty programmes. Marketing activities, shopping and acquiring product knowledge give market mavens a great deal of satisfaction (Feick and Price, 1987; Geissler and Edison, 2005). Market mavens are immediately recognisable to other consumers and are aware of their specific qualities. They enjoy playing the role of “expert shopper” among other consumers as this generates significant respect from their peers. At the same time, eagerness to maintain this influential position makes them susceptible to normative influences (Clark and Goldsmith, 2005). As they do not wish to lose the respect of their fellow consumers, they form opinions carefully and generally tend to avoid controversy. They will purchase and promote to others only those products that do not openly violate social norms consistent with their geographic location. Feick and Price (1987) found that the construct of market mavenism is related both to early awareness of products and to disseminating product information to other consumers. Furthermore, several recent studies have shown positive correlations between market mavenism and consumer innovativeness (Goldsmith et al., 2003; Girardi et al., 2005; Ruvio and Shoham, 2007). As MM seems to be strongly related to innovativeness in different domains, we include it in our

conceptual model that treats consumer innovativeness with respect to fruit and fruit products.

### **Product Characteristics**

Characteristics of novel products have played a prominent part in studies of consumer innovativeness (e.g., Goldsmith and Flynn, 1992; Agarwal and Prasad, 1999; Blythe, 1999). Product characteristics seem to be of great importance in consumer decision-making. For the product to be classified by the consumers as an innovation, some level of novelty or differentiation is necessary. Rogers (1995) identified five characteristics of innovation as important factors influencing the innovation-decision process: relative advantage, complexity, compatibility, trial ability and observability. All these indicators are widely used in research into innovativeness (e.g., Tornatzky and Klein, 1982; Blythe, 1999; Goldenberg et al., 2001; Steenkamp and Gielens, 2003).

Goldenberg et al. (2001) found that, when an innovation is radical, consumers might not be willing to accept it, on account of its complexity. According to Goldenberg et al. (2001), complex products are 1) difficult to understand, 2) difficult to learn and 3) perceived as very risky. Even a high relative advantage might not be sufficient compensation for the complexity of a given innovation. On the other hand, products that are not complex but that offer minimal relative advantage may be perceived by the consumers as insufficiently distinct from other products in the marketplace. These products therefore do not offer sufficient added value to merit a positive purchase decision. Goldenberg et al. (2001) found that market success has an inverted U-shaped relation. Adoption of the innovation is lowest when product novelty is low (low perceived added value has a negative influence on consumer decision-making). When the novelty is very high, adoption is also low (high complexity reduces product appeal).

In contrast, Steenkamp and Gielens (2003) found that innovative products of intermediate novelty generate a lower rather than higher trial probability when compared with incrementally new or completely new products. Based on their results, Steenkamp and Gielens (2003) suggested that the relation between novelty and trial probability might be better described by a cosine-shaped relation instead of an inverted U-shaped graph.

In conclusion, studies by Goldenberg et al. (2001) and Steenkamp and Gielens (2003) indicate that it is not sufficient for new products to only possess specific characteristics such as relative advantage and complexity. The relative weighting of those characteristics in the final product is of much greater importance. Furthermore, there should be a balance between the different product characteristics. This balance is vital to ensure a product's appeal. In summary, the available research strongly suggests that several product characteristics should be incorporated in studies of consumer innovativeness.

### **Intercultural Differences**

Several studies that explored consumer innovativeness showed significant differences in innovativeness among various cultures (Venkatraman and Price, 1990; Steenkamp et al., 1999; Singh, 2006). Engel et al. (1993) stated that culture determines which product consumers choose and the structure of the consumption. Culture also influences individual decision-making and even the way people communicate about the product. Singh (2006) stressed the importance of culture in consumer decision-making processes. She stated that national culture "affects the drives that motivate people to take further action, determines what forms of communication are permitted about problems at hand and even the degree of search behaviour that an individual deems appropriate" (Singh, 2006, p.176).

The first four dimensions of Hofstede's (1983) culture approach (individualism, power distance, uncertainty avoidance and masculinity) have been applied to consumer innovativeness research and have revealed interesting results. Both Steenkamp et al. (1999) and Singh (2006) found that differences between nations, when explained in terms of

Hofstede's dimensions, significantly explained differences in relative innovativeness. Cultures with higher levels of individualism and masculinity, and lower uncertainty avoidance and power distance, appeared to be more innovative.

In short, intercultural differences may be expected to influence the process by which innovations are adopted. They will be included in our conceptual model that treats consumer innovativeness with respect to fruit and fruit products.

### **Marketing Communication**

Recently, marketing communication was introduced as a possible important correlate of consumer innovativeness. So far, only one study has found that all three marketing instruments (mass and feature advertising and in-store display) are important predictors of consumer innovativeness. According to Steenkamp and Gielens (2003), mass advertising is effective in creating product awareness among consumers and in conveying product information. Feature advertising (which includes advertising in store flyers and local door-to-door marketing/newspapers) and in-store displays also positively influence new product awareness. These factors directly influence consumer adoption because they are visible at the point of purchase. Steenkamp and Gielens found an effect of both instruments. Mass advertising and in-store display were both positively correlated with new product adoption.

In summary, there seems to be an influence of marketing communication on consumer innovative behaviour in other contexts, and to date, no research has been conducted on this topic with respect to fruit purchasing decisions. Accordingly, we include marketing communication in our conceptual model that treats consumer innovativeness with respect to fruit and fruit products.

### **CONSUMER INNOVATIVENESS WITH RESPECT TO FOOD PURCHASES**

We have elaborated on certain important general correlates of innovativeness. In this section, we focus on correlates of innovativeness in the context of food purchasing decisions. First, we describe food neophobia and food involvement. Second, we explore the idea of social representations in the context of novel foods. Third, we focus on product characteristics in the context of fruit and fruit products.

#### **Food Neophobia**

Food neophobia is a personality trait that is triggered when a consumer is confronted with novel, unfamiliar foods. Food neophobia can be defined as "the extent to which individuals are reluctant to try novel foods (food products, dishes, cuisines)" (Eertmans et al., 2005, p.714). Pliner and Hobden (1992) first conceptualized this personality trait as the food neophobia scale (FNS). FNS is widely used for studying the attitude of consumers toward (ethnic) foods (e.g., Tuorila et al., 2001; Bäckström et al., 2004). Food neophobia is a significant barrier to consumer adoption of innovative food products (Eertmans et al., 2005; Pliner and Hobden, 1992). Decreasing food neophobia could therefore be an important strategy to improve consumer acceptance of novel food products. Accordingly, food neophobia will be included in our conceptual model that treats consumer innovativeness with respect to fruit and fruit products.

#### **Food Involvement**

In general, consumers' involvement with a product shows a strong correlation with consumer innovativeness in several respects (Goldsmith and Hofacker, 1991; Girardi et al., 2005; Sun et al., 2006). A specific form of product involvement is food involvement. Bell and Marshall (2003) defined food involvement as "the level of importance of foods in a person's life" (Bell and Marshall, 2003, p.236). It can be described as the level of enjoyment in talking and thinking about food and in engaging in any activity related to food products.

Consumers who are highly involved with food are better able to distinguish differences among foods and flavours and generally eat more healthily; their diets are rich in fruits and vegetables. Bell and Marshall (2003) suggest that highly involved individuals seem to be eager for new food experiences; i.e., they are more food neophilic.

Foxall and Bhate (1993a) studied the early adoption of new food brands and offerings promoted as “healthy products”. They found that a consumer’s level of involvement in the relevant product category was an important predictor whether or not he or she would be an early adopter. Several other studies confirmed that food involvement was a possible predictor of consumer choice among various food products (e.g., Bell and Marshall, 2003). Moreover, high involvement in a specific domain was found to facilitate the process of innovation adoption. Food involvement will be included in our conceptual model that treats consumer innovativeness with respect to fruit and fruit products.

### **Product Characteristics – in the Context of Fruit Marketing**

Tuorila (2001) differentiated five major categories of novel (innovative) foods within modern food marketing. These categories are linked with new production trends and/or consumer preferences. Tuorila (2001) mentions: 1) functional foods that have a beneficial health effect, 2) genetically modified products, 3) nutritionally modified foods (having higher fibre content or reduced fat/sugar), 4) organic foods, and 5) ethnic foods (i.e., foods from unfamiliar cultures). These categories combine innovative characteristics (representing new directions) with food characteristics – such an approach is very promising in the case of fruit marketing. For example, following Tuorila (2001), examples of novel fruit products with the appropriate categorisations might include fruit juice with added vitamins/fibres/calcium (functional food), a disease-resistant apple (GM food), or natural fruit without pesticides (organic food).

In conclusion, there seems to be an influence of product characteristics on consumer innovative behaviour in other contexts. To date, there has been no research into these characteristics as they relate to fruit marketing. Accordingly, we provisionally plan to include these elements in our conceptual model that treats consumer innovativeness with respect to fruit and fruit products. However, their role will be further refined using focus group discussions.

### **Social Representations with regard to Novel Foods**

Social representations study how people deal with unknown and unfamiliar ideas, products, or situations in a group. Social representations are concerned with thoughts, feelings and actions expressed in behaviour (e.g., Wagner et al., 1999; Bäckström et al., 2004). Moscovici (1973, p.xiii) has stated that social representations function as a “code for social exchange”. Bäckström et al. (2003, p.300) have suggested that social representations can be interpreted as “modern society’s equivalents for the myths and belief systems of traditional societies”. Therefore, studying social representations may provide some insight into consumers’ everyday thinking about some new topics, ideas and products.

To date, several studies have been conducted into the social representations of consumers with respect to novel foods; however, all these studies have been in a Finnish context (Bäckström et al., 2003, 2004; Huotilainen et al., 2006). This research used Tuorila’s (2001) five food categories as outlined previously. Exploring the social representations of novel food products within Tuorila’s categories led the researchers to define the following five dimensions of social representation (SR): 1) resistance to and suspicion of novelties, 2) adherence to technology, 3) adherence to natural food, 4) food as an enjoyment, and 5) food as a necessity. These dimensions can explain five typical consumer attitudes across the five types of novel food.

Bäckström et al. (2004) found that the willingness to try genetically modified

products was predicted by a consumer's level of adherence to technology. Nutritionally modified products were best predicted by adherence to natural foods, adherence to technology and low resistance to and suspicion of novelties. Willingness to try organic products was best predicted by adherence to natural foods and by significant importance attached to food as an enjoyment. Finally, quite different results were found for ethnic foods where the predictive ability of any SR dimension was low.

Other interesting results of food-related research into SR were discovered by Huotilainen et al. (2006). They found that innovativeness is predicted by some of the SR dimensions, namely, resistance to and suspicion of novelties and eating as an enjoyment. When considering the personal characteristics of innovators using SR dimensions, food innovators generally have lower levels of resistance toward new foods and regard eating as an enjoyment. The results of Huotilainen et al. (2006) are consistent with earlier data from Bäckström et al. (2004). In both studies, social representation quotients seem to be strong predictors of a consumer's willingness to try new foods.

In summary, including social representation elements could be an interesting approach. We will include them in our conceptual model that treats consumer innovativeness with respect to fruit and fruit products.

## **CONCEPTUAL MODEL**

In the previous sections, distinct approaches in the area of consumer innovativeness were presented and discussed. Furthermore, different correlates of consumer adoption of novel (food) products were identified. These approaches and correlates are combined in this section into a conceptual model for consumer innovative behaviour with regard to fruit and fruit products. Figure 1 presents the conceptual model.

The conceptual model focuses on consumer characteristics that are believed to be important in the innovation adoption process. At the same time, it does not neglect market and product characteristics. The previously discussed concepts were included in this group of characteristics: 1) socio-demographic status, 2) opinion leadership, 3) market mavenism, 4) domain-specific innovativeness, 5) intercultural differences, 6) food neophobia, 7) food involvement, and 8) social representation dimensions of novel foods. All these concepts are relevant to consumer decision-making with regard to innovative products. We do not intend to be all-inclusive, but this conceptual model should provide a meaningful overview of the possible determinants of consumer innovation adoption in the context of fruit and fruit products in European markets.

Consumer characteristics used in our model are as follows: consumer characteristics in the global context, the domain (food) context, and in a joint context that exists between the global and the domain. A global context is explained here as one that is universal, no matter what kind of product category is being considered. As a consequence, this part of the model can be applied beyond studies that treat only fruit and fruit products. By contrast, the domain context in this study is food, and more specifically fruit and fruit products.

The part of the model that treats the global context of consumer characteristics includes four elements: 1) socio-demographic data, 2) opinion leadership, 3) market mavenism, and 4) intercultural differences. First, although the results for socio-demographic information in other studies are often ambiguous, we expect global demographics to be somewhat influential in the context of fruit, based on earlier research findings. Second, opinion leadership seems to be the most important correlate of consumer innovativeness. Third, market mavens' unique searching activities for new products and product information can significantly influence the dissemination of information about innovation to other consumers. Since market mavens have an expertise in shopping and extensive knowledge and experience with markets, this concept is not domain specific. Fourth, our literature review confirmed that various studies have shown differences in innovativeness among different



cultures. Because our research will be conducted internationally, the role of culture in consumer decision-making is especially important and is therefore included in our model. We expect these global consumer characteristics to be partly moderated by marketing communication and product characteristics (Steenkamp and Gielens, 2003). Furthermore, global consumer characteristics are expected to have direct effects on consumer adoption behaviour.

Within the domain-specific (food) context, two constructs are included in the model. The concepts of food neophobia and food involvement seem strictly connected with the food domain and are placed on the right-hand side of the model. We assume food neophobia to have a negative effect and food involvement to have a positive effect on consumer adoption behaviour.

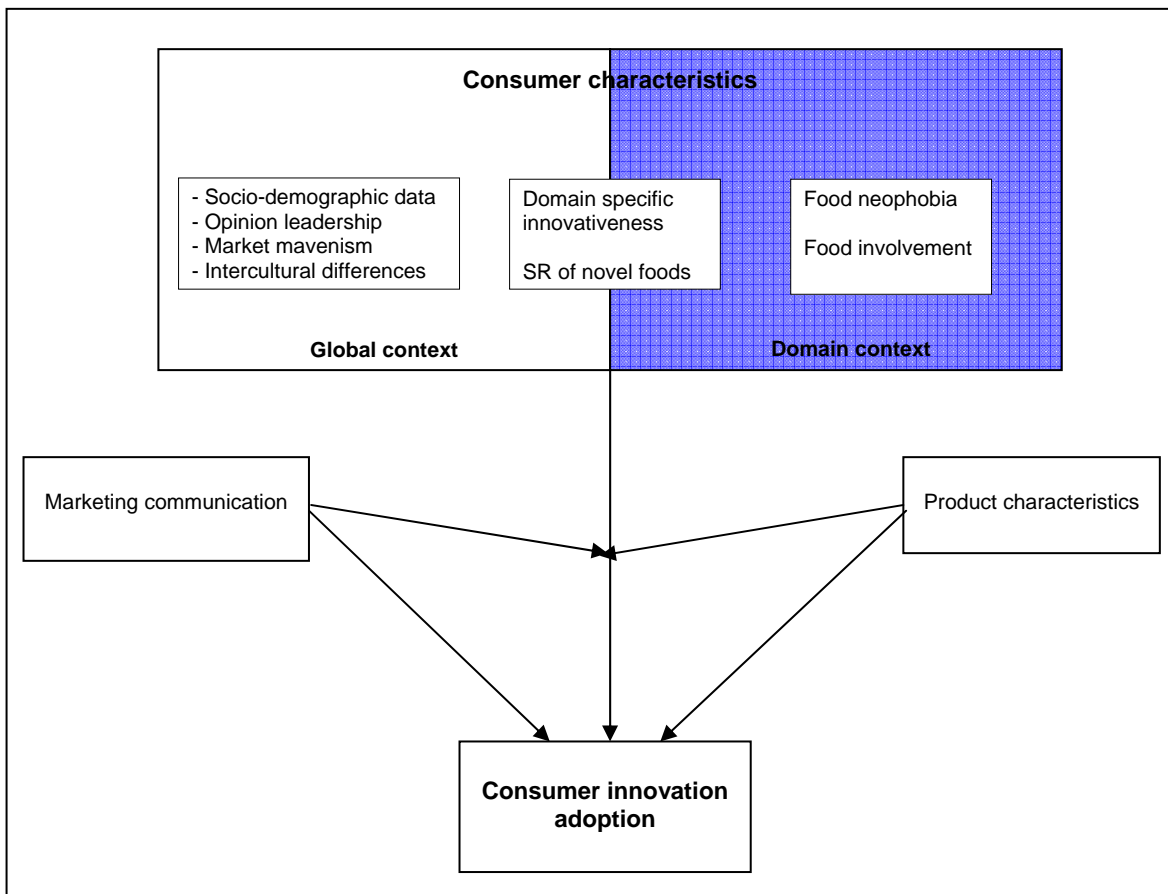


Fig. 1. Conceptual model of consumers' willingness to adopt new products in a European food context.

Domain-specific innovativeness appears in the middle of the consumer characteristic dimensions. This construct seems to possess characteristics that indicate that it should belong to both categories. The same reasoning applies for social representations. Social representations have been linked to various dynamic and controversial topics, but, in this study, the specific Bäckström et al.'s (2004) concept of SR dimensions for novel foods is used. Furthermore, we assume that there is a direct link between the social representation dimensions of new foods and domain specific innovativeness (DSI) on the one hand and new fruit adoption behaviour on the other hand. Both constructs are supposed to have significant individual effects.

For product characteristics and social representations of new foods, we plan to incorporate the approach of Tuorila (2001). Which specific product characteristics to include will first be explored using qualitative research. Thereafter, the content and influence of marketing communications in the context of fruit and fruit products will be elaborated using a qualitative approach.

### **Literature Cited**

- Agarwal, R. and Prasad, J. 1999. Are individual differences germane to the acceptance of new information technologies? *Decision Sciences: The Journal for the American Institute for Decision Sciences* 30(2):361-390.
- Bäckström, A., Pirttilä-Backman, A.-M. and Tuorila, H. 2003. Dimensions of novelty: A social representation approach to new foods. *Appetite* 40:299-307.
- Bäckström, A., Pirttilä-Backman, A.-M. and Tuorila, H. 2004. Willingness to try new foods as predicted by social representations and attitude and trait scales. *Appetite* 43:75-83.
- Baumgarten, S.A. 1975. The innovative communicator in the diffusion process. *Journal of Marketing Research* 12(1):12-18.
- Baumgartner, H. and Steenkamp, J.E.M. 1996. Exploratory consumer buying behaviour: conceptualization and measurement. *International Journal of Research in Marketing* 13:121-137.
- Bell, R. and Marshall, D.W. 2003. The construct of food involvement in behavioral research: scale development and validation. *Appetite* 40:235-244.
- Bertrandias, L. and Goldsmith, R.E. 2006. Some psychological motivations for fashion opinion leadership and fashion opinion seeking. *Journal of Fashion Marketing and Management* 10(1):25-40.
- Blythe, J. 1999. Innovativeness and newness in high-tech consumer durables. *Journal of Product and Brand Management* 8(5):415-429.
- Brug, J., Lechner, L. and de Vries, H. 1995. Psychosocial determinants of fruit and vegetable consumption. *Appetite* 25:285-296.
- Clark, R.A. and Goldsmith, R.E. 2005. Market mavens: Psychological influences. *Psychology & Marketing* 22(4):289-312.
- Clark, R.A. and Goldsmith, R.E. 2006. Interpersonal influence and consumer innovativeness. *International Journal of Consumer Studies* 30(1):34-43.
- Cooper, R.G. 2001. *Winning at New Products: Accelerating the Process from Idea to Launch*. Perseus Publishing, Cambridge, Massachusetts.
- Eertmans, A., Victoir, A., Vansant, G. and Van den Bergh, O. 2005. Food-related personality traits, food choice motives and food intake: mediator and moderator relationships. *Food Quality and Preference* 16:714-726.
- Engel, J.F., Blackwell, R.D. and Miniard, P.W. 1993. *Consumer Behaviour*. The Dryden Press, Fort Worth, TX.
- Feick, L.F. and Price, L.L. 1987. The market maven: A diffuser of marketplace information. *Journal of Marketing* 51:83-97.
- Flynn, L.R. and Goldsmith, R.E. 1993. A validation of the Goldsmith and Hofacker

- innovativeness scale. *Educational and Psychological Measurement* 53:1105-1116.
- Foxall, G.R. and Haskins, C.G. 1986. Cognitive style and consumer innovativeness: An empirical test of Kirton's adaption-innovation theory in the context of food purchasing. *European Journal of Marketing* 20(3-4):63-80.
- Foxall, G.R. and Bhate, S. 1991. Cognitive style, personal involvement and situation as determinants of computer use. *Technovation* 11(3):183-199.
- Foxall, G.R. and Bhate, S. 1993a. Cognitive styles and personal involvement of market initiators for "healthy" food brands: Implications for adoption theory. *Journal of Economic Psychology* 14:33-56.
- Foxall, G.R. and Bhate, S. 1993b. Cognitive style and use innovativeness for applications software in home computing: implications for new product strategy. *Technovation* 13(5):311-323.
- Foxall, G.R. 1995. Cognitive styles of consumer initiators. *Technovation* 15(5):269-288.
- Gatignon, H. and Robertson, T.S. 1985. A propositional inventory for new diffusion research. *Journal of Consumer Research* 11:859-867.
- Geissler, G.E. and Edison, S.W. 2005. Market mavens' attitudes towards general technology: Implications for marketing communications. *Journal of Marketing Communications* 11(2):73-94.
- Girardi, A., Soutar, G.N. and Ward, S. 2005. The validation of a use innovativeness scale. *European Journal of Innovation Management* 8:471-481.
- Goldenberg, J., Lehmann, D.R. and Mazursky, D. 2001. The idea itself and the circumstances of its emergence as predictors of new product success. *Management Science* 47(1):69-84.
- Goldsmith, R.E. and d'Hauteville, F. 1998. Heavy wine consumption: empirical and theoretical perspectives. *British Food Journal* 100(4):184-190.
- Goldsmith, R.E. and Hofacker, C.F. 1991. Measuring consumer innovativeness. *Journal of Academy of Marketing Science* 19(3):209-221.
- Goldsmith, R.E. and Flynn, L.R. 1992. Identifying innovators in consumer product markets. *European Journal of Marketing* 26(12):42-55.
- Goldsmith, R.E., Freiden, J.B. and Eastman, J.K. 1995. The generality/specificity issue in consumer innovativeness research. *Technovation* 15(10):601-612.
- Goldsmith, R.E. 2001. Using the domain specific innovativeness scale to identify innovative internet consumers. *Internet Research* 11(2):149-158.
- Goldsmith, R.E. 2002. Explaining and predicting consumer intention to purchase over the internet: an exploratory study. *Journal of Marketing Theory and Practice* 10(2):22-28.
- Goldsmith, R.E., Flynn, L.R. and Goldsmith, E.B. 2003. Innovative consumers and market mavens. *Journal of Marketing Theory and Practice* 11(4):54-64.
- Goldsmith, R.E., Kim, D., Flynn, L.R. and Kimm, W.M. 2005. Price sensitivity and innovativeness for fashion among Korean consumers. *Journal of Social Psychology* 145(5):501-508.
- Goldsmith, R.E., Clark, R.A. and Goldsmith, E.B. 2006. Extending the psychological profile of market mavenism. *Journal of Consumer Behaviour* 5:411-419.
- Grewal, R., Mehta, R. and Kardes, F.R. 2000. The role of the social-identity function of attitudes in consumer innovativeness and opinion leadership. *Journal of Economic Psychology* 21:233-252.
- Hirschman, E.C. 1980. Innovativeness, novelty seeking, and consumer creativity. *Journal of Consumer Research* 7(3):283-295.
- Hirschman, E.C. 1982. Religious differences in cognitions regarding novelty seeking and information transfer. *Advances in Consumer Research* 10:228-233.
- Hirunyawipada, T. and Paswan, A.K. 2006. Consumer innovativeness and perceived risk: implications for high technology product adoption. *Journal of Consumer Marketing* 23(4):182-198.

- Hofstede, G. 1983. The cultural relativity of organizational practices and theories. *Journal of International Business Studies* 14:75-89.
- Huottilainen, A., Pirttilä-Backman, A.-M. and Tuorila, H. 2006. How innovativeness relates to social representation of new foods and to the willingness to try and use such foods. *Food Quality and Preference* 17:353-361.
- Hurt, H.T., Joseph, C. and Cook, C.D. 1977. Scale for the measurement of innovativeness. *Human Communication Research* 4:58-65.
- Im, S., Bayus, B.L. and Mason, C.H. 2003. An empirical study of innate consumer innovativeness, personal characteristics, and new-product adoption behaviour. *Journal of the Academy of Marketing Science* 31:61-73.
- King, C.W. and Summers, J.O. 1970. Overlap of opinion across consumer product categories. *Journal of Marketing Research* 7:43-50.
- Labay, D.G. and Kinnear, T.C. 1981. Exploring the consumer decision process in the adoption of solar energy systems. *Journal of Consumer Research* 8:271-278.
- Lassar, W.M., Manolis, C. and Lassar, S.S. 2005. The relationship between consumer innovativeness, personal characteristics, and online banking adoption. *International Journal of Bank Marketing* 23(2):176-199.
- Manning, K.C., Bearden, W.O. and Madden, T.J. 1995. Consumer innovativeness and the adoption process. *Journal of Consumer Psychology* 4(4):329-345.
- Martinez, M.G. and Briz, J. 2000. Innovation in the Spanish food & drink industry. *International Food and Agribusiness Management Review* 3:155-176.
- Midgley, D.F. and Dowling, G.R. 1978. Innovativeness: The concept and its measurement. *Journal of Consumer Research* 4:229-242.
- Moscovici, S. 1973. Foreword. p.ix-xiv. In: C. Herzlich (ed.), *Health and illness: A social psychological analysis*, London: Academic Press.
- Ostlund, L.E. 1974. Perceived innovation attributes as predictors of innovativeness. *Journal of Consumer Research* 1:23-29.
- Pearson, P.H. 1970. Relationships between global and specified measures of novelty seeking. *Journal of Consulting and Clinical Psychology* 34:199-204.
- Pliner, P. and Hobden, K. 1992. Development of a scale to measure the trait of food neophobia in humans. *Appetite* 19:105-120.
- Raju, P.S. 1980. Optimum stimulation level: its relationship to personality, demographics, and exploratory behavior. *Journal of Consumer Research* 7:272-282.
- Roehrich, G. 2004. Consumer innovativeness: concepts and measurements. *Journal of Business Research* 57(6):671-677.
- Rogers, E.M. 1962. *Diffusion of Innovations*. 1<sup>st</sup> edition, New York. The Free Press.
- Rogers, E.M. 1995. *Diffusion of Innovations*. 4<sup>th</sup> edition, New York, The Free Press.
- Rogers, E.M. and Cartano, D.G. 1962. Methods of measuring opinion leadership. *Public Opinion Quarterly* 26(Fall):435-441.
- Ruvio, A. and Shoham, A. 2007. Innovativeness, exploratory behavior, market mavenship, and opinion leadership: An empirical examination in the Asian context. *Psychology & Marketing* 24(8):703-722.
- Singh, S. 2006. Cultural differences in, and influence on, consumers' propensity to adopt innovations. *International Marketing Review* 23(2):173-191.
- Steenkamp, J.E.M. and Baumgartner, H. 1992. The role of optimum stimulation level in exploratory consumer behavior. *Journal of Consumer Research* 19(3):434-448.
- Steenkamp, J.E.M. and Baumgartner, H. 1995. Development and cross-cultural validation of a short form of CSI as a measure of optimum stimulation level. *International Journal of Research in Marketing* 12:97-104.
- Steenkamp, J.E.M., Hofstede, F. and Wedel, F. 1999. A cross-national investigation into the individual and national cultural antecedents of consumer innovativeness. *Journal of*

- Marketing 63(2):55-69.
- Steenkamp, J.E.M. and Burgess, S.M. 2002. Optimum stimulation level and exploratory consumer behavior in an emerging consumer market. *International Journal of Research in Marketing* 19(2):131-150.
- Steenkamp, J.E.M. and Gielens, K. 2003. Consumer and market drivers of the trial probability of new consumer packaged goods. *Journal of Consumer Research* 30:368-384.
- Summers, J.O. 1971. Generalized change agents and innovativeness. *Journal of Marketing Research* 8(August):313-316.
- Sun, T., Youn, S., Wu, G. and Kuntaraporn, M. 2006. Online word-of-mouth (or mouse): An exploration of its antecedents and consequences. *Journal of Computer-Mediated Communication* 11(4), article 11. <http://jcmc.indiana.edu/vol11/issue4/sun.html>
- Tornatzky, L.G. and Klein, K.J. 1982. Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on Engineering Management* 29(1):28-45.
- Tuorila, H. 2001. Keeping up with the change: Consumer responses to new and modified foods. *Food Chain 2001, Programme Abstract*, p.38-40.
- Tuorila, H., Lähteenmäki, L., Pohjalainen, L. and Lotti, L. 2001. Food neophobia among the Finns and related responses to familiar and unfamiliar foods. *Food Quality and Preference* 12:29-37.
- Van Trijp, H.C.M., Lähteenmäki, L. and Tuorila, H. 1991. Variety seeking in the consumption of spread and cheese. *Appetite* 18(2):155-164.
- Van Trijp, J.C.M. and Steenkamp, J.E.M. 2005. Consumer-oriented new product development: principles and practice. p.87-124. In: W. Jongen and M. Meulenberg (eds.), *Innovation in Agri-Food Systems*, Wageningen Academic Press.
- Venkatraman, M.P. and Price, L.L. 1990. Differentiating between cognitive and sensory innovativeness: concepts, measurement, and implications. *Journal of Business Research* 20(4):293-315.
- Venkatraman, M.P. 1991. The impact of innovativeness and innovation type on adoption. *Journal of Retailing* 67(1):51-67.
- Wagner, W., Duveen, G., Farr, R., Jovchelovitch, S., Lorenzo-Cioldi, F., Markova, I. and Rose, D. 1999. Theory and method of social representations. *Asian Journal of Social Psychology* 2:95-125.
- Workman, J.E. and Kidd, L.K. 2000. Use of the need for uniqueness scale to characterize fashion consumer groups. *Clothing and Textiles Research Journal* 18(4):227-236.

