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Food imperfection and customer perception: can additional humorous labelling on imperfect fruit affect customers' perception?

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"Food imperfection and customer perception:

*Can additional humorous labelling on imperfect fruit affect
customers' perception?"*

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To my father...

You have always pushed me to be better, greater, smarter.

You have thought me the important values in life and to never give up.

*Thank-you, because without You, I would not be the person I am today
and I owe everything to You.*

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Abstract

The aim of this thesis is to analyze in depth a matter that has been of great interest in the last 10 years: food waste. After various studies (Elder & Krishna, 2011; Loebnitz & Grunert, 2014;) that have established that people waste most of their food due to imperfections in shape, color, size and packaging, and furthermore, also supermarkets fuel this behavior (Cicatiello, Franco, Pancino & Blasi, 2016), the aim of this research is to understand if a plausible marketing solution can be found.

Inspired by a French supermarket: Intermachè - who was one of the first large retailers to promote and advertise imperfect food products- the research continued in expanding the topic of humorous labelling in literature and subsequently analyzing potential variables that could influence the behavior toward imperfect foods like *Disgust*. Thus, our research question is: ***“Can additional humorous labelling on imperfect fruit affect customers’ perception?”*** For the concept of “customer perception” the variables *Willingness to Purchase* and *Willingness to Pay* were considered.

Four images, of a fictitious supermarket “Paptrita”, were created for the study, showing: a normal apple, a normal apple with humorous labelling, an abnormal apple and an abnormal apple with humorous labelling. The humorous labelling was: *“An apple a day keeps the doctor away”* for the normal apple and *“An ugly apple a day, **still** keeps the doctor away”* for the abnormal apple. These images were randomly shown to the participants through an on-line survey. An in-between subjects two-way ANOVA was used to study the relation between the means of the different groups and a further ANCOVA analysis was conducted to control for *Disgust* and to compare the different groups.

The results indicate that showing either a normal apple or an abnormal apple does make a difference for the customer. Normal shaped foods are still preferred to the abnormal ones, keeping all other things equal. There is no significant difference amongst the normal apple with or without labelling. However, when we introduce the humorous labelling on the abnormal apple,

we have significant results on *Willingness to Purchase and Willingness to Pay* when compared to the normal apple, normal apple with humorous labelling, the abnormal apple as well as the abnormal apple with humorous labelling.

1. Introduction

Food waste, sustainability and green consumption have all been very trending topics in the last decade. More people are becoming aware of the dangerous situation the world is facing regarding hunger, pollution and food waste but, most do not understand that a lot of every day actions build up to increase this problem (Aschemann-Witzel, de Hooge, Amani, Bech-Larsen & Oostindjer, 2015).

People like fashion gurus, influencers and chefs, are all figures that we see more and more on social media or journals promoting a “zero-waste” lifestyle, 100% recyclable living or just green consumption but, the average user has still a lot to learn about the matter.

According to Food and Agriculture Organization (FAO), globally, we produce enough food to feed everyone in the world but unfortunately, one-third of the food produced -approximately 1.3 billion tones- is lost or wasted each year. Food losses and waste reached about US\$ 680 billion in industrialized countries with 670 million tons of food dissipated, and 630 million tons in developing countries with a value of US\$ 310 billion. Fruits and vegetable, roots and tubers have the highest wastage rates with 40-50% of loss or waste per year, 30% for cereals, 20% for oil seeds, meat and dairy plus 35% for fish. Consumers in Europe and North America waste per capita, between 95-115 kg a year, while consumers in sub-Saharan Africa, south and south-eastern Asia, each throw away only 6-11 kg a year.

In developing countries, 40% of losses occur at post-harvest and processing levels, instead, in industrialized countries *more than* 40% of losses happen at retail and consumer levels (FAO). Generally, when a product is discarded

during harvest or in storage, as we will see in depth further on, can be traced to managerial, technical or financial problems. The main effects of these losses are paid by small farmers which lose income and as a consequence raise prices for their customers.

On the contrary, when we consider waste in the retail level, the main issue is quality standards that over-emphasize appearance. In fact, food retailers are generally the first to promote perfect looking products to consumers, disregarding in the supply chain what can be defined as “abnormal” (Cicatiello, Franco, Pancino & Blasi, 2016).

Under the *abnormal* category, usually falls any food product that has any type of imperfection in shape, size or color. Furthermore, with *imperfection* we indicate a product that is faulty, blemished or undesirable. An example of *shape imperfection* can be a fruit or vegetable with any kind of protuberance, *size imperfection* considers any fruit or vegetable that is larger than average produce and lastly *color imperfection* considers those fruits and vegetables which can be dull and present bruises or brown spots (Bunn D., Feenstra G.W., Lynch L., Sommer R., 1990).

The idea of flawless merchandise has increased customers' need for beautiful necessities, which as a consequence, has shifted the attention from what is edible and for human consumption, to what is beautiful and appealing to the eye. The customer is automatically not interested in a product that does not represent perfection and is lead into rejecting it (Elder & Krishna, 2011; Loebnitz & Grunert, 2014), either in stores -by choosing not to buy it- or in their own homes -by throwing it away-.

Research on the matter of food waste has finalized, as introduced above, that aesthetic features do influence the customer, but further analysis on other possible factors in this topic, are still very novel. Nonetheless some research has been conducted with respect to food authenticity and other type of labelling. Research like the one conducted by Zander and Hamm (2010), Zander, Stolz and Hamm (2012), aim at understanding what is valued most by the customer when purchasing an organic product, what is their understanding of organic and if ethical labelling has an impact on their

product perception. Instead Loebnitz, Schuiteman (2015), experimented the effects of organic labeling on purchase intentions of moderately and abnormally shaped foods and discovered the relation between organic labeling and purchase intention.

Not only researchers have decided to tackle this subject but also supermarkets in different parts of the world. In fact, the latter have initiated campaigns to prevent food waste by promoting to the customer the concept that “ugly does not mean bad”. Each has created their unique way of advertising, but all aim at using price reductions as the biggest incentive. We have Tesco, the British giant, which has created a line called “*Wonky vegetables- Perfectly imperfect*” (Butler, 2018).

In 2015, the biggest Canadian franchise Loblaw, has created a line called “*No name Natural Imperfect*” and lastly one of the first to start this initiative was the French supermarket Intermachè in 2013, with its “*Inglorious fruits and vegetables*”.



Fig. 1. Loblaw’s “*No name Natural Imperfect*”. (Source: Google)



Fig. 2. Tesco's *Wonky vegetables- Perfectly imperfect*". (Source: Google)

Given Intermachè's worldwide success and the great marketing potential, the supermarket will be furtherly discussed, being the starting point of this research and the precursor of "imperfect" advertising.

1.1 Intermachè

The French supermarket, third largest in France, introduced in 2013 a campaign called "*Inglorious Fruits and Vegetables*". The supermarket's strategy was to purchase local produce discarded for purely cosmetic reasons, display it in special aisles and sell them at a 30% discount. The marketing campaign was run by the agency Marcel and the photographer was Patrice de Villiers (Behance, 2018). They launched a massive campaign with billboards, print, TV, radio, PR, social media platforms and ads in the supermarket's catalogues. Seven posters were produced, one with all the chosen "Weird fruits & vegetables", then "The ridiculous potato, elected miss mashed potato"; "The hideous orange, makes beautiful juices"; "The grotesque apple, a day keeps the doctor away"; "The ugly carrot, in a soup who cares?"; "The failed lemon, from the creator of the lemon"; "The disfigured eggplant, so cheap it could be even more disfigured". Each fruit has their unique slogan, but they are all accompanied by the same motto: "*Intermachè's inglorious fruits and vegetables, a glorious fight against food waste*". The result was a 300% increase of mention of Intermachè on social

media and networks during the first week, 1.2 tons of average sales per store during the first two days and plus 24% of overall store traffic, in addition five of their main competitors launched a similar offer with slogans like: “So what about my look?” (“Inglorious Fruits and Vegetables Campaign against food waste by Intermarché”, 2018).

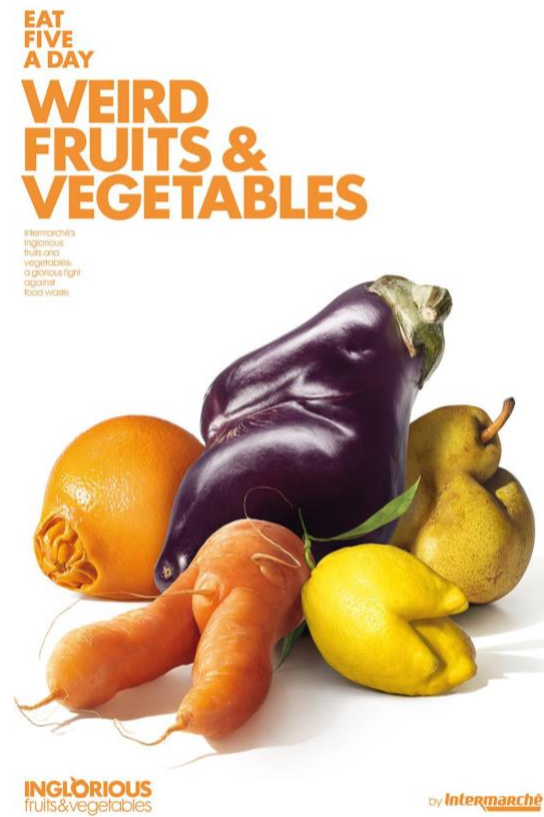


Fig. 4. Intermarché's "Eat five a day weird fruits & vegetables". (Source: <http://itm.marcelww.com/inglorious/>)



Fig. 5. Intermachè's six posters of fruit. (Source: <http://itm.marcelww.com/inglorious/>)

The program had an immediate success, reaching over 20 million people within a month, and stirred a national conversation about food waste and customers' behavior toward fruit and vegetables ("Intermarché - "Inglorious Fruits and Vegetables"", 2018; Behance, 2018). The appreciation of the ad did not only stop in France, in fact trends online went viral. The supermarket decided to follow up on this success by distributing “inglorious soups” and also “inglorious fruit juices” providing to customers also ready-to-eat products produced only from “ugly” fruits.



Fig.6 Intermachè Supermarket. (Source: Behance, 2018)

Their ambition to fight food waste has also expanded toward branding damaged packaged goods. In fact, they sponsored also cakes and cookies that should have been excluded from the market for visual defects. They used slogans like “*ugly but check out my chocolate bar*” or “*ugly but check out my six pack*” (“The French supermarket behind ‘ugly fruit and veg’ wants to sell you crushed cookies”, 2018).

Intermachè’s great success can be attributed to the personification of the fruits and vegetables and the funny labelling. The aim was to prevent food waste by providing to customers the alternative “ugly” version of the fruit and convey to them the information that their aesthetics do not represent their taste. The way to do this was through humor and price reductions. When interviewed, the photographer for the ad stated that it was important to ensure a “*strange but lovable*” theme by trying to find the precise angle which showed “*both their ugliness and their loveliness, finding their unique character.*” (“Inglorious Fruits and Vegetables Campaign against food waste by Intermarché”, 2018). It is very difficult, looking at the results above, to deny Intermachè’s success with their fight against food waste.

However, it is very likely that the offer of discount prices for unattractive vegetables (-30%) has provided an ultimate incentive to customers. People are probably as much concerned with saving the planet as with saving their own money, if not more interested in the latter. If this campaign is thus successful in preventing, at a small scale, food waste at distribution step, it does not target waste at consumption. Furthermore, this initiative could have had the reverse effect, of encouraging customers to acquire greater quantities, because produce is marketed “on sale”.

In order to answer the above doubt, and gather data explaining what the true factors behind the success of this initiative are, a major difference from Intermachè needs to be undertaken. By analyzing only, the relation between abnormal fruits and humorous labelling, not considering any third factors, like price, we want to discover if the customer is at all willing to purchase the product, and only subsequently how much they would pay for it. In order to verify if humor, has an actual potential in advertisement, an analysis on the subject is mentioned:

The most important work on humor, cited in literature, is Sternthal and Craig’s synthesis of literature (Sternthal & Craig, 1973) and has established the basis for the main effects that humor has on advertising:

- a. Humorous messages attract attention
- b. Humorous messages may detrimentally affect comprehension.
- c. Humor may distract the audience, yielding a reduction in counter-argumentation and an increase in persuasion.
- d. Humorous appeals appear to be persuasive, but the persuasive effect is at best no greater than that of serious appeals.
- e. Humor tends to enhance source credibility.
- f. Audience characteristics may confound the effect of humor.
- g. A humorous context may increase liking for the source and create positive mood, which may increase the persuasive effect of the message.

Sternthal and Craig specifically suggested future research directed at the following issues:

- a. Do humorous introductions of an otherwise straightforward appeal enhance persuasibility?
- b. Do humorous conclusions increase influence?
- c. Is humor more effective for particular types of products than others?

To link the above questions to the case of abnormal fruits and vegetables:

- a. Customers mostly perceive abnormal fruits and vegetables as having an ugly appearance, can humor persuade them this is not the case?
- b. Does this humorous labelling increase their influence, or we might say, perception, toward these products?
- c. Lastly, will humor have a greater effect on the normal shaped foods or the abnormal shaped?

Considering the above information as a framework, many early research has continued Sternthal and Craig's work, (Madden and Weinberger, 1984; Whipple and Day, 1979; Cantor and Venus, 1980;), but none have brought the necessary conclusions nor have directed to Sternthal and Craig's questions. Furthermore, the above research has been mainly based in a non-advertising setting and in either speeches, psychological literature or teaching methods.

Even later studies, like the one by Einsied (2009) have confirmed that: humor in advertising creates attention and awareness, enhances source liking, attitude toward the ad, positive cognitions and reduces negative conditions. But none have addressed the issue of abnormal foods. Thus, answering Sternthal and Craig issues related to abnormal fruits and vegetables has an ever more recent incentive.

Even if consumers have become more experienced and at the same time more skeptical about influence from marketers (Einsied, 2009), humorous or funny advertisement has been the go-to strategy for many marketers. Many examples are present of food producers and restaurants who have used humorous sentences to convey a message, or induce the customer toward

their product, but, this use is merely at an advertisement level with the final aim of just selling the product. Instead, with the following research we want to promote a “faulty product” with no price incentive displayed.



Fig. 7. Examples of humorous advertisement: McDonald's and Top Ramen.

(Source: Google, funny food advertisement)

In 1990 Chattopadhyay and Basu recommended to ask *when* humor in advertising is effective, rather than *if*. This decadal question is still valid and appealing, thus the interest is to analyze, of course, *if* humor works, but more importantly *when* linked to abnormal fruits. In this research, the purpose is to present a strategy whose aim is to induce the customer to purchase imperfect fruits and vegetables with the aim of reducing food waste in the long run. The goal is to increase customers' perception, through a result in willingness to purchase and willingness to pay, by using only humorous labelling advertising on imperfect fruits and not presenting a price advantage. The research will be conducted through an experiment, using 4 images: normal apple, normal apple with humorous labelling, abnormal apple, abnormal apple with humorous labelling.

As we will see further in the literature review, an important aspect to take into consideration when talking about abnormal fruits and vegetables is also the concept of “disgust”.

Thus, this thesis will continue with a literature review on: food waste, imperfection as a cause of dismissal by the consumer, disgust, humorous advertising, the research question, methodology, results and finally conclusions and future research.

2. Literature Review

2.1 Food Waste

“Food waste is...a triple bottom line problem affecting people, planet and profit” (Ribeiro, Sobral, Peças & Henriques, 2017).

As it has been mentioned, a greater concern about hunger, the environment and the economic crises has emerged amongst the community (Cicatiello et al. 2016). Various large corporations like Food and Agriculture Organization of the United (FAO) and the European Parliament have declared campaigns against food waste in order to create greater awareness amongst people. The former with the #zerohungerchallenge, launching awareness videos and encouraging a “no waste lifestyle”, whilst the latter with the European Year against Food Waste.

First of all, a distinction between food waste and food loss needs to be discussed. Food waste refers to *“the discarding of food products that are fit for consumption or fit to proceed in the food supply chain. This mostly occurs at later stages of the food supply chain, such as retail and consumer households. Hence, the causes of food waste are often related to human behavior and is intentional.”* (Gustavsson, Cederberg, Sonesson & Emanuelsson, 2013).

We can further divide food waste into: (a) avoidable and possibly avoidable waste referring to “edible” food thrown away, (b) waste deriving from food preparation that is not edible, like shells and bones, this is unavoidable food waste (Secondi, Principato, Laureti, 2015).

While food losses refer to: “...a decrease in food quantity or quality in the early stages of the food supply chain, before the food products reach their final stage, reducing the amount of food suitable for human consumption. The concept food losses are thereby often related to post-harvest activities with lacking system or infrastructural capacities...it is not intentional.” (Gustavsson, et al. 2013).

Several authors have established that food waste is a phenomenon that concerns every step of the supply chain and is in addition, heavily affected by the consumers’ background (Secondi et al. 2015; Cicatiello et al. 2016; Ribeiro et al.2017). Moreover, the study conducted by Cicatiello et al. (2016): “*The value of food waste: an exploratory study on retailing*” is aimed at understanding the extent of food waste in retailing as well as the economic and social impact. In the latter research, we can see that the Food Supply Chain (FSC) is divided into: production, post-harvest handling and storage, processing, retail, food service/catering and household, with the aim of understanding what are the main causes of food waste in each sector.

For an overall view, the causes of food waste in the various steps of the Food Supply Chain will be mentioned. (The information below is a personal elaboration on the facts retrieved from Cicatiello, et al. 2016 and Riberio et al. 2017.)

a. FSC: Production

In the Production phase of the supply chain, approximately 39% of the food being produced ends up being discarded. The main causes for food waste regard: the damage to the products by either equipment or inefficiencies during production and processing, unharvested crops due to low returns, overplanting and overproduction, products rejected due to safety regulations and finally, products rejected due to a mismatch with quality standards of buyer.

b. FSC: Post-harvest handling and storage

Include those losses due to spillage and degradation during handling, storage and transportation between farm and distribution.

c. FSC: Processing

Refers to losses due to spillage and degradation during industrial or domestic processing, e.g. juice production, canning and bread baking. Losses may occur when crops are sorted out if not suitable to process or during washing, peeling, slicing and boiling or during process interruptions and accidental spillage.

d. FSC: Retail

With respect to the retailing phase, we deal with the behavior that is enacted by retail stores, like supermarkets. We can notice that waste is caused by: damaged packaging, unpurchased holiday food, inadequate storage, technical malfunction, overstocking, difficulty in predicting the number of products purchased and to conclude, the main field of interest: blemished, wrong-sized, miss-shaped products. In this step of the supply chain, we have 5% of discard. The retail phase will be the main area of focus in this study since it is the linking step between purchase and household use. If the consumer is educated and incentivized by society to purchase abnormal products, it could lead to a better behavior also in homes.

e. FSC: Food Service/catering

With 14% of the total food waste, food services or catering mainly produce food waste through an inadequate storage or technical malfunction, by over preparing - due to difficulty in predicting the number of customers-, for rejecting products due to safety regulations.

f. FSC: Household

One of the largest causes of food waste (42%) is the behavior in households. Food is wasted due to: inadequate storage, technical malfunction, excessive trimming, spillages, abrasion, bruising, consumer confusion over “use by” and “best before” dates, lack of attention about food waste issues, uneaten holiday food and lastly, socio-demographics factors (age, gender).

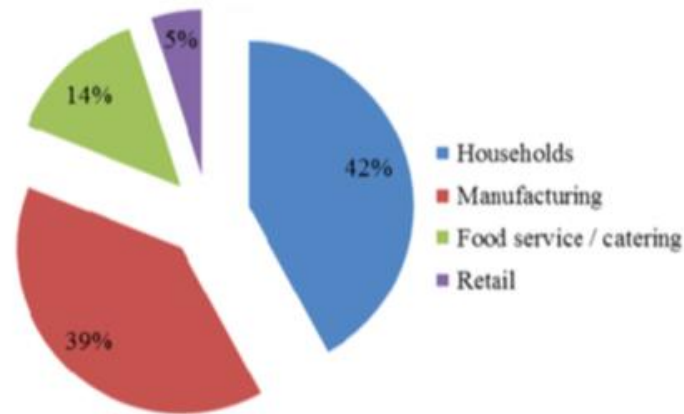


Fig. 8. Proportion of food discarded in the main stages of the supply chain. (Source: Cicatiello, et al. 2016)

2.2 Food Imperfection as a cause of food waste

“One of the main assumptions that contributes to global food waste is that consumers prefer cosmetically perfect fruits and vegetable because food retailers refuse to offer abnormally shaped food” (Loebnitz N, Grunert G.K., 2014)

This opening statement sums up, at best, the current status-quo of food waste and food imperfection. First of all, to better understand the relation, a step back to the general view on consumers’ perception on imperfection of food products needs to be undertaken.

2.2.1 Customer perception toward products

First of all, a product can be explained by having intrinsic cues and extrinsic. The former refers to *“attributes that are part of the physical product, such as ingredients and shapes, they cannot be manipulated without altering the physical properties of the product itself”* (Loebnitz et al., 2014), while the latter refers to those attributes *“that are not part of the physical product*

such as its price and label, they can be changed without modifying the physical properties of the product (Loebnitz et al., 2014).

We can say that, the way in which a product is depicted affects the extent to which consumers imagine using the product, and it can elicit more (or less) mental stimulation and this, as a result, can result in higher (or lower) purchase intention. These perceptions, that customers have towards any type of product, are produced by a sensorial reaction. Sensory marketing is any marketing that *“engages the consumers’ senses and affects their perception, judgement and behavior”* (Krisnhna A., 2011), and the senses are: haptics, audition, taste and vision. Being vision, the most predominant sense of a human being (Krisnhna A., 2011), many researchers have shown that the physical appearance of packaging influences attitude toward the product and even motivates consumers to purchase it.

Consumers rely on how the package looks like and deduct inferences, like the level of quality, innovativeness and healthfulness. If a product’s packaging is damaged- like torn wrapper, dented, smashed- the consumer will perceive it as being either contaminated or having some element of risk (White K., Lin L., Dahl D.W., and Ritchie R.J.B., 2016). For fruits and vegetables, most of the time, and in most countries, these products do not have a fancy packaging or innovative way of presentation. They are, in fact, positioned in their simplicity and rawness, or at most in transparent packaging (Loebnitz et al.,2014), in shelves or barrels in supermarkets. The only feature to present themselves, is how they grew. Thus judgment, mis-information and unfamiliarity toward these products is what leads into rejecting them as will be explained below.

2.2.2. The case of imperfect fruits and vegetables

“The consumption of abnormally shaped foods has been normal for most of human history, the rejection of it in modern life illustrated the need to better understand customers’ worries and their divorce from nature” (Loebnitz et al. 2017).

By changing consumers’ behavior and knowledge toward imperfect foods, we can foster a sustainable change (Loebnitz et al., 2014) and this will be the message of this research.

Fruits and vegetables have always been present in our gastronomic culture, but the debate on their appearance, has been of great interest only in the last century.

A product which presents any aesthetic features which does not match the standards in size, shape and color is defined *imperfect or abnormal*. These abnormalities may present themselves for various reasons; either because of the limited methods of avoiding plant diseases, or for the high sensibility of the elements, for their limited duration or simply because they are mother earth’s products and not machine made. To be clear, the imperfect fruits and vegetables we are concerned with, are those that are still good for human consumption, and thus, even if present aesthetic mutations, their taste or edibility are not affected.

Nonetheless, consumers want normal and typical products because they signal better quality than abnormal or atypical ones (Loebnitz et al.2015), and since the outward appearance of products is the main quality consumers use when determining the initial sensory impression (Loebnitz et al.,2014), retailers are not interested in breaking this vicious cycle. Moreover, the avoidance of imperfect fruits and vegetables, has been identified as main determinant of global food waste. In their research, Yue, Alfnes and Jensens (2009); Loebnitz and Grunert (2014), found significant effects for the relation on food abnormality on purchase intentions, indicating that participants’ purchase intentions differ with the degree of abnormality. So,

the higher level of abnormality present on the product, the less the purchase intention demonstrated by the customer.

In addition to quality perceptions, consumers perceive abnormally shaped fruits and vegetables as being risky. Some think that the use of chemical pesticides in modern agriculture has provided savings in agriculture and has increased the quantity and quality of food, but the evidence of environmental pollution by chemical residues, of ecological disturbance and human health effects, proves otherwise (Bunn 1990). Surveys have found continued public concern about the possibilities of chemical residue in foods. Constant evolving technologies, such as the use of genetic modification (GM), have resulted in negative attitudes and fear of “Frankenfoods”. Consumers associate GM food with the concept of “mutant”, “deformity”, “un-natural” and “disturbing” (Loebnitz N., Grunert K.G., 2017), thus wrongfully thinking that any abnormality on fruits and vegetables is created by a genetic modification. Prior research, (Loebnitz et al., 2017), has further shown that, higher the risk perceived by the customer, the more he tends to prefer a familiar option, preferring fruits and vegetables with normal shape and size.

So, to conclude, there are various obstacles towards the positive perception of abnormal fruits and vegetables. First and foremost, consumers’ behaviors are highly influenced from social standards, beliefs, and habits (Loebnitz et al. 2015; Hooge et al., 2016). Secondly, they tend to discriminate imperfect fruits and vegetables because they perceive a lower quality and thirdly, the miss-conception that they might be risky and resulting from lab experiment.

Since consumers’ perception towards imperfect foods, makes them believe these products are of lower quality and may present risks, the need to provide the customer with more information, but especially better information on these products is a must (Loebnitz et al. 2014, 2015, 2017). This can be done, as we have seen for Intermachè, also by presenting these products as more “friendly” and making them more familiar to the customers’ eye.

2.3 Disgust in literature

There is an increasing attention for the potential role of disgust propensity to any given situation (Nicholson, E., & Barnes-Holmes, D. 2012) and when it comes to the relationship that humans have with imperfect foods, it cannot be unconsidered.

Disgust is a feeling of revulsion or strong disapproval aroused by something unpleasant or offensive. When customers see a product that does not resemble their standards, they tend to have a feeling of rejection, this is because: *“Individuals prefer existing options over new ones...(they) naturally dispose of objects that disgust them, such as foul-smelling food.”* (Han, Lerner & Zeckhauser, 2012). Anything that reminds us of our animal origins can elicit disgust, including sexual behaviors, poor hygiene and certain moral offenses (Haidt, McCauley & Rozin, 1994). This wide range of elicitors makes disgust a common experience that significantly affects behavior. Interesting research has been conducted to understand the relationship between disgust and psychopathology, for example: the Disgust Scale (Heidt, McCauley & Rozin, 1994), the Disgust Questionnaire (Rozin, Fallon & Mandell, 1984) and Disgust Emotion Scale (Walls & Kleinknecht, 1996).

Analyzing more in depth the “Disgust Scale” by Heidt, McCauley & Rozin in 1994: *“it is the most widely used instrument assessing disgust propensity (i.e. the individual tendency to experience disgust).”* (van Overveld, de Jong, Peters & Schouten, 2011) and was developed with the specific goal of ascertaining the kinds or domains of experience in which Americans experience disgust (Haidt et al. 1994).

“It has generally been agreed, from Darwin onward, that disgust is basically about rejecting foods. Evidence for the centrality of food includes the facial expression, which focuses on oral expulsion and closing of the nares, and the physiological concomitant of nausea and gagging (...)even the etymology of the English word disgust means bad taste (...) Darwin held that disgust (...) refers to something revolting, primarily in relation to the

sense of taste, as actually perceived of vividly imagined: and secondarily to anything which causes a similar feeling, through the sense of smell, touch and even eyesight” (Haidt, McCauley & Rozin, 1994).

According to Haidt et al. (1994) something to underline is the concept that, disgust rejections are not primarily based on taste, but rather on knowledge of the nature or origin of a potential food. Things that taste bad do not necessarily have the property of contamination. Nonetheless, also in the case of imperfect fruits and vegetables, people do believe that abnormal indicates contaminated and they relate abnormal to bad taste (Siegrist, Sütterlin, 2017). This perception can trigger a defense mechanism which makes the individual feel disgusted and pull away from the product. This particular relation is what will be furtherly analyzed in this research.

Furthermore, disgust rejections have two main laws, which were first proposed by Taylor (1871/1974), Frazer (1890) and Mauss (1972):

- a. The law of contagion: “once in contact, always in contact” which refers to the tendency to believe that a brief contact causes permanent transfer of properties from one object to another. (Some people, for example, report that they would not drink from a glass that once held dog feces no matter how many times the glass was washed and sterilized).
- b. The law of similarity: “the image equals the object”, for example a piece of chocolate becomes less desirable when it is shaped like a piece of dog feces.

These examples lead to a conclusion that “*disgust is, at its core, an oral defense. Disgust acts as a kind of guardian of the mouth.*” (Haidt et al. 1994).

The domains of disgust elicitors in Haidt’s initial study included a 32-item Disgust Scale on the basis of a scale proposed by Rozin and Fallon in 1987. The scale development started with issues surrounding food, body products and sex to go further into asking *ad hoc* questions about what respondents found disgusting. Results of the preliminary studies presented two surprises:

socio-moral items (ex: stealing from a beggar) did not correlate reliably with the total score. The only moral item that did correlate with total scores were those that dealt with sexuality (ex: homosexuality, incest). These results led the researchers to combine the sexual morality items with sexual behavior items in a domain called simply “sex”, dropping the social-moral domain. Another element of surprise was that items related to death produced some of the highest correlations with total score, even though the domain was one of the smallest in the open-ended disgust description (Haidt et al. 1994).

The research elaborated finally 8 domains: *food, animals, body products, envelope violations, death, sex, sympathetic magic and hygiene.*

Food includes food that has spoiled or is culturally unacceptable; *animals* that are slimy or live in dirty conditions; *body products* including body odors and feces, mucus etc; *body envelope violations* includes mutilation of the body; *death* and dead bodies; *sex* includes culturally deviant sexual behavior, *sympathetic magic* involves stimuli without infectious qualities of their own that either resemble contaminants or were once in contact with contaminants, *hygiene* or violations of culturally expected hygiene practices.

Furthermore Rozin, Fallon & Mandell (1984), in their research on family resemblance in attitude to food, wanted to understand *if* there was a resemblance between parents and children’s preferences and attitude to food, especially sensitivity to contamination of foods (disgust). Children’s preferences and attitudes are about equally related to those of their mother and father. In this research, a 24-item questionnaire was formed to measure the tendency to reject desirable food items based on their degree of contamination with disgusting stimuli. The results of the research have confirmed the above mentioned “laws of disgust rejection”. In fact, people reject certain potential foods as “disgusting” because of the idea of what they are (e.g. feces, insects, worms, in American Culture), what they are believed to taste like (bad), even though they have never been tasted, and are offensive in odor and appearance. They can also be contaminants; that is, their contact or association with a liked food will render it inedible or

undesirable, even when the contact involved trace amounts that would be undetectable by taste, smell or sight.

Social and psychological theory suggests that pictures can influence beliefs and attitudes by making abstract ideas more real and concrete and have emotional impact. We can take into considerations also studies like the one conducted by Humphris and Williams (2014) on disgust as a driver behind the selection of images for UK tobacco packets. This research was aimed to see if, with more disgusting pictures, customers would decrease their purchase, or at least consumption of cigarettes. Conclusion were that disgust may be a possible intervening variable to explain the initial reactions to health promotion materials and smoking cessation.

As each person has different levels of disgust, it is crucial in this current experiment, to analyze also this aspect, in order to understand *if* the negative attitude toward the abnormal food could be explained by the levels of disgust of the individual. Furthermore, since the experiment is conducted by showing images it has been decided to include a part in the questionnaire related to disgust. We predict that higher scores in the “disgust scale” will mean a higher rejection toward the ugly fruit. This will be further explained in the Methodology section.

2.4 Humor in literature

The use of humor in advertising has increased considerably (Duncan 1979; Madden and Weinberger 1984; Speck 1987; Sternthal and Craig 1973; Weinberger and Gulas 1992).

Approximately one out five television ads contains humorous appeals. Marketers rely on humor to increase advertising performance because it may influence advertising memorability, product evaluations, persuasiveness and consumer attention (Laroche, Nepomuceno, Huang & Richard 2011). Nonetheless, humor should be used carefully because it may offend the audience and it should not be used in themes such as illness, death or to

mask deceptive advertising. Furthermore, the sense of humor is universal in all human societies, but one's preferences and responses to humor changes according to culture, country, style, norms, age and gender. In addition, the pleasure derived from humor varies as a function of the congruity between the style of the humor and the idiosyncratic humorous preference of the individual (Madden and Weinberger, 1984).

It is argued that individuals have different ways to process information. Individuals who are intrinsically interested in analyzing and processing discrete pieces of information and enjoy thinking about product-related informational cues, are likely to form their attitude about the product based on the relevance and strength of the product-related arguments contained in the ad. In contrast, individuals who enjoy the outcome rather than the process of thinking and prefer to think only as hard as necessary, will be less motivated to analyze the arguments presented in the ad. Instead, they will be more likely to base their evaluation of the product on such apparent characteristics as the presence of likable cues in the ad. The presence of humor, in such a case, may lead to the formation of more positive attitude toward the product (Zhang 1996). This means that, those individuals with higher analytical tendencies will scrutinize the ad more, making it less effective and more prone to criticism, while those individuals with lower analytical tendencies will accept humor in the ad more and judge only what they see.

The above process can be further illustrated in the Elaboration Likelihood Model (ELM) by Petty and Cacioppo (1990). When individuals are able and motivated to engage in the extensive issue and argument processing, persuasion results from the presence of issue-relevant argument. When instead individuals are relatively unmotivated or unable to process issue-relevant arguments, attitude changes may occur if peripheral cues are present. Humor has often been employed as a peripheral cue in advertisement. *"A peripheral cue is an element of the ad that is not directly related to the merit of the product advertised."* Based on the ELM model, the effect of humor in advertisement may depend on what is the specific processing invoked (either issue-relevant argument or peripheral issue).

When issue-relevant arguments are invoked, the cogency argument determines persuasion, not humor; while when the peripheral issue is invoked, the presence of likable cues, such as humor, may influence persuasion. In our research, our humorous slogan is in fact a peripheral cue, in the sense that it captures an old saying (*“An apple a day keeps the doctor away”*) mentioning on one hand the product, but not in relation to the actual use of the product. The aim is to “touch” those likeable cues in the individual stimulating a positive relation to the ad.

Here, there are certain limitations: what type of cognition each person has, what type of media is being used, if the respondent has been exposed to the experiment a single type or multiple times. This is because humor reduces negative cognitions related to the ad because it serves as a distraction from counter-argumentation. In order to maintain positive affect, humor reduces cognitive efforts, in particular those related to brand-related cognitions, thus supporting a “vampire effect”. That is, humor distracts from processing central benefits of the brand. Bryant, Gula, Zillmann, (1980) have in fact argued that respondents pay close attention to humorous parts of the message, since it induces pleasant reactions but, they are less attentive to other parts of the message. Hence, the funnier the ad, the higher the incentive value of humor, and the more the ad may distract from brand-related parts of the message. In the current research humor wants to be used as a “distraction” for the aesthetic feature of the abnormal fruit and as a message reminder that the product has the same priorities nonetheless it’s looks.

This explains also the low relationships between humor and attitude toward brand. The above issue underlines the importance of using relevant humor, which will increase patronage behavior and not non-relevant humor which will have no or even negative impacts. In their research on the impact of humor in advertising, Weinberger and Gulas (1992) in fact stated that: *“The nature of the humor plays an important role in determining the efficacy of a given humor treatment”*.

2.4.1 Humor characteristics

Humor can be subdivided into having two groups of executional factors. The first being the relationship between the humor treatment and the product/message.

According to Speck (1991), there are three types of humor relatedness:

- a. *intentional*: the relationship of humor to message type and message processing,
- b. *semantic*: the relationship of humor to product-related themes, and
- c. *structural*: the syntactical function of humor, referring to the integration of the humor and the product claims.

Studies that have directly compared related humor to unrelated humor have generally found related humor to be superior to unrelated humor.

The second executional factor group is humor type. Humor can be categorized on at least two different dimensions: “contents” and/or “technique”. A commonly used content typology places all humor into one of the three classifications: aggressive, sexual or nonsense (Goldstein and McGhee, 1972). Technique typologies have also been employed; Kelly and Solomon (1975) defined humorous ads as containing one of the following: 1) a pun, 2) an understatement, 3) a joke, 4) something ludicrous, 5) satire, 6) irony or 7) humorous intent. A broader based method of categorizing humor is proposed by Speck (1991). He states that humor is composed of distinct basic processes: arousal-safety, incongruity-resolution and humorous disparagement. These processes may act alone or in combination to form five humor types: *comic wit* (incongruity-resolution), *sentimental humor* (arousal-safety), *satire* (incongruity-resolution and humorous disparagement), and *sentimental comedy* (arousal-safety, incongruity-resolution and humorous disparagement).

In addition to the humor type, the effectiveness of humor also depends on the typology of the product where humor is used. Several product typologies

have been developed in order to integrate the idea of the ELM, which makes a distinction between low and high motivation/ability situations when processing an advertising message. Each framework provides a matrix of four fields with an involvement/perceived risk dimension and a functionality dimension (Eisend 2009). *“The classification of products in the functionality dimension distinguishes between product of functional value (think, informational) and hedonic value (feel, emotional, transformational.)”* (Eisend 2009).

Furthermore, products differ in:

- a. actual vs. fictional,
- b. high vs. low involvement and
- c. functional vs. hedonic.

Generally, low involvement products include consumer non-durables, like snack foods, beer, wine, etc., and are best suited for humorous treatment than high involvement-feeling products, like fashion clothes, perfumes etc.

In this research, our product (apple) is thus an actual/low-involvement/functional product.

Gulas and Weinberger (2016) summarize these types of products with a four-product color matrix distinguishing white, red, blue and yellow goods:

- White goods are high involvement/high risk and functional products that are risky enough to be worth processing information in a more detailed way. Advertisements for such products should consider benefit claims to be convincing and the target audience must accept the ad’s main points but does not have to like the ad, although ad liking does not harm advertising impact. Humor can serve as an issue relevant argument, particularly when consumers are engaged in detailed information processing (Zhang and Zinkhan 2006). Hence, issue-relevant humor provides benefit claims and can help to sell the product, whereas unrelated humor may help consumers to like the ad but may not further improve the impact on attitude toward the brand.

- Red goods are high involvement/high risk and hedonic products where the audience processes information in a more detailed way as well. Advertisements should provide emotional authenticity, and consumers should like the ad and must identify with the product portrayed in the ad; information may be provided as well. Humor basically supports effects on attitude toward brand and does not need to be product-related, as humor contributes to one's liking of the ad that can transfer to the advertised brand.
- Blue goods are low involvement/low risk and functional products that do not require detailed information; trial experience is sufficient. As for advertisements, a simple problem-solution format focusing on the central benefits of the product is most appropriate. It is not necessary for consumers to like the ad (although ad liking does no harm to advertising effects); both related and unrelated humor may bear the risk of distracting the consumer from a successful information transfer of the central benefits of the product. Hence, humor may be effective, but less so than for other kinds of products in the matrix.
- Yellow goods are low involvement/low risk and hedonic products. Brand attitude strategies should focus on an emotional appeal that is unique to the brand, and the target audience must like the ad. As for red goods, humor supports effects on attitude toward brand and does not need to be product-related.

We would consider our product to be part of the "Blue goods" matrix (low involvement/low risk and functional products) and thus are aware of trickiness of the use of humor.

2.4.2 Humor Effects

Weinberger and Gulas (1992) have suggested that an immediate effect of humor is best described by a generic response that covers a variety of responses such as happiness, fun or pleasure. Furthermore, the response varies in intensity depending on the humorous stimuli. For example, humor intensity and the effects on the attitude toward the brand have a curvi-linear relationship due to the idea that humor plays a *“cathartic role, evoking arousal that results in pleasure when released. Humor causes such arousal through novelty, complexity and incongruity.”* (Eisend 2009).

Let's analyze now, more specifically, what are the effects or the relationship between humor and various factors like: where humor is placed, audience, attention, comprehension, persuasion, credibility, attitude toward brand, liking of brand:

a. Placement:

The type of medium, the context in which an ad appears and the repetition for humorous ads are all topics that have been taken into account in past research. In the late 80's researchers believed that radio and TV were the media best suited to the use of humor, while print media were considered not well suited to using humor. Humor is harder to execute in print advertisement due to fewer tools in the executional arsenal, it is confined to addressing the whole sensory spectrum of individuals and is therefore inferior to humor in broadcast media in terms of funniness (Wolburg, 2007). Furthermore, the impact of humor in print media may be neutralized through more vigilant, intense and selective processing having the customer more time to analyze the information. (Weinberger & Gulas, 1992).

b. Audience:

The majority of early research done on the topic has reason to believe that humorous ads are best suited to target audience composed of better educated younger males. Several studies have indicated an interaction between gender and humor effectiveness (Gorham & Christophel, 1990; Whipple &

Courtney, 1981). The effect of gender may be partially explained by the differences in humor appreciation. Whipple and Courtney (1981) conclude that men appear to enjoy aggressive and sexual humor more than women do, and women appear to have a greater appreciation for nonsensical humor. In addition, we can add that age is negatively related to humor comprehensions whereas education is positively related to humor and comprehension (Mak & Carpenter 2007). Humor is very closely tied into the culture, experiences and points of reference that are shared between the humor originator and the humor receiver. In fact, if there is a higher “shared point of view” between the creator of the ad and the target we have a potential important variable in humor effectiveness (Weinberger & Gulas,1992).

c. Humor and attention:

Studies have shown that 94% of advertising practitioners see humor as an effective way to gain attention. Furthermore 55% of advertising research executives believe humor to be superior to non-humor in gaining attention (Weinberger & Gulas,1992). In studies of actual magazine ads, television ads and radio ads, humor has been found to have a positive effect on four attention measures: *initial attention, sustained attention, projected attention and overall attention*. Humorous ads thus outperformed non-humorous ads. Furthermore, related humor, that is, humor directly connected to the product or issue being promoted, appears to be more successful than unrelated humor (Weinberger & Gulas,1992).

d. Humor and Comprehension:

Comprehension precedes humor appreciation, which in turn influences liking of the advertisement. With respect to humor and comprehension, the literature is mixed (Weinberger & Gulas,1992).

Stewart and Furse (1986) had found humor content to increase comprehension. Whilst others found a negative relationship. This discrepancy in results can be explained by the different definitions used to indicate comprehension, i.e. recall. (Weinberger & Gulas,1992).

e. Humor and Persuasion:

The persuasive effect of humor is at best no greater than that of serious appeals. We have again a mixed effect. Related humor was more persuasive than no humor for low involvement-feeling products, it was found to be less persuasive on high involvement-thinking products. Subject with a prior positive brand attitude were more persuaded by humorous treatments while subject with pre-existing negative brand attitudes were not. (Weinberger & Gulas,1992). Like in humor and comprehension, there are factors that might influence the humor-persuasion effect, for example the intensity of the message. This intensity has two dimensions: the intensity of the humor and the intensity of the surrounding message. (Weinberger & Gulas,1992). Bryant and his colleagues (1981) examined differences in levels of humor and found that the use of low levels of humor provided essentially the same level of persuasion as no humor use, while extensive use of humor was detrimental to persuasion. Sternthal and Craig (1973) speculated that humor was at best no better than non-humor in bringing about persuasion.

f. Humor and Source Credibility:

Source credibility examines cognitive aspects such as trust and expertise. Results of studies examining the effect of humor on source credibility can best be described as mixed (Weinberger & Gulas,1992). This may be given by a number of factors such as the nature of the source or nature of the humor, like “knowledgeableness” or “trustworthiness”. Non-humorous ads were seen as more knowledgeable by respondents. In summary, it is unlikely that source credibility is consistently enhanced through the use of humor. The use of humor contributes mainly to a decreased credibility of source. Bryant, Brown, Silberberg and Elliott (1981) provide an explanation: if the source is witty and has excellent command of the material by using humor, then the effect may be positive. Instead if a source is perceived as using humor because of the lack of ability, we will have the opposite effect.

g. Humor and Attitude Toward Ad and Attitude Toward the Brand:

Humor may affect both ad attitude and brand attitude. The argument for humor as a peripheral cue and its ability to generate affective responses, suggests that humor probably would draw more attention to the ad (Weinberger & Gulas,1992). Humor may serve primarily as an influencer of ad attitude, which is mainly composed of the responses one has such as “liking” of the ad. Therefore, the effect of humor on brand attitude can be mediated by attitude toward the ad. The effect that humor has on brand attitude can be null once the effect of humor on ad is removed.

h. Humor and Liking:

Source liking deals with non-cognitive affect (Weinberger & Gulas,1992). The use of humor as a way to enhance liking has been well revised in the marketing literature and it has been showed that it increases both liking of the ad and liking of the brand. Since 1990 research has indicated that liking is a very important variable in the effectiveness of an ad. Haley and Baldiger (1991) indicated in their study that a positive response to “*This advertising is funny or clever*” predicts the success of an ad 53% of the time, whereas agreement with the statement “*This advertising is boring*” predicts failure 73% of the time. In our survey, apart from asking general questions about the ad (as described in the Methodology section) we will thus also ask respondents to rate the “funniness” of the ad by asking: “*I thought the ad was funny*”, “*I appreciated the humor in the ad*” “*I did not perceive the humor as being funny*” to analyze if there is a potential prediction of the success of the ad.

3. Research question and objectives

Various levels of research have been conducted on food imperfection. They have tested how customers feel about purchasing abnormal foods (Loebnitz et al.2015), purchase intention of foods with additional ethical attributes (Zander K., Hamm U., 2011; Zander K., Stolz H., Hamm U.,2012; Dowd K., Burke K.J.,2013), humorous advertising on food products and finally disgust measures toward food. We can thus summarize that: customers have a negative attitude toward abnormal foods, they are mis-informed about the causes of the imperfection, they are intrigued by humorous slogans, a pricing strategy has a positive effect on purchase, disgust level of the individual does matter and also awareness of food-waste related issues.

Having reviewed all the above literature and in addition, Intermachè's success with the advertisement campaign on imperfect fruits and vegetables, the interest to analyze if humorous labelling actually works on abnormal fruits and vegetables is the main goal of this research.

The beginning of our problem is the relation consumers have with abnormally shaped foods. For research purposes we will consider only *shape* as an abnormality factor. The decision was taken under the circumstances that the methodology of the data gathering will be an on-line survey, and thus the other factors may be perceived by the interviewee in the wrong way and also because, there is greater previous research to consolidate our experiment on shape (Loebnitz et al. 2014, 2015, 2017.). In addition, the research will be structured comparing only normal shaped fruits and abnormal fruits because it has been verified by Loebnitz et al., 2015, that there is no difference in purchase intention between normal and moderately abnormal foods.

From the potential fruits and vegetables that could have been chosen, the selection process considered those fruits and vegetables that were initially advertised by Intermachè; thus, a carrot, a potato, an eggplant, a lemon, an orange and finally an apple. With the above-mentioned considerations in mind, this study will take into account only fruits, in particular the apple.

The latter fitting into the abnormal characteristics specified above and also having a slogan, “*A grotesque apple a day keeps the doctor away as well*”, which is more relevant to the humorous labelling. Furthermore, the slogan does not mention price, like in the eggplant case: “*...so cheap it could even be more disfigured*”; nor what can be produced from the product, like in the orange “*...makes beautiful juices*” or the carrot: “*...in a soup who cares*”.

Thus, our research question is: “***Can additional humorous labelling on imperfect fruit affect customers’ perception?***”

With respect to *Customer Perception*, we consider *Willingness to Purchase* and *Willingness to Pay*. Purchase intention is the willingness to buy a certain product, and it depends on external and internal factors, including outcome expectations and external stimuli, such as advertising campaign. Willingness to pay is defined as the price at which a consumer is indifferent between purchasing and not purchasing (Moorthy, Ratchford, & Talukdar, 1997). It is useful to study it as it is the economical expression of the intention to buy, it represents the economic value that people give to a specific product. As we will see in the “Methodology” section, direct questions have been asked to the interviewee. After the literature analysis, we want to test how much abnormality brings down the willingness to pay and willingness to purchase the fruit and whether/how much is compensated by the humorous slogan by hypothesizing the following questions.

Our first hypothesis regards comparing normal vs abnormal shaped apple not considering any humorous labelling. This is to test if our sample, responds to these images are previous research as observed. That is: normal shaped fruits are preferred to abnormal.

H1a: *The advertisement of the normal apple will have a **higher Willingness to Purchase** than the advertisement of the abnormal apple.*

H1b: *The advertisement of the normal apple will have a **higher Willingness to Pay** than the advertisement of the abnormal apple.*

The prediction behind the second hypothesis is that an advertisement of a normal apple with a humorous labelling will be more appealing, interesting and informative to the customers than just a mere apple.

H2a: *The advertisement of the normal apple with humorous labelling will have a **higher Willingness to Purchase** than the advertisement of the normal apple.*

H2b: *The advertisement of the normal apple with humorous labelling will have a **higher Willingness to Pay** than the advertisement of the normal apple.*

The third hypothesis wants to test if the abnormal apple with humorous labelling can be more convincing than the normal apple by its self.

H3a: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Purchase** than the advertisement of the normal apple.*

H3b: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Pay** than the advertisement of the normal apple.*

The fourth hypothesis is the crucial one in this experiment, in fact it is the focus of this research. In order to see if humorous labelling works, like for hypothesis two, the two images with the same status (abnormal) need to be compared and analyzed.

H4a: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Purchase** than the advertisement of the abnormal apple.*

H4b: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Pay** than the advertisement of the abnormal apple.*

Finally, the fifth hypothesis wants to test if the humorous labelling can compensate for the attitude that customers have toward the abnormal fruit.

The aim is to have a positive response, thus indicating that when an abnormal fruit is accompanied by a humorous labelling, people will think more about the real quality of the product and go beyond just aesthetic standards.

H5a: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Purchase** than the advertisement of normal apple with humorous labelling.*

H5b: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Pay** than the advertisement of normal apple with humorous labelling.*

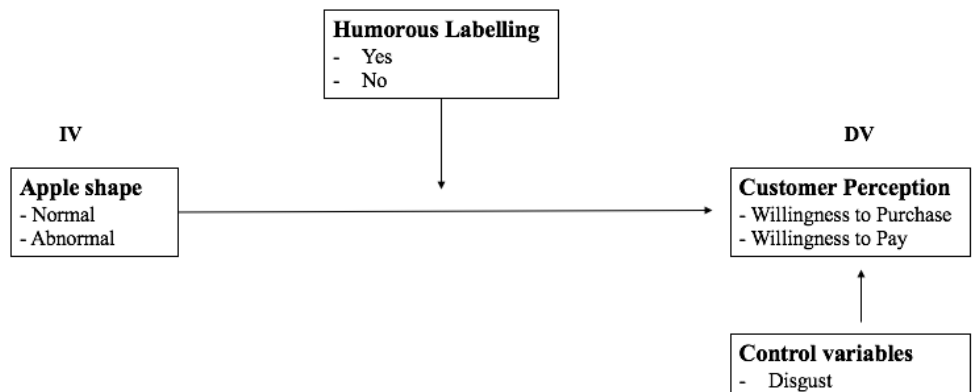


Fig.9. Conceptual framework. (Source: own elaboration.)

4. Research methodology

With the aim of understanding if, using humorous labelling on imperfect fruits, there can be an effect on perception, the analysis will be conducted through an on-line survey. The research's structure is a between-participants analysis. The survey is composed of 24 questions, each participant had the same type of questions but was assigned randomly a different picture of the study.

As explained above, the chosen fruit was the apple. In order to make the advertisement as real as possible, a logo of a fictitious market was created: "Paprita Market". The logo was positioned in every photo provided.



Fig. 10. Paprita market logo. (Source: own elaboration).

In order to confirm what previous research has stated: that customers prefer normal shaped foods instead of abnormal, and to counterpart Intermachè's imperfect advertising, a perfect green apple, with same color and same water drops, was chosen to be in our "control group". The normal apple with no humorous labelling, needed to test our Hypothesis 1 and Hypothesis 2 (para.3), was showed only with the tiny supermarket logo on the left:



Fig.11. Normal apple with no humorous labelling. (Source: own elaboration).

The second image created, was the one of the normal apple with additional humorous labelling, which counterparts to the abnormal apple with humorous labelling and also with the apple with no additional humorous labelling needed to test our Hypothesis 1 (para.3). The slogan chosen was “*An apple a day keeps the doctor away*”. Intermachè’s “*A grotesque apple a day keeps the doctor away as well*”, was revisited for the normal apple.

AN APPLE

**A DAY KEEPS
THE DOCTOR
AWAY**



Fig. 12. Normal apple with humorous labelling. (Source: own elaboration).

The third possible scenario was the abnormal apple with no additional humorous labelling. This image, compared with the abnormal apple with additional labelling, will answer our Hypothesis 3 (para. 3), thus determining if the insertion of humorous labelling on the abnormal apple has actually an effect or not.



Fig.13. Abnormal apple with no humorous labelling. (Source: own elaboration).

Lastly, the fourth image is the one with the abnormal apple and the additional humorous labelling:



Fig.14. Abnormal apple with humorous labelling. (Source: own elaboration).

The labelling on the abnormal apple was changed, with respect to the one advertised by Intermachè, in order to create a more fluent slogan, more similar to the one of the normal apple in length and flow: “A grotesque apple a day keeps the doctor away as well” vs. “An ugly apple a day *still* keep the doctor away”. Furthermore, an emphasis on the work “still” was created so to instill to the customer the concept that “ugliness” doesn’t change the old saying.



Fig.15. Intermache’s advertisement vs. own elaboration (Source: own elaboration)

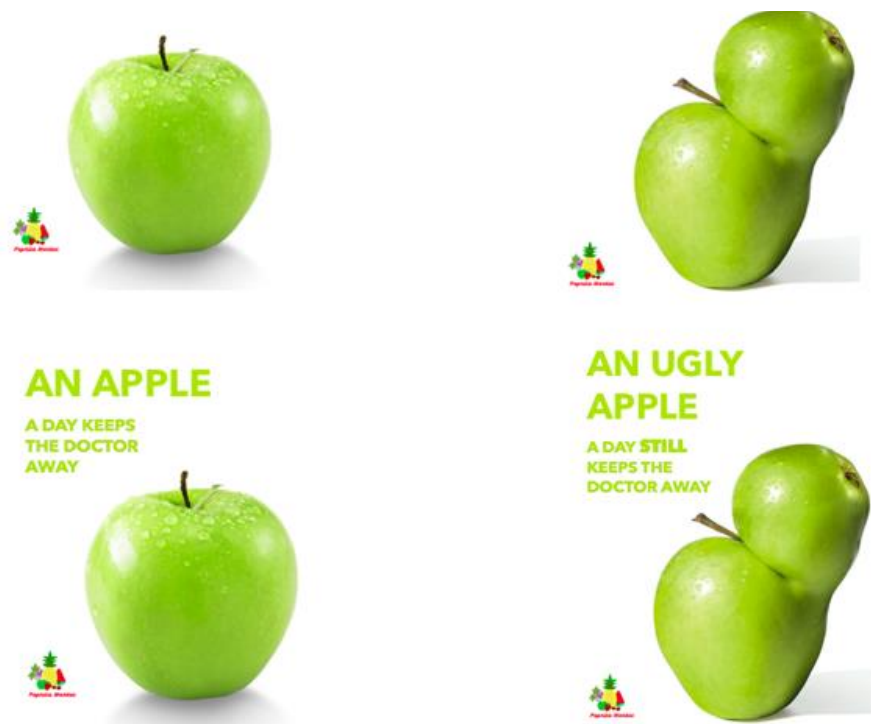


Fig.16. Comparison of the advertisement in the research. (Source: own elaboration).

The survey follows the following structure:

1. Welcome
2. Instructions
3. WT Purchase
4. WT Pay
5. Attitude toward fruit
6. Attitude toward ad:
 - information
 - involvement
 - ad comprehension
 - self-focused
7. Disgust scale
8. Grocery shopping frequency
9. Food waste awareness
10. Demographics

The “*Welcome*” and “*Introduction*” section were aimed at explaining to the participant what was asked of them and what they would be seeing.

Above every question related to either the advertisement or the fruit, in order to facilitate the respondent, the picture of the ad was displayed right above the question.

In order to use reliable scales of measurement, the following questions were formed on the basis of G. C. Bruner’s handbook: “Marketing Scales Handbook, Multi-item Measure for Consumer Insight Research” Volume 9, (2017).

For “*Willingness to Purchase*” the respondent, using a 7-point Likert scale, had to rate how much they agreed with four statements, for “*Willingness to Pay*” a Slider scale (-100%, +100%) was used asking how much, in percentage, they would be willing to pay the fruit with respect to average price.

For “*Attitude toward the fruit*” the aim was to understand what the respondent thought of the fruit itself. “*Attitude toward the Ad*” was divided with the flow mentioned above, asking particular questions on the information received from the ad, the involvement of the ad, the comprehension gathered from the ad and the perception of humor in the ad. Furthermore, the part related to “*Disgust*” was formed on the basis of Haidt et al. “Disgust Scale” (1993). Out of the 32 items and 8 domains of the scale, 8 questions were asked, four from the *food* domain, one from the *animal* domain, one from *body products* domain and two from *envelope evaluations*. Respondent had to rate the agreement level on a 7-point Likert scale.

For the “*Grocery Shopping frequency*”, the aim of the questions was to understand what the respondent’s relation with food and food purchases is. Questions like the importance of food characteristics and frequency of grocery shopping were formulated. This part was inserted because thought essential in order to see any possible relation between food habits and the relation with abnormal foods and consequently waste.

The “Food waste awareness” section has a much similar aim as the one mentioned above. By rating the awareness of food waste issues and the attitude someone has with respect to food waste, can help predict any possible relations and avoid any bias when evaluating responses.

Finally, to conclude the survey, demographic questions were asked to assess age, education level, nationality and employment status. The complete survey can be found in Appendix.

A demographics analysis was conducted to better understand the structure of the sample by calculating the average *Age, Sex, Country, Occupation* and *Education level*.

As mentioned above, our dependent variable is called “*Customer Perception*” and will be measured with two variables which are *Willingness to Purchase* and *Willingness to Pay*.

Furthermore, analysis between demographics and dependent variables, for each group of respondents, were calculated in order to see if there were any relevant relations: *Sex* and *Willingness to Purchase*; *Sex* and *Willingness to Pay*; *Country* and *Willingness to Purchase*; *Country* and *Willingness to Pay*; *Occupation* and *Willingness to Purchase*; *Occupation* and *Willingness to Pay*; *Education level* and *Willingness to Purchase* and *Education Level* and *Willingness to Pay*.

After this initial analysis, the research continued with the Univariate Analysis of Variance, with the aim of understanding what was the relation between the dependent variable and the various factor of our research. The analysis, as anticipated, was conducted by using an in-between subject 2x2 ANOVA. The structure of the model is 2 (*Shape: normal x abnormal*) x 2 (*Labelling: Yes x No*). The type of images shown have been labeled in SPSS as: Apple no label (normal apple with no humorous labelling), Apple label (normal apple with humorous labelling), Ugly no label (abnormal apple with no humorous labelling), Ugly label (abnormal apple with humorous labelling).

Firstly, we analyzed *Willingness to Purchase* (with the variable: “I would consider purchasing the fruit in the ad”) and the factors: Shape: normal vs abnormal, Labelling: Yes/No. Then, we analyzed *Willingness to Pay* (with the variable: “How much, in percentage, are you willing to pay for the fruit in the image, with respect to the average price”) with the same factors.

Wanting to understand more in depth the results, not initially significant only with ANOVA, a second analysis: ANCOVA, was conducted. The aim was to control for the disgust variable in the model. A pair-wise comparison was subsequently conducted to analyze the relation amongst groups.

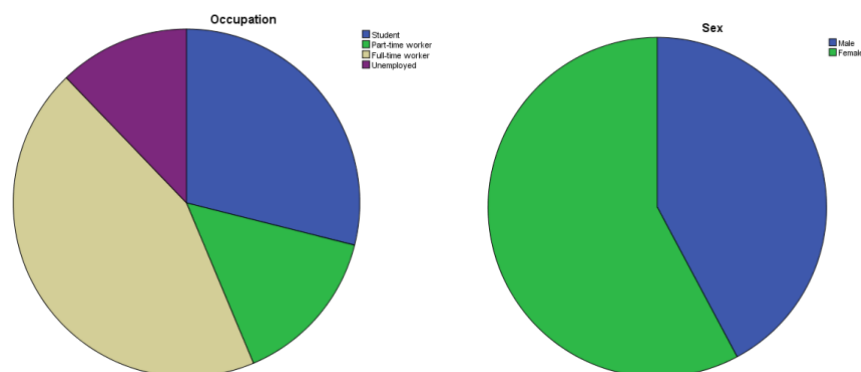
5. Results

The objective of this analysis was to understand if an abnormal fruit, just with the support of a humorous labeling, could increase *Customer Perception* through the factors of *Willingness to Purchase* and *to Pay*.

From the questionnaire ministered online, 527 respondents were reached, out of which, 467 participants' responses could be used, the other participants did not conclude the survey and thus could not be considered.

5.1 Descriptive statistics

The sample was formed by 55,6% females and 40,5% males, with an average age of 29 and a median of 26, meaning that 50% of the respondents had as a maximum age: 26. The respondents were mainly from the UK (23,9%) and Italy (16,5%). Their education level was divided in: Bachelor's Degree (42,4%), High school (28,0%) and Master's Degree (22,6%). The participants' occupation level was formed by: Full-time workers (42.2%), Students (27,8%), Part-time workers (14,2%) and Unemployed (11,7%).



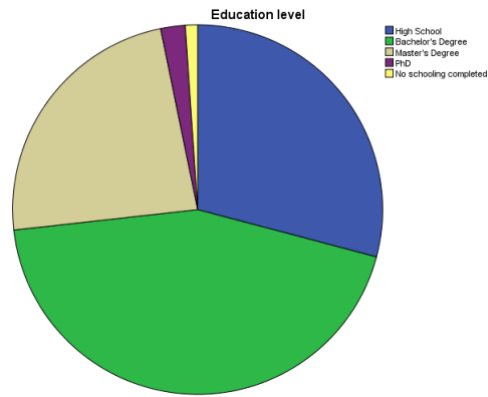


Fig. 17. Pie Chart of Demographics. (Source: own elaboration)

An analysis on *Sex* and type of image seen, as well as *Education* and type of image seen was conducted, the results can be seen in the table below:

		Normal label	Normal no label	Abnormal label	Abnormal no label	Total
Sex:	Male	52	54	43	48	197
	Female	66	63	74	67	270
Education Level:	High school	28	33	40	35	136
	Bachelor's	54	53	50	49	206
	Master's	28	28	25	29	110
	Phd	5	2	2	1	10
	No schooling	3	1	0	1	5

Table 1. Relation Between Sex/education and image. (Source: own elaboration)

As mentioned above, it was of interest to understand the possible relations between the characteristics of the demographics of the sample and the

dependent variables. Considering “Willingness to Purchase the fruit in the ad” the results from SPSS are the following:

From an initial analysis, the relation between *Willingness to Purchase* and *Education*, we can notice that for those individuals with a higher education level (Master’s Degree) the preference of a phrase on the normal apple **does** influence the score attributed to the propensity of purchase (mean=5,429). With respect to *Willingness to Purchase* and *Sex*, it seems that women are **less** influenceable by the humorous labelling when we have the abnormal fruit with no humorous labelling (mean= 5,081), than man (mean=4,186). This confirms what has been studied by literature (Whipple & Courtney,1981) and stated above (Section 2. Par 2.4.2): “...*humorous ads are best suited to target audience composed of better educated younger males*”.

Regarding the *Country* of the participants, it seems as if there is no influence in the propensity to purchase the normal apple, either with or without the humorous labelling (average scores are always ≥ 5).

For the abnormal apple, Americans (apple label mean= 5,257; apple no label m= 5,250; Ugly no label m=2,692) and Italians (apple label mean= 5,469; apple no label m= 5,208; Ugly no label m=2,714) are more interested in purchasing the abnormal apple if **not** accompanied by the humorous labelling with respect to those participants from the UK, (apple label mean= 5,257; apple no label m= 5,000; Ugly no label m=4,000). The different number of participants from each country does impact this result, so we cannot generalize.

For *Willingness to pay* and demographics, the same relations were analyzed. Regarding the *Country* of the participants, like for the case of *Willingness to Purchase*, there is no significant influence of country of origin and how much they are willing to pay with respect to the average price the normal apple, either with or without the humorous labelling (Average scores are always ≥ 5).

The type of *Occupation* does not seem to gather different answers with respect to the type of advertisement shown. Full-time workers, Unemployed and Students are willing to spend **more** than average for the normal apple, spend less instead for the abnormal apple with no humorous labelling.

5.2 Univariate Analysis of Variance

For the main analysis of the research, we wanted to understand what the relation is between: fruit shape and humorous labelling, on customer perception. An initially exploratory research with ANOVA provided the following results.

Looking at the type of image seen and the DV: “I would consider purchasing the fruit in the ad” (thus *Willingness to Purchase*), we can notice that for the abnormal apple, the mean score is 3,33; lower with respect to the other cases, while for the normal apple with humorous labelling the mean is higher: 5,33. Confirming our initial intuitions on abnormal fruits being less attractive for customers.

We can also notice that for the mean of the abnormal apple, there is an increase when the humorous labelling is inserted (from 3,33 to 4,68), indicating the difference between the groups in the perception of the ad and the *Willingness to Purchase*. This is also confirmed by the graph of Marginal Means.

Label	Image	Mean	SD	N
No	Normal	5,07	1,542	121
	<u>Abnormal</u>	<u>3,33</u>	2,063	120
	Tot	4,20	2,015	241
Yes	<u>Normal</u>	<u>5,33</u>	1,480	123
	Abnormal	4,68	1,873	122
	Tot	5,01	1,715	245

Table 2. Relation Between Willingness to Purchase and image. (Source: own elaboration)

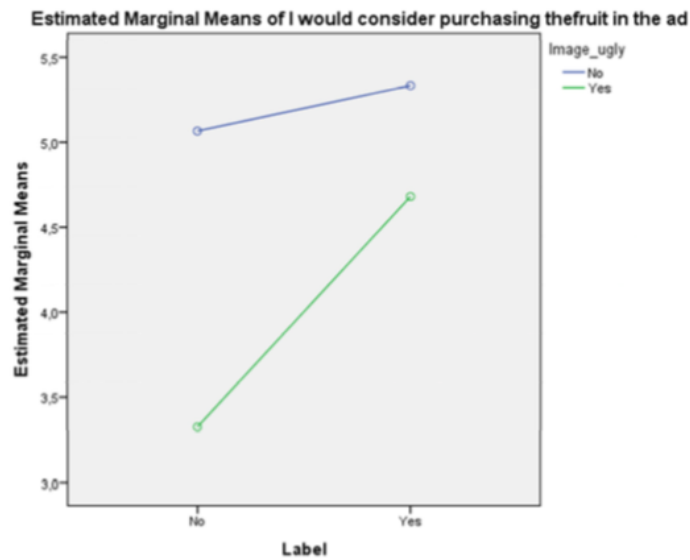


Fig.18. Estimated Marginal Means (Source: SPSS output)

We can clearly see from the graph the difference in the abnormal apple when humorous labelling is added and a slight difference for the normal apple and can generally consider humorous labelling as having a positive influence on *Willingness to Purchase*.

We furtherly conducted Levene's test (tests the null hypothesis that the error variance of the dependent variable is equal across groups. Design: Intercept+ label+ Image_ugly+ Label*Image_ugly) to check for the equality of error variances. The result indicated that there is no homogeneity between the variance, in fact p-value < 0.05 (sig. 0.00) and this makes us reject the null hypothesis of the test.

Observing the results from the two-way ANOVA in Table 3, all the mean values of the factors are significantly different. The model does not respect the normal distribution hypothesis nor homoskedasticity. Furthermore, other variables could exist that influence the DV *Willingness to Purchase*, in fact, the percentage of variability explained by the model is very low. However, we do notice that the presence of Label is indeed statistically significant for the DV *Willingness to Purchase*.

What we can conclude is that the factors analyzed in the model do influence the respondents but there are other variables that could determine the propensity to purchase the apple.

Source	Type III Sum of squares	Df	Mean square	F	Sig.	Partial Eta squared
Corrected Model	288,274 ^a	3	96,091	31,217	,000	,163
Intercept	10288,299	1	10288,299	3342,355	,000	,874
Label	79,960	1	79,960	25,977	,000	,051
Image_ugly	174,089	1	174,089	56,557	,000	,105
Label*Image_ugly	35,960	1	35,960	11,683	,001	,024

Table 3. Test of Between-Subjects Effects with DV: Willingness to Purchase. (Source: own elaboration)

To test if the different apple images (normal, abnormal) influence our second DV factor: *Willingness to pay*, the same analysis was conducted.

Label	Image	Mean	SD	N
No	Normal	19,31	35,144	121
	<u>Abnormal</u>	<u>-19,11</u>	43,689	119
	Tot	0,26	43,967	240
Yes	Normal	17,76	33,231	123
	<u>Abnormal</u>	<u>-5,95</u>	42,347	122
	Tot	3,14	39,789	245

Table 4. Relation Between Willingness to Pay and image. (Source: own elaboration)

From an initial observation of the analysis, it seems that those respondents who saw the abnormal apple, on average are considering spending 20% less

with respect to the average market price if the picture is not accompanied by the humorous labelling, while only 5% less if the image is accompanied by the humorous labelling. We can initially state that the humorous labelling does influence the customer perception when it comes to *Willingness to Pay*.

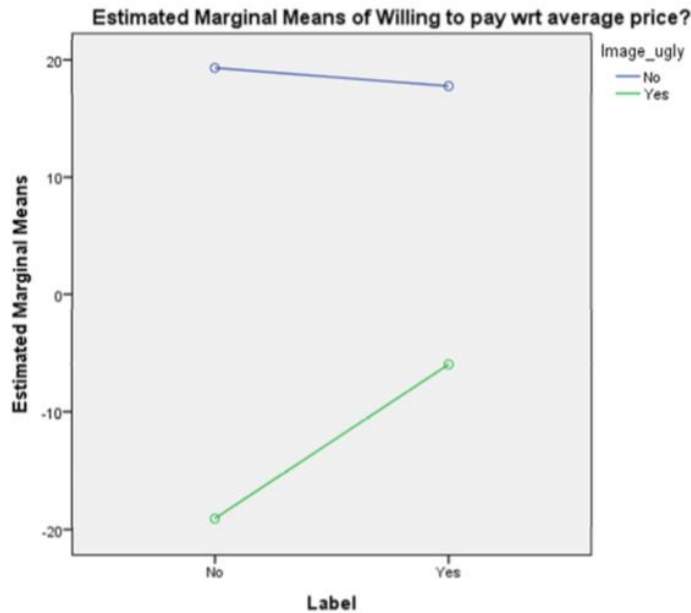


Fig.19. Estimated Marginal Means (Source: SPSS output)

From the graph above we can see that the insertion of the humorous labelling seems fundamental when we have an abnormal fruit, while when we have a normal fruit the perception of the customer to spend more/less than average has no difference.

Also in this case, Levene’s test of equality between variance rejects the null hypothesis (sig.= 0.008<p-value 0.05).

Source	Type III Sum of squares	Df	Mean square	F	Sig.	Partial Eta squared
Corrected Model	126968,415 ^a	3	42322,805	28,073	,000	,149
Intercept	4371,636	1	4371,636	2,9000	,089	,006
Label	4078,525	1	4078,525	2,705	,101	,139

Image_ugly	117055,184	1	117055,184	77,643	,000	,139
Label* Image_ugly	6549,292	1	6549,292	4,344	,038	,009

Table 5. Test of Between-Subjects Effects with DV: Willingness to pay. (Source: own elaboration).

The model, as highlighted by the test of variance, is not adequate, it only explains part of the variability. We can only conclude that the presence of the humorous labelling does not result significant but the interaction with the image shown for DV *Willingness to Pay* is significant. This explorative analysis is not sufficient to test our hypothesis thus the ANCOVA analysis will provide more significant results.

5.2.1 ANCOVA: controlling for the covariate variable “Disgust”

Label	Image_ugly	Willingness to Purchase	Willingness to Pay
No	No	5,066	19,31
	Yes	3,325	-18,95
	Tot	4,199	,26
Yes	No	5,333	17,76
	Yes	4,680	-5,96
	Tot	5,008	5,95
Tot.	No	5,201	18,53
	Yes	4,008	-12,40
	Tot	4,607	3,13

Table 7. Mean score among the cases. (Source: own elaboration).

The mean scores for the DV *Willingness to Purchase* is lower for the group who saw the image of the abnormal apple with no humorous labelling (3,325). For the relation between those who saw the abnormal apple and the ones who saw the normal apple, the mean score is lower for those in the first

group (4,008 vs 5,201). The mean score for the DV *Willingness to Pay* is lower for those who saw the abnormal apple with no labelling (-12,40) and the comparison with those who saw the normal image is -12,40 (abnormal) vs 18,53 (normal). It is thus clear that the group that saw the normal apple is willing to spend more than average market price. When considering the presence or not of the humorous labelling, in either case, respondents are willing to spend 5% more when the image has humorous labelling and 0% more without the humorous labelling.

To control for any possible influence in the model given by the level of disgust of the respondent. We controlled for this type of effect using ANCOVA and our covariate variable is thus “disgust”.

We first had to verify that the covariate was independent from the groups. The data gathered was divided as follows: 121 respondents in Group 1 (normal apple), 123 respondents in Group 2 (normal apple with labelling), 120 respondents in Group 3 (abnormal apple) and lastly 124 respondents in Group 4 (abnormal apple with labelling). The mean scores for the variable disgust in each group were: 4,9153 for normal apple; 4,8801 for the normal apple with labelling; 4,6573 for the abnormal apple and lastly 4,6383 for the abnormal apple with labelling. From the analysis, with dependent variable our covariate: “I feel disgusted” (Table 8) it results that the variable “Groups” is not statistically significant (sig.0,286) meaning we have independence.

Source	Type III Sum of squares	Df	Mean square	F	Sig.
Corrected Model	7,680 ^a	3	2,560	1,264	,286
Intercept	11069,705	1	11069,705	2,560	,000
Groups	7,680	3	4078,525	2,705	,286

Table 8. Test of Between-Subjects Effects with DV: Disgust. (Source: own elaboration)

Running the between-subject model with the *DV Willingness to Purchase*, the “Groups” variable is statistically different (sig. 0,000) and the model explains 16% of variability (R-squared=,163; Adjusted R-squared= ,157).

When we insert the covariate “Disgust” in the model with *DV Willingness to Purchase* (variable name: q39_mean, calculated by the average score per group on disgust), all the variables result statistically significant (sig. All<0,05) and the model explains 17% variability (R-squared= ,174, Adjusted R-squared=,168). Continuing the analysis with the Pair-wise comparison test, the results indicate no statistically significant difference between the group “normal apple” and “normal apple with humorous labelling”. The group “normal apple” is statistically different from “abnormal apple” (sig. 0,000) and the image of the normal apple received a different scoring with respect to the image of the abnormal apple. Furthermore, there is a statistical difference between those who saw an abnormal apple and those who saw an abnormal apple with humorous labelling (sig. 0,000). In addition, when we consider the presence of the humorous labelling, there is a statistically significant difference between the ratings of the image of either the normal apple or the abnormal apple.

We can conclude that for the *DV Willingness to Purchase*, the means change slightly before and after the introduction of covariate. For the groups “normal apple” and “normal apple with labelling” the means are initially higher, 5,066 and 5,333 respectively, and after are 5,045 and 5,318. While for the group “abnormal with labelling” the mean increased (4,680 vs. 4,700).

When running the between-subject model with the *DV Willingness to Pay*, it results that the “Groups” variable is statistically different (sig. 0,000) and the model explains 15% of variability (R-squared=,149; Adjusted R-squared= ,143). When we insert the covariate “Disgust” in the model with *DV Willingness to Pay*, all the variables result statistically significant (sig. All<0,05) and the model explains 15% variability (R-squared= ,156, Adjusted R-squared=,149). The Pair-wise comparison test indicates, as for *Willingness to Purchase*, that there is no statistically significant difference between the group “normal apple” and “normal apple with humorous labelling”. The group “abnormal apple” is statistically different from the group “abnormal apple with labelling”, and here as well the image of the

normal apple received a different score with respect to the one of the abnormal apple (sig. 0,000). Furthermore, there is a statistical difference between those who saw an abnormal apple and those who saw an abnormal apple with humorous labelling (sig. 0,009). Lastly, considering the presence of the humorous labelling, there is a statistically significant difference between the ratings of the image, either the normal apple or the abnormal apple, when considering the percentage that respondents are willing to pay more/less than average market price.

We can conclude that for the DV *Willingness to Pay*, the means all change after the introduction of the covariate and decrease for all the groups.

5.2.2 Analysis of Advertisement

To verify the perception of the respondents to the advertisement, the question: “How do you evaluate the ad in the image above?”, with 13 factors in this section, were analyzed between the different groups.

Those participants who saw the abnormal apple, rated a higher average score to “originality” and “utility”. Those instead that saw the normal apple, both in the presence of the humorous labelling as not, rated a higher average score to “the ad did not hold my attention”. The group that saw the abnormal apple, with no humorous labelling, on average rated the ad funnier with respect to other groups (4,7 no humorous labelling vs. 3,16 with humorous labelling) and appreciated the humor in the ad (mean= 5,02 vs. 3,0). The complete data can be seen in the table below:

Type:	“I thought the ad was funny”	“I appreciated the humor in the ad”	“I did not perceive the ad as being funny”
Normal label	2,904	3,0976	4,6016
Normal no label	2,1157	2,1405	5,2397
Abnormal label	4,7951	5,0246	2,8934

Abnormal no label	3,1667	3,0833	4,1917
Tot.	3,2469	3,3395	4,2305

Table.6. Mean score between the different groups and attitude toward the ad. (Source: own elaboration).

5.2.3 Hypothesis Analysis Summary

For our results, looking at the ANCOVA model, we can conclude the analysis by considering our hypotheses.

H1a: *The advertisement of the normal apple will have a **higher Willingness to Purchase** than the advertisement of the abnormal apple.*

The significance level is 0,000 (p-value<0,05) thus we reject the null hypothesis and H1a is supported. As previous research also confirmed, there is an affect of the different shape seen by the participant on *Willingness to Purchase*, our sample is no different.

H1b: *The advertisement of the normal apple will have a **higher Willingness to Pay** than the advertisement of the abnormal apple.*

The significance level is 0,000 (p-value<0,05) thus we reject the null hypothesis and H1b is supported. The affect of the shape seen by the participant on *Willingness to Pay* exists and respondents who saw the normal apple were more inclined in paying more than average with respect to those who saw the abnormal apple.

H2a: *The advertisement of the normal apple with humorous labelling will have a **higher Willingness to Purchase** than the advertisement of the normal apple.*

The significance level is 0,223 (p-value>0,05) thus, we do not reject the null hypothesis and our H2a is not supported. Furthermore, we cannot say that adding humorous labelling on a normal shaped apple, has a greater effect for the customer when it comes to considering purchasing the apple.

H2b: *The advertisement of the normal apple with humorous labelling will have a **higher Willingness to Pay** than the advertisement of the normal apple.*

The significance level is 0,768 (p-value>0,05) thus we do not reject the null hypothesis and H2b is not supported. Again, we cannot say that adding humorous labelling on a normal shaped apple, creates a greater effect for the customer when it comes to willingness to pay.

H3a: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Purchase** than the advertisement of the normal apple.*

The significance level is 0,124 (p-value>0,05) thus we do reject the null hypothesis and H3a is not supported. When the normal apple and the abnormal apple are compared, the humorous labelling does not show greater results and incentives.

H3b: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Pay** than the advertisement of the normal apple.*

The significance level is 0,000 (p-value<0,05) thus we reject the null hypothesis and H3a is supported. With respect to willingness to pay we instead noticed a difference amongst the groups.

H4a: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Purchase** than the advertisement of the abnormal apple.*

The significance level is 0,000 (p-value<0,05) thus we reject the null hypothesis and H4a is supported.

H4b: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Pay** than the advertisement of the abnormal apple.*

The significance level is 0,009 (p-value<0,05) thus we reject the null hypothesis and H4b is supported. The presence of the humorous labelling on the same abnormal image has an affect. The fourth hypothesis, crucial for this experiment, confirms the presence of an affect of the humorous labelling on the abnormal shaped apple, both for *Willingness to Purchase* as for *Willingness to Pay*.

H5a: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Purchase** than the advertisement of normal apple with humorous labelling.*

The significance level is 0,006 (p-value<0,05) thus we reject the null hypothesis and H4a is supported. There is thus an effect of the humorous labelling with the different shapes on *Willingness to Purchase*.

H5b: *The advertisement of the abnormal apple with humorous labelling will have a **higher Willingness to Pay** than the advertisement of normal apple with humorous labelling.*

The significance level is 0,000 (p-value<0,05) thus we reject the null hypothesis and H4b is supported. There is an effect of the humorous labelling in the different shapes on *Willingness to Pay*.

Even when we compare the different fruit shape, keeping still the presence of the humorous labelling, there is a positive effect on the customer and incentivizes his *Willingness to Purchase* and *to Pay*.

6. Conclusions

The aim of this research was to address the issue of food waste, analyzing the behavior customers' have toward imperfect fruits, through purchase intention and willingness to pay. Inspired by Intermache's advertisement, the study wanted to exclude any potential price incentives, promoted by the supermarket, and analyze only the potential effects of humorous labelling in advertisement.

From the above analysis, it appears that showing either a normal apple or an abnormal apple **does** make a difference for the customer. Furthermore, adding the humorous labelling: "*An ugly apple a day still keeps the doctor away*" on the abnormal shaped apple increases customer perception toward the product when compared to the same abnormal apple without labelling as well as when compared to the normal apple with labelling.

Our sample was composed by: 55,6% females, 23,9% from the UK and 42,4% with a Bachelor's degree. We have discovered that Americans and Italians are more interested in purchasing the abnormal apple if not accompanied by any humorous labelling. Full-time workers, Unemployed and Students are willing to spend more than average for the normal apple and spend less instead for the abnormal apple with no humorous labelling. We also noticed that for those individuals with a higher education level

(Master's Degree) the preference of a phrase on the normal apple influences the score attributed to the propensity of purchase. Furthermore, there was a confirmation of the previous literature in the relation between humor and sex. In fact, also in our research, results verified that younger educated men are more influenceable by humor than women.

In the ANCOVA model, controlling for the potential effect of *Disgust*, we noticed significant results and a better explanation of the various interactions with respect to the ANOVA model. This indicates that the disgust level of each individual **does** matter when analyzing the relation that customers have toward normal or abnormal fruits.

By controlling for this effect, when it comes to the normal shaped apple, humor seems to have no effect on the customer. In fact, the highest scores to the: "I did not perceive the ad as being funny" statement, were given by the participants in the groups of normal apple with labelling and without. Considering also previous literature on humorous labelling, probably those customers who saw the normal apple with the humorous labelling, did not feel the need (or did not pay attention) to the information or labelling since related to a product that for them is "standard" and are used to seeing constantly. With respect to the perception of the normal apple, when compared to the abnormal one, our research confirms previous studies: there is a preference for normally shaped foods. Also in our sample, everything else being equal, aesthetic perfection is still preferred with respect to something abnormal. This can be explained by the already existing theories, which indicate that customers have wrong thoughts about abnormal fruits, relating them to genetically modified products, contaminated, bad tasting and of dubious provenience.

This difference in perception is however compensated by the addition of humorous labelling. In fact, results have indicated that humorous labelling is effective both for *Willingness to Purchase* and *Willingness to Pay*.

Interesting results were found in the case of the abnormal apple with labelling and the normal apple. Results showed that there is no significance for the abnormal apple having higher *Willingness to Purchase* but, on the contrary, there is for *Willingness to Pay*. When we compare those respondents from the group of the normal apple and the ones from the

abnormal apple with humorous labelling, customers are more willing to purchase the normal one but, strangely enough, those customers who do prefer the abnormal apple, are even more willing to pay the fruit more than average market price. Those respondents that saw the normal apple treated the product as the usual, while those that saw the abnormal apple may have given more thought in valuing the product and the humorous labelling has affected their price intentions.

Instead, both in the cases of the normal apple with labelling vs. abnormal apple with labelling as for abnormal apple vs. abnormal with labelling the *Willingness to Purchase* and *to Pay* are higher for the group of the abnormal apple with humorous labelling. Furthermore, the humorous labelling was appreciated by the respondents in the group of “abnormal with labelling” and scored the highest rating. This indicates that the addition of humorous labelling has mitigated the negative impact customer have toward abnormal products.

7. Limitations and further research

The causes behind a customer’s attitude toward an abnormal shaped product can be multiple. We have just considered the control variable disgust, but further analysis can be conducted, for example with food waste awareness, ethics and moral beliefs of the individuals. The former factors may highlight further explanatory variables for the rejection of the abnormal fruit when compared to the normal fruit.

We have noticed that for some groups, the funniness of the ad was not perceived. To exclude the possibility that this was caused by the wrong choice of phrasing, for further research, a pre-analysis on the best phrases can be conducted to be more accurate in the selection process of the labelling. This was mainly noticeable in the groups of the normal apple and normal apple with humorous labelling thus not affecting the effectiveness of the humor label on the abnormal apple but nonetheless, a study on the correct labelling can help to increase the positive effects we have noticed. These positive results of the humorous labelling on the abnormal apple can

be furtherly studied to see if the effect was given by the presence of the humorous phrase it-self or just by the additional written information close to the abnormal fruit.

We also chose the apple as a fruit based on Intermache's advertisement and relevance of phrasing but, a further analysis on other fruits and vegetables with humorous labelling can be conducted to show other results.

Furthermore, from an initial exploratory qualitative research on 100 respondents, it was gathered that many believed that the abnormal fruits were genetically modified or that the respondent knew that the apple was just as tasty and healthy as a normal one but still, was not willing to accept its shape. Thus, it would be interesting to conduct more qualitative research which could indicate more precise factors as to why customers behave in a certain way.

To conclude our research, regarding potential supermarkets' strategies to fight food waste, we have seen that humorous labelling increases *Willingness to Purchase* and *to Pay*. However, what needs to be analyzed is the tradeoff for these big companies regarding the money they need to invest for the advertisement of these products and the monetary contribution that they could actually give to replenish the food production system. Creating a successful campaign can be very demanding and without a price promotions actual results need to be verified. Supermarkets need to verify the costs of these operations and implement the best strategy to succeed in this fight against food waste.

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Appendix

Statistical tables, ANOVA Analysis:

1. Levene's test of Equality of Error Variances. DV: Willingness To Purchase.

F	Df1	Df2	Sig.
12,025	3	482	,000

Tests the null hypothesis that the errors variance of the DV variable is equal across groups.

a. Design: Intercept+ Label+ Image_ugly+ Label*Image_ugly

2. Descriptive Statistics. DV: Willingness to Pay

Label	Image_Ugly	Mean	Std Dev.	N
No	No	19,31	35,144	121
	Yes	-19,11	43,689	119
	Tot.	,26	43,967	240
Yes	No	17,76	33,231	123
	Yes	-5,96	42,347	122
	Tot.	5,95	39,784	245

3. Levene's Test of Equality of Error Variances. DV: Willingness to Pay

F	Df1	Df2	Sig.

4,002	3	481	,001
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Tests the null hypothesis that the errors variance of the DV variable is equal across groups.

a. Design: Intercept+ Label+ Image_ugly+ Label*Image_ugly

4. Review of the cases

Label	Image_Ugly	Willingness to Purchase	Willingness To Pay
No	No	5,0666	19,31
	Yes	3,325	-18,95
	Tot.	4,199	,26
Yes	No	5,333	17,76
	Yes	4,680	-5,96
	Tot.	5,008	5,95

Statistical tables, ANCOVA Analysis:

5. Between Subjects factors

Group		Value Label	N
	1	Normal apple	121
	2	Normal label	123
	3	Abnormal label	122
	4	Abnormal apple	120

6. Descriptive Statistics. DV: disgust.

Group	Mean	N	Std. Dev.

Normal apple	4,9153	121	1,27202
Normal label	4,8801	123	1,37699
Abnormal label	4,6383	122	1,52728
Abnormal apple	4,6573	120	1,50153

7. Levene's test of Equality of Error Variances. DV: disgust.

F	Df1	Df2	Sig.
1,216	3	482	,303

8. Test of Between-subjects Effects. DV: disgust.

Source	Type III Sum of squares	Df	Mean square	F	Sig.
Corrected Model	7,680 ^a	3	2,560	1,264	,286
Intercept	11069,705	1	11069,70 5	5466,64 1	,000
Groups	7,680	3	2,560	1,264	,286
Error	976,029	482	2,025		
Tot	12056,219	486			
Corrected Tot	983,708	485			

9. Descriptive Statistics. DV: Willingness to Purchase.

Group	Mean	N	Std. Dev.
Normal apple	5,066	121	1,5424
Normal label	5,333	123	1,4803
Abnormal label	4,680	122	1,8731
Abnormal apple	3,325	120	2,0627

10. Test of Between-subjects Effects. DV: Willingness to Purchase.

Source	Type III Sum of squares	Df	Mean square	F	Sig.
Corrected Model	309,000 ^a	4	77,250	25,399	,000
Intercept	600,656	1	600,656	197,480	,000
q39_mean	20,726	1	20,726	6,815	,009
Groups	277,405	3	92,468	30,403	,000
Error	1462,936	481	3,041	4,344	,038
Tot	12087,000	486			
Corrected Tot	1771,936	485			

11. Pairwise Comparison. DV: Willingness to Purchase.

Group	Group	Mean diff.	Std. Error	Sig.
Normal apple	Normal label	-,272	,223	,223
	Abnormal label	,345	,224	,124
	Abnormal apple	1,704	,225	,000
Normal label	Normal apple	,272	,223	,223
	Abnormal label	,618	,223	,006
	Abnormal apple	1,976	,224	,000
Abnormal label	Normal apple	-,345	,224	,124
	Normal label	-,618	,223	,006
	Abnormal apple	1,358	,224	,000
Abnormal apple	Normal apple	-1,704	,225	,000
	Normal label	-1,976	,224	,000
	Abnormal label	-1,358	,224	,000

12. Descriptive Statistics. DV: Willingness to Pay.

Group	Mean	N	Std. Dev.
Normal apple	19,31	121	35,144
Normal label	17,76	123	33,231
Abnormal label	-5,96	122	42,347
Abnormal apple	-18,95	120	43,540

13. Test of Between-subjects Effects. DV: Willingness to Pay.

Source	Type III Sum of squares	Df	Mean square	F	Sig.
Corrected Model	132572,938 ^a	4	33143,234	22,155	,000
Intercept	3013,685	1	3013,685	2,015	,156
q39_mean	5956,828	1	5956,828	3,982	,047
Groups	121242,485	3	40414,162	27,015	,000
Error	719561,895	481	1495,971		
Tot	856895,000	486			
Corrected Tot	852134,833	485			

14. Pairwise Comparison. DV: Willingness to Pay.

Group	Group	Mean diff.	Std. Error	Sig.
Normal apple	Normal label	1,463	4,953	,768
	Abnormal label	24,589	4,974	,000
	Abnormal apple	37,627	4,993	,000
Normal label	Normal apple	-1,463	4,953	,768
	Abnormal label	23,126	4,951	,000
	Abnormal apple	36,164	4,970	,000
Abnormal label	Normal apple	-24,589	4,974	,000
	Normal label	-23,126	4,951	,000
	Abnormal apple	13,038	4,973	,009
Abnormal apple	Normal apple	-37,627	4,993	,000
	Normal label	-36,164	4,970	,000
	Abnormal label	-13,038	4,973	,009

“Partita Market” Questionnaire on Apple:

Q1) Hi and thank-you for your time!

This survey is for my Master thesis in Marketing Analytics and Metrics at Luiss Guido Carli and Strategic Marketing Management at BI Business School.

It will only take 5 minutes; your answers are anonymous and will be used only for research purposes.

There are no right or wrong answers so respond as truthfully as possible.

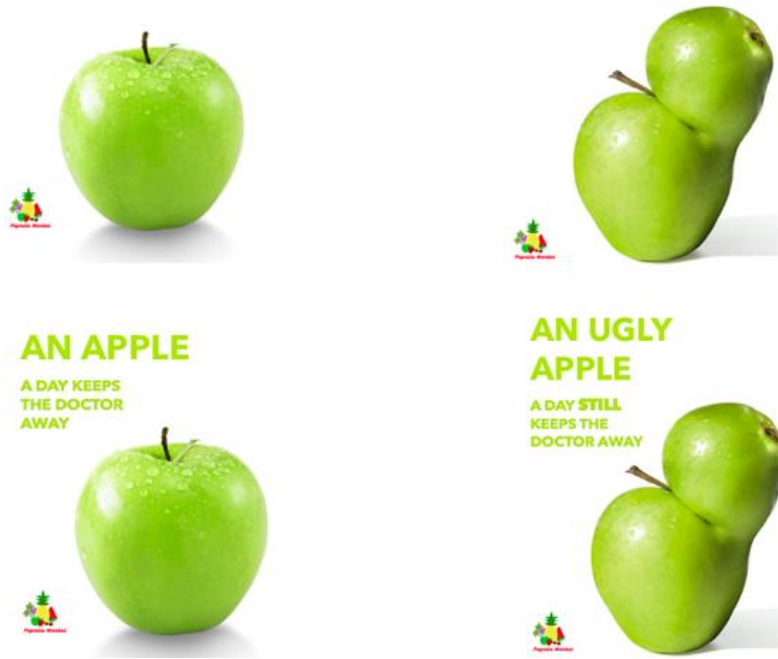
In this survey you will be shown a supermarket ad.

The supermarket's name is Paprita market".

Please evaluate the following pictures.

Please enter your prolific ID (if you have one):

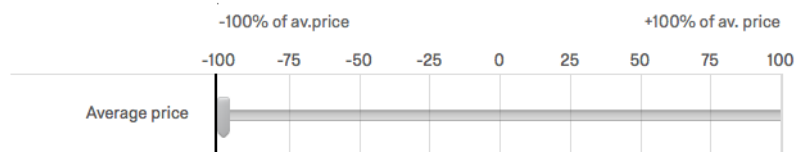
Either one of the following images was shown every time in the questionnaire it was state “image above” (image size was larger in questionnaire):



How much do you agree with the following statements related to fruit in the ad above?

	Not at all							Very much
	1	2	3	4	5	6	7	
I would consider purchasing the fruit in the ad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more likely to purchase the fruit after seeing the ad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to consider the ad-conveyed information when making purchase related decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to recommend the fruit in the ad to my friends or family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much, in percentage, would you be willing to pay for the above fruit with respect to the average price?



How much do you agree with the following statements related to the fruit in the image above?

"I think the fruit is..."

	Not at all					Very much	
	1	2	3	4	5	6	7
of high quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
desirable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
beautiful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
natural	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
locally produced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
likeable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
fresh	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
tasty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
healthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
safe to eat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
appetising	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
more nutritious than average	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
similar to what I eat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
with no additives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How do you evaluate the ad in the image above?

	Not at all					Very much	
	1	2	3	4	5	6	7
The ad was original and novel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ad was useful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ad was informative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was surprised by the punch line or some part of the ad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The concept in the ad made sense to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The commercial ad was very involving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The commercial ad did not really hold my attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ad claim was easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parts of the ad initially perceived as unrelated suddenly fell into place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt stimulated while seeing the ad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Viewing the ad made me feel emotionally released	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ad stimulated my imagery, fantasy or daydreaming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced incompatible emotions or conflicting feeling at the same time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much do you agree with the following statements related to fruit in the ad above?

	Not at all					Very much	
	1	2	3	4	5	6	7
I would consider purchasing the fruit in the ad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more likely to purchase the fruit after seeing the ad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to consider the ad-conveyed information when making purchase related decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to recommend the fruit in the ad to my friends or family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How do you evaluate the ad in the image above?

	Not at all					Very much	
	1	2	3	4	5	6	7
I thought the ad was funny	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I appreciated the humor in the ad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not perceive the ad as being funny	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

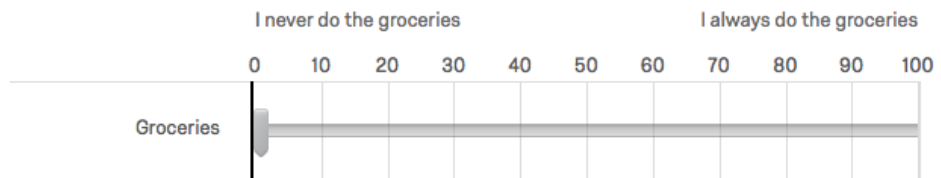
How much do you agree with the following statements?

	Not at all					Very much	
	1	2	3	4	5	6	7
I feel disgusted when I see someone in a restaurant eating messy food with his/her fingers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disgusted when I see someone put ketchup on vanilla ice cream and eat it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disgusted when I am about to drink a glass of milk and smell its spoiled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disgusted when I see a rat run across my path in a park	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disgusted when I hear someone clearing their throat full of mucous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disgusted when I see someone vomit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disgusted if I see in a science class a preserved human hand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disgusted when someone accidentally sticks a fishing hook through his fingers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How important it is for you that the food you eat:

	Not at all					Very much	
	1	2	3	4	5	6	7
Smells nice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Looks nice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has a pleasant texture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tastes good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is not expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is cheap	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is good value for money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is what I usually eat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is familiar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is like the food I ate when I was a child	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be found easily in stores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be bought in the supermarkets/shops near me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comes from countries I approve politically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has the country of origin clearly marked	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is packaged in an environmentally friendly way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To which extent are you responsible for doing the groceries in your household?



Do you check the contents in your fridge before you do your weekly shopping?

- Always
- Usually
- About half the time
- Seldom
- Never

Are you aware that 1/3 of the food produced is wasted?

- Definitely yes
 - Probably yes
 - Might or might not
 - Probably not
 - Definitely not
-

What is the main reason why you throw away food? (You may select more than one)

- Burnt
- Bruised
- Expired
- Did not like it
- Leftover
- Other
- I do not waste food

Think about when you throw away food, to what extent (if at all) does it bother you?

- To a great extent
 - Somewhat
 - Very little
 - Not at all
-

Are you aware that the main cause for food waste are aesthetical standards?

- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not

Sex:

- Male
- Female

Please enter you age:

Current education level:

- No schooling completed
- High School
- Bachelor's Degree
- Master's Degree
- Phd

Occupation:

- Student
- Part-time worker
- Full-time worker
- Unemployed

Where are you from?

Thank you so much for your response.

If you have any questions please email me at
giulia.berardinetti@studenti.luiss.it

Qualitative Data

To the respondents that were gathered on Prolific, a research website, the following questions were asked and below are some of the most interesting answers. From this information we can gather what some of the respondents

actually thought about the survey. Some comments were very useful, and the respondents perceived the right message from the ad.

Thank-you for your time.

> *What did you think about the survey?*

> *What image did you see and what did you think about the fruit?*

From: 57cdbdf35e52f00001612439

The image I saw was a green apple with a smaller twin apple attached on top. It wasn't very appetizing to say the least. I don't mind fruit that is not perfect, but that is my limit. I get suspicious something chemical or radioactive caused the mutation. :)

Hope this helps!

From: 5b9aad01ab7ff200010b10c2

Hello,

The survey was original, short, and straight to the point. I saw what I would call a siamese green apple. It looked crisp and tasty, but definitely like something out of a nuclear explosion!

Best of luck with your thesis.

From: 5753b4be7d985200078b998e

I thought the survey a little strange as the apple advertisement did not seem very fleshed out. I expected there to be a price or a generic "buy one get one" or some sort of text that highlighted the fruit. ("Fresh", "local", "always in stock", "new low price" - something)

I saw a photo of a granny smith apple with a very small logo of the store. Our household does not eat granny smith apples, finding them too tart for our palette. Living in Washington State, I assume most apples are fresh and local and have a positive association with that aspect.

From: 5ba2414c86a8230001ee4146

You should not throw away food just because you should not look like you should look.

From: 5a6da536e70ca900017addf4

You're very welcome. Survey and the questions were very interesting however the image just seemed bit dull. The green fruit looked like one of those hormone injected weird tomatoes you see on the news when they talk about GMOs. It make me think about all the unhealthy stuff we have on food. Definitely didn't look appetising.

From: 5b81ef3d45f4e90001831f0b

It was interesting-- i thought you invoked the humor of the fruit then transitioned well to food waste being aesthetic. I saw a double pear?

From: 5ba269db7b196f0001968655

The survey was simple and very clear. The fruit seemed to be two apples merged, and it wasn't very aesthetically pleasing. It was not very appealing even if logically, one knows that it is as healthy as a normal apple

From: 5ba26c7d7590cc0001b50782

Hello.In my opinion, the survey was on point, not boring.I saw an image of an ugly apple.I have no problem with "not nice looking" food and would gladly buy the apple, especially if it were on discount (compared to the price of a normal looking apple).

From: 5b7d70ff1e35f000017319e5

The survey was good, I saw an Apple. The fruit made me giggle, it doesn't matter what a fruit looks like it's the taste that counts.

From: 55bfa394fdf99b38606a5176

I liked the study. It got me thinking that yes if I saw that apple I would have passed on it and many more might have too. This could lead to it going bad and not being able to be eaten. Before your study I did not realize that appearance of foods do probably cause a lot of good food to be thrown out.

From: 5b845227b950280001b0caa0

Very interesting survey. I received the image of the weirdly-shaped green apple. It was strange to consider that I might not want to eat something just because it was shaped like that.

From: 5ba0dd7474f9c0000124ff4f

Hi, I saw the misshapen apple. I think too much food goes to waste because it is not aesthetically pleasing and feel the advert showed that just because it looked different doesn't mean it has less nutritional value.

From: 5ba1815170fe1e00018a795a

Hi,

Thanks for your message. The image provided was the conjoined apples. From my survey response there would probably be a degree of disconnect between the awareness of the issue as opposed to the perception. The awareness stems from myself having acquaintances working as part of a 'food rescue' initiative that targets this very issue (lots of independent grocers regularly have to throw significant amounts of vegetables/fruit away as they are deemed aesthetically unpleasing and people avoid buying them), and seeks to redistribute these to charities/other avenues so it doesn't go to waste. I guess the key takeaway for myself at least, is that despite some degree of awareness and rational thinking, intuitive perceptions are hard to change (people hardwired to being used what's regarded as a 'normal' appearance of fruit, and the intuitively have an aversion towards what falls outside this norm). Awareness has a long way to go to alter such perceptions. The perceptions are also probably exacerbated/reinforced in cities where people mostly shop at major supermarkets and fruit/vegetables going through the quality control process that would eliminate outliers. Hope this helps with your research!

From: 596f6aae34773e0001fc104a

The survey is different, nice and easy to answer it. I saw an ugly green apple but I liked it very much because it was different-

From: 5ba0d2352000c10001b70335

I remember my mum saying it when I was young!

From: 5963ae3b3d5051000114beac

Hi. The survey was interesting. I saw a misshapen Apple. Although the fruit looked odd I would still buy and eat it. The survey made me think about my shopping.

From: 5ba37f68af004e0001533b85

Hello, you are welcome. I enjoyed the survey and I hope it helps with changing the way supermarkets view fruit. I saw an apple and although it wasn't aesthetically pleasing i would definitely eat it as it doesn't matter to me what it looks like it will still taste the same and have the same nutritional value as a round apple. I would love for the supermarkets to make a change and begin accepting misshapen fruit like this apple

From: 5a66825135f26b000149552f

Hi there,

I thought the survey was fine, although there were a lot of questions for an advert which had very little information - for example it was hard to answer questions about whether the fruit was locally sourced or environmental, for example.

The fruit I saw was a mis-shapen but very attractive-looking apple, which I interpreted as an advert for misshapes probably at cheaper prices at this market. Thanks!

From: 5aeb22854333520001387c7b

The survey was short and clear. I saw a sort of mutated apple, which I found to be a bit repulsing. Apples can have weird shapes but this one seemed more genetically modified for some reason, not something I would eat.

From: 5a5e5b238e625900017636c4

It looked pretty cosmetting. Almost like an idealised image of an Apple, clean, crisp, juicy. But I think it pushed this perfect image a little too far and perhaps made it seem a little synthetic.

From: 55eece819df9fe0010fae1a7

The survey was easy to complete and pleasant on the eye.

The image I saw looked like a sort of double green apple. It looked like a fruit that wouldn't have passed normal supermarket requirements, however it looked fresh and tasty and, if it is an apple, I would definitely be willing to buy it.

From: 58e558cc728bea0001bbda24

I thought this was interesting as many people won't eat fruit that may not look so "pretty". I saw a disfigured green apple and although the shape was weird, it still looked good enough to eat, and the shape doesn't take away the nutritional value of the apple.

From: 5ba17054acade90001335109

I saw an image of a green apple, which looked pretty tasty, although I don't really like green apples (too sour). The survey was fine although some of the questions seemed a little incompatible with the image of the apple.

From: 5ae0c51c5f327e0001fba196

Hello,

the image I got was of a green apple, and the text included that "an apple a day keeps the doctor away" or something along that line. I did not think it was very innovative, and to be honest it seemed a bit cliché, but in an unremarkable way. Maybe it appeals to older people, but it does not appeal to me. I like to think that advertising has minimal impact on my purchasing decisions, and I think I see that reflected in my day-to-day life. So this is what I tried to get across.

The study relies on people's ability to be self-critical about their decision-making. For some it can be hard. I am glad that you took the time to write this message, as I feel that it may help you better evaluate the responses you had on the survey.

Thank you for your time too!

