

Consumers Perceptions and Motivations in the Choice of Kiwifruits: A Study-Case in Italy, North-East

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Abstract

Kiwifruit is sold in different ways, based on pulp colour, packaging and cultivation process. On these basis, the purpose of this research is to examine the motivations in predicting purchase intentions of kiwifruits to improve its market. A field study was developed, involving about 900 consumers in Italy, North-East. Questionnaire data were created through a Likert scale. Questions (e.g., constructs and related items) focused on intentions at the base of purchasing different kiwifruits and recorded by face-to-face interview. Data were analysed using Structural Equation Modelling (SEM). Concerning the distinguishment between the choice reasons, the authors primary referred to the approach that sets out different types: Neophobia, Country Of Imagine, Attitude of consumers, Extrinsic and Intrinsic attributes of perceived Quality and, finally, the Behavioural Intention. We found out that Neophobia and the consumers Attitude along with Quality attributes influence the Behavioural Intention. This implies important managerial implications for new marketing strategies for kiwifruits, with the opportunity to take advantage of the potential findings got by our study and then translating it into a marketing strategy to be adopted by kiwifruit Companies.

Keywords: *Actinidia, kiwifruit type trade, purchase intention, Structural Equation Model (SEM).*

1. Introduction

Kiwifruit (*Actinidia* spp.) is native to China, from Sichuan province (Yang Tze river valley), where the hugest *Actinidia* germplasm patrimony is still preserved (Ferguson, 2011). Currently, kiwifruit is widely cultivated all around the world, both in the northern (Italy, France, Spain, Greece, USA, Japan) and in the southern hemisphere (New Zealand, Chile, South Africa) and, currently, is facing important phytoiatric problems (Mian et al., 2022). The largest cultivations are concentrated in China, with an estimation of $\pm 1,800,000$ tons, which is the most important worldwide. In EU countries, about 0.5 Mt are produced (Italy, France, Spain, Greece, Portugal) (Ferguson, 2016). Italy is the second producer in the World, with almost 496,000 tons, followed by New Zealand, with 414,000 tons (Ferguson, 2016). Other important producers are Chile with just over 255,000 tons and Greece, which stands at 162,800. In Italy, the first kiwifruit orchard was planted only about 50 years ago and, despite this, by 2007 they occupied 26,700 hectares (Testolin and Ferguson, 2009). Furthermore, since 2007, in Italy and generally worldwide, the cultivated hectares of Kiwifruit have been increasing up till now.

Kiwifruit has a very dynamic market, occupying a fundamental role in the fresh fruit trade. This fruit has important features, where the main is the high content in C vitamin (e.g., recognised as a super food) (Harker et al., 2007; Kilgour et al., 2008), and meets the consumer demand, instances to be take into consideration for specific products (Tomasi et al., 2021). Moreover, it has a medium-long shelf life that allows fruits to be sold far away from cultivation site, in different ripening stages

and with a long-time transport possibility (Mohd Wani et al., 2017; Fisk et al., 2008). For these facts, it is placed in the top twenty fruit products traded on the International squares (Costa et al., 2018; Ferguson, 2016). Furthermore, 2/3 of the world production are assigned to the export (Ward and Courtney, 2013). In Italy, after grapevine cultivation that is the main perennial crop (Main et al., 2022), kiwifruit is one of the most remunerative. However, in spite of the fact that there is a steady increasing of commercial flows, the offer is still very concentrated (75% of production is being managed by Italy, New Zealand and Chile) (Bano and Scrimgeour, 2011). New Zealand is the first Country for exports with a market share of 35%, due to the efficient marketing strategy that it has been able to structure (Vanneste, 2017; Kilgour et al., 2008). In fact, in addition to the higher productivity per hectare than the other competitors, it appears on the market with a single brand (ZespriTM) owned by about 2750 producers in the Country most likely the first recognized brand of kiwifruit worldwide. Nevertheless, Europe's weight on the international board has been growing significantly with exports up till now. Italy plays a leading role for exports in Europe and it manages to be present in the markets in the Far East, Middle East, and North America as well (Testolin and Ferguson, 2009).

Actinidia spp. includes numerous species (about 65) (Kisaki et al., 2018), all edible, but its market has focused for over 30 years on the cultivation of only one variety, Hayward (*Actinidia deliciosa*) (green pulp) (Huang et al., 2004; Mian et al., 2022). Luckily, in the last 15 years, there have been an increasing in the number of varieties. In fact, the work carried out in the field of tree genetics and breeding produced a series of new cultivars,

with surprising characteristics and of strong interest in a future perspective (Ferguson, 1999). Basically, varieties can be divided into green pulp, yellow pulp and red or two-coloured pulp varieties (Jaeger et al., 2003). For green varieties, the most cultivated and known is Hayward along with its clones (K5, Boerica, H8) whilst Summerfruit is an early cultivar obtained by crossing it with unknown male genotype. Over these, there are yellow pulp varieties. Hort 16A is the first yellow-fleshed variety and was created by researchers from the Plant and Food Research in Auckland (Richardson et al., 2011). Indeed, Gold 3 is recently introduced (Li et al., 2016). Furthermore, Soreli was created by researchers from the University of Udine (Cipriani et al., 2018), while Jintao is the most known of the new varieties as it has been growing by farmers since 2000 (Huang et al., 2002). As red pulp varieties, we only report the Hongyang cultivar, despite the red-pulps are not widely traded nor cultivated at this moment in time.

To date, all kiwifruits are being sold in different ways, with different cultivation process and with different packaging. Zespri™ was one of the first companies which understood the importance of branding, varietal factor, customer orientation and satisfaction (Beverland, 2001). As it is known, to trade products it is important to know customer's orientation (Lülfes-Baden et al., 2009; Ghouri et al., 2021), the market analyses, brand identity, etc (Farizan et al., 2019; Rutter et al., 2018). Nevertheless, in this context of food products, many specific factors (e.g., constructs) take place in every fruit purchasing: the main parameters to be considered are the Neophobia, Country Of Origin, consumer Attitude, perceived Quality (Extrinsic and Intrinsic) which all together lead to the Behavioural consumer Intention (Sillani and Nassivera, 2015). These constructs will be seen more in detail later on.

Nowadays, the competition in the food and beverages industry is getting tight and then consumers should be selective. To capture the desired market, the companies should add value to the product being sold. Companies should have a good marketing strategy to attract potential consumers as well, and they must know the consumer's orientation to adapt their marketing strategy (Kotler et al., 2021). As above-mentioned, many factors are to be taken into account which are related to the constructs previously reported with specific questions to get them (Yuliantoro et al., 2019; Smith and Aaker, 1992; Beverland, 2001). To get these data, the creation of questionnaires and the analysing of them via a SEM (Structural Equation Modelling) approach is just reported in literature as good tools, especially in fruit and vegetables (Nassivera and Sillani, 2015). In fact, the SEM technique is meant to be used in order to develop propositions representing a theoretical approach in the context of the process for purchasing fresh products (Nassivera and Sillani, 2017; Sillani and Nassivera, 2015; Giovenzana et al., 2015). In recent years, SEM has grown enormously in popularity. Fundamentally, SEM is a term for a large set of techniques based on the general linear model. It is a combination of factor analyses and regression or path analyses (Hox and Bechger, 1998). Furthermore, SEM provides a very general and convenient framework for statistical analysis that includes several traditional multivariate procedures (Fox, 2012). A good number of research already used this approach to investigate in marketing sector of fresh fruit and in general food products, with aims as customer satisfaction and orientation, market segmentation, branding and consumer behaviour (Espejel and Fandos, 2009; Espejel et al., 2007; Nassivera and Sillani, 2017). This is due to the fact that when a face-to-face questionnaires are performed, then lot of data are recorded, SEM is the most useful tool in order to analyse them, to get strong final outcomes which can translate into marketing strategies and adaptations.

Kiwifruit cultivation and fruits trade has increased up till now. It is sold in different ways, based on pulp colour, packaging and cultivation process. On these basis, the purpose of this research

is to examine the motivations in predicting purchase intentions of kiwifruits. Thus, a field study was performed in Italy, North-East. Questionnaire data (± 900) were gathered on the basis of a Likert scale. Questions (e.g., constructs and related items) focused on intentions at the base of purchasing different kiwifruits. Data were analysed using Structural Equation modelling (SEM), a useful technique for this kind of research works. Finally, we state that this research type and the method itself followed international similar research in order to collect, analyse and giving useful data for improving the whole kiwifruit chain (from the cultivation to the final trading).

2. Research Framework

Given the importance of marketing management (Smith and Aaker, 1992; Kotler et al., 2021) present and future in kiwifruit industry, it was decided to analyse the Behavioural Intention and how it is influenced by different factors (Neophobia, Country Of Origin, Attitude of consumers, Extrinsic and Intrinsic attributes of perceived Quality). In fact, consumers' food choices represent a complex issue, in each food sector (Bassi et al., 2021). Consumer behaviour is based on a specific relationship between different matters, which takes into account the wider context of kiwifruit, and generally, food production (Johnston and Szabo, 2011).

This study intends to explore the relationship between the Behavioural Intention to purchase kiwifruit food products and each determinant on the basis of this choice, as above-mentioned. To describe and measure the constructs, different items and related validated scales were selected from the relevant literature on foods products and consumer studies and appropriately adapted to suit these study topics. The factor analysis with varimax oblique rotation approach was used to identify the latent dimensions of the survey. This is useful to obtain latent factors as a linear combination with minimum loss of information. The reliability of each latent factor is positively analysed by the Cronbach's α coefficients and summarized in each Table concerning the Constructs and Items, where also questions related to each constructs are listed (Table 1, 2, 3, 4, 5, 6).

Finally, our study proposes six latent constructs associated with the research framework: Neophobia, Country Of Origin, Attitude of consumers, Extrinsic and Intrinsic attributes of perceived Quality, and the final Behavioural Intention. The aim was to offer support to the producing companies, understanding which way/type is better to communicate and trade kiwifruits, and which factors are to be seriously considered/improved. In this way, companies might adapt their marketing strategies to increase profits.

2.1 Neophobia

In an increasingly globalized world like the present one, cultural exchange is an essential phenomenon for a society that mix traditions from the outside of their own countries, starting with the culinary ones. Nevertheless, there exists evidence that the personal behavioural traits can influence the willingness to consume certain new types of foods based. In fact, consumers tend to keep a distance from what it is not familiar and non-known. The situation is frequently described as "the omnivore dilemma" (Rozin and Vollmecke, 1986). In this context, food Neophobia (NP) is commonly defined and recognized as the reluctance to eat unfamiliar foods. This meaning is different from the finickiest (picky eating) that, instead, refers to the unwillingness to eat disliked familiar foods (Pliner, 1994). Hence, food Neophobia is an integral constituent part or a subset of the foods sector. Evidence within the literature suggests that it is a personal behaviourally distinct, in which many a different factors predict the severity and expression of this constructs (Flight et

al., 2003a). Although it has been suggested to be an independent personality trait, food neophobia has also been shown to be state dependent, e.g., may depend on age and environment (Dovey et al., 2008).

However, the Theory of Reasoned Action (TRA) proposed that consumers use information and recognize their role as important matter of facts in the purchasing choice of foods. Indeed, it is important to point out that generally, in the Theory of Planned Behaviour (TPB), is explained how, positively or negatively, the personal feeling towards the subject (e.g., Neophobia) influence the purchase intention as well as influence the Intrinsic perceived Quality of fruits and food products (Kim et al., 2014; Ting et al., 2016). Hence, TPB is an extended theory of TRA in which was added the element of perceived Intrinsic Quality by personal human feelings (Bae et al., 2021) Thus, on the basis of these two theories, the food Neophobia along with the Country Of Imagine and perceived Quality might strongly

influence the Behavioural Intention (Garrido et al., 2021; Espejel and Fandos, 2009b), as we hypnotize in this study putting together the two theories.

The Food Neophobia Scale (FNS), which is a validated ten-item questionnaire (Pliner and Hobden, 1992; Sogari et al., 2019), is often used to measure the food Neophobia (in humans). High scores of the FNS indicate a low anticipated liking of unfamiliar foods and low familiarity of foreign cuisines, as well as low willingness to try unfamiliar foods. Here, in line with our study and considering both theories (TPB and TRA), we hypothesize that Neophobia might affect the perception of Extrinsic and Intrinsic attributes of perceived Quality. The item selection (10) provides a structured representation of the multiple aspects of Neophobia, in line with previously published analytical frameworks (Table 1) (Borgogno et al., 2015; Flight et al., 2003b; Kim et al., 2014; Pliner and Hobden, 1992; Ritchey et al., 2003).

Constructs and Items	Label	α	Literature
Neophobia (NP)		0.88	
I constantly try new and different foods than usual ones	NP1	0.64	
In the choice of food, I do not trust the news	NP2	0.63	
If I don't know a food, I don't taste it	NP3	0.69	Flight et al., 2003
I like food from different countries	NP4	0.77	Borgogno et al., 2015
Ethnic food seems very strange to me to be able to eat it	NP5	0.63	Kim et al., 2014
At dinners with friends, I like to taste new foods	NP6	0.70	Ritchey et al., 2003
I'm afraid to eat foods I've never tasted	NP7	0.73	Pliner, 1992
I'm picky about the food I eat	NP8	0.56	
I generally eat almost everything	NP9	0.52	
I like to try new ethnic restaurants	NP10	0.71	

Table 1. Constructs and Items of Neophobia. The reliability of each latent factor is positively analysed by the Cronbach's α . $\alpha \geq 0.5$ guarantees the statistical significance per each items.

2.2 Country Of Imagine

The Country Of Image (COI) is one of the most considered aspects in the international marketing literature. In fact, the Country origin exerts a powerful effect on consumer choices especially in situations where there is a close connection between the Country and a particular category of product, like fruits and vegetables (Josiasen et al., 2013). Furthermore, the product origin communicates a substantial external message to food shoppers in terms of product quality and is conceived as a competitive advantage in global markets. As such, greater understanding of Country image and its pertinent dimensions will be beneficial for international food traders and policy-makers in developing marketing strategy (Knight et al., 2007; Yeh et al., 2010).

Thus, the association between Country and its products can therefore have a powerful effect on consumer evaluation (Kotler and Gertner, 2002). In fact, when the consumer evaluates the Country provenance, it detects cues or attributes of both Intrinsic and Extrinsic Quality (Espejel and Fandos, 2009). In addition, the Extrinsic (but also Intrinsic) attributes refer to the subjective/perceived Quality of consumer towards the many factors. Hence, the double dimensionality of perceived quality allows the consumer to evaluate and to make a decision of purchase regarding food products (Baldauf et al., 2009; Yeh et al., 2010).

The Country Of Image studies have become a significant and popular area of international business research, for many decades (Min Han, 1990; Vijaranakorn and Shannon, 2017), and not only within the food sector. It is often referred to a general sense of the imagine of a Country, since it mainly focuses on different aspects: economical, technological, social, and political. Nevertheless, in the literature, the Country Of Image concept tends not to be characterized with much clarity (Wang et al., 2012), in spite of the fact that it should be taken into account. In fact, this descriptor, is of great importance especially within the food sector.

Thus, Country Of Image in this study refers to the mental representation of a Country and its foods products, including cognitive believes of the Country's economic and technological development stages, food safety and food management. Hence, we tested the hypothesis that the Country Of Imagine influences the perception of Extrinsic and Intrinsic attributes of perceived Quality. For the questionnaires, 9 items were selected to describe the Country Of Imagine perception, as shown in Table 2, and already used and validated as capable of well-highlighting this construct (Andéhn et al., 2016; Borgogno et al., 2015; Li et al., 2014; Wang et al., 2012).

Constructs and Items	Label	α	Literature
County Of Imagine (COI)		0.86	
My opinion of Italy is positive	COI1	0.61	
Italy is a well-developed and stable Country	COI2	0.59	
Italy has an excellent reputation in the world	COI3	0.63	Borgogno et al., 2015
Goods and services produced in Italy are typically of excellent quality	COI4	0.75	Wang et al., 2012
Italy is worldwide known for goods/services of higher quality than other countries	COI5	0.78	Li et al., 2014
Italian exports are appreciated all over the world	COI6	0.77	Andéhn et al., 2016
Italian fresh fruit is usually of excellent quality	COI7	0.61	
People generally consider fresh fruit to be a typically Italian specialty	COI8	0.48	
Fresh fruits are generally associated with Italy	COI9	0.44	

Table 2: Constructs and Items of Country Of Imagine. The reliability of each latent factor is positively analysed by the Cronbach's α . $\alpha \geq 0.5$ guarantees the statistical significance per each items.

2.3 Attitude of Consumers and Perceived Extrinsic and Intrinsic Quality

The Attitude (ATT) descriptor has been shown to be hardly correlated to any relationships with behaviour and Behavioural Intention in food products, together with multiple contexts (Urala and Lähteenmäki, 2007). This is in line with the TPB (Johnstone and Lindh, 2018). However, in specific context such as food purchases, some studies found out an attitude to explain purchase intention (Nassivera and Sillani, 2015; Jennifer et al., 2003; Vijaranakorn and Shannon, 2017). In fact, there exist certain personal factors that may affect quality perceptions and also their relationship with satisfaction. For this, it is usually believed that Attitude consists of three components: cognitive component, affective component, and behavioural component (José Sanzo et al., 2003; Nassivera et al., 2017). Moreover, the term of perceived Quality has been differently defined using both objective and subjective indicators with respect to the subject (e.g., food products). Yet, also the way in which consumers perceive the food quality has changed considerably in recent decades (Savelli et al., 2017, 2019). In this context, it is important to highlight that the consumers' Attitude toward new foods determine their success or failure in the marketplace. Thus, there are two major consumers' tendencies: a growing demand for innovation (functional foods and healthy foods), and a rising request for a return to the naturalness and purity of foods along with the unwillingness to buy new food type (Cattaneo et al., 2018). This, as above-mentioned in this paragraph, is explained and related to Neophobia description, that, as consequences, can affect the perceived quality of any food products (La Barbera et al., 2016).

In line with this research, we should hypothesize that the

Attitude of customers toward kiwifruit positively affects the perception of Extrinsic and Intrinsic attributes of the perceived Quality. For this, we report how a significant contribution to the definition of quality for the consumer is presented with the approach of "perceived Quality" proposed by several studies (Steenkamp, 1997; Wang et al., 2020). In accordance with this approach, quality is seen as a subjective concept that depends on the perceptions, needs and by objectives of the individual consumer. On these basis, the concept of quality is necessarily to be sub-divided into two groups of factors, on which the consumer shall deliver its value opinion (Georgeon et al., 2012):

(1) Extrinsic attributes of perceived Quality (QE): these are the attributes of the product, that is not about the physical product itself (also called "image variables")

(2) Intrinsic attributes of perceived Quality (QI): these are the physical attributes of the product; they cannot be modified except by changing the physical characteristics of the product. Indeed, the objective measurement of quality is allowed and specific to each product.

In the light of these facts, in this study it is therefore necessary to consider both Extrinsic and Intrinsic attributes in order to assess the effects on the Behavioural Intention of customers along all the purchasing process. For this, in accordance with previous studies, 6 items were selected to well-appreciate the consumer Attitude, as just adopted (Table 3) (Grace and O'Cass, 2005; Rubio et al., 2014). 7 items to describe the Extrinsic Quality were chosen, as already used and validated (Table 4) (Acebron et al., 2000; Grunert et al., 2015; Hossain et al., 2015). At least, 7 items for describing the Intrinsic Quality were selected (Table 5), according to (Acebron et al., 2000; Basha et al., 2015; Grunert et al., 2015; Hossain et al., 2015). Finally, concerning QI and QE, we specifically referred to kiwifruit in the questionnaires.

Constructs and Items	Label	α	Literature
Attitude (ATT)		0.60	
Fresh fruits are very important to me	ATT1	0.84	
I don't like eating fresh fruits	ATT2	0.52	
It is essential having fresh fruits always on the table	ATT3	0.70	Rubio et al., 2014
A wrong choice of fresh fruit is not that serious	ATT4	0.26	Grace et al., 2005
When I buy fresh fruits, I am sure of my choice	ATT5	0.22	
When I have to choose fresh fruits, I find myself in difficulty	ATT6	0.06	

Table 3: Constructs and Items of Attitude. The reliability of each latent factor is positively analysed by the Cronbach's α . $\alpha \geq 0.5$ guarantees the statistical significance per each items.

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Constructs and items	Label	α	Literature
Extrinsic Quality (QE)		0.69	
Origin	QE1	0.29	
Price	QE2	0.25	
Brand name	QE3	0.67	Hossain et al., 2015
Category to which the product belongs (I, II, etc)	QE4	0.63	Acebron et al., 2000
Packaging	QE5	0.61	Grunert et al., 2015
Organic certification	QE6	0.35	
Discounted product	QE7	0.15	

Table 4: Constructs and Items of Extrinsic Quality. The reliability of each latent factor is positively analysed by the Cronbach's α . $\alpha > 0.5$ guarantees the statistical significance per each items.

Constructs and items	Label	α	Literature
Intrinsic Quality (QI)		0.68	
Pulp texture	QI1	0.50	
Outward appearance	QI2	0.67	Hossain et al., 2015
Size	QI3	0.54	Basha et al., 2015
Absence of visual imperfections	QI4	0.58	Acebron et al., 2000
odour	QI5	0.33	Grunert et al., 2015
Green pulp colour	QI6	0.44	
Yellow Pulp colour	QI7	0.29	

Table 5: Constructs and Items of Intrinsic Quality. The reliability of each latent factor is positively analysed by the Cronbach's α . $\alpha > 0.5$ guarantees the statistical significance per each items.

2.4 Behavioural Intention

In the international literature is possible to find a large body of research regarding consumers' Behavioural Intention (BI) for food products (Bassi et al., 2021; Nassivera et al., 2017; Sillani and Nassivera, 2015). Thus, BI can be a good predictor of kiwifruit demand. The Behavioural Intention towards kiwifruits are determined by beliefs that the product fulfils certain functions and that satisfies some of the consumers' needs (Beverland, 2001). According to the TPB and TRA, specific behaviours are determined by an intention to perform them (Lin and Lu, 2000; Zhu et al., 2013). Thus, TPB and TRA has been useful in predicting consumer intention and behaviour from many points of view (Yunhi Kim and Han, 2010). A better food purchase intention can result in more food purchases (Zhu et al., 2013). However, there is a gap between consumers' intention and their actual purchase behaviour in everyday kind of decisions, both under the rational or personal issue (Schäufele and Hamm, 2018). In literature is indicated that Behavioural Intention in

purchasing is affected by several factors: context, personal feelings, type of product and rational information of the food (Simonson and Tversky, 1992). Yet, it is recognized that the link between Attitude and Behaviour Intention is not always clear, describing purchase intentions as "an individual's conscious plan to make an effort to purchase a brand", thus in accordance with TPB. Moreover, (Laroche and Brisoux, 1989) proposed a model of Behavioural Intentions that postulates that a consumer's intention to buy a specific brand/product/food type is determined not only by the personal feelings but also by other rational issues (TRA).

Hence, Behavioural Intention in this study is proposed and measured by 10 selected items, as shown in Table 6, according to studies where the selected items were used, explained, and validated (Bredahl, 2001; Diallo et al., 2015; Kim et al., 2014; Tsaour et al., 2015). Furthermore, here we directly referred to the kiwifruit type under study. Lastly, in this study, BI is proposed to evaluate the intention to buy kiwifruit, thus proposed as a response to QE and QI, in the questionnaires.

Constructs and items	Label	α	Literature
Behavioural intention (BI)		0.89	
Kiwifruits sold in bulk are generally of excellent quality	BI1	0.52	
Kiwifruits sold in bulk are considered by many to be of higher quality than other kiwis	BI2	0.35	
"Bulk kiwifruit" is generally associated by people with positive characteristics	BI3	0.34	
I will go back to buying kiwifruit in bulk	BI4	0.69	Tsaour et al., 2015
I will speak well of the kiwifruit sold in bulk	BI5	0.69	Bredahl et al., 2001
I will recommend the purchase of kiwifruit in bulk	BI6	0.68	Diallo et al., 2015

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I am satisfied with the purchase of loose kiwifruit				BI7	0.90		Kim et al., 2014
I am satisfied with the choice of loose kiwifruit				BI8	0.88		
The kiwifruit purchased in bulk corresponds to my expectations				BI9	0.82		
I paid a fair price for the purchase of bulk kiwifruit				BI10	0.56		
The overall purchase value of the kiwifruits in bulk was worth my sacrifice				BI11	0.63		

Table 6: Constructs and Items of Behavioural intention. The reliability of each latent factor is positively analysed by the Cronbach's α . □□ guarantees the statistical significance per each items.

3. Proposed Model

Our proposed model and its theoretical issue are an adaption between the Theory of Planned Behaviour and the Theory of Reasoned Action, as already above-mentioned, personal feelings (according to TPB) and every recognized useful features of this fruit (in accordance with TRA) can take place. In detail, we hypothesize that, in the kiwifruit sector, the Behavioural Intention is affected both by Intrinsic and Extrinsic attributes of perceived Quality. Yet, the Extrinsic and Intrinsic Quality might be also influenced by Neophobia, Country Of Imagine and consumers' Attitude. All of this is due to the fact that kiwifruit's consumers generally considered all of this constructs (Beverland, 2001).

Starting from the above-described research framework, our study proposes a research model that shows the relationships between the constructs in the process of consumption and choice of kiwifruit:

H1 and H4: Neophobia has a significant impact on

perception of Extrinsic and Intrinsic attributes of perceived Quality.

H2 and H5: Country Of Imagine has a significant impact on perception of Extrinsic and Intrinsic attributes of perceived Quality.

H3 and H6: Attitude of consumers has a significant impact on perception of Extrinsic and Intrinsic attributes of perceived Quality.

Thus, on the basis of above-reported hypothesis, when there is a positive perception of the quality measurement scale, there also is ensured a high level of positive reaction in the process of choice and, likewise, it positively affects the Behavioural Intentions of customers. Then, other two hypotheses are proposed:

H7: Extrinsic attributes of perceived Quality has a significant impact on the consumer Behavioural Intentions.

H8: Intrinsic attributes of perceived Quality has a significant impact on the consumer Behavioural Intentions.

Finally, the conceptual model developed based on our hypotheses is reported in Figure 1.

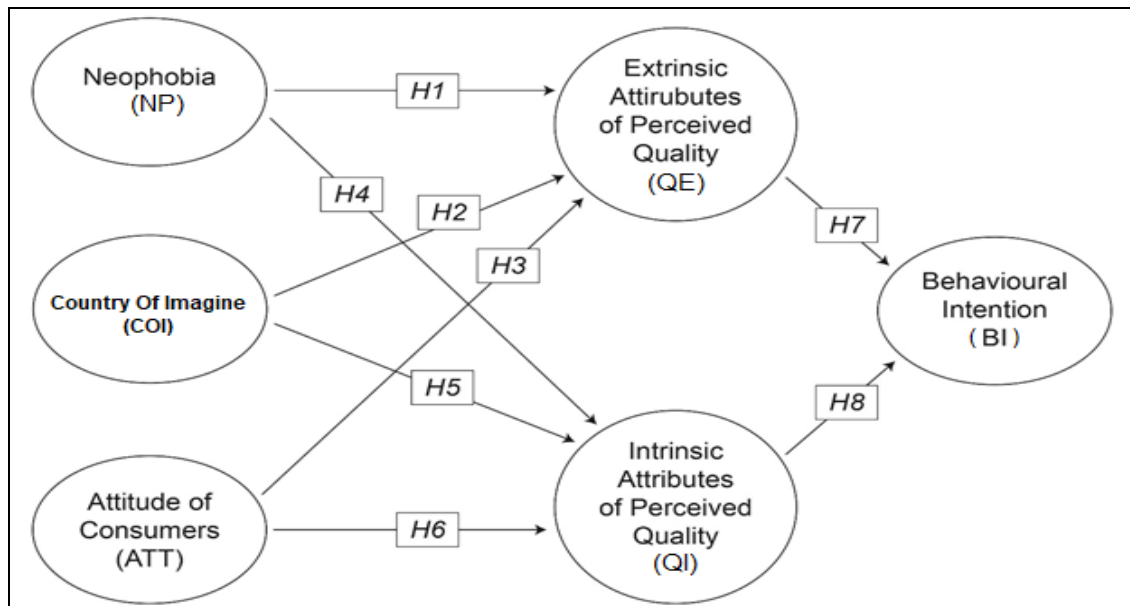


Figure 1: Proposed model of the study case. Constructs: NP, COI, ATT, QE, QI, and BI. Hypothesis: H1 to H7.

4. Research Methodology

The study area was Friuli Venezia Giulia and Veneto region, in northeast Italy. The research was structured into three main tasks: questionnaire planning, data collection, and data analysis.

4.1 Questionnaire Planning

The method used for the data collection was face-to-face interviews. Questionnaire was intended to collect data on a non-probabilistic convenience sample of people, to explore the constructs already mentioned in the text and listed in Table 1. The measurement scales (observed variables) of these constructs (latent variables) were identified by taking account both the cited literature and the project requirements. Each item

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was explored by using a 7-point Likert scale questionnaire, as just adopted by (Hamdan et al., 2012): the respondents were asked to indicate the extent of their agreement on a scale of 1 ("strongly disagree") to 7 ("strongly agree").

4.2 Data Collecting

The qualitative survey was performed. The respondents were contacted face-to-face, and only consumers who bought any of the kiwifruit type under study were chosen. Thus, the questionnaires were taken out of supermarkets, in the study areas where kiwifruits were sold in all the ways in test and only for this fruit consumers. Moreover, 20 minutes of time were given to each respondent, to privately fill the form. Questionnaires were then collected, checked for their reliability, and further analysed. Where necessary, uncompleted ones were discarded. Data were collected between January and May 2016, during the opening hours. In Italy, the supermarkets where the questionnaires were submitted are the following: PAM in Trieste (TS) and Udine (UD), CARREFOUR in Tavagnacco (UD) and CONE' in Conegliano (TV).

4.3 Data Analysis

The hypotheses were tested via a structural equation model (SEM) by using LISREL 10.2 software (Jöreskog and Sörbom,

1996), which one is a method more suitable to explicit the latent structure with causal relationships. The purpose of this work is to test the relationships among the six latent dimensions proposed in the model in Figure 1.

5. Results

In the preliminary stage of the research, interviewees' sociodemographic characteristics were investigated, in order to get a view of the sampling population, as well as the reliability of interviewees. About 900 customers completed the questionnaires and were used in this study, whose sociodemographic characteristics are listed in Table 7. Here, we can report how the age groups were quite homogeneous, except for the peak of those between ages 50 and 65, who was the most represented band (42.7%). It is important to note how this most-representative band, is also the band with highest spending possibility. Regarding gender, women were most represented with a percentage of 57% against 43% of men. Indeed, as for personal education, the sample presents 51.2 % of respondents holding a high school diploma, 20.7 % with various degrees and 27.3 % who claim to have a primary or middle school certificate. These data were found agreeing with (Statistiche Istat, 2022) yearbook in relation to Italian population.

Italian Social demographic sample	
	Gender (%)
Female	43
Male	57
	Age (%)
< 19	1.5
19 - 29	16.5
30 - 39	21.4
40 - 49	30.1
50 - 65	42.7
> 65	14.1
	School Background (%)
Primary school	5.0
Secondary school	22.3
High school	51.2
Bachelor's degree	9.2
Master's degree	11.5
PhD	0.4
Other	0.4

Table 7: Social demographic characteristics of the sample.

Furthermore, the analysis conducted with LISREL 9.1 allowed to test the hypothesis made in the proposed model. The fit indexes of the model (Table 8) are produced in order to verify how well the hypothesized model reproduces the observed covariance matrix, using the Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI), both proposed by (Schumacker and Lomax, 2004), the incremental fit indexes (Normed Fit Index - NFI) proposed by (Bentler et al., 1980), the Non-Normed Fit Index (NNFI), as proposed by (Bollen and

Liang, 1988), the Comparative Fit Index (CFI), proposed by (Bagozzi, 1992), the Root Mean Square Error of Approximation (RMSEA, proposed by (Browne and Cudeck, 2016)). All this procedure was just tested and adopted in some studies (Nassivera and Sillani, 2017; Sillani and Nassivera, 2015; Cheah et al., 2018). The results indicated a good fit between the proposed model and the observed data (e.g., constructs and items) and then allowed for analysis of the assumptions of the hypothesis.

Global fit indexes	Value	Freedom Degrees
GFI	0.890	
AGFI	0.880	
NFI	0.900	

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NNFI	0.900	
CFI	0.890	
RMSEA (Test of Close Fit)	0.068	
χ^2	6468.020	1164

Table 8: Global fit indexes. χ^2 : Chi-squared test

Among the eight hypotheses, four out of eight are well-supported (Table 9). The correlation between Country Of Imagine and Extrinsic Quality is statistically significant ($\gamma = 0.15$, $t = 3.23$), supporting H2. Thus, as above-mentioned, the perception of a Country and its products is still strong and must keep in mind in order to going on with high-quality products, due to the fact is difficult to change the COI perception. Yet, the Neophobia influenced the Intrinsic attributes as well ($\gamma = -0.16$, $t = -3.70$), confirm H4. This might be defined as normal, since the Neophobia is a human behaviour that, unconsciously, make people dislike unfamiliar foods, thus not consciously evaluate them on the right basis. Here, producers, sellers, and marketing strategies can take place reducing the importance of this constructs, by more explanation of the fruit type and each-

related instances. Indeed, the relationship between attitude of consumer towards Intrinsic attributes of perceived Quality of kiwifruit is positively significant ($\gamma = 0.11$, $t = 2.36$), supporting H6. This is of great importance, especially in the kiwifruit sector where new cultivars are being faster introduced in the market. This because it is possible to rely on this outcome in order to came up with the negative impact of Neophobia. Lastly, the Intrinsic attributes statistically influenced the Behavioural Intention ($\gamma = 0.31$, $t = 6.81$), once again, can help to get over the negative relations arose (COI to QE, NP to QI). The other relationships were not significant nor supported by statistical analyses. Supporting these hypotheses, the model depicts a particular reactivity of consumers to Intrinsic attributes of perceived Quality (QI) (Figure 2).

Hypothesis	Estimate (Standardized)	Standard Error	t
(H1) NP→QE	-0.060	0.017	-1.490
(H2) COI→QE	0.150	0.019	3.230
(H3) ATT→QE	0.050	0.021	1.360
(H4) NP→QI	-0.160	0.021	-3.700
(H5) COI→QI	0.030	0.021	0.660
(H6) ATT→QI	0.110	0.026	2.360
(H7) QE→BI	0.050	0.040	1.340
(H8) QI→BI	0.310	0.040	6.810

Table 9: Direct effects between constructs (NP, COI, ATT, QE, QI, and BI). t: T-test

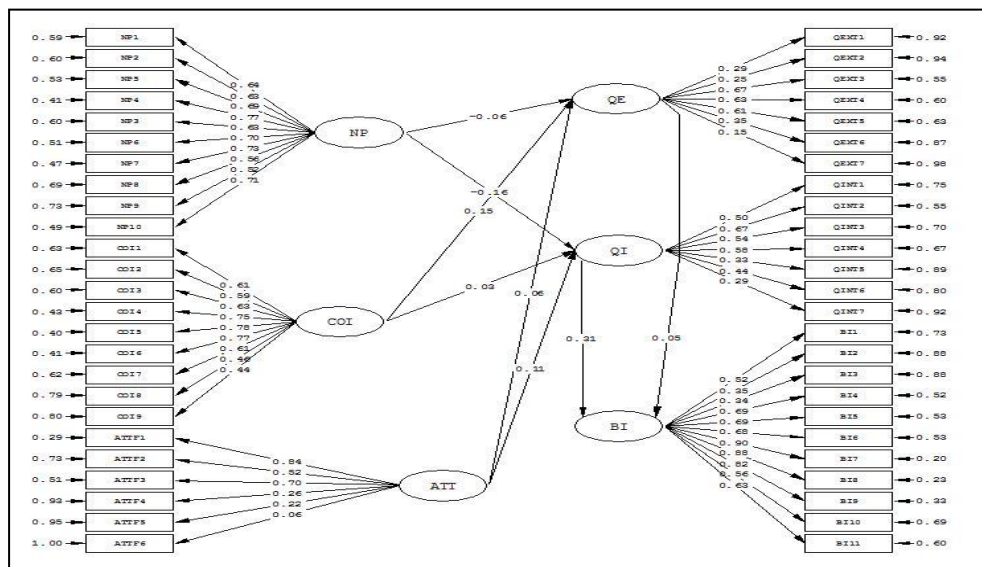


Figure 2: Path diagram of the proposed model: NP, COI, ATT, QE, QI, BI and relationship.

5. Discussion

Consumers Behavioural Intention analysis is commonly conducted by the company to understand the marketing environment towards the products offered. The marketing environment consists of fruit combining people and outside marketing forces that can influence marketing management's ability to develop and sustain successful transactions with its

targeted customers. Applying the right market strategy, supported by specific tools, allow to manage the sales network in the company's distribution system, that can result in a sales' increment. Additionally, the success rate of entry into the market really relies on the competitive advantage of the fruit combining products offered by the company in accordance with classical theories (TRA and TPB) and each implication of them (Yuliantoro et al., 2019).

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and the use of these factors is very important as it can well-highlight purchasing behaviours (Bashir et al., 2018; Marmaya et al., 2019). This is a process that develops behind each mental choice given by a condition of a plurality of factors that interact in different ways between them (Nassivera and Sillani, 2017; Jaeger et al., 2003), and, in this research, they deserved to be understood and interpreted.

This study was conducted since the kiwifruit will become one of the most important woody-crop in the worldwide panorama in the oncoming years, due to the fact it is a superfood (reached in C vitamin), it meets the consumer's taste, and it is a well remunerative specie. Also, the long shelf-life allows the Worldwide trade. Likewise, it is a well-appreciated crop by producers. However, in the last past years, different phytoiatric issue has been afflicting this culture (Mian et al., 2022). Nevertheless, there exist a large germplasm resource that allowed breeders to create new variety (yellow and red pulp), but a predominant preference to only one kind of kiwifruit (green pulp) still exist. Thus, it would be of great interest understanding its market and then the possibilities to increase the trading, yet with regards to new kiwifruit variety. For this, by applying specific SEM approach with a proposed model, we aimed to clarify what consumers primary take into account in the kiwifruit purchase choice (BI), and how the Behavioural Intention is influenced by the other factors at stake (NP, COI, ATT, QE, QI), usually identified as the most important determinant constructs (Espejel et al., 2007; Nassivera and Sillani, 2017).

The analyses carried out via LISREL made possible to test the hypothesis proposed in the model via several fit measures, which suggested a good model fit, according to the thresholds proposed in literature (Sillani and Nassivera, 2015). One of the key advantages of using a SEM approach is that it offers the possibility of estimating causal effects among the latent constructs (Bollen and Liang, 1988). Here in our study, analysing the estimates of the causal relationships, the findings strongly support hypotheses H2, H4, H6 and H8 and may contribute to a better understanding of consumer behaviour in relation to kiwifruits trading. Based on the reliability of the statistical significance of these hypothesis, COI affected the QE, indeed, NP and ATT the QI. Lastly, QI strongly affected the BI, as previously reported (Bassi et al., 2021, Nassivera & Silliani 2015, 2017).

The fact that COI can affect QE is already reported in literature and confirmed by our study (Knight et al., 2007). Country exerts a powerful effect on consumer choices, where there is a close connection between the Country and a particular category of product, like fruits and vegetables (Josiassen et al., 2013). However, this is an item that Companies cannot be modify, since it is a general and well-rooted human behaviour where people tend to attribute the Extrinsic Quality (e.g., fruit aspect) to specific countries. Fortunately, Italy is recognized as a well-fruit producer Country in different crops (Ballistreri et al., 2013.; Di Matteo et al., 2016; Liverani et al., 2002; Tomasi et al., 2020). Nevertheless, this is valid also for other countries, especially Italy competitors, which, for instance, are New Zealand and China. Thus, it is high advisable keep going on with high-quality production within this sector, for Italian producers, in order to maintain this fundamental aspect in the worldwide kiwifruit trade panorama.

Furthermore, the Neophobia and consumers' Attitude, which are hardly linked as previously reported so far (Espejel et al., 2007; Espejel and Fandos, 2009; Jaeger et al., 2003), statistically influenced the perception of the Intrinsic attributes of perceived Quality. This is a matter of fact that should be greatly considered by producers and marketing strategists (Galloway et al., 2003) since consumers tend to keep a distance from what it is not familiar and non-known (NP) (Rozin and Vollmecke, 1986). Also, Attitude descriptor is hardly correlated to any relationships with behaviour and Behavioural Intention in food products (Urala and Lähteenmäki, 2007). More in detail, Italian

consumers are used to eating green-pulp kiwifruit, in spite of the fact that both yellow and red pulp have been present on Italian market since many years ago. For this, Neophobia is an important instance. Hence, as marketing strategy, the communication of these different variety features must be conducted skilfully, to get consumers used to buying these kind of fruits, that seemed to be non-conventional kiwifruit type (e.g., non-green pulp) under the consumer point of view. In this way, companies can elicit the desired consumer response. For a firm to understand how to promote behavioural change, it needs to understand how people respond, sometimes imperfectly, and then adapting the most appropriate marketing plan. In fact, the consumer's Attitude can be modified, by a better fruit explanation together with a better variety creating process, as well as public information and advertising campaigns (Nassivera & Silliani, 2017).

Yet, the perception of Intrinsic attributes of perceived Quality affected the Behavioural Intention, as already reported in different products (Bassi et al., 2021). The Behavioural Intention towards fruits are determined by beliefs that the product fulfils certain functions and that satisfies some of the consumers' needs (Beverland, 2001), in accordance with both TPB and TRA. Keeping in mind that our outcomes showed Neophobia and consumers' Attitude able to affect the perception of Intrinsic attributes of perceived Quality, the final Behavioural Intention is also linked to these two latter instance over the Intrinsic attributes themselves. Then, in order to maximize the kiwifruit trade, marketing and producers should be able to better inform consumers about the fruit features, along with ensuring that the new variety (non-green pulp) are the same as green pulp as Intrinsic characteristics, and, in some cases, better, or only different for some features (colour pulp, different attitude of cultivation). Perhaps, there also exist some concerns among consumers that these varieties are organism genetically modified (GMO). Once again, a clear explanation of the creating process may help in order to direct consumers towards new fruit types, also repeating to show new variety associated to those one just well-know. This is already adopted on each social network page of kiwifruit sellers (data not showed), that confirm our marketing and managerial implications.

This research had the aim of proposing insights into the complexity of buyer decision making in the kiwifruit sector and the impacts of consumers and producers on the Behavioural Intention. Consumers' preferences play an important role in companies' development, as well as influence the research purposes of breeders. With regards to our outcomes, the Intrinsic features drive the Behavioural Intentions, hence, the capacity of the companies to better explain the new variety and their Intrinsic attributes will be fundamental for ensuring both consumers preference and producers/market incomes, hence working together with precise focuses. In fact, the results we obtained could translate into different options to be followed by all people involved in the kiwifruit sector, as previously-mentioned, to increase incomes in the whole the kiwifruit chain: a) create variety in which the health features are always better, b) being able to communicate this latter instance and c) ensuring consumers that the fruit innovation is always a good fact not only for them, but for producers as well.

Finally, the marketing strategy has to be improved following our outcomes, to get the consumers ready for new fruit products, all supported by a marketing plan aimed at creating a constant targeted loyalty campaign. As last consideration, the high-quality production must be skilfully performed by kiwi-growers, since under the consumer point of view, is really important having positive extrinsic and intrinsic attributes.

6. Conclusion

Kiwifruit industry has focused on only one variety for the last

past 30 years (Hayward, green pulp), and still seems to be the preferred one. It is believed that in the oncoming years, the arrival of new varieties will broaden the panorama of choice for consumers. Despite the strongest of its long tradition, the green pulp kiwifruit is going to see a certain reduction in sales, influenced by the curiosity of some of the consumers trying what the market will be offering. In spite of this fact, it is thought that the real obstacle to this diffusion could lie mainly in our results, since Neophobia and consumer's Attitude strongly affected the Intrinsic Quality, that, at least, was the only construct that significantly influenced Behavioural Intention. Thus, the managerial implications as result of our study have to be considered by each component within the kiwifruit sector, since customers also seemed inclined to other variety (despite some price differences and fruit features). Kiwifruit trade should be improved following our results: getting the consumers used to the new cultivars, managers should focus on a clear explanation of new variety and their quality attributes and increasing the perception and buying intention by marketing advice.

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