

Visualization and purchase

An analysis of the Italian olive oil grocery shelves through an in-situ visual marketing approach

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Abstract

Purpose – The purpose of this study is to present an attempt to evaluate Italian olive oil brand competition through the analysis of consumers' visual perspective.

Design/methodology/approach – Through the implementation of a new information technology system called "Visual Marketing REL", which furnishes eye-tracking measures, the authors were able to produce important information relative to the layout organization of the Italian olive oil shelf, a strategic product of the agro-food chain. The research uses the "in situ" testing of the software developed.

Findings – The research, following up the thesis of sensorial marketing affecting choices, intends to identify an IT tool to facilitate the design of the shelf by increasing the efficiency of the retail mix. Results highlight that specific positioning could impact the differentiation effect and orientate consumers' choices, thus increasing the efficiency of the retail mix.

Research limitations/implications – To generalize the results would require many repetitions of different product categories. In this case, it would be possible to quantify the levels of correlation between visual information and sales.

Practical implications – This work opens important considerations in terms of strategic management of modern distribution, leaders and minor brands competitive relationship, as well as opportunities for producers of high-quality products, which could address their strategies to differentiation and niche market in cooperation with retailers.

Social implications – The research aims to encourage the process of consumer choice and reduce information asymmetries.

Originality/value – The most important result is the connection among choices, visualization, differentiation strategy and positioning/ordering on the shelf. The layout management, in fact, could be used as a joint strategy of retailers as well as producers to emphasize quality and price differentiation, thereby increasing sales. Moreover, the study provides for the first time the outcomes of a brand new software "Visual Marketing REL", highlighting its limits and positive elements.

Keywords Merchandizing, Information technologies, Olive oil market, Trade marketing, Visual marketing

Paper type Research paper

We present a first attempt to evaluate Italian olive oil shelves organization through an in-situ visual marketing approach. We implemented a new IT system called "Visual Marketing REL," which furnishes eye-tracking measures directly in the store in front of the shelves, without the



usual eye-tracking laboratory set-up, without people attending the experiment in laboratory conditions. Through the empirical analysis, we were able to produce important information relative to the layout of the Italian olive oil shelf, a strategic product of the agro-food chain. The results, following up the thesis that sensorial marketing affects choices, highlight that specific positioning could impact the differentiation effect and orientate consumers' choices. This work opens important considerations in term of a strategic approach to the management of modern distribution. The methodology proposed, in fact, could offer a new paradigm for the critical analysis of the retail mix.

1. Introduction

Bertazzoli *et al.* (2004) confirm that marketing allows managing the variability of food demand. In addition, Grandinetti (1993) defines marketing as the bridge to the market environment, by managing a constantly evolving system where firms have to balance opposing forces such as standardization of supply and customization of demand (Kotler *et al.*, 2002). Demand orientation requires constant contextualization, especially in the globalized market where the competitive framework and the consumers' needs are rapidly evolving (Farinet and Ploncher, 2002; Russell, 2002).

Consumers, through their food buying activity, shape many of the dimensions of a retailer's offering, although the decisions on what is available to consumers are made by the retailer (Dawson *et al.*, 2008). Consumers choose from what retailers provide, and meanwhile, retailers pursue a range of marketing and merchandizing activities to encourage consumers to choose particular products (Kahn and McAlister, 1997; Underhill, 2000). The decisions made by retailers on what to offer in which shop and how to influence consumers' choice reflect the strategic and operational aspects of operating a large retail firm, the nature of inter-firm competition and a variety of socio-political, technological and situational factors. Consumers' requests and wishes are important, and their fulfilment is strictly related to retailers' choices and activities aimed at shaping consumers' choice. Garner and Sheppard (1989) consider the various influences on consumption and conclude that UK supermarkets "have changed British eating habits more than any other single group" (p. 153).

A paradigm shift in this regard focusses on the "emotional involvement" of consumers within the purchase and consumption phase, together with the "individualization" of consumption, leading to a pronounced segmentation as a result.

The retail market and, more specifically, grocery sales represent a fundamental phase of value creation both for consumers and companies (Pellegrini, 1996). Although producers and retailers show divergent economic objectives and different levels of bargaining power, strategic cooperation aimed at strengthening differentiation along the supply chain could be desirable for both producers and distributors (Mauri, 1995, 2000; Pastore, 1996; Lugli, 2003; Banterle and Stranieri, 2008). The elements of this cooperation could start from the grocery store layout, including shelf positioning, product proximity on the shelves, promotion and differentiation.

The facing management and the shelf-level promotion of a food product in the stores is a perspective seldom analysed at the empirical level. However, the distribution layout could be seen as a last opportunity to promote a product and have it visible to consumers before purchase (De Luca and Vianelli, 2001). In this regard, Dawson (2000) points out that in the current competitive context, the key challenge of retail management is to maintain the contact with consumers to follow their needs and desires.

In this sense, the opportunity to apply neurology, psychology and physiology measures as base information to set-up in-store marketing strategies could provide consumer behaviour insights of strong impact on sales. As Köster (2009, p. 71) underlines, “food choice is a seemingly simple, but in fact very complicated behaviour that is influenced by many interacting factors”. Köster (2009) points out that in developing new methods of consumer research, more emphasis should be paid to research focussed on real behavioural or physiological effects. Observation of actual choice in typical situations should replace methods based on just asking about liking or wanting or correlational research based on statements only. More interdisciplinary research and more research based on a deductionist approach is needed to make real progress in the understanding of the determinants of eating and drinking behaviour and the prediction of food choice by the consumer.

The basic assumption of this branch of marketing is that the final choice is influenced by a large number of emotional variables such as sound and colour, which impact unconsciousness and determine specific cause–effect relationships with purchasing (Masson and Wellhoff, 2001). In fact, the main goal of emotional marketing is to analyse and predict consumer behaviour as the consequence of a defined set of sensorial, emotional and perceptual stimuli, which the consumer is subject to when in front of the shelves (Pellegrini, 1997; Schmitt, 1999; Gallucci, 2006).

Starting from this assumption, the work aims to provide a new set of information for marketing strategies by analysing the cause–effect relationship between the purchase of Italian olive oil and visual dynamics. The innovative proposition of the paper concerns the analysis conducted directly on the grocery shelves. In fact, the experiment implements an original set-up based on the Visual Marketing 1.0 software[1], which allows gathering eye dynamics information right in front of the shelves, away from laboratory conditions.

The distribution industry and food retailers would take advantage of the innovative approach to refine their retail mix strategies. Through this approach, in fact, retail management could eventually rethink the shelf positioning and define new effective targeting and differentiation strategies. Researchers and analysts could refer to this work as a base line for further empirical analyses in the food sector and in the field of applications of Visual Marketing software for studying consumer behaviour in front of the shelves.

The empirical case regards olive oil, a strategic product of the Italian agro-food market, characterized by a high level of differentiation concerning price, certifications, origin, variety, promotions and brand value/reputation (Garcia Martinez *et al.*, 2002).

The interest in olive oil rises because, given the increasing volatility of price due to the globalization of productions and markets, as well as the increasing consumer need in terms of quality and guarantees, producing companies are committed to adopting focussed strategies to maintain or improve their competitive position. As a consequence to these changes, a growing number of companies are struggling to acquire more space in the shelves of large-scale retail trade and to increase market shares. Understanding how consumption could move from one brand to another, in conjunction with promotional activities, surely represents a factor for improving company success (Garcia Martinez *et al.*, 2002). Meanwhile, the retail sector is searching for answers to the same questions to maximize sales.

Finally, the second but not less important purpose of the work is to develop guidelines of the software “Visual Marketing 1.0”, by specifying its limits and its possible future progressions, but at same time, its potentiality to gather consumer behaviour information.

The following sections of the paper focus on the theoretical and empirical framework; the methodological context, in which, specifically, a comparative analysis with usual eye-tracking set-up is conducted; the description of the empirical analysis; and finally, the conclusions.

2. Theoretical and empirical framework

The consumer behaves as a dynamic being. Having sensory functions activated, he/she gathers various stimuli within the environment – in our case, the store (Varaldo and Guido, 1997). Therefore, all the elements of the store (layout, display, assortment size, atmosphere) are management endogenous variables that influence the emotional involvement of the customer, the quality of his experience, his cognitive behaviour and, finally, his choice.

Among those elements, the display and the placement on the shelf, being the closest element to both products and consumer, become particularly important in affecting the perception of quality and the level of involvement before and during the purchase.

Marketing literature presents ample discussions about the role of emotions in consumer behaviour, often recalling emotion theories from psychology (Havlena and Holbrook, 1986; Havlena *et al.*, 1989; Holbrook and Westwood, 1989; Westbrook, 1987; Westbrook and Oliver, 1991; Oliver, 1992, 1993, 1994; Mano and Oliver, 1993, Oliver *et al.*, 1997) as well as empirical analysis that adapt and/or implement psychology theories into marketing studies (Edell and Burke, 1987; Aaker *et al.*, 1988; Batra and Holbrook, 1990; Richins, 1997).

The literature also presents several approaches to the measurement of emotions:

- the “PAD (Pleasure, Arousal, Dominance) emotional state” model – for individual traits (Mehrabian and Russel, 1974);
- the circumplex model – for interpersonal traits (Watson and Tellegen, 1985);
- Izard’s (1971) Differential Emotions Scale – to investigate motivation;
- Plutchik’s (1980) scales – for basic emotions;
- Richins’ (1997) scales – for material value scales; and
- other emotion measuring scales obtained by means of factor analysis.

In general, all methods can be classified into traditional (verbal methods, projective tests, conjoint analysis, mind and conceptual maps and model of means-purposes chain) and innovative (biofeedback, eye-tracking, neuroimaging, Kansei and affective computing).

Innovative methods allow for the identification and measurement of emotions characterized by affective phenomena with high intensity and short duration, for instance, in stages before the purchase, those in the middle where the purchasing decision takes place and those following, which are related to the evaluation of their consequences (Addis, 2005). The key of the discussion is that affective dimensions are being more and more important for retailers, who address strategies to obtain brand

loyalty, consumer fidelity and brand values perception (Zenor, 1994; Castaldo and Bertozzi, 2000). In addition, Dewsnap and Hart (2004).

When focussing on what happens in the moments before a purchase, retailing mix, facing disposition, facing association, etc. become strategic. Category management (hereafter CM) success, in fact, has been studied through different perspectives. Some authors observed that the implementation of CM projects does not necessarily induce real benefits in the long-term and only in a few cases proved to be a real success factor (Varley, 2001). In this regard, Dussart (1998) argues that many “assortment policies” within the “retailing mix” of categories can also be negative for consumers, as they could limit choices towards products with a higher margin, without having a real possibility to perform a price comparison with similar references.

In the Italian experience, CM reflects the assortment guided by commercial choices more than shelf choices (Cristini, 1996). Surely, such an approach to CM leads to positive results in terms of rationalization of the supply and efficient use of resources. However, the commercial choices-based retail mix limits the exploitation of the potentiality of CM (Gregory, 2001).

Currently, the majority of stores adopt facing criteria based on the trial-and-error process, later evaluated through commercial data. In addition, teams of analysts within retailing companies work to set-up deterministic mechanisms for an efficient and effective products layout (Castaldo, 2001).

Within the specific case of Italian olive oil, the high number of categories, brands and varieties complicate the set-up of CM strategies. The highly diversified set of olive oils contains national and regional brands, industrial and agricultural brands, products with different certification, different flavour and taste intensity, etc., leading to confusion or a difficult analysis of specific attributes during the short time of the choice/purchase. As a consequence, emotions and perceptions could substitute accurate analysis of information on actual quality attributes (Franca, 2003; Marchini *et al.*, 2012, 2014; Grimelli, 2012; Mohamad *et al.*, 2013; Marinelli *et al.*, 2015).

At the moment, within Italian retail shelves, there are many products arranged in non-uniform and incoherent ways (Ismea, 2004), which are in competition with different attributes (price, label, promotions and general discount). This generates a highly competitive system and gives rise to “price wars” among different competitors (Diotallevi *et al.*, 2012).

In general, there is scarce organization on the grocery shelves with the negative possibility of generating inhibitory effects for consumer choice – the jam effect. In addition, the sales data analysis does not lead to helpful results because of high turnover of minor brands and the high impact of discount policies (Marchini and Pampanini, 2010).

These reasons led the authors to investigate the olive oil commercial category.

The proposed approach of analysis, therefore, turns out to be innovative by adding information on consumer perspective on the “perception” of the shelf, suggesting that positioning strategies could be managed taking into consideration both supply and demand.

3. Methodology

3.1 Methodological framework

Visual perception and the information retrieved through sight have always been a factor in decision-making and customer satisfaction (Lurie and Mason, 2007).

Eye-tracking, in particular, is the process of measuring an individual's eye movements to determine where a person is looking at any given time and the sequence in which his/her eyes are shifting from one location to another (Poole and Ball, 2006). "Fixations" and "saccades" are probably the main measurements used in eye-tracking studies. A fixation is when the user's gaze is relatively motionless on a specific area, and a saccade is a quick movement between fixations to another element (Ehmke and Wilson, 2007).

To assess the eye movement and produce data corresponding to the various stimuli, the eye-tracking software is used to analyse the recorded gaze positions and the aggregate eye fixations as in the heat map visualization technique, or based on their sequence as in the gaze spots technique (Holmqvist *et al.*, 2011). In addition to the analysis method, the eye tracker (hardware components) should be selected carefully to provide accurate and precise outcome data. The accuracy of an eye tracker refers to the difference between the actual gaze position and the captured position. The saccade resolution gives an impression of how fast an eye tracker can detect saccade movement. The sampling frequency (measured in hertz) shows the ability of the system to capture the number of samples (e.g. gaze direction) in 1 second (Yousefi *et al.*, 2015).

The modern, remote (meaning the head is allowed to move) eye trackers generally use a technique called the pupil centre and corneal reflections method. It is based on the interpretation of digital video of infrared (or near IR) light illuminated by the tracker and reflected from the cornea that covers the outside of the eye. Theoretically, the tracking could be done from the pupil information alone, but corneal reflections provide an additional reference point for the calculations, resulting in improved accuracy. Technically, eye-tracking is a process of three phases: image acquisition, image analysis and gaze mapping (Holmqvist *et al.*, 2011).

After the image of the eye is grabbed, the goal of the image analysis phase is to detect the positions of the eyes and segment the pupils and corneal reflections. There exist multiple ways to perform this object recognition, and the details of the image processing algorithms used in the commercial products are rarely available in public.

Modern remote devices allow eye-tracking to be performed almost anywhere. However, some general requirements can be compiled for an eye-tracking laboratory to provide a good level of data accuracy, such as the dimensions of the laboratory, which should fit the equipment, the operator and the participants attending the experiment. In addition, the location should be silent or acoustically isolated to minimize the influence of external distractions. For the same reason, the ambient light in the experiments needs to be kept low, as dilated pupils reduce the quality of the data. The basic eye-tracking set-up includes a control PC, the eye tracker hardware and a display for the stimulus presentation. A second computer could be added to allow the real-time monitoring of the session on a secondary display showing the presentation with the superimposed live gaze data (Holmqvist *et al.*, 2011).

3.2 The innovative approach through Visual Marketing REL 1.0

The methodological approach concerns the development, and the first test, of a software deemed "Visual Marketing REL 1.0". It is based on visual basic language and represents an extension to the already existing "HeadMouse®" system, which captures head movements instead of mouse-hand movements, originally invented for people with

hand-movement disabilities. The aim of the software is to keep track of consumers head and eye movements inside the store through a webcam system.

Compared to the traditional eye-tracking methods, only the users' gaze fixation is recorded, giving no information on saccades and quick movements of the pupil.

The method was initially tested in the laboratory with a static test, in which consumers were asked to fix a single object for a long time and from different viewpoints. Afterwards, we evolved to a more dynamic test, in which the testers were asked to fix ten different items in a laboratory version of a store shelf. At a later stage, we increased the number of items and enlarged shelf size until we reached a realistic level of complexity, similar to a store aisle. To assess the effectiveness of the software, a calibration test was carried out on 20 real consumers within a real store to align the webcam with the effective heights of the shelves. They were asked to simulate the shopping and adopt the usual behaviour in front of the department aisle. After the calibration test, it was possible to calibrate also the system on the individual interviewees, who were randomly selected for the experiment. Finally, we implemented the method into real scenarios.

For the sake of completeness, the software was further developed by adding specific functions allowing recording, management, sorting, listing, database transcription and graphical mapping of user/consumer movements.

Differently than the aforementioned approaches to visual dynamics measurements, the requirements relative to the experiment environment are negligible. In fact, the set-up is made for the use in a real choice environment and offers great flexibility, compared to the traditional approaches limited to constrained standardized and controlled conditions.

On one hand, while traditional eye-tracking set-ups allow for a great level of precision, our approach could be limited because many interferences could occur. On the other hand, the webcam set-up with the software does not aim at product details visualization analysis but to less detailed information such as the shelf visualization.

4. Empirical analysis

Empirical analysis starts with a preliminary investigation with the purpose of providing better understanding of the shelf and facing policies of olive oil. Therefore, we conducted interviews with experts of the local retail sector, prevalent grocery olive oil buyers of the Umbria region, Italy. The preliminary investigation and the full tests are carried out within the period January-June 2012. Successively, a second, more direct, interview of experts is conducted both in the front of the aisle and at the aisle end, where products on promotion are located, in ten stores of the main distribution companies in Italy[2] to better understand the CM logics firstly explored during the first interviews.

The second phase of the empirical analysis consists of the implementation of the software and the specific hardware set-up. Having the software ready for testing, 180 randomly selected consumers were asked to participate to the experiment, which has been conducted, in groups of 10 people respectively into 15 supermarkets and 3 hypermarkets. They were asked to shop within the olive oil shelf. At the end of the shopping session, a questionnaire was submitted to the interviewees.

The sample includes 46 per cent women and 54 per cent men (Figure 1) and age groups from less than 18 years of age up to more than 50. As highlighted by Figure 1, underage and elderly people are underrepresented, the while student age group (18-25)

is overrepresented compared to national population statistics[3]. Employment statistics distribution across gender is presented in Figure 2.

Moreover, information on consumer height has been collected to draw considerations on the relationship between eye level and product heights (Figure 3). The sample, with regard to this variable, presents biases especially for women, which resulted as shorter than the national average.

The experiment was conducted into the stores to randomly selected olive oil consumers. They were asked to sit in front of a monitor where the image of the olive oil shelf was projected. Each shelf image appeared for 90 inch while a webcam recording head and eye movements observed the tester's behaviour. The visual survey allowed drawing information on the visual path inside the shelf, the permanence time on each visual point and the eventual return to the already observed item. Based on the visual responses of the interviewees, the following specific research questions arise:

- RQ1. Are there any specific shelf areas, given a limited period of time T^1-T^2 , more noticeable than others?
- RQ2. Does a high number of facings, independently to any other variable, affect the visibility of a product?

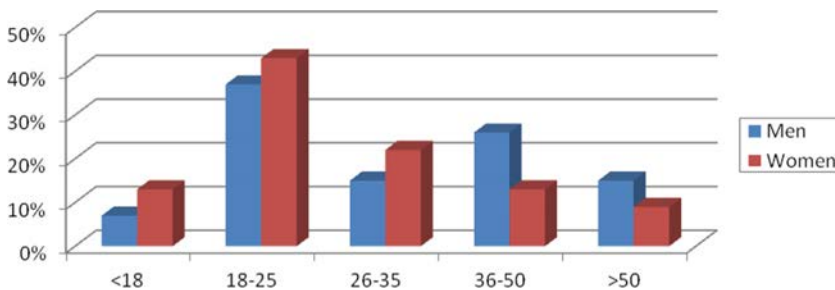


Figure 1.
Frequency of sample
by age and gender

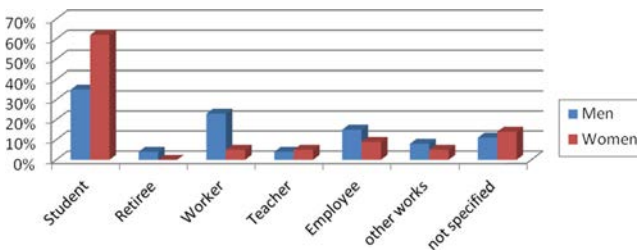


Figure 2.
Frequency of
employment by
gender

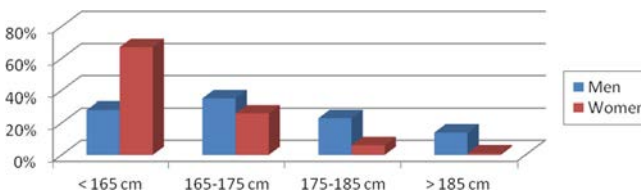


Figure 3.
Frequency of height
groups

RQ3. Does the proximity between well-known and unknown brands raise the importance of the less-famous product?

5. Empirical results and discussion

Based on the interviews with the experts of the retail sector and the survey to consumers in the stores, a planogram[4] was developed (Figure 1). From the analysis of the interviews with experts, the following considerations came to light:

- Shelf organization does not show specific grouping: often, the same shelf presents olive oils with different methods of production or quality (olive oil and extra-virgin olive oil), one next to the other;
- No valid organization following price segments or brand classification criteria. In fact, different brands are usually positioned at different heights (vertical organization), while price differentiation is horizontal, and, hence, brand based;
- The organization of the oil shelf is mainly managed by retailers. Frequently, it does not follow the quality distinction proposed by producers or perceived by consumers. No sales impact is measured by the periodic facing plan of the retailers, probably because it is realized with criteria not adequately robust in terms of consumer perception.
- No quality differentiation is taken into account. Certified olive oils such as 100 per cent Italian, BIO and DOP/IGP are not distinguished from other undifferentiated oils. This creates further confusion in consumers;
- Most favoured are private label products, which are more visible than minor high quality products;
- Limited-time promotions proposed at the end of the aisle make more difficult the conservation of the dispositive structure of the oil category.

During the administration of the visual test, for the first time, the software was implemented with great success (Figures 4 and 5).

On the basis of the results, it is evident that the “most effective” part of the shelf is the fourth level, because it corresponds to the average of the consumer’s height. In line with this and based on what was highlighted by experts, the fourth level has higher fees for producers compared to other levels. Fourth level therefore ensures higher sales, *ceteris paribus*. In terms of visibility, follow the third, fifth, second and first level. In these last levels, there is no direct visualization; therefore, brands with high consumer loyalty or rather products that consumers search for are usually placed here.

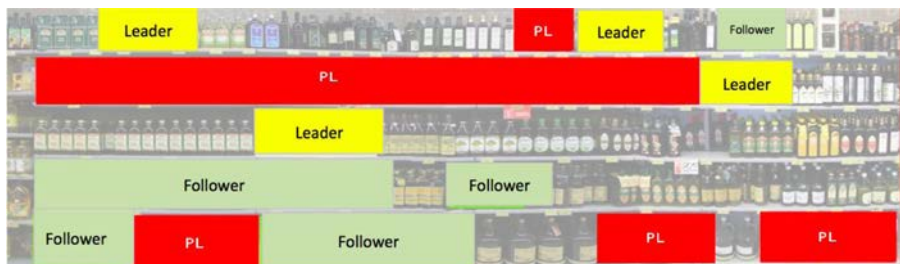


Figure 4.
Olive oil category
planogram



Figure 5.
Visual dynamics

A synthetic map has been obtained by overlapping individual maps on the same layout. It determines the “crucial” points in which the majority of observations gather (Figure 6).

Given the large amount of data and the possibility of producing highly detailed maps with difficult interpretations, synthetic measures need to be taken into account. A good approximation of visual proximity is the number of facings for the same product/brand/category given the probability of consumers looking at that position.

In our analysis, we defined a standard “hypermarket type” planogram for olive oil: a total of 61 references, 90 per cent (55 facing) belonging to *Extra Virgin Oils* category and 10 per cent (6 facing) belonging to category of *common Olive Oils*. Private Labels account for 34 per cent (92 facing). Among the largest Italian producing companies, Farchioni covers the 20 per cent (53 facing) and Monini 7 per cent (18 facing) (Figures 7 and 8).

Similar results were obtained in analysing the arrangement of products in other stores, such as supermarkets and minimarkets.

Joining the results of the facing count, position and number of visualizations, ordering per brand is possible: PL; Farchioni; Constance; Monini.

As expected, Private Label, arranged in the first and fourth level, occupies a high number of facings in the mostly visualized position. Explanation could be given to the result obtained by Farchioni, obviously in a more limited extent.

Costanza and Monini, in the third shelf level, were awarded the third and fourth positions, probably thanks their proximity with the PL brand packaging.

Therefore, our results confirm the existence of more favourable layout areas. A high number of references affect positively the visualization of a product; there are areas in the shelf with more evidence compared to others and a high number of facing considerably increases the visibility of a product. Finally, the proximity to “well-known” products determines an advantage in visual terms. There are also some “black holes” (mainly the corners of the shelf) where the visual determinations are rare and, anyway,

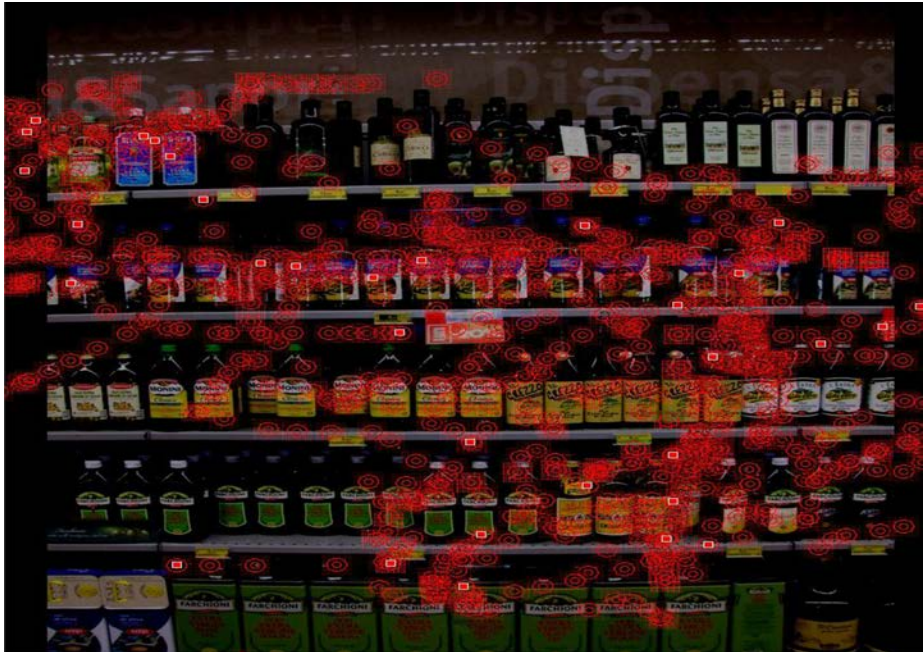


Figure 6.
Map of overlapped
visualizations

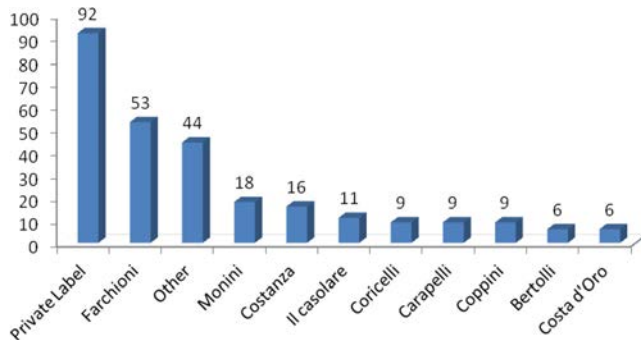


Figure 7.
Count of facings per
brand

not incisive in terms of permanence. As a consequence, the shelf organization, indeed, generates different competitive advantage.

As far as olive oil, our analysis highlights the difficulty in having a well-organized olive oil shelf. Lack of organization is prominent given the high number of products. Product differentiation is not properly taken into account within CM, leading to consumers' confusion and lack of differentiation strategies following price segments and quality criteria.

5. Conclusions

We present a first attempt to evaluate Italian olive oil shelf positioning and visibility through an *in situ* visual marketing approach. We implemented a new information

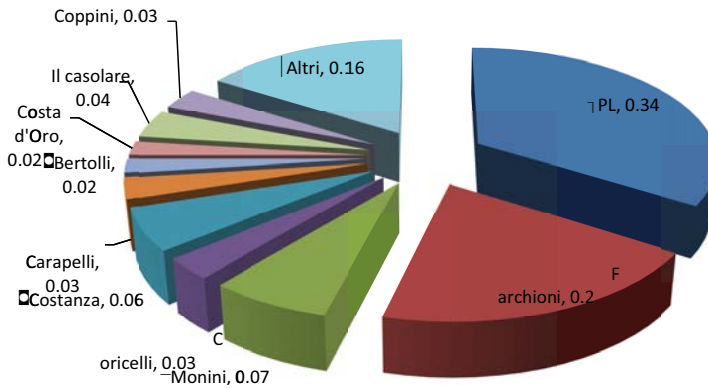


Figure 8.
Share of facings per
brand

technology (IT) system called “Visual Marketing REL”, which furnishes eye-tracking measures directly in the store in front of the shelves, without the usual eye-tracking laboratory set-up, without people attending the experiment in laboratory conditions where they are asked to observe a simulated scenario on a screen.

This work opens important considerations in terms of a strategic approach to the management of modern distribution. The methodology proposed, in fact, could offer a new paradigm for the critical analysis of the retail mix and layout.

The methodological approach, however, suffers a set of limitations that need to be taken into consideration. First of all, compared to the traditional eye-tracking methods, only the users’ gaze fixation is recorded, giving no information on saccades and quick movements of the pupil. Quick eye movements, opposed to fixation that may, in some cases, furnish important information, and such a limitation needs to be taken into account at the moment of the choice of the visual dynamic system. While the approach offers an undiscovered environmental flexibility, reaching the application in a real situation such as that of the olive oil shelf, and much interference could occur, such as time-saving needs, period of the year, presence of promotions, number of people and interactions and data may not be accurate for considerations about small objects/elements of observation.

The empirical case, however, allowed for producing important information relative to the layout of the Italian olive oil shelf, a strategic product of the Italian agro-food chain. The results, following up the thesis that sensorial marketing affects choices, highlight that specific positioning could impact the differentiation effect and orientate consumers’ choices.

On the other hand, this should be considered as a first attempt to measure visual dynamics for the evaluation of the CM. To exploit the full potential of the method and find important managerial implications, a more representative sample should be considered, and different layouts should be compared in the same store to verify the impact on consumers’ visual dynamics.

On the other hand, practical consequences of the analysis offer interesting hints to retail management: production and distribution companies could refer to visual measurements to set-up a more efficient composition of the shelf. In addition, producers could develop cooperation strategies with retailers to strengthen the quality differentiation of their product through accurate positioning on the shelves.

Notes

1. Visual Marketing software based on *Visual Basic*® language, able to process graphically maps of visual behaviour from a sample of random sample of consumers into different grocery stores.
2. Stores were selected based on their surface. Thus, we have three hyperstores, four superstores, three mini-stores.
3. However, our aim is not to provide data for statistical inference, but a mere descriptive analysis to test the visual marketing setup.
4. A diagram or model that indicates the placement of retail products on shelves to maximize sales.

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