THE SENSE OF SIGHT

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Introduction

In this chapter, the authors will discuss:

- How companies use marketing tools to target consumers and get their products to be better identified and assessed.

- How use this knowledge to improve our society, and, thus, to have a more sustainable future from a social, economic, and environmental point of view.
Introduction

We distinguish between:

- **Fresh Products**: Fruits, vegetables, meat, and fish among others, which are minimally manipulated.
- **Manufactured products**: Food products which have been processed and generally packaged at the agro-food industry.

The product attributes that consumers perceive in each case are different.
The Sense of Sight & Society Challenges

The superior value given to ‘appearance’, which often hides the inner reality, is an inherent characteristic of our current society.

- Consumer preferences in colour, shape, and size of products can lead primary producers to grow only certain crop varieties or breeders to select species or cultivars based only on aesthetic criteria.
The exclusive consideration of aesthetic criteria when deciding whether to include or not a product in the food chain, also contributes to increase food waste, which currently affects between 30 and 50% of safe edible food.
The Sense of Sight & Society Challenges

• Low appealing foods, such as some vegetables or legumes, could be voluntarily reduced or excluded from consumer diets, regardless the effect that such exclusion may have on their health.
• Food size and food colour can modify eating behaviour
The Sense of Sight & Market Success

• The survival of companies and their competitiveness in the market is directly related to achieving consumer satisfaction and offering a product that is attractive to them.

• Consumers wish to buy products that address their standards or aesthetic needs, and to do so in places that they consider visually attractive. The failure to consider this premise decreases the value of the products and can even lead to market failure.

• The adequate management and control of marketing variables, many of which are perceived by the sense of sight, is therefore essential.
The Sense of Sight & Perception

• The study of consumer behaviour deals with all of the ways people may act in their role as consumers (Schiffman and Kanuk, 1991).

• Food choice is often more influenced by the psychological interpretation of product properties than by its real physical properties (Rozin et al., 1986).

• One important determinant of consumer behaviour is the PERCEPTION.
The Sense of Sight & Perception

The process by which an individual selects, organizes, and interprets stimuli to understand the world in a coherent and meaningful way (Baptista et al., 2010)

Figure 1. A conceptual framework of sensory marketing (adapted from Krishna, 2012)
Attributes perceived by the sense of sight

- Colour
- Shape
- Size
- General Appearance
COLOUR

Colour choice is essential in food marketing. A wrong decision may compromise the future of the company.
Colour

From the standpoint of marketing, food colour can be considered as perhaps the single most important product-intrinsic sensory cue governing the sensory and hedonic expectations that the consumer holds concerning the foods and drinks that they want to purchase, and which they may subsequently consume (Spence, 2015)
Characteristics

- A component of nonverbal signs
- Around 60 to 90% of the consumer’s appraisal is driven exclusively by colours
- A central element of products, services, packages, logos, displays, and collaterals
- It improves recognition, memory and increases subjects’ attention
- It carries key symbolic and associative information about products
<table>
<thead>
<tr>
<th>Colour</th>
<th>Represent</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Energy; action; desire; love; passion</td>
<td>Stimulating; exciting and motivating; attention-getting; assertive and aggressive</td>
</tr>
<tr>
<td>Orange</td>
<td>Adventure and risk taking; social communication and interaction; friendship; divorce</td>
<td>Enthusiasm; rejuvenation; stimulation; courage; vitality; fun; playful</td>
</tr>
<tr>
<td>Yellow</td>
<td>Mind and intellect; happiness and fun; communication of new ideas</td>
<td>Creative; quick decisions; anxiety producing; critical; non-emotional; light; warmth; motivation</td>
</tr>
<tr>
<td>Green</td>
<td>Harmony and balance; growth; hope; wealth; health; prestige; serenity</td>
<td>Rejuvenation; nurturing; dependable, agreeable and diplomatic; possessiveness; envy</td>
</tr>
</tbody>
</table>
## Colour meaning…

<table>
<thead>
<tr>
<th>Colour</th>
<th>Represent</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blue</strong></td>
<td>Communication; peace and calm; honesty; authority; religion; wisdom</td>
<td>Conservative; predictable; orderly; rigid; trustworthy; dependable; secure; responsible</td>
</tr>
<tr>
<td><strong>Purple/Violet</strong></td>
<td>Inspiration; imagination; individuality; spirituality; royalty; sophistication; nostalgia; mystery; spirituality</td>
<td>Empathy; controlled emotion; respectable and distinguished; impractical; immature; dignity; cynical</td>
</tr>
<tr>
<td><strong>Pink</strong></td>
<td>Unconditional love; compassion; nurturing; hope; girlish</td>
<td>Calming; non-threatening; affectionate; caring; immature</td>
</tr>
<tr>
<td>Colour</td>
<td>Represent</td>
<td>Effects</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td>Brown</td>
<td>Stability; structure; security; natural and wholesome; earth-like</td>
<td>Comforting; protective; materialistic; simplistic; durable</td>
</tr>
<tr>
<td>Grey</td>
<td>Neutrality; compromise; control</td>
<td>Indecision; detached; depression; unemotional</td>
</tr>
<tr>
<td>White</td>
<td>Innocence and purity; new beginning; equality and unity; fairness</td>
<td>Impartial; rescuer; futuristic; efficient; clean; soft; noble</td>
</tr>
<tr>
<td>Black</td>
<td>Mystery; power and control; prestige; value; timelessness; sophistication</td>
<td>Formal, dignified and sophisticated; depressing; pessimistic</td>
</tr>
</tbody>
</table>
The meaning of colour for consumers is not uniform and may vary depending on many factors:

- Gender,
- Age,
- Education,
- Culture
- Previous experience

Environmental colour also has influence on mood, feelings and finally on consumer behaviour.
For fresh products…

Consumers associate colours to certain characteristics of the fresh products:

- Red fruits with antioxidant activity;
- Red meat with its high iron content;
- Green vegetables with healthy characteristics;
- Bluefish with omega 3
For fresh products…

The colour is also used as an indicator of maturation of a fresh vegetal product.

• Green bananas are assumed not to be ripe and ready to eat,
• Yellow bananas are perceived as better tasting and more appealing
• Brown bananas are discarded and not eaten because they are not seen as fresh
Food grouping by colour
Colours on packaging …

• May cause apprehension and even rejection by customers

• Carries intrinsic meaning that becomes central to the brand’s identity

• Strategies: using colours traditionally associated with the product itself (such as green for mint or brown for cola) vs. using new colours not directly related to the product as a tool to surprise the consumer
## Colour and Brands

<table>
<thead>
<tr>
<th>Color</th>
<th>Meaning</th>
<th>Brand Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Happiness</td>
<td><img src="coca-cola.png" alt="Coca-Cola" /></td>
</tr>
<tr>
<td>Orange</td>
<td>Excitement and enthusiasm</td>
<td><img src="fanta.png" alt="Fanta" /></td>
</tr>
<tr>
<td>Yellow</td>
<td>joy, happiness and stimulates appetite</td>
<td><img src="mcdonalds.png" alt="McDonald's" /></td>
</tr>
<tr>
<td>Green</td>
<td>Natural and healthy products</td>
<td><img src="activia.png" alt="Activia" /></td>
</tr>
</tbody>
</table>
Food logos and companies grouped by colour
Some market failures…
SHAPE

The importance of shape in food marketing: you love it or hate it
Shape as a marketing tool

- Shape is another important marketing tool, both in fresh and manufactured products.
- For fresh food, shape is an inherent feature of fruit and vegetables and consumers expect regularity. For packaged food, shape can communicate different emotions, and is also an indicator of consumers’ sensory and hedonic expectations.
- Shape is one of the essential characteristics of objects grasped by the eyes. It refers to the spatial aspects of things, excepting location and orientation (Arnheim, 1954).
Fresh foods have a shape that is clearly identified by the consumer...
Fresh food

- Irregularities are not welcomed
Manufactured products
Some examples of shape’s influence on perception

• Round shape showed a highly significant higher utility than the square one when expected liking is analysed (Ares and Deliza, 2010)

Round packages were associated with runny, creamy, and soft desserts

Squared packages were associated with thick, and low-calorie milk desserts
Some examples of shape’s influence on perception

Rebollar et al. (2012)

The slim pack models were related to more user-friendly packaging, comfortable and practical.

The blister pack designs were perceived to be more resistant.
Some examples of shape’s influence on perception

<table>
<thead>
<tr>
<th>Angular Shapes</th>
<th>Rounded shapes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• confrontation between stimulus and surroundings (Arnheim, 1954)</td>
<td>• approachability, friendliness, and harmony (Berlyne, 1976)</td>
</tr>
<tr>
<td>• energy, toughness, and strength (Berlyne, 1976)</td>
<td>• harmonious and gentle (Zhang et al., 2006)</td>
</tr>
<tr>
<td>• conflict and aggressiveness (Zhang et al., 2006)</td>
<td></td>
</tr>
</tbody>
</table>
In food, size does matter
The importance of Size for fresh food…

• Bruhn (1995) found that for peaches and nectarines, those who purchased small prebagged fruit, believed they were of low quality.

• In the study by Campbell et al. (2004) with satsuma mandarins, fruit size had a relative importance of 13.9%, somewhat lower than price (16.6%), blemish (16.6%) and colour (15.7%), but superior to type of the production or region of origin.

• In the study by Poole et al. (2007) also with mandarins, the fruit size was considered important or very important in the purchase decision for 50% of participants.
Size and the amount of food consumption

• Package and portion size have a great impact on food consumption
• Rolls et al. (2002) showed that a larger portion size of an amorphous food (e.g. macaroni and cheese) significantly leads to greater food consumption
• Wansink et al. (2005) showed that a larger serving bowl and serving spoon size increased food consumption
Some marketing strategies related to Size

- **Generics** are usually packaged in larger sizes, which communicate to consumers who are specifically looking for good deals.

- **Small sizes** allow companies to introduce products into new markets, such as olive oil in countries where consumption is unusual.

- Sometimes resizing is a differentiation tool.
GENERAL APPEARANCE

The whole is more than the sum of its parts
General Appearance

• The combination of colours, shapes, and sizes allow obtaining different appearances of products.
• In the case of fresh products, this appearance is often conditioned by the product variety.

Photo: Arantxa Alonso Sanchis
General Appearance

• The overall appearance is a quality of extraordinary importance since products which do not meet the standard values are sometimes rejected in markets leading to serious consequences such as the survival of certain product varieties and the food waste.

• When looking at fresh products in supermarkets, homogeneity is a constant fact. It goes so far that products with good organoleptic characteristics, with only a defect in appearance do not meet the supermarket lines requirements and are considered waste products.
General Appearance, Food waste and Loss of biodiversity

Homogeneity of fresh products in supermarkets

Products with imperfections but suitable for consumption
INTERACTION BETWEEN SENSES

The senses do not work as isolated systems. They interact and even can change the perception.
INTERACTION BETWEEN SENSES

• Becker *et al.* (2011) found that an intense sensation in one modality (e.g. perceiving a packaging shape as powerful or potent) should lead to an intense sensation in another modality (e.g. the experience of a full, strong taste)
Colour (Sight) & Taste

• Consumers will tend to expect that more intensely coloured foods and beverages will have a more intense taste/flavour (Spence, 2015).

• Food colour affects the ability of people to correctly identify the flavour of food and drink (Spence, 2015).

• The red colour is strongly associated with sweetness and the green colour with sourness (Heiltjes, 2014);
Colour (Sight) & Taste

- Wan et al. (2014) found a relationship between salty taste and white colour.
- Shermer and Levitan, 2014 found a relationship between more intense colours and spicier.
- Hoegg and Alba (2007) found that consumers identified as the most similar juices in taste those with more similar colours.
- The taste of 7-Up was evaluated as lemonier in cans where 15% of yellow colour was added to the green, compared to the original green cans.
Colour (Sight) & Taste

- Yeomans et al., (2008) found differences among three groups of consumers who tasted ice cream made with smoked salmon:
  - The first group of consumers was not given any information and, therefore, expected a strawberry flavour, so they did not like it at all.
  - In the other groups, some information about the product composition was provided and they liked it.

So, the meaning of colour in food and drink can be altered simply by the description that it is given for a product or dish.
Shape (Sight) & Texture (Touch)

- Ares and Deliza (2010), found differences in consumer associations of package shape and sensory expectations of texture characteristics (e.g. runny and thick)

- Rebollar et al. (2012) found that consumers associate the format of chewing gum packs with the gum’s attributes of texture
  - The slim pack models generated consumer expectations of a soft, light chewing gum, while the blister packs and pill packs were perceived by respondents as being dense and crunchy
Conclusions

• The choice of colour packaging and logo and the size or shape of the product or the packaging are not decisions that companies can take randomly, because they will influence the success or failure of their products in the market.

• On the other hand, this chapter has shown the relationship between sensory marketing, specifically in regard to the sense of sight, and three of the major social challenges of the twenty-first century (the health of consumers, food waste, and conservation of biodiversity).
Conclusions

• The apparent size of food have direct consequences on the perception of satiety and eating behaviour, and therefore on the health of consumers.
• The colour can be used to influence the sense of taste and, therefore, to reduce the content of some undesirable ingredients making food healthier.
• The food industry and sensory marketing can also play an important role in global sustainability (maintaining biodiversity and reducing food waste) by planning strategies to accept fresh products with ugly appearance but perfectly suitable for consumption.