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A Juicy Future for Functional Beverages

Analysis of the main drivers of the purchase intention for Functional Fruit and Vegetable Mixed Juices in Italy: evaluating consumer attitudes, demographics and segmentation

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Title: A Juicy Future for Functional Beverages - Analysis of the main drivers of the purchase intention for Functional Fruit and Vegetable Mixed Juices in Italy: evaluating consumer attitudes, demographics and segmentation

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Abstract: Consumer's changing beverage habits and their demand for healthier drinks with 'functional' benefits resulted in the launch of an innovative drink: functional fruit and vegetable mixed juices. Launching a new product in the food category is always challenging, and in order to be successful, product development needs to be guided by concept testing and consumer research. In this context, this study firstly investigates the socio-demographic and attitudinal factors able to predict Italian's purchase intention for this new product and secondly, it verifies the existence of homogeneous groups of consumers based on the importance given to different product features. Based on the review of the existing academic literature on Functional Food, in-depth interviews have been conducted as well as 152 responses to an online survey. Findings show that the main factors influencing the purchasing intention for this product are gender and attitude towards convenience. The analysis emphasizes that although the product is still unfamiliar, there is a high acceptance of the product idea with 51 % favorable answers of the concept testing. The work also provides a segmentation of the sample based on the different importance given to product-related characteristics.

Resumo: A mudança dos hábitos de consumo de bebidas por parte dos consumidores e a procura de bebidas mais saudáveis com benefícios “funcionais” resultaram no lançamento de uma bebida inovadora: sumos funcionais de frutas e vegetais misturados vulgarmente conhecidos como “Sumos Detox”. Lançar um novo produto na categoria alimentar é sempre desafiador e, para ser bem-sucedido, o desenvolvimento de produtos necessita de ser guiado através de testes de conceito e pesquisa de consumidores. Neste contexto, o presente estudo pretende investigar, em primeiro lugar, os fatores sociodemográficos e atitudinais capazes de prever a intenção de compra da população italiana deste novo produto e, em segundo lugar, verificar a existência de grupos homogêneos de consumidores com base na importância dada às diferentes características do produto. Com base na análise da literatura académica existente sobre Alimentos Funcionais, realizaram-se entrevistas detalhadas, assim como um inquérito online, onde foram obtidas 152 respostas. Os resultados mostraram que os principais fatores que influenciam a intenção de compra para este produto são o género e a atitude em relação à conveniência. O trabalho também forneceu uma segmentação da amostra com base na diferente importância dada às diferentes características do produto

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List of Abbreviations:

- Fufo/FF: Functional Food
- EU: European
- FFVMJ: Functional Fruit and Vegetable Mixed Juices

1. Introduction

1.1 Background

A recent article from the Financial Times reports that global demand for orange juice (the most drunk fruit juice flavor, Ed.) has been steadily falling, especially in the leading American and European market, with consumption decreasing more than a fifth from a decade ago (Terazono and Hume 2016). Why are consumers not drinking fruit juices anymore?

Over the last decade, Europeans food consumption patterns have been changing: consumers are increasingly health conscious (Annunziata and Pascale 2009) and are actively modifying their diets in order to improve their health (Soldatos and Rozakis 2005). This finding is confirmed by Eurostat, stating that “In the Eu-28, on average [...] half (51.4 %) the population ate daily from 1 to 4 portions of fruit and vegetables” (De Cicco 2016). This trend, driven by societal, technological, governmental and scientific developments is projected to continue in the long term, with global sales of healthy food and drink products projected to reach \$1 trillion by 2017 (Hudson 2012).

In the beverage category, the health and wellness trend fuelled the demand for juices (Rigik 2009) that were perceived as a tasty and “easy-to-consume beverage” able to provide vitamins and antioxidants in a convenient way (AIJN European Fruit Juice Association 2014). However, in recent years, “the market for juices and drinks has been roiled by undercurrents of constant, unpredictable change” (ReportLinker 2013).

Consumers started to turn away from classic juices because “sugars -those naturally occurring (i.e. fructose) as well as added- have been under scrutiny with regard to their potential contribution to overweight and obesity” (AIJN European Fruit Juice Association 2014, p.13). In particular, in September 2016 the World Health Organization recommended a tax on added sugar drinks in order to specifically target soft drinks purchases (Euromonitor 2016).

In order to maintain a healthy positioning in the market, the Food and Beverage industry has reacted by investing in “sugar-reduction strategies”, introducing premium priced, “better-for-you”, health-enhancing juices with more functionality (Hudson 2012; ReportLinker 2013). Health-focused consumers “prioritize (and are increasingly willing to pay a premium for)

functional benefits, fortification and authentic, natural ingredients that can improve health” (Euromonitor 2016, p. 10). In addition, another popular trend that is driving juices innovation is juice blends: a way to expand existing lines and differentiate brands (Escobar 2014).

An example of juice blend with ‘functional’ ingredients is functional fruit and vegetable mixed juices: a low-sugar option (since most vegetables contain no fructose, Ed.) that offer different functional benefits depending on its specific ingredients. Tom Vierhile, innovation insights director of Datamonitor Consumer, states: “One of the most intriguing trends in the functional beverage market has been the use of vegetables” (Moloughney 2013) whose natural functionality has been leveraged by juice companies to strengthen juice’s health profile (Euromonitor 2016).



Figure 1: Fruit Juice Sales Volume Decrease 2010/2015
 Source: Euromonitor 2016

The introduction of innovations in the food industry is always challenging and the food market, in general, is characterized by a low rate of market acceptance (Menrad 2003): as previous research (Ernst and Young 1999; Schneider and Hall 2011) pointed out, more than half the newly launched food products are withdrawn from the retailer’s shelves within the first two years; a figure that is expected to be even higher for Functional Food, considering that they are still a relatively unfamiliar product category in the European context (Stein and Rodríguez-Cerezo 2008). Moreover, the most differentiating product characteristic of Functional Food is related to health benefits, ‘credence attributes’ that cannot be directly verified by consumers and are perceived in a different way by cognitively and attitudinally different consumers (Verbeke 2014). From a marketing perspective, this means that marketing and communication campaigns need to be designed for specific niche markets rather than being developed for the whole marketplace (International Markets Bureau 2009).

Nevertheless, entering the Functional Food market is undoubtedly very attractive given the potential to sell at retail prices up to 500 percent higher than comparable conventional foods (Williams, Pehu, and Ragasa 2006); markets for this category are highly competitive and in order to survive, companies need to carefully analyze consumers' needs and wants before product launches (Ares and Gámbaro 2007; International Markets Bureau 2009). Unfortunately, there is still a lack of information and understanding of consumer attitudes and behavior towards Functional Food, which often leads to a high rate of market failures. Moreover, as the definition of Functional Food and its legislative regulation is country-specific, careful research and analysis of specific Functional Food products are needed.

1.2 Problem Statement and Research Questions

Consumers' food choices are affected by a complex set of variables that shape the final purchasing behavior; in this context, this study aims at understanding the main factors that influence the purchase intention and acceptance of functional fruit and vegetable mixed juices in Italy. More precisely, it investigates how specific socio-demographic and attitudinal characteristics may affect the willingness to buy this product and it verifies the existence of homogeneous groups of consumer that give similar importance to specific product characteristics. Therefore, the following research questions are addressed:

RQ1: What is the profile of potential buyers of functional fruit and vegetable mixed juices (FFVMJ)?

- Which personal (attitudinal and/or demographic) factors are important in explaining the likelihood of purchase towards FFVMJ?
- How do those factors impact the likelihood of purchase towards FFVMJ?

The first research question is intended to provide an understanding of the characteristics of customers willing to buy this product. Findings from prior research on the topic are presented and discussed in the literature review section and primary qualitative and quantitative data is gathered throughout the study. As literature shows, various consumers groups give different degrees of importance to food-related attributes based on the trade-offs made between for example nutrition and taste or nutrition and price (Blaylock et al. 1999). This opens the way for the second research question:

RQ2: Are there different segments of potential consumers of functional fruit and vegetable mixed juices based on the relative importance given to different product-attributes?

- What are the socio-demographic and attitudinal characteristics of the consumers for whom certain attributes are important?

Assuming that there exist different consumers that give different importance to FFVMJ attributes, the second research question aims at grouping and profiling them based on socio-demographic variables. Previous studies on the topic are discussed and quantitative analysis is performed.

Scope

Food choices are shaped by cultural influences; this not only involves different traditional food preparation methods but, in certain cases, also eating restrictions due to religion, food traditions and cultural heritage (Annunziata and Vecchio 2010). Moreover, “the power of factors influencing food choices vary according to one individual or group of people to the other”(EUFIC 2006). Consequently, this research will focus on a specific market: the Italian one. Previous research showed that the Italian market offers promising opportunities for the Functional Food category and “new EU laws have improved Italian consumer confidence in labels and advertising information related to the nutritional and health virtues of food products”(Annunziata and Vecchio 2010, p. 23).

1.3 Academic and Managerial Relevance

A high number of research institutes in the public as well as the private sector within the EU are active in the field of Functional Food research; the number of funded projects as well and the budget allocated to these projects reported to be approximately 10-20 percent of the overall European Union research budget in the field of food and nutrition (Stein and Rodríguez-Cerezo 2008). However, in spite of the extensive body of literature on Functional Food (Annunziata and Pascale 2009; Bech-Larsen, Grunert, and Poulsen 2001; Mollet and Rowland 2002; Siró et al. 2008; Urala and Läähtenmääki 2004), the latest studies showed that they are not a homogenous category: the acceptance of it is very product- specific (Urala 2005). Consequently, more research is needed on specific Functional Food and to the best of the author’s knowledge, there is no previous research on functional fruit and vegetable mixed juices. The results of this dissertation not only intend to make a contribution to the existent

body of literature on Functional Food, but they are interesting also for the Food and Beverage industry, in order to help to guide new product development and marketing by identifying the purchasing behavior of specific consumer segments in this category.

1.4 Dissertation Structure

The thesis is organized as follows: the first chapter gives an introduction to the problem statement and the structure of the dissertation. In the second chapter, a review of the existing academic literature on the Functional Food category is presented and a set of hypothesis are suggested in order to conduct the empirical investigation. Afterward, the third chapter describes the methodology employed and finally, the last two chapters discuss the results and their theoretical and practical implications, remarking the study limitations and recommending future research.

2. Literature Review and Conceptual Framework

2.1 Functional Food

The concept

Health has become a major determinant of food choices. This phenomenon has been driven not only by socio-demographic trends such as an aging and increasingly fast-paced population but also by an augmented occurrence of diseases related to inappropriate dietary habits (Gracia and Albisu 2001; Soldatos and Rozakis 2005). Today's consumers are not only increasingly aware of the impact of food on their health (Hasler 2002) but also willing to spend on wellness-favoring food and beverages that provide better nutrition and eventually contribute to longevity (Gagliardi 2015). In addition, scientific progress advancements have revealed the close connection between diet and health (Mollet and Rowland 2002) and validated the benefic effect of certain foods on one or more functions of the human organism.

Food and drink companies have leveraged these trends and health has become the most important trend and innovation driver in the global food and drinks market (Barcellos et al. 2011). A growing variety of new products with health-related claims and images have been developed (Annunziata and Pascale 2009), among them dietary supplements and so-called 'Functional Food'. A clear and unified definition of Functional Food is still missing (Alzamora et al. 2005; Menrad 2003) however the European Commission states that "*A food can be regarded as functional if it has beneficial effects on target functions in the body beyond nutritional effects in a way that is relevant to health and well-being and/or the reduction of disease*" (Kaur and Singh 2017, p. 168).

A common criticism of the concept of Functional Food is that health benefits can be naturally provided also by conventional food, without any modification. In this sense, every food can be considered functional to a certain extent (International Market Bureau 2009). However, supporters of Functional Food argue that this category can include natural food (in the case of inherently healthful components of fruits and vegetables), but also altered products (e.g. food fortified with additional nutrients, for example fruit juices fortified with vitamin C), fortified products (e.g. a food with added new components not normally found in a particular food for example probiotics), enriched products (e.g. food from which a deleterious component has been removed, reduced or replaced with another substance with beneficial effects, for example,

added fibers in meat products that release fats) and enhanced commodities (e.g. eggs with increased omega 3) (Siró et al. 2008). The main difference between conventional and Functional Food is that the latter affects one or a limited number of specific functions in the body in a targeted way (Urala and Läähteenmääki 2004).

Functional Food lies in 'a grey area between food and medicine' (Mollet and Rowland 2002), however it is different from medicines like food supplements as it is "expected to be consumed in the diet: they are not pills or capsules, but part of a normal food pattern" (FUFOSE 1999, p. 123)

European regulations

Companies attempting to launch Functional Food need to gain approval by different legislative frameworks. From a legal point of view, Functional Food is positioned in a grey area between food and pharmaceuticals (Mollet and Rowland 2002) and "In almost all the European countries, as well as in the European Union, these areas are traditionally regulated by separate institutions and subject to different regulations"(Giardi, Rea, and Berra 2011, p. 309). In addition, Functional Food is not clearly defined and regulated by the European legislation but rather considered as a concept (Alzamora et al. 2005); therefore, besides the General Food Law Regulation applicable to all foods, there are numerous rules that depend on the nature of the food products (da Silva, Coppens, and Pettman 2008). Legislative efforts in the EU are mostly focused on the details on the functionality aspect (i.e. health or nutritional claims) and therefore regulated by EC Regulation 1924/2006 on 'Nutrition and health claims made on foods' (Corbo et al. 2014; EU Commission n.d.), according to which, a list of nutrient profiles and authorized claims need to be published for all member states (Siró et al. 2008). It is important to remark that "Legislative aspects need to be taken into account because they can strongly affect product marketing"(Giardi et al. 2011).

Market Overview

Functional Food can be grouped according to several principles: the amount of modification it has incurred (non-altered products, fortified products, enriched products, altered products, enhanced commodities), the food group it belongs to (e.g. dairy products, beverages, cereal products, confectionary, oils and fats), the disease it is expected to prevent or alleviate (e.g. diabetes, osteoporosis, colon cancer), its physiological effects (e.g. immunology, digestibility, anti-tumor activity), the category of its specific biologically active ingredients (e.g. minerals,

antioxidants, probiotics, plant extracts) (International Market Bureau 2009; Spence 2006; Stein and Rodríguez-Cerezo 2008). At the same time, this heterogeneity of classifications and the lack of a clear and unified definition used internationally to classify this product category results in different estimations of the size and growth of its market. Nevertheless, most academics and professionals agree that the Functional Food market looks promising and it is growing worldwide with an estimated worth of \$ 192 billion by 2020.

The three dominant markets, in order of size, are Japan, United States, and Europe; and together they contribute to over 90% of the total sales (Urala and Läähtenmääki 2004). It is worth mentioning that the European market has very heterogeneous consumption patterns and each country has a peculiar perception and willingness to use Functional Food (Annunziata and Pascale 2009). Moreover, Europeans, in general, tend to be more concerned about the safety and the manufacturing process of novel food than Americans and Japanese thus their acceptance of FuFo “would appear less unconditional, better thought-out, and with more concerns and reservations”(Annunziata and Vecchio 2010, p. 23). Finally, the Functional Food market is undoubtedly very attractive given its potential to sell at retail prices up to 500 percent higher than comparable conventional foods (Williams et al. 2006).

2.2 Functional Food Acceptance

“The increasing use of dietary supplements is one example supporting the notion of an aspiration towards better health through preventative measures”(Cox, Koster, and Russell 2004, p. 56); moreover the new and comprehensive concept of nutrition as responsible for well-being, health and disease prevention, support the belief that consumers may be willing to buy Functional Food to protect and enhance their health. On the other hand, “it is still unclear which factors motivate consumers to choose Functional Foods”(Cox et al. 2004, p. 66)

Kaur and Singh, after systematically reviewing published international research papers on consumer behavior towards Functional Food, show that there are four main categories of factors that mostly influence consumer’s acceptance of this product category (see Figure 2): individual factors (Personal and Psychological Factors) and environmental factors (Cultural and Social Factors and Factors relating to the Functional Food product) (Kaur and Singh 2017). With reference to this model, in this research, the author will focus on “personal factors” (especially demographics and attitudinal) and “factors related to FF product” (that will be hereby called “product-related attributes”).

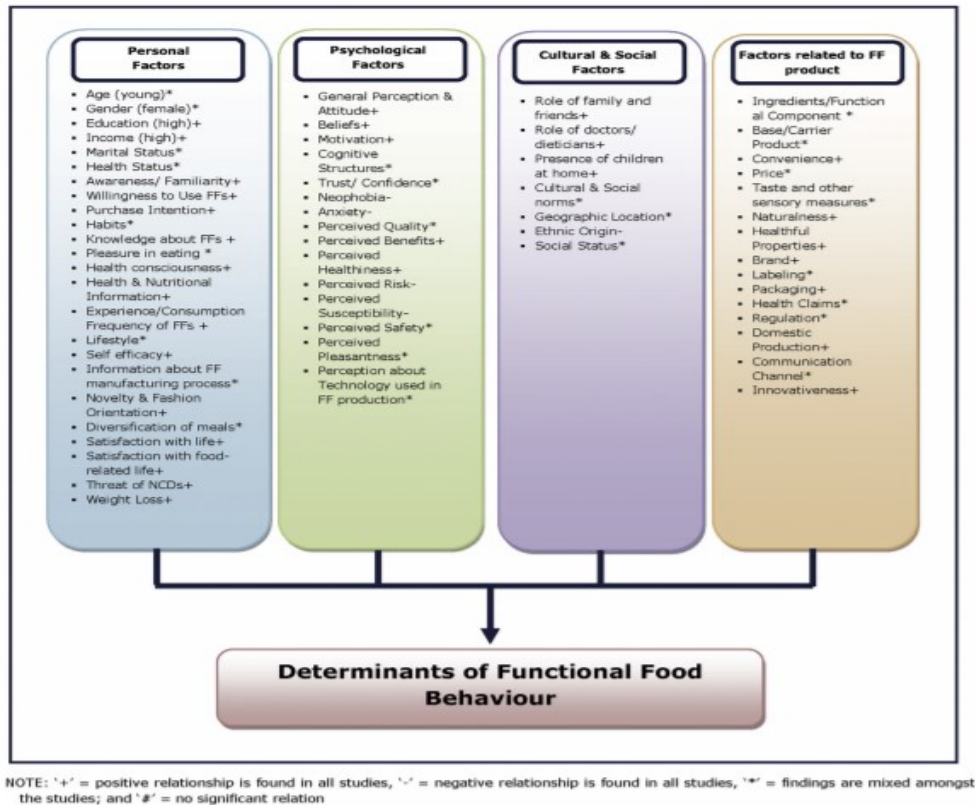


Figure 2: Reference Model for Functional Food behavior

Source: Kaur and Singh, 2017

2.2.1 Product Related Attributes

Scientific research alone does not make Functional Food successful in the marketplace (Giardi et al. 2011) in fact, consumers weight different factors when making a purchase decision, not only health and nutrition but also price, convenience, taste etc. (Verbeke 2014). In this respect, market analysis studies in USA and in Europe indicate that general success factors for the marketing of conventional food are effective also for Functional Food (Bech-Larsen et al. 2001; Kotilainen et al. 2006; Poulsen 1999; Siró et al. 2008) and the 'functional' element is mostly considered as an added value but does not determines the choice of the products by itself (Menrad 2003).

Taste, in particular, along with other sensory measures, has been considered a critical factor for Functional Food acceptance (Tuorila and Cardello 2002; Verbeke 2005). Consumers are rarely willing to compromise on taste for foods with potential health benefits; consequently, food manufacturers need to ensure that the end product has a pleasant taste. This is particularly challenging for plant-based Functional Food that often has a bitter, acrid or astringent taste that

often determines food rejection (Drewnowski 1997; Drewnowski and Gomez-carneros 2000). However, some researchers argue that certain customers may be motivated to give up on taste, especially in the case of strong health-related benefits (Blaylock et al. 1999; Urala and Läähteenmääki 2004).

Cost is also a primary determinant of consumers' willingness to buy Functional Food. Even if cost perceptions to a certain extent depend on a person's income and socio-economic status (i.e. low-income groups eat fewer fruits and vegetables and have a more unbalanced diet (Irala-Estévez et al. 2000)); Functional Food is reported to sell at prices up to 500% higher than conventional food (Kotilainen et al. 2006; Menrad 2003). Some authors suggest that consumers may be willing to pay price premium for Functional Food if they are aware of their health benefits (Maynard and Franklin 2003; Poulsen 1999) but others report that consumers expect the price of Functional Foods to be the same as that of conventional foods, in particular, Menrad states that high prices are potentially one of the reasons for the limited market success of some functional products (Menrad 2003).

Food choices are complex and besides taste and price, multiple factors influence Functional Food acceptance; some of them are packaging design and label (Fizman, Carrillo, and Varela 2015; Kaur and Singh 2017; Oliveira et al. 2016), brand (Annunziata and Vecchio 2010), calories (Krystallis and Chrysochou 2011), country of origin (Dobrenova, Grabner-Krauter, and Terlutter 2015), product shelf life (Kaur and Singh 2017) and manufacturing process.

Functional Food's attractive packaging design was consistently found to have a positive impact on FuFo acceptance and purchase decision (Kaur and Singh 2017). Packaging design shapes health-related associations (Oliveira et al. 2016) and packaging pictures are considered more attractive than verbal information by certain consumer groups (Fizman et al. 2015).

One of the most important attributes of packaging and labeling of Functional Food is the expiry date ('best before', 'production date') that is considered a proxy of product freshness (Kraus 2015) and product quality (Krystallis, Maglaras, and Mamalis 2008).

Country of origin has also been studied as a way to position Functional Food promoting it as a healthy product (Dobrenova et al. 2015) and research showed that middle-aged consumers have

a greater interest in knowing the origin of the functional food ingredients than younger consumers (Krystallis et al. 2008).

Brand (i.e. familiar versus unfamiliar) has also been researched in the context of Functional Food and different importance was given to this attribute by different consumer groups (Teratanavat et al. 2004).

Finally, the product characteristic that truly differentiates Functional Food is related to health benefits. Health benefits are 'credence attributes' perceived in different ways by cognitively and attitudinally different consumers (International Market Bureau 2009); some authors suggest that as consumers have different sensibility to health claims because of different health-related concerns, "Assessing which diseases consumers are mostly concerned about and which of them they believe can be prevented and cured through nutrition, can determine the success of Functional Food in the market" (Giardi et al. 2011, p. 35).

2.2.2 Personal Factors

Even if the influence of demographic characteristics on Functional Food purchase intention has been extensively investigated (Kaur and Singh 2017); there seems to be a consensus that these variables play a minor role in predicting Functional Food consumption (Verbeke 2005).

Evidence suggest that profiling Functional Food consumers is possible only by taking into account all the inter-related 'personal factors', both demographic and attitudinal that come into play in the purchasing decision-making process (Kaur and Singh 2017; Urala 2005). In addition, the conflicting information in the literature "highlights the importance for companies to understand consumers and define target audiences in a strategic manner" (International Market Bureau 2009).

Demographic variables

Most of the studies analyzing demographic factors related to Functional Food acceptance focused on gender, age, experience with illness, education, and presence of young children in the household.

The majority of the studies on Functional Food consistently report that females are more likely to buy Functional Food than men (Annunziata, Vecchio, and Kraus 2016; Bech-Larsen et al. 2001; Stein and Rodríguez-Cerezo 2008; Urala 2005; Urala and Läähteenmääki 2007); females' strong purchase intention towards Functional Foods is important considered that women through their buying power and influence drive 70-80% of all consumer purchasing (Forbes 2015 n.d.) nevertheless, some product-dependent differences between genders have been found (Niva 2008; Urala 2005)

As concerns age groups, it seems that both younger and older people are interested in FF but for different reasons: younger females are interested in Functional Food to control appetite and body weight (Marina, Marija, and Ida 2017; Stewart-knox and Mitchell 2003); older consumers instead, seem to be motivated by their search for health-supporting products, in this respect, they perceive the use of Functional Food as more beneficial for them (Herath, Cranfield, and Henson 2008; Hursti, Magnusson, and Landström 2009); this relationship may be explained by the exposure of older consumers to more health problems (International Market Bureau 2009).

There is evidence that consumers are more likely to accept FF if they have faced illness among relatives or have experienced illness themselves (West et al. 2002). Consumers that have been ill are more likely to adopt disease preventive food habits (Maynard and Franklin 2003); moreover, consumers concerned about their health are motivated to use Functional Food also to prevent illnesses and maintain themselves healthy (Verbeke 2005). Consequently, "it is important to understand public health issues in a targeted market because they strongly dictate consumer behavior towards the purchase and consumption of products with health claims"(International Markets Bureau 2009, p.3)

Well-educated consumers showed to be more inclined to adopt a healthy lifestyle and showed more positive attitudes towards Functional Food in the majority of the studies (Bruhn 2007; Siró et al. 2008; Urala and Läähteenmääki 2007; Williams 2005); at the same time, some research found that education play no role in as driver of purchase intention (Chambers et al. 2008; Stein and Rodríguez-Cerezo 2008).

Finally, another socio-demographic factor that potentially impacts Functional Food consumption relates to the presence of young children in the household. Recent research showed that parenting triggers focus on nutrition (Annunziata et al. 2016; Maynard and Franklin 2003); in fact, “families, especially those with children, seek quality and healthiness of food products ahead of price” (Annunziata and Vecchio 2010, p. 20).

Attitudes

Research on food and nutrition lacks an understanding of consumers attitudes; “a better understanding of how the public perceives their diets would help to design and implement healthy eating initiatives” (EUFIC 2006; Gibney et al. 1997).

Attitudes have been defined as “*mental states used by individuals to structure the way they perceive their environment and guide the way they respond to it*” (Aaker et al. 2001). Attitudes have three main components: cognitive, affective and action. The first one entails awareness, beliefs, and judgments about the relative importance of each attribute of an object. The Affective component includes a person’s overall feelings toward an object and the third component, the action (or intention) refers to a person’s expectations of future behavior toward an object.

Attitudes lead to behavior, and especially in the context of Functional Food, attitudes proved to be effective predictors of purchase intention (Hursti et al. 2009; Siró et al. 2008). In particular, food lifestyle variables (Annunziata and Vecchio 2010), health consciousness (Michaelidou and Hassan 2008), health knowledge (Cannoosamy et al. 2016; Pem and Jeewon 2015) and attitudes towards Functional Food (Cox et al. 2004; Schimdt 2001; Urala and Läähteenmääki 2007) have been extensively researched.

With reference to food lifestyle variables, previous research focused on attitude towards convenience (today's urban fast paced consumers have less time to cook and their willingness to use ready-to-eat products showed to be related to their acceptance of Functional Food); weight consciousness (people interested in having a healthy lifestyle are more likely to choose products related to health improvement and specific claims like “no sugar added”); novelty orientation (as Functional Food are a new product category); information seeking behavior (Functional Foods often have a lot of information on packaging labels thus it is important to understand if consumers give importance to this information) and finally price consciousness (as Functional Food is sold at premium prices) (Bonilla 2010; Grunert, Brunsø, and Bisp 1993; Kaur and Singh 2017).

Health consciousness has been defined as the awareness and concern about the personal state of well-being as well as the willingness to undertake health actions in order to improve and/or maintain personal health and quality of life (Michaelidou and Hassan 2008). In this respect, a European-wide survey showed that the majority of people (71%) do not feel the need to modify their eating habits as they believe that their diet is already 'healthy enough'. (Gibney et al. 1997). At the same time, studies have shown that people tend to be 'optimistically biased': they perceive less at risk than others, thus they underestimate their likelihood of having an unhealthy diet (Gatenby 1996). Consequently, “it may be unreasonable to expect them to alter their diets or to consider nutrition/healthy eating as a highly important factor when choosing their food” (EUFIC 2006). Health consciousness is one of the most powerful predictors of Functional Food consumption as if consumers consider substituting traditional food for functional one is because the latest is perceived as healthier (Annunziata and Pascale 2009; Ares, Giménez, and Gámbaro 2008).

Attitude towards Functional Food

An important requirement for consumers' interest in a specific food category is the identification of this food group (Stein and Rodríguez-Cerezo 2008). Consequently, it can be inferred that consumer's knowledge of the term 'Functional Food' will influence their interest and acceptance of the category. However, all the studies on Functional Food consistently proved that consumers are not aware of the term “Functional Food” but know to a great extent the underlying concept and

can easily name specific products or brands. Therefore, the latest research suggests avoiding the term 'Functional Food' as an umbrella term in research and marketing because Functional Food is not perceived as one homogenous group. Therefore, in order to obtain reliable data Urala (2005) recommends using the specific product name and product description in consumer research.

Consumers, in general, are expected to have positive attitudes towards the Functional Food concept, as supported by qualitative research studies showing that the majority of consumers believe certain foods have benefits that go beyond basic nutrition and may improve health (Schimdt 2001); and quantitative studies confirming that health attributes are among the main concerns of consumers shopping for food (Nielsen survey 2010).

Health Knowledge

Nutritional knowledge showed to greatly impact food consumption patterns and in particular, several studies reported that increasing nutritional knowledge is associated with higher intake of fruits and vegetables (Cannoosamy et al. 2016; Pem and Jeewon 2015). Along the same lines, research showed that consumers with higher nutritional knowledge and a better understanding of the health effect of FF ingredients are more interested in the consumption of these products (Ares and Gámbaro 2007; Bech-Larsen et al. 2001). On the other hand, knowledge of the effects of different functional ingredients also seem to depend on how long they are on the market (hence in the mind of the consumers): longer-established ingredients (i.e. vitamins, calcium etc.) are significantly more accepted than functional ingredients more recently introduced (i.e. lycopene, flavonoids etc.)(Menrad 2003; Stein and Rodríguez-Cerezo 2008).

As a conclusion, it should be mentioned that multiple studies highlighted that generalizing the characteristics of FF users is not appropriate as Functional Food is not perceived as belonging to a homogeneous product category (Urala and Läähteenmääki 2007). Consumers' reasons for choosing Functional Food over traditional one are product-specific (Ares and Gámbaro 2007; Poulsen 1999). Therefore, researchers suggest that different Functional products should be analyzed as separate products rather than as a homogenous group (Siró et al. 2008). For these reasons, this paper focuses on the analysis of a specific functional product: fruit and vegetable mixed juices

2.3 Fruit and Vegetable Mixed Juices

Functional Beverages

Functional beverages have been defined as ready to drink, non-alcoholic beverages that “*include in their formulation non-traditional ingredients, such as herbs, vitamins, minerals, amino acids or additional fruit/vegetable raw ingredients, depending on the purpose they are designed for*” (Busetto 2008; Jago 2004). Researchers classify them as sport and energy drinks, dairy-based enriched drinks, vitamin or mineral-enriched juices and drinks, near-water drinks and herbal drinks (Corbo et al. 2014; Stein and Rodríguez-Cerezo 2008).

Beverages are the fastest-growing category of Functional Food, first of all, because they are convenient and can easily meet consumer expectations for size, look and shape; moreover, they can be easily stored and distributed and finally, nutrients and bioactive compounds can be added without major difficulties (Corbo et al. 2014). In particular, plant extracts (which include herbal extracts, oleoresins, essential oils and fruit and vegetable extracts) are among the most attractive categories, with a market value of over EUR 1 billion in Western Europe in 2002 (Stein and Rodríguez-Cerezo 2008).

Juices

Among different functional beverages, the soft drink sector has been named 2014 innovation leader (Food Drink Europe 2015). This innovation has been pushed by political pressures (sugar taxes on the agenda of all the major Juice markets), societal changes (aging and very informed consumers changing their beverage habits and demanding more functional benefits) as well as by scientific advancement (Euromonitor 2016). Juice producers tried to regain their healthy image by investing in innovation and product reformulation, releasing “better-for-you” health-enhancing juice products with more functionality, designed to attract health-focused consumers (ReportLinker 2013).

Functional Fruit and Vegetable Mixed Juices

Two main trends have shaped new products launches: the increasing consumer's interest in consuming not only more fruits but also more vegetables, especially the ones marketed as “superfood” (Euromonitor 2016) and the demand for “functional” drinks with targeted beneficial effects. In this context, juice blending proved to be a commonly used method to improve the nutritional quality of juices. An example is the functional fruit and vegetable mixed juice: by adding a “super” ingredient (i.e. vegetables) the sugar and calories content is reduced and the emphasis is on the natural functionality of vegetables that make the juice more healthy (Jothi, Karmoker, and Sarower 2014). Different scientific research showed that fruit and vegetables in combination have synergetic antioxidants effects able to reduce the risk of chronic diseases (Granato et al. 2010; Habib and Iqbal 2014; Jagannath, Kumar, and P. S. Raju 2014; Liu 2004). Research analysts predict “the global fruit and vegetable mixed juices market to grow steadily at a CAGR of more than 3% between 2016 and 2020” (BusinessWire n.d.). In this respect, Tom Vierhile, innovation insights director, Datamonitor Consumer said that the use of vegetables has been “one of the most intriguing trends in the functional beverage market” (Sean Moloughney 2013).

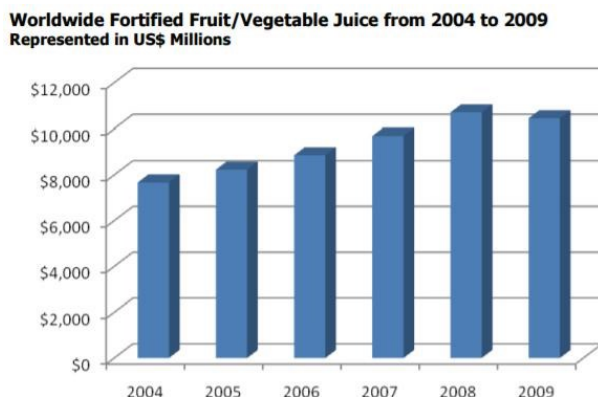


Figure 3: Worldwide Demand for Fortified Fruit and Vegetable Juice

Source: Fortitech 2011

2.4 Conceptual Framework and Hypothesis

Understanding how people make food and health choices and especially predict the likelihood that a dietary behavior change will occur is very complex (EUFIC 2006). Different studies aimed at predicting the consumption of fruits and vegetables used psychosocial models (Theory of Reasoned Action, Theory of Planned Behavior, Health Belief Model etc.) however only a moderately-low

percentage of variance of the purchase intention was explained (.30%). Consequently, based on the evidence found in the literature, this chapter presents a conceptual model envisioned as an adaptation of the one by Kaur and Singh (2017).

The empirical study examines the impact of demographic and attitudinal factors (independent variables) on the willingness to buy functional fruit and vegetable mixed juices, and product characteristics (dependent variables). In particular, the author hypothesizes that the purchase intention towards fruit and vegetable mixed juice (FFVMJ) is influenced by personal factors: demographic characteristics (namely age, gender, education, and presence of young children in the household) and attitudes (food-lifestyle attitudes, health consciousness, health knowledge and attitude towards Functional Food). Moreover, personal factors influence the relative importance given to product-related attributes (health benefits, packaging design, price, flavor, brand, calories content, country of origin of the ingredients, product shelf life and manufacturing process).

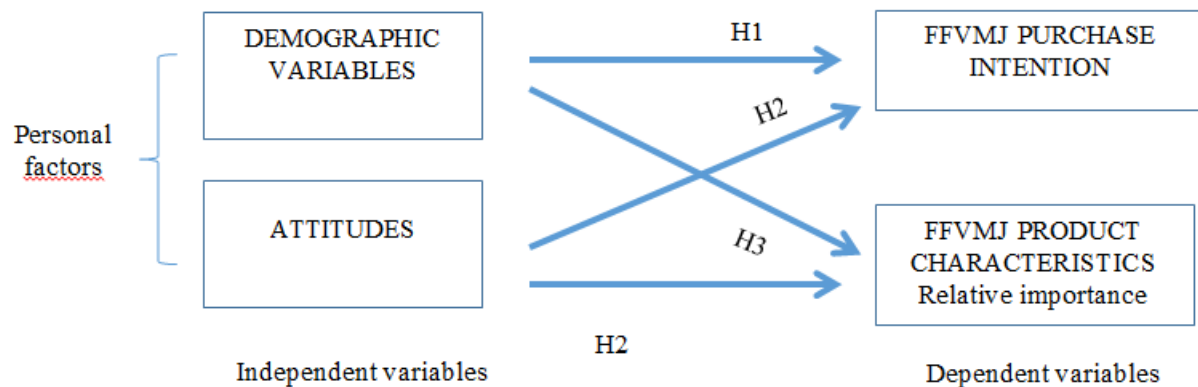


Figure 4: Conceptual Model
Source: own source

Hypothesis

Existing research suggests that specific group of consumers will be more likely to purchase Functional Food. Specific factors such as gender, education, and the presence of children in the household showed to have a particular influence on consumer perceptions about the importance of choosing a healthy diet and more willing to buy Functional Food (Ares and Gámbaro 2007; Ares et al. 2008). Thus the first hypothesis is suggested:

H1: Demographic characteristics have an impact on the purchase intention for functional fruit and vegetable mixed juices (FFVMJ), where:

H1a: Females have a higher purchase intention towards FFVMJ

H1b: The presence of children >18 in the household triggers a higher purchase intention for FFVMJ

In addition, it should be considered that if consumers consider substituting traditional food for functional one is because the latest is perceived as healthier (Annunziata and Pascale 2009; Ares, Giménez, and Gámbaro 2008). Therefore the second hypothesis is proposed:

H2: Attitudinal characteristics have an impact on the purchase intention for functional fruit and vegetable mixed juices (FFVMJ), where:

H2a: Consumers with higher health knowledge have higher purchase intention towards FVMMJ

H2b: Consumers more convenience-oriented have higher purchase intention towards FFVMJ

Finally, in order to understand the consumer's decision-making process, it is important to understand how they perceive different aspects of a product. As literature shows, various consumers groups give different degrees of importance to food-related attributes based on the trade-offs made. Thus, the third hypothesis:

H3: Various consumer segments give different importance to functional fruit and vegetable mixed juices (FFVMJ) product characteristics, where:

H3a: Female young consumers are more interested in calories-related benefits

H3b: Older consumers are more interested in specific health benefits

3. Methodology

3.1 Research Method

Before launching a product, in order to assess the market viability of an idea, there needs to be research on the concept. Concept testing includes qualitative (focus groups or in-depth interviews) and quantitative research (i.e. surveys) aimed at measuring consumer's reactions to a proposed product (Dolan 1992).

Concept testing measures the likelihood of purchase intention by presenting the product idea and asking consumers for their reaction on a five-point "purchase intent" scale. There are two main ways in which the concept can be communicated: with factual/nonemotional "core idea" or in the context of persuasive communications "positioning concept" as would be in a typical market situation. Even if the latter better predicts consumer's behavior and purchase intention, it is strongly influenced by the communication strategy. Moreover, another communication issue is related to the use of words only and/or illustrations as well. In general, factual communication with words only always predicts a lower purchase intent score.

Concept diagnostics includes not only testing the overall idea but also the testing of the relative importance of specific product attributes. Specific attribute diagnostics is done by probing which attributes/benefits significantly contribute or distract from the purchase intention.

Finally, as consumers respond to product concepts in different ways, it is important to collect profiling variables. As concerns results interpretation, research shows that there is a high correlation between purchase intention and trial and a product should be launched when the product concept receives 80-90% of favorable answers ("definitely would buy" or "probably would buy") (Dolan 1992).

3.2 Research Instruments

In-depth Interviews

Qualitative methodologies are very useful in exploratory studies as they allow generating ideas and hypothesis for quantitative testing, defining the issue more precisely, obtaining information helpful in structuring questionnaires, gaining an initial qualitative understanding of the underlying reasons and motivations behind purchase intention and also afterward, interpreting quantitative results obtained through the survey.

In particular, semi-structured in-depth interviews have been selected as the methodology that best suits this exploratory research mostly because face-to-face interaction with participants allows establishing relationship and trust that are very important when dealing with sensitive health type questions. Disadvantages of this kind of methodology include the interviewer's critical role that can lead to ambiguous or misleading results.

10 semi-structured in-depth interviews have been conducted with Italians of different ages; they lasted between 15-30 minutes depending on the interviewee. Three main topics have been explored: the first one, Food-related lifestyle and attitudes whose main objective was to explore consumers' diet preferences and if health considerations are an important factor in their food consumption decisions. The second part, about Functional Food perceptions, was aimed at exploring consumers' existing knowledge and attitudes towards Functional Foods and their potential health effects and finally, the last part was focused on Fruit and Vegetable Mixed Juices drivers and purchase intention. The full interview questions and coded responses are in the Appendix section.

Online Survey

Online surveys are a data collection methodology that allows gathering responses from a large audience with low administrative cost and in a time effective manner. In addition, collecting data online also provides greater flexibility and convenience for participants as the survey can be accessed without any spatial or temporal restrictions. Another advantage of online survey tools is

the multitude of features to customize the survey according to the research purpose, together with the ease of data entry and analysis (Evans & Mathur, 2005). However, especially considering the sensitive health-type questions present in this study, participants may be unwilling to respond accurately due to concerns about invasion of privacy or prestige-seeking and social desirability response bias. These issues are particularly relevant because the questionnaire of this study was mostly posted on social media and/or delivered through private messages and shared by acquaintances.

An online survey using the professional software Qualtrics (www.Qualtrics.com) was conducted in order to reach a sufficiently large number of participants within a specific period of time. This software allows for data protection and for the export of the dataset in a way that is compatible with the subsequent data analysis software. In this case, SPSS was the chosen software for the statistical analysis of the information collected during the research. In order to guarantee that questions wording was clear, objective and as short as possible (as some authors recommend (Malhorta 1999)), the questionnaire has been pre-tested, 7 participants that did not participate in the final study were asked for feedback and their opinions have been integrated into the final study.

The online questionnaire included 25 questions, divided into five main sections that examined respectively: food-related lifestyle including health consciousness, health knowledge, attitudes towards Functional Food, functional fruit and vegetable mixed juices purchase intention and attributes relative importance and finally demographic variables.

The first part of the questionnaire concerned food-related lifestyle and attitudes. In particular, 12 statements were formulated based on the Food-related lifestyle instrument (Grunert et al. 1993). The questions focused on the attitudes identified by the literature as having an influence on Functional Food purchase intention, namely: attitude towards convenience (i.e. In my family we use frozen/ready-to-eat food at least once a day), weight consciousness (i.e. eating low calories food is important for me), novelty orientation (i.e. I like to try new food that I never tasted before), information seeking behavior (i.e. I compare product information labels to decide which brand to buy), price consciousness (i.e. I compare prices between product variants in order to get the best value food) and health consciousness (i.e. I try to avoid food products with additives). Two

statements were used for investigating each attribute, numerically coded using a 5-point Likert scale (1-strongly disagree – 5 strongly agree).

The second part of the questionnaire aimed at testing consumer's health knowledge. In particular, 4 statements related to nutrient and function claims for well-known (blueberries/antioxidants) and less well-known (cocoa/proteins) products have been formulated, based on recent scientific studies (Crozier et al. 2011). The results have been numerically coded on a 1 (not at all) - 4 (very good) health knowledge scale.

The third part related to Functional Food perceptions. The 9 statements were based on a study on Italian consumers' attitudes towards FF (Annunziata and Vecchio 2010). The statements related to beliefs about the effects of food beyond basic nutrition (i.e. I am aware of the link between food style and health issues), the use of food supplements, and the existence of any specific need that can potentially lead to an higher propensity towards Functional Food use (health concerns, medical disorders, ethical considerations, the practice of specific sports).

The fourth part concerned functional fruit and vegetable mixed juices. For the concept testing, the product idea was communicated in a factual/nonemotional way, without illustrations. This choice was made in order to avoid the influence of the communication strategy. FFVMJ were defined as *“A new and innovative ready-to-drink product that blends fruits and vegetables; usually sold in bottles, in a convenient single-serve portion. Given the specific fruits and vegetables with which it is made, it can potentially have health benefits beyond basic nutrition (i.e. antioxidants properties)”*. Awareness and previous product trial were tested. Afterward, the likelihood of purchase was tested through the “purchase intent” scale suggested by Dolan (1= “definitely would not buy” to 5= “definitely would buy”) (Dolan 1992). In both cases, the respondents were redirected to a question asking the motivation behind their choice (i.e. Why would you/wouldn't you consider buying a FFVMJ). The respondent willing to buy FFVMJ was then asked to rank the factors that would influence the most his choice on whether to buy this product in order of importance, with the first one as most important and the last one as least important. Product-related characteristics were based on the literature review, on previous studies but also on the in-depth interview results. The attributes considered were: health benefits of specific ingredients, brand,

packaging design, flavor; price, country of origin of the ingredients; product shelf life (product perceived freshness), calories and manufacturing process (i.e.HPP).

The questionnaire ended with a fifth and last section where respondents were asked about demographic information such as age, gender, education, the presence of children >18 in the household and marital status.

3.3 Measurement scales

Some measures used in this study are adaptations from previous studies. In order to apply the scale to Italian consumers all the statements have been translated and with the purpose of ensuring that the questionnaire captured the same meanings across languages, considerable effort was undertaken to ensure conceptual comparability.

As regards the qualitative analysis, the in-depth interview questions were based on previous qualitative research using the same methodology for analyzing specific functional food products (Barcellos et al. 2011; Maja Jovanovic 2013; Neeliah et al. 2009) and adapted based on the main topics of this study.

The food-lifestyle attitudes questions are adapted from the Food-related Lifestyle (FRL) instrument developed by the MAPP European center for customer research in the food sector. The FRL is the most widely used instrument for consumer research in all food and nutrition-related areas and it has been used in more than 50 thousand publications (Dziadkowiec, Balon, and Sikora 2014). From the 23 lifestyle dimensions related to purchasing motives and consumption situations, 6 were considered relevant and used for the first part of the questionnaire. In order to measure attitudes towards Functional Food questions from the study of Azzurra and Vecchio on Italian's perceptions towards FuFo have been used (Annunziata and Vecchio 2010). The methodology for concept testing of functional fruit and vegetable mixed juice is adapted from the Harvard Business Review Article "Concept Testing" from Dolan (Dolan 1992). Finally, attributes testing was based on the key driver analysis methodology that suggests rating attributes in order to find key drivers of the purchase intention (Lieberman 2001)

3.4 Sampling

Sampling involves the random (probability sampling) or subjective (non-probability sampling) selection of a portion of the population being studied. Probability sampling usually leads to more statistically significant results as it is not subject to selection bias (Battaglia and Michael P. 2011). However, the main reason for using nonprobability sampling techniques is that it is less expensive and allows a faster data collection, for these reasons it has been considered the methodology that best suits this research. In particular, the convenience sampling techniques that selects respondents based on the ease of obtaining interview data has been employed. Italian consumers have been recruited online by posting the questionnaire on social media.

4. Analysis and Results

4.1 Data collection

All data was collected between the 7th and the 19th of April 2017. A total of 185 surveys were started of which 152 were fully completed. High dropout rates are not uncommon for web-based self-administered surveys since participants can be easily interrupted and/or do not feel committed to answering all the questions in the survey (Reips 2002). However, with 82% completion rate the author considers that the mean used for survey distribution and the survey length were adequate.

4.2 Sample characterization

An analysis of the sample shows the predominant presence of women (68%); aged between 25-34 (32%), 18-24 (20%) and 55-64 (20%). With regard to the education level, the majority of the participants holds either a Master degree (38%) or a High school degree (35%) and is employed (66%).

Table 1: Sample Demographics

| | | Sample (Percentage) |
|------------|-----------------------|---------------------|
| Gender | male | 32.2 |
| | female | 67.8 |
| Age | 18-24 | 19.7 |
| | 24-34 | 32.2 |
| | 35-44 | 9.9 |
| | 45-54 | 17.1 |
| | 55-64 | 19.7 |
| | 65+ | 1.3 |
| Education | Middle School diploma | 7.2 |
| | High School diploma | 34.9 |
| | Bachelor degree | 19.7 |
| | Master degree | 38.2 |
| Occupation | unemployed | 5.3 |
| | student | 23.0 |
| | retired | 5.3 |
| | employed | 66.4 |

4.3 Explorative Analysis

4.3.1 Descriptive Statistics

Food Lifestyle, Health Concerns and Health Knowledge

On average, the majority of the respondents of the sample (90%) strongly agree that food naturalness as well as avoidance of additives are important criteria for food choices; moreover, the majority of the respondents agree on the importance that they give to product information as well as to food calories control. Even if the majority of the respondents mentioned that they follow a regular and well-balanced diet, 15% (especially the older segment 45-65+) mentioned the influence of their medical status (allergies, intolerances, cardiac problems, diabetes etc.) in their food decisions. Stress is a major concern for the majority of the respondents as well as weight loss that particularly concerns the segments aged 18-34 and 55-64. Moreover, age-specific concerns mentioned are: acne (11%) for the younger segment 18-24, skin aging (in particular 25-34: oily skin), 45-64: menopause (on average 21%) and 55-64 insomnia (14%). As regards more serious health problems, digestive problems concern the majority of the respondents (average: 25%). As regards more age-specific concerns, blood pressure concerns in particular the segment aged 45-54 (16%), cardiovascular diseases concerns 55-65+ (average 20%), 55-64: osteoporosis/arthritis (18%) and 65+ (respiration problems). The majority of the respondents (53.9%) have rather low health knowledge (average of 1.5 correct responses/ 4 questions). As reported in the literature, the most well-known ingredients and their related health benefits are the ones that are in the market (thus in consumer's minds) since longer (for example blueberries and their antioxidants properties).

Attitudes, awareness, and information on Functional Food

The predominance of respondents feel that they have control over their health (49% strongly agreeing) and they are aware of the link between food style and health status (40%); however when asked about their willingness to give up the food they like in order to improve their health, 30% said that they "neither agree nor disagree". A high percentage of respondents, especially women, use food supplements that, as confirmed by the literature, can have an influence on Functional Food purchase intention.

Attitudes, awareness, and willingness to buy FFMVJ

The majority of the respondents is not aware and has not tried FFVMJ. However, (see table below) 51.3 % has a favorable answer when asked about the willingness to buy this product.

Frequency Table

| FVMJ_WTB | | | | | |
|----------|---------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | very unlikely | 7 | 4,6 | 4,6 | 4,6 |
| | unlikely | 16 | 10,5 | 10,5 | 15,1 |
| | not sure | 51 | 33,3 | 33,6 | 48,7 |
| | likely | 37 | 24,2 | 24,3 | 73,0 |
| | very likely | 41 | 26,8 | 27,0 | 100,0 |
| Total | | 152 | 99,3 | 100,0 | |
| Missing | System | 1 | ,7 | | |
| Total | | 153 | 100,0 | | |

Table 2: Frequency Table Willingness to buy FFVMJ
Source: SPSS output

The main reason for buying Fruit and Vegetable Mixed Juices are that “it is a convenient way of eating healthy” (30%), “out of curiosity” (30%), because of its taste/flavor (15%) and looking for the health benefits of specific ingredients (15%). And the three most important criteria when deciding whether to buy fruit and vegetable juices, are: Packaging (mean 7.23), followed by ingredients Flavor (mean 6.47) and Price (mean 6.11). This results probably explained by the fact that the product is unfamiliar to the majority of respondents. The main reasons for not be interested in FFVMJ are related to the perceived bad flavor of the juice, the perceived presence of sugar and the fact that consumers prefer to eat fresh juices or have time to prepare juices by themselves.

4.3.2 Inferential Statistics

The demographic and attitudinal profile of potential buyers of FFVMJ

The analysis started with testing correlations (predictive relationships) between variables.

Significant relationships have been found between willingness to buy and attitude towards convenience (p-value .031) as well as between willingness to buy and gender (p-value .00) (see graphs in the Appendix).

After testing for correlations, the analysis proceeded with linear regression, in order to predict the relationship between the dependent variable (willingness to buy) and the explanatory (or independent) variables related to attitudes and demographics. The adjusted R-square of .107 shows

that 10.7% of the variance in the model is explained by the variables and the ANOVA shows that the model is statistically significant. Finally, the residuals are normally distributed (see graphs below).

| Model Summary | | | | |
|---------------|-------------------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | ,422 ^a | ,178 | ,107 | 1,068 |

a. Predictors: (Constant), Information_attitude, Convenience_Attitude, Novelty_attitude, PriceSensitive_Attitude, Age, Babies, HealthKnowledge_Attitude, Gender, Occupation, Heathiness_attitude, Education, Calories_attitude

| ANOVA ^a | | | | | | |
|--------------------|------------|----------------|-----|-------------|-------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 34,369 | 12 | 2,864 | 2,511 | ,005 ^b |
| | Residual | 158,519 | 139 | 1,140 | | |
| Total | | 192,888 | 151 | | | |

a. Dependent Variable: FVMJ_WTB
b. Predictors: (Constant), Information_attitude, Convenience_Attitude, Novelty_attitude, PriceSensitive_Attitude, Age, Babies, HealthKnowledge_Attitude, Gender, Occupation, Heathiness_attitude, Education, Calories_attitude

Table 3: Linear Regression of Demographic and Attitudinal variables on the purchase intention for FFVMJ
Source: SPSS output

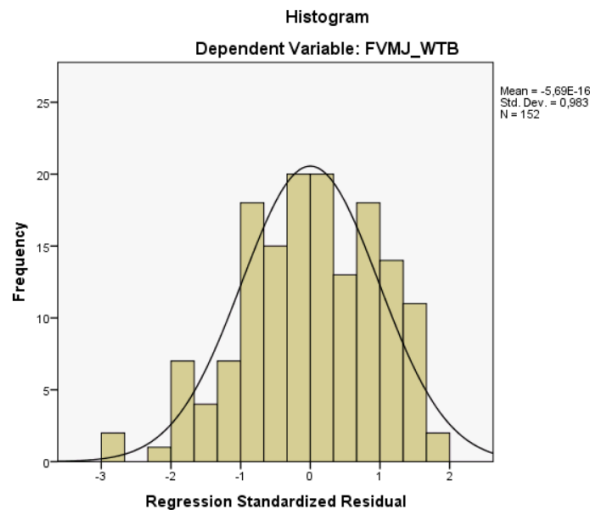


Table 4: Residuals Distribution of the Linear Regression of Demographic and Attitudinal variables on the purchase intention for FFVMJ

Source: SPSS output

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2,681 | ,825 | | 3,251 | ,001 |
| | <u>Convenience_Attitude</u> | ,138 | ,057 | ,193 | 2,412 | ,017 |
| | <u>Gender</u> | ,873 | ,196 | ,362 | 4,460 | ,000 |
| | Age | ,018 | ,061 | ,023 | ,292 | ,771 |
| | Babies | ,045 | ,108 | ,034 | ,414 | ,679 |
| | Education | -,005 | ,094 | -,004 | -,048 | ,961 |
| | Occupation | ,001 | ,094 | ,001 | ,014 | ,989 |
| | <u>Novelty_attitude</u> | ,083 | ,052 | ,127 | 1,584 | ,115 |
| | PriceSensitive_Attitude | -,050 | ,064 | -,061 | -,774 | ,440 |
| | <u>Healthiness_attitude</u> | -,090 | ,058 | -,131 | -1,548 | ,124 |
| | HealthKnowledge_Attitude | -,002 | ,119 | -,002 | -,020 | ,984 |
| | Calories_attitude | -,008 | ,048 | -,016 | -,176 | ,861 |
| | Information_attitude | -,047 | ,051 | -,086 | -,920 | ,359 |

a. Dependent Variable: FVMJ_WTB

Table 5: Coefficients Significance

Source: SPSS output

From the analysis, we can conclude that both attitudes and demographic characteristics have an influence on the purchase intention towards FFVMJ. In particular, gender and attitude towards convenience have a positive influence on purchase intention as well as (even if not at a highly significant level) novelty attitude and healthiness attitude. Consequently, females, convenience-oriented, who consider product's healthiness important and like to try new food (novelty) are more willing to buy fruit and vegetable juices. It is worth mentioning a high negative (-.159) correlation between convenience and education, (significant at p-value: .051) (see appendix) therefore, the higher the level of education, the lower the need for convenience; moreover a high negative correlation (-.159) between novelty attitude and babies (p-value: .050) therefore the more babies in the family, the less willing to try new food and unfamiliar brands, and finally a high positive (.166) correlation between novelty and education (p-value .041) therefore the higher education, the more willing to try new food. It can be concluded that if both novelty and convenience predict willingness to buy fruit and vegetable mixed juices, the level of education has no effect. It must be noticed that the model explains only 10% of the variance. This result may be explained given that the product is not known by the majority of the consumers, thus most of the consumers answered: "maybe I would buy it".

The first Hypothesis: Females have a higher purchase intention for Fruit and Vegetable Mixed Juices, is accepted. The second hypothesis, the presence of children >18 in the household triggers a higher purchase intention for fruit and vegetable mixed Juices is rejected. The third hypothesis: higher health knowledge is associated with a higher purchase intention for functional fruit and vegetables mixed juices is rejected. The fourth hypothesis: convenience-oriented consumers are more willing to buy fruit and vegetable mixed juices is accepted.

Consumers segmentation based on the relative importance given to product-related characteristics

In this second section, the researcher tries to group the potential buyers of Fruit and Vegetable juices based on the importance given to product-specific attributes and tries to profile them through demographic variables.

Overall it has been found that the highest number of consumers is interested in packaging and flavor, with no differences statistically significant.

As regards other factors, through linear regression we can see the effect of explanatory variables on the dependent variable.

Starting from price, ranked as the third most important factor by the majority of respondents, two variables have been found slightly statistically significant: health knowledge (p-value .070) has a positive influence and babies (p-value .024) negative influence (see graph below). It can be inferred that people having children >18 in the household and lower health knowledge are less concerned about the price of Fruit and Vegetable Mixed Juices.

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|--------------------------|-----------------------------|------------|---------------------------|--------|-------------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 6,566 | 2,152 | | 3,050 | ,003 |
| | Gender | -,612 | ,597 | -,105 | -1,025 | ,308 |
| | Age | ,000 | ,190 | ,000 | ,001 | ,999 |
| | Babies | -,734 | ,321 | -,241 | -2,289 | ,024 |
| | Education | -,110 | ,292 | -,040 | -,377 | ,707 |
| | Occupation | ,126 | ,279 | ,046 | ,453 | ,652 |
| | HealthKnowledge_Attitude | ,700 | ,382 | ,187 | 1,835 | ,070 |
| | Heathiness_attitude | -,021 | ,196 | -,012 | -,107 | ,915 |
| | Convenience_Attitude | -,216 | ,186 | -,121 | -1,159 | ,250 |
| | Calories_attitude | -,184 | ,161 | -,136 | -1,140 | ,257 |
| | Novelty_attitude | ,146 | ,166 | ,092 | ,882 | ,380 |
| | Information_attitude | ,155 | ,180 | ,113 | ,860 | ,392 |

a. Dependent Variable: Price

Table 6: Linear Regression of Demographic and Attitudinal variables on Price
Source: SPSS output

When we look at the product-characteristic health benefits, we can notice that the only factor that is statistically significant is Age. In particular, older consumers give more importance to the health benefits of the product.

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|-------|------------|-----------------------------|------------|---------------------------|--------|-------------|-------------------------|-------|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 4,883 | ,802 | | 6,088 | ,000 | | |
| | Age | ,673 | ,150 | ,419 | 4,494 | ,000 | ,976 | 1,024 |
| | Education | -,102 | ,226 | -,044 | -,453 | ,651 | ,916 | 1,091 |
| | Occupation | -,299 | ,218 | -,130 | -1,374 | ,173 | ,941 | 1,063 |
| | Gender | ,312 | ,458 | ,064 | ,682 | ,497 | ,976 | 1,024 |
| | Babies | -,019 | ,244 | -,007 | -,077 | ,939 | ,941 | 1,063 |

a. Dependent Variable: HealthBenefits

Table 7: Linear Regression of Demographic and Attitudinal variables on Health Benefits
Source: SPSS output

Another interesting result is that the presence of babies >18 in the household triggers importance towards Brand, Country of origin (see next graph) and Product Freshness (expressed by product shelf life). It can be inferred that for mothers when buying Fruit and Vegetable Juices, familiar brands, with ingredients “made in Italy” that look fresh are important decision criteria.

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|-------|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 4,660 | ,853 | | 5,463 | ,000 | | |
| | Age | ,081 | ,159 | ,051 | ,508 | ,612 | ,976 | 1,024 |
| | Education | -,009 | ,241 | -,004 | -,037 | ,971 | ,916 | 1,091 |
| | Occupation | ,157 | ,231 | ,069 | ,678 | ,499 | ,941 | 1,063 |
| | Gender | ,550 | ,487 | ,112 | 1,128 | ,262 | ,976 | 1,024 |
| | Babies | ,619 | ,259 | ,242 | 2,388 | ,019 | ,941 | 1,063 |

a. Dependent Variable: Brand

Table 8: Linear Regression of Demographic and Attitudinal variables on Brand
Source: SPSS output

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|-------|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 6,346 | ,905 | | 7,015 | ,000 | | |
| | Age | -,158 | ,169 | -,093 | -,935 | ,352 | ,976 | 1,024 |
| | Education | -,253 | ,255 | -,102 | -,991 | ,324 | ,916 | 1,091 |
| | Occupation | -,058 | ,245 | -,024 | -,236 | ,814 | ,941 | 1,063 |
| | Gender | ,409 | ,517 | ,079 | ,792 | ,430 | ,976 | 1,024 |
| | Babies | ,542 | ,275 | ,200 | 1,970 | ,052 | ,941 | 1,063 |

a. Dependent Variable: COO

Table 9: Linear Regression of Demographic and Attitudinal variables on Country of origin
Source: SPSS output

As Age showed to be statistically significant in the importance given to Product Shelf life and Calories, it can be inferred older consumers tend to be more concerned about the calories that Fruit and Vegetable Juices as well as their freshness (expressed by the shelf life indication).

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 5,788 | ,845 | | 6,849 | ,000 | | |
| | Age | -,319 | ,158 | -,201 | -2,022 | ,046 | ,976 | 1,024 |
| | Education | ,267 | ,238 | ,115 | 1,120 | ,266 | ,916 | 1,091 |
| | Occupation | ,176 | ,229 | ,078 | ,770 | ,443 | ,941 | 1,063 |
| | Gender | -,446 | ,483 | -,092 | -,925 | ,357 | ,976 | 1,024 |
| | Babies | -,018 | ,257 | -,007 | -,070 | ,944 | ,941 | 1,063 |

a. Dependent Variable: Calories

Table 10: Linear Regression of Demographic and Attitudinal variables on Age
Source: SPSS output

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|--------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 (Constant) | 6,387 | ,993 | | 6,432 | ,000 | | |
| Age | -,389 | ,185 | -,205 | -2,101 | ,038 | ,976 | 1,024 |
| Education | ,175 | ,280 | ,063 | ,627 | ,532 | ,916 | 1,091 |
| Occupation | -,078 | ,269 | -,029 | -,291 | ,771 | ,941 | 1,063 |
| Gender | ,512 | ,567 | ,088 | ,903 | ,369 | ,976 | 1,024 |
| Babies | -,600 | ,302 | -,197 | -1,988 | ,050 | ,941 | 1,063 |

a. Dependent Variable: ProductShelfLife

Table 11: Linear Regression of Demographic and Attitudinal variables on Product Shelf Life
Source: SPSS output

In conclusion, the fifth hypothesis: Females are more concerned about the calories of Fruit and Vegetable Juices is rejected and the sixth hypothesis: Older consumers are more interested in the health benefits of Fruit and Vegetable Juices is accepted.

5. Conclusion

This research sought, first of all, to identify the profile of potential buyers of Fruit and Vegetable juices through attitudes and demographic variables. The results showed that attitudinal and demographic variables explain the purchase intention towards FFVMJ; in particular, females convenience-oriented are more likely to buy this product. These results confirm previous studies stating that the majority of the buyers of functional products are females, the major buyers of the family's groceries. Moreover, the fact that convenience-oriented consumers are more willing to buy these juices confirms the trend towards smaller format retailing and shift towards smaller, single-serve portions.

As regards the second research question, potential buyers of Fruit and Vegetable juices were grouped based on the importance given to product-specific attributes. Even if cluster analysis was not possible due to too low across-group variation, some results have been found. Consumers' interest in product-specific attributes such as packaging-design, flavor and price and the fact that most consumers are not aware of the existence of this product in the supermarket shows that marketing efforts should focus on creating an attractive juice and strongly advertise it, with, for example, point-of-sale panels. As flavor was mentioned as main concern for consumers, there could be advertised with free trials in supermarkets. Research and development on the product taste should make sure that it taste fresh and natural (important food decision criteria for Italians).

Moreover, as both the in-depth interviews and the segmentation analysis confirmed, specific groups that can be targeted are mothers with babies that are more price-elastic and older people that seemed to be more concerned about the health benefits of specific ingredients. Another targeting strategy could be to focus on specific health-related benefits, in particular, the ones mentioned by the majority of the respondents: stress and weight loss, as well as digestive problems or on age-specific benefits (for example fruits and vegetables that help for acne specifically targeting the younger segment 18-24).

Finally, these findings cannot be fully explained without taking into account the reference market on which this study is based: Italy. Qualitative and quantitative analysis showed that most of the

respondents consider their diet already very healthy; this is supported also by Bloomberg Healthiest Country Index (WTO 2017) ranking Italy's population as the healthiest in the world. This strongly influences Italians attitudes and purchase intention towards a product like FFVMJ; in fact "If people believe that their diets are already healthy it may be unreasonable to expect them to alter them" (EUFIC 2006). In this sense, in order to promote functional fruit and vegetable juices there may be the need to increase awareness among the general population that their own diet is not wholly adequate in terms of vegetable consumption.

Moreover, functional fruit and vegetable juices, as well as Functional Food in general, have still a very low penetration in Italy, this explains why few variables were able to explain the purchase intention for this product (as most people have never seen the product before and were unsure whether they would buy it or not; especially since the core idea was proposed with a "core idea" statement, with no pictures). In addition, the low awareness for FFVMJ also very likely explains why "packaging design" and "price" were the most mentioned product-related attributes that the majority of the respondents consider important. These two product characteristics are in fact usually mentioned when products are unknown to consumers.

The results of this research contribute to the existent body of literature on Functional Food, showing that indeed FF is not a homogeneous product category and their acceptance is very product and country-specific. Indeed food choices are shaped by cultural influences therefore, both academic research as well as marketing and product development, should focus on the analysis of specific functional food products for specific consumer segments rather than being developed for the whole marketplace

6. Limitations and Future Research

Some limitations are associated with the nature and scope of the research. In particular, while self-administered surveys are perceived to be less intrusive and therefore suitable for more personal or sensitive topics (Evans & Mathur, 2005), consumer decision making studies have been shown to be susceptible to social desirability bias (Antonetti & Maklan, 2014b; Carrington et al., 2010;). Social desirability bias occurs when “people feel in social pressure to respond with answers in research that they believe are socially acceptable” (Carrington et al., 2010, p. 143). While the researcher tried to reduce the impact of social desirability bias in the way the survey questionnaire was designed, it still needs to be acknowledged as a limitation of the methodology used and might also explain some of our findings. Also, the reliability and generalizability of the presented findings are assumed to be substantially improved with a larger, more diverse sample not biased towards sex and age. Finally, the low level of variance explained by the model used for concept testing could have been prevented with a “positioning concept testing”, nevertheless, a positioning statement could have influence consumers’ respondents.

Future research should focus on specific consumer segments, for example older segments more interested in the health benefits of the product or young consumers more interested in packaging. A conjoint analysis may be a useful tool to establish the trade-offs that specific consumer groups make when deciding whether to buy functional fruit and vegetable mixed juices.

Appendices

Appendix 1

IN-DEPTH INTERVIEW OUTLINE (adapted from Maja Jovanovic 2013)

| SECTION | OBJECTIVE | QUESTIONS |
|---|--|--|
| Food-related Lifestyle and Attitudes | -explore consumers' diet preferences -opinions about the connection between food and health -if health considerations are an important factor in food consumption decisions | Do you think you are in control of your health? Do you consider your diet healthy? What do you do to improve your health status/keep yourself healthy? What is the health concern you find yourself worrying about the most? Do you think that food has an impact on your health? Do you try new foods sometimes? Why? |
| Functional Food perceptions | -explore consumers' existing knowledge about functional foods -attitudes toward functional foods considering health effects | Do you know anything about foods with health benefits beyond basic nutrition (functional foods)? Do you buy any functional food? Why? Do you take any food supplement? Why? |
| Fruit and Vegetable Mixed Juices drivers and purchase intention | -determining general awareness and familiarity with FVJ -identifying main factors influencing willingness to buy and underlying opinions. -identifying perceived benefits of FVJ | Are you aware of the existence of FFVMJ? Have you ever tried them? How was the experience? Would you buy it? Why? Why not? Which factors would influence your decision to purchase FVJ? |
| Demographic | Profiling respondents | Age, gender, education |

Appendix 2

SUMMARY OF IN-DEPTH INTERVIEW ANSWERS

Food-related Lifestyle and attitudes

All the ten Italians interviewed mentioned that they feel in control of their health and they consider their diet healthy so they do not feel the need to make big changes to it. Two of the older respondents mentioned that even if they eat healthy, their lifestyle is sedentary mostly because they spend all day at work and they have no time for practicing sport. In order to keep themselves healthy the majority of respondents mentioned that they control what they eat, so for example they avoid food with additives, try to eat natural-bio products that are fresh, in particular a lot of fruits and vegetables (some respondents mentioned they eat the fruits and vegetables home-grown). Drinking at least two liters of water was also mentioned, and 3 respondents said that they practice sport or try to go walking etc. at least once a day. One respondent mentioned that he believes is level of health depends also on the very good sanitary system Italy has. As regards the health concerns that respondents are mostly concerned about, different consumers had different answers. A 55 years-old woman said menopause concerns her a lot, a 22-years old woman said she cares a lot about her skin so for example she buys a lot of creams. Other concerns mentioned ranged from serious problems: from a 61-years old man mentioned he had cardiovascular health problems, to a common skin acne, stress (mentioned very often), weight concerns, digestion problems etc. The majority of the respondents mentioned that they believe food has an effect on health but serious health problems need more than a healthy eating lifestyle. Some respondents mentioned that they believe in psychosomatic science and so that our way of thinking and for example stress also has an impact on our health. Younger respondents seemed more willing to try new products and the majority of the respondents mentioned that the main motivations for trying new products are the product healthiness and its taste, for example friends and family suggesting that a product is very healthy or that it has a very good taste.

Functional Food perceptions

All the respondents mentioned that they have already seen Functional Food; already few of them were able to mention examples. The most common example was Activia yogurt (probably because it has been advertised for a long time), the second most common example was Gojii seeds and Blueberries both considered “superfood” very healthy, as well as ginger and different seeds (chia, pumpkin seeds etc.) used in salads or in yogurt in order to give a sense of satiety. Some respondents mentioned that they take food supplements, for example minerals, in order to feel more energetic during the day. A man mentioned he takes proteins supplements for the sport he practices.

FFVMJ Perceptions and purchase intention

A lot of respondents mentioned they already tried freshly made fruits and vegetable juices and they like the taste, however only one respondent said he saw the ready-to drink ones in the supermarket. The respondents mentioned important characteristics of the product that would influence their willingness to buy it are related to freshness perception, so for example if the product is in the supermarket fridge and it has an expiry date; taste, calories content, juice color, price, and how it looks like, so the packaging design and the pictures. The main reason for buying this product is that it is an easy way to consume vegetables and fruits, an healthy snack (some people mention that they would brink it at work/at university), some people mentioned they would buy it out of curiosity, to try something new and also to lose weight. A mother said she would buy it for her young child, as a healthy snack. The main reasons mentioned for not wanting to try this juice related to the flavor (some people mentioned vegetables do not taste good in a drink, some others said juices ready-to-drink are unhealthy and full of sugars and finally some mentioned that they prefer to drink freshly made fruit and vegetable juices that they find at bars.

Appendix 3

ONLINE QUESTIONNAIRE

Introduction to the survey

Dear Participant, welcome!

I am a Master student from Católica Lisbon School of Business and Economics and this survey is part of my study for the Master Thesis on the topic of Product Innovation. The survey will take about 7 minutes to complete. It's crucial for me that you finish it. Please be assured that the information you give will remain anonymous and confidential.

Thank you in advance for your time, Sofia

Ps. If you can, please use computer or tablet instead of the phone.

Pps. If you have questions or feedback regarding the survey please contact 152115085@alunos.lisboa.ucp.pt

Q1. Please read the following sentences and rate your level of agreement with each statement (1-strongly disagree, 5-strongly agree):

To me the naturalness of the food that I buy is an important quality.

I try to avoid food products with additives.

I always try to get the best quality for the best price.

I compare prices between product variants in order to get the best value food.

I use frozen foods for at least one meal a day.

I never have time for cooking

I love trying recipes from foreign countries.

I like to try new foods that I have never tasted before

I compare product information labels to decide which brand to buy.

I have more confidence in food products that I have seen advertised than in unadvertised products

I have control over my health

I am willing to give up the food I like in order to improve my health status

I am aware of the link between food style and health issues

Q2. My diet is mostly influenced by:

Medical status (allergies, intolerances, cardiac problems, diabetes..)

Ethical reasons (I am vegan/vegetarian)

The specific requirements of the sport I practice (i.e. need for proteins)

The hypo caloric diet I am following

My regular, well-balanced diet

Other (please specify)

Q3. Do you use Food supplements? (i.e. vitamins, fiber, antioxidants, probiotics etc.)

Yes – No

Q4. Which health concern do you find yourself worrying most about? (dropdown menu)

Cardiovascular disease, blood pressure, gastrointestinal health, cancer, vision, diabetes, arthritis / osteoporosis, respiratory disease, autoimmune system, other, I am not concerned about my health- none

Q5. Do you think the health problem you selected can be prevented/cured through nutrition?

Yes - No

Q6. Which of the following concerns do you find yourself worrying most about? (dropdown menu)
Stress, weight loss, skin aging, depression, oily skin, acne, menopause, insomnia, other, none of them

Q7. Do you think the health problem you selected can be prevented/cured through nutrition?

Yes - No

Q8. Please read the following statements and mark the option that you consider correct: “true” or “false”. In case you do not know, please select “I don’t know”

Antioxidants maintain cells integrity T-F-IDK

Cocoa and dark chocolate contain more antioxidants than blueberries T-F-IDK

Blueberries contain a high amount of proteins T-F-IDK

Eating too less proteins can result in a sluggish metabolism and problems losing weight T-F-IDK

The following questions are all focused on a new product: *A new and innovative ready-to-drink product that blends fruits and vegetables; usually sold in bottles, in a convenient single-serve portion. Given the specific fruits and vegetables with which it is made, it can potentially have health benefits beyond basic nutrition (i.e. antioxidants properties)*

We will call it FFVMJ

Please note: We are not considering fresh juices made at home or at cafes/bars

Q9. Were you aware of the existence of FFVMJ?

-Yes –No

Q10. Have you ever tried FFVMJ?

-Yes –No

Q11. How likely would you buy a FFVMJ? Please select the option that best reflects your opinion (1=definitely would not buy 5=definitely would buy)

Q13a. (conditional – in case the previous answer was 1-never, 2=very unlikely) Why wouldn’t you consider buying a FFVMJ? Please select the option that best reflects your opinion:

I think it taste bad/ I wouldn’t like the flavor

It cost too much

Juices have too many sugars

I prefer to eat raw fruits and vegetables/prepare the Juices myself

I do not need this product

other(please specify)

Q13b. (conditional – in case the previous answer was 3-maybe, 4=very likely, 5=certainly yes)

Why would you consider buying a FFVMJ? Please select the option that best reflects your opinion:

- Because it is a convenient way of eating healthy
- Out of curiosity
- Because of the taste/ flavor
- To lose weight
- Because of the health benefits of certain ingredients
- As a snack
- Other (please specify)

Q14. (conditional – in case the previous answer was 3-maybe, 4=very likely, 5=certainly yes)

What would you consider most important when deciding whether to buy this product? Please rank the following attributes in order of importance where (1=the most importance, 10=the least important):

- Packaging
- Ingredients flavor
- Price
- Brand
- Specific health benefits of certain ingredients
- Calories content
- Country of origin of the ingredients
- Product shelf life
- Manufacturing process (i.e.HPP)
- Other

Q.15 Age: 18-24, 25-34, 35-44, 45-54, 55-64, 65+

Q.16 Gender: M-F

Q.17 Marital status: single, married

Q.18 Number of children (under 18) living in the house: 0, 1, 2, 3, more than 4

Q.19 Highest education level: master, bachelor, primary school, high school

Q.20 Employment status: full time, part-time, unemployed, retired, student

THANK YOU for your time, Sofia

Appendix 4

STATISTICAL ANALYSIS

| | | Convenience _Attitude | Novelty_attitu de | Heathiness_ attitude | Age | Gender | Babies | Education | Occupation |
|----------------------|---------------------|--------------------------|----------------------|-------------------------|-------------------|--------|---------------------|---------------------|-------------------|
| Convenience_Attitude | Pearson Correlation | 1 | ,049 | ,011 | ,059 | -,086 | ,128 | -,159 | -,089 |
| | Sig. (2-tailed) | | ,545 | ,891 | ,472 | ,292 | ,115 | ,051 | ,275 |
| | N | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 |
| Novelty_attitude | Pearson Correlation | ,049 | 1 | ,027 | ,054 | -,139 | -,159 [*] | ,166 [*] | ,102 |
| | Sig. (2-tailed) | ,545 | | ,737 | ,507 | ,088 | ,050 | ,041 | ,212 |
| | N | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 |
| Heathiness_attitude | Pearson Correlation | ,011 | ,027 | 1 | ,050 | ,100 | -,010 | -,094 | -,016 |
| | Sig. (2-tailed) | ,891 | ,737 | | ,542 | ,220 | ,907 | ,248 | ,850 |
| | N | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 |
| Age | Pearson Correlation | ,059 | ,054 | ,050 | 1 | -,062 | ,063 | -,075 | ,186 [*] |
| | Sig. (2-tailed) | ,472 | ,507 | ,542 | | ,449 | ,439 | ,358 | ,022 |
| | N | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 |
| Gender | Pearson Correlation | -,086 | -,139 | ,100 | -,062 | 1 | -,052 | -,063 | -,125 |
| | Sig. (2-tailed) | ,292 | ,088 | ,220 | ,449 | | ,525 | ,442 | ,124 |
| | N | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 |
| Babies | Pearson Correlation | ,128 | -,159 [*] | -,010 | ,063 | -,052 | 1 | -,218 ^{**} | -,026 |
| | Sig. (2-tailed) | ,115 | ,050 | ,907 | ,439 | ,525 | | ,007 | ,748 |
| | N | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 |
| Education | Pearson Correlation | -,159 | ,166 [*] | -,094 | -,075 | -,063 | -,218 ^{**} | 1 | ,188 [*] |
| | Sig. (2-tailed) | ,051 | ,041 | ,248 | ,358 | ,442 | ,007 | | ,021 |
| | N | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 |
| Occupation | Pearson Correlation | -,089 | ,102 | -,016 | ,186 [*] | -,125 | -,026 | ,188 [*] | 1 |
| | Sig. (2-tailed) | ,275 | ,212 | ,850 | ,022 | ,124 | ,748 | ,021 | |
| | N | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 |

Correlations between product-related attributes
SPSS output

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