Retailers' strategies to promote healthier food purchases in grocery stores: space management and display communication

Abstract

Main objective. Considering that the majority of consumers' food purchases occurs in grocery retailing and that the probability of unplanned purchases in grocery stores is very high, the point of sale is a potentially important opportunity to promote healthy eating through nutrition education and environment modifications. Starting from these considerations, our work intends to explore how the space management and the display communication could influence shopping decisions at the point of sale by driving consumers towards healthy choices. With reference to a specific category (cookies), we have created a new display based on nutritional segmentation criteria, instead of products' attributes ones.
Methodology. The empirical research has combined two qualitative methods. First, a focus groups analysis has been conducted in order to investigate thoughts and attitudes towards the new display. Subsequently, an experiment has been carried out in order to understand how and to what extent customers are willing to change their decisions.
Results. Our findings could provide suggestions for retailers about which kind of communication is more effective and what are the implications in terms of changes in shoppers' purchases.

Key words: instore marketing, healthy choices, space management, display communication, grocery stores.

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Introduction

Nutrition is one of the most critical topics of our time. Individuals are now aware that a proper nutrition is the most appropriate tool to prevent and manage physical dysfunctions such as high cholesterol, hypertension, diabetes and obesity. For this reason they are changing their approach to food, based on a greater focus on healthy diet.

According to recent research, in Italy consumers read carefully the nutritional information on products' labels (55 percent of the population) while the 65 percent of the population looks for products that contain healthful ingredients, such as fibers and natural contents (Nielsen, 2016).

Despite the will of preserve health, the percentage of diseases connected with food has increased over the last few years (Istat, 2016). Given that grocery stores account for over 48% of all food expenditures in the Italian market (MarketLine, 2015), retailers and manufacturers are considered one of the variables responsible for the spread of harmful eating habits. Based on the idea that it is possible to influence shoppers' decisions inside the store (Inman, Winer & Ferraro, 2009), both retailers and manufacturers have invested resources in promoting higher margin products, giving greater importance to profit instead of health goals. In fact, the promotion of convenient and processed ready-to-eat foods have made the adoption and the maintenance of healthy behaviours difficult.

Considering the retailers' intermediary role, grocery stores are the right place where develop in store marketing strategies to prevent diseases related to unhealthy diets (Glanz et al., 2012). Only recently, retailers have begun to managing levers in order to help consumers choose healthy products. The interventions made so far, however, have been oriented to the "rational" mind and they have produced unsatisfactory results. In addition, they have focused only on the promotion of healthy food categories, such as fruit and vegetables. On the contrary, there are few studies about how to give value to the healthy products within packaged food categories. But the framework of the in store marketing levers suggests opportunities for encouraging and facilitating healthier food purchasing (Foster et al., 2014).Starting from these considerations, our work intends to find new ways to reach the long period purpose of driving consumers to buy and consume more healthy products inside the store. Specifically, we aim to identify new in store marketing strategies in order to help shoppers choose healthy products within packaged food categories.

To pursue this goal, the paper is organized as follows. First, a literature review about the importance of retailers in influencing consumers' decisions and the interventions made so far is presented. Secondly, we propose a new in store marketing strategy which can drive shoppers' decisions towards healthier products. Then, we present the research questions, the methodology and the findings. Finally, last sections are devoted to conclusion and managerial implications and limitations and future direction.

Theoretical framework

Good nutrition is essential for health (Mhurchu et al., 2010). In fact, several studies have given evidences about the link between what we eat and our health (Doll & Peto, 1981; Ulbrcht & Southgate, 1991; Rimm et al., 1996; Povey et al., 1998). In literature, in particular, many contributions have defined the meaning of 'healthy' and 'unhealthy' eating. According to them, 'healthy products' refer to food high in fiber, vitamins, and fresh. On the contrary, 'unhealthy products' refer to products high in fat, sugar, additives and processed (Povey et al., 1998).

Grocery stores can be considered the primary locations for food purchases (Glanz et al., 2012) as they account for over 48%

of all food expenditures (MarketLine, 2015). Retailers and manufacturers, thus, are among the causes considered responsible for the diffusion of chronic diseases connected with diet (Lugli, 2015). Based on the idea that it is possible to influence consumers' behavior inside the store and stimulate impulsive purchases towards profitable products (Hirshman & Holbrook, 1982; Bucklin & Lattin, 1991; Donovan et al., 1994; Beatty & Ferrel, 1998; Inman, Winer, & Ferraro, 2009; Bell et al., 2011), both retailers and manufactures have started to implement marketing strategies aimed to incentive the purchase of inexpensive, ready-to-eat and altered food (Cohen et al., 2016).

On one hand, retailers have adopted special in-store displays strategically positioned along the path to purchase (e.g. candy at the cash register); on the other hand, manufacturers have advertised and promoted low-nutrient foods in ways that encourage spur of the moment and emotion related purchases, by making the packaging of the products and the related messages more attractive (Cohen et al., 2016).

The abundance and the communication of these products have made the maintenance and the changes in dietary patterns very difficult (Anderson et al., 2000).

Considering the retailers' intermediary role, grocery stores are the right place where develop in store marketing strategies to prevent diseases related to unhealthy diets (Glanz et al., 2012).

Most of the literature about healthy behaviors is based on the Theory of Planned Behavior (Ajzen & Timko, 1986; Ajzen, 1991; Godin & Kok, 1997; Povey et al., 2000; Noar et al., 2007; Louis et al., 2009) which assumes that a high level of self-control is a prerequisite for making healthy food decisions (Hofmann, Friese, & Wiers, 2008; Schwarzer, 2008). Self-control can be defined as the ability to alter or override impulsive responses and regulate thoughts and behavior (Vohs & Baumeister, 2004). Many researchers have found that high levels of self-control are related to several positive effects on health-related outcomes, while low self-control has been associated with adverse consequences such as consuming sugary and fatty foods (de Ridder et al., 2012; Tangney et al., 2004). This means that, when choosing products, shoppers plan the purchasing of healthy food, seen as something 'virtuous but not enjoyable' (Povey et al., 1998). For these reasons, the interventions made so far have tried to increase the level of self-control by speaking to consumers' rational mind (Lugli, 2015). On one hand, retailers have focused on availability, which refers to accessibility of consumers products (Cohen et al., 2000; Paul & Rana, 2012) in the believe that the abundance availability of healthy food could provides a tacit message which implies that people need to have these product (Song et al., 2009). On the other hand, retailers have developed educational strategies, such as informative campaigns, nutrition education posters and pop-out flyers, explaining the benefit of a healthy diet.

However, it has been demonstrated that self-control relies on limited resources (Hagger, Wood, Stiff, & Chatzisarantis, 2010; Baumeister, 2000). Since our cognitive resources tend to get soon exhausted, the adoption and maintenance of right behaviors is quite difficult, as it is seen as something requiring continuous efforts and implying sacrifices. This means that the impact of the interventions made so far is limited (Foster et al., 2014).

Recently, some authors have started to highlight that whether food decisions will be healthy or unhealthy depends on environmental cues available in a situation (Hofmann et al., 2008; Salmon et al., 2013). This means that, if managed properly, in store marketing levers could encourage and facilitate healthier food purchasing (Foster et al., 2014).

Product placement and instore communication can be considered point of purchases innovative approaches. Some authors have stated that space arrangement, the amount of shelf-space, the prominence of location, such as at the end of an aisle, merchandising displays, department signage and shelf tags could influence healthy purchase decisions (Curhan et al., 1974; Glanz et al., 2012). In particular, shelf labels and/or signage can display information about product' nutritional values and suggest the adequate quantity to consume (Glanz et al., 2004).

While there is a wide literature about the interventions made by retailers in promoting healthy food categories, such as fruit and vegetables (Ammermarman et al., 2002; Pollard et al., 2002; Glanz & Yaroch, 2004; Bogers et al., 2004; Farley et al., 2009; Payne & Niculescu, 2012;), there are few studies about how to give value to the healthy products within packaged food categories (Seymour et al., 2004).

Referring to packaged food, some researchers have tried to assign a shelf tag to each product of the categories selected by giving information processed by Nutrition Information System (Borgmeier et al., 2009). The Nutrition Information System is based on an algorithm which take into account several nutrition information (vitamins, minerals, fiber, whole grains, as well as saturated fat, trans-fat, added sodium and added sugars) and assign a scores to each product analyzed. Lower scores mean that the product has low nutritional values, while high scores mean that it has good nutritional values. Generally, the scores go from zero or one to three or five, depending on the algorithm used. The main goal of this tool is to summarize all the nutrition information of the products and present them in an immediate and effective way. Many studies have, in fact, found that one of the main problem that discourages shopper from reading the nutritional labels is huge amount of information presented and the absence of time available to do that (Kelly et al., 2009).

By looking at the results, some authors have found no significant changes in purchasing behavior after the implementation of the nutritional shelf tags (Achabal et al., 1987; Kristal et al., 1997; Muller, 1984; Soriano & Dozier, 1978; Cawley et al., 2014). Some others, otherwise, have found that the consumer health benefit of the nutrition rating system was to decrease sales of less nutritious foods rather than to increase sales of nutritious foods (Cawley et al., 2014). This means that shoppers didn't switch to buy nutritious versions of food in the same category, but they simply bought fewer items in that category. The only categories in which shoppers increased purchases of nutritious items were prepared foods, yoghurt, butter, cookies and crackers, dried fruit and nuts (Levy et al., 1985; Rodgers et al., 1994; Schucker et al., 1992; Curhan et al., 1974; Cawley et al., 2014).

One possible reason of this limited role of nutritional labels in promoting eating healthily is the great variety of food products offered by grocery retailers that make the comparison between products hard. Food products still remain exposed on shelves in ways that fail to help consumers easily find the healthier alternatives on the shelf.

Starting from these considerations, our work intends to find new ways to help consumers choosing healthier product among packaged food inside grocery stores. In particular, we have proposed a new display of a specific category (cookies) which segments the products based on nutritional values and show the shoppers the best alternatives by using different signs of communication. By leveraging shelf tag communication and space management in an innovative way, we believe that retailers could make shoppers' decisions easier during the shopping trip and encourage them toward the purchasing and the consumption of good food. These strategies could reach better

results in terms of changing shopper habits for at least two reasons. First, both retailers and manufacturers have recognized that the store factors, and in particular merchandising and communication, are more important than any customer-level factor in influencing purchase (Shankar & Muruganantham, 2013; Moha et al. 2013; Cohen et al., 2016). Second, previous studies have demonstrated that shoppers are interested in healthy issue and they are looking for shelf labels in order to identify healthy products inside the store (Glanz et al., 2012). While previous researches have focused on the nutritional values communication at a product level, we have implemented the nutritional communication at the category level and we have created a new display based on nutritional segmentation criteria.

Research questions

The main goal of our research is to find new ways to help consumers choosing healthier product among packaged food inside grocery stores. Thorough the new display based on nutritional information, as described below, we intends to answer the following questions:

Q1. Which perceptions consumers have about the new display?

Q2. Does the new display influence consumers' willingness to buy healthier products?

Q3. What type of communication is more effective in influencing shoppers' purchases?

In order to answer these research questions, we have adopted two qualitative methods. First, a focus groups analysis has been conducted and subsequently, an experiment has been carried out. During the focus groups, we have investigated consumers' thoughts and attitudes towards the new display (Q1). We have answered the second question (Q2) by using both methods. After discussing about the willingness to change habits, we have measured the switch between segments by recreating the moment of the choice in a fictitious place. The experiment has allowed us also investigating which type of communication in more effective (Q3). In the next paragraphs, we present firstly the procedure followed for the construction of the new display. Then, we present the two studies and we illustrate, for each of them, the methodology used and the findings obtained.

Procedure

A leading Italian grocery chain gave us the possibility to access its data system (prices, sales, products' allocation and nutritional values information) about the cookies category referred to one single store, located in the north of the country. The choice of the cookie category was based on the positive outcomes about the efficacy of NIS in helping consumers purchasing healthier products (Cawley et al., 2016). Before starting the experiment, we visited the store in order to take note of the criteria of products' allocation on the shelf and we have found that the segmentation was based on product characteristics (pastry, filled biscuit and cookies) and brand (national brands and private labels).

Thanks to the Health Star Rating System, we have rated the overall nutritional profile of each packaged cookies displayed in the store. The algorithm used was developed by Food Standards Australia New Zealand and other technical and nutrition experts.

This rating is based on scores given to energy (KJ), risk nutrients (as saturated fat, sodium and sugars) and positive nutrients (in particular dietary fiber, protein and the proportion of fruit, vegetable, nut and legume content). The values considered by the algorithm are based on a consistent measure of 100g or 100mL of a product. This means that the star ratings of similar products can be compared at-a-glance. The total score obtained for each product has been translated into a number of star,

whose range goes from ½ a star to 5 stars. The more stars, the healthier is the product. Because of space allocation logics, we have grouped the scores in four cluster, assigning a rating from 1 (scarce nutritional quality) to 4 (high nutritional quality). Each item has been assigned to a specific segment (4 = very high nutritional quality; 3 = high nutritional quality; 2 = medium nutritional quality; 1= scarce nutritional quality). Then, we have created a new cookies display composed by four vertical nutritional segments. During this procedure, we have rearranged the products already displayed in store and for each of them, we have tried to maintain the number of facings and the position on the shelf established by the retailer. The nutritional segments have been ordered from the healthier to the less healthy, according to the direction of travel of the shoppers. The main reason was to promote healthier products as, according to merchandising logics, the product positioned at the beginning of the aisle are more visible and, so, are more likely to be purchased (Curhan et al., 1974; Glanz et al., 2012).

Finally, we have communicated the new display using two different alternative signs: stars (more rational) versus silhouette (more emotional). The aim was to test different type of communication in order to find out the more effective one. Specifically, in the first alternative each segment has been communicated by using the number of stars correspondent to the respective score, and wanted to stimulate cognitive responses, since stars are usually used to indicate ranks (Turnbull, 2007). The second alternative, instead, represents each segment with a human silhouette from the leaner to the fatter and wants to be more impactful by speaking to the emotional mind (Lugli, 2015). It is important to note that no information about prices was given.

Study 1

Methodology

Focus group discussion took place in April 2016 and involved 24 consumers in three groups of eight. We used a screening questionnaire in the recruitment process to ensure that all participants met the criteria selected for our research. Be responsible of food expenditures was a prerequisite for the participants' selection. Each discussion lasted for about two hours and was sound and video recorded. Each session has been videotape and verbatim transcribed. The discussion has been interpreted taking into consideration the different demographics characteristics on the belief that gender (male vs female) and age could affect consumers' choice towards food products.

The transcripts were entered into T-Lab, a software package especially designed for the analysis of qualitative research.

Findings

In order to answer our first research question (Q1), the new cookies display was projected during each discussion. After explaining the segmentation criteria to focus groups participants, they were asked about their opinion, beliefs, thoughts and effectiveness of the strategy. In particular, participants were asked the following questions: 'What do you think about this kind of segmentation? Does this kind of segmentation influence your willingness to change your choice?'. This activity led to identify a series of categories.

In particular, the words and the sentences associated with the first question have been grouped into four categories. Most participant have considered the new nutritional segmentation as a way to help consumers saving time during the shopping trip (58.8 percent of the words and sentences recall it). Time constraint has been recognized as a major problem which results in waiving reading and comparing different products labels. One participant stated: "I do not waste time

reading five different labels... this layout is more impactful". The 23.5 percent of the statements refer to the educational role of the communication, while the 11.8 percent consider the new segmentation useful only for individuals who are interesting in health issues. Finally, the 5.9 percent of the statements are associated with 'disorientation'. Some participants stated that the new arrangement isn't helpful, as it changes the traditional logic of products' aggregation, which they are used to find inside the store.

Regarding the new display's ability to influence purchasing decisions (Q2), 30% of consumers stated that they are willing to change their choice towards healthier products. The remaining showed a limited willingness to change their choice, for different reasons. 40% of participants are less available to change habits because they are not heavy consumers of the category, thus they are less sensible towards its nutritional facts. During the focus group discussion, they said "I wouldn't change my choice, since I consume the category only occasionally. I will pay more attention if it is about category that I consume every day'. Some consumers (20% of participants) prefer to reduce the quantity consumed instead of changing their preferred brands or products. They said 'I don't want to change my choice but I would eat less amounts of cookies'. Finally, a small percentage of consumers (10% of participants) gives small importance to nutritional facts and said "I would not change my purchase. I don't care about the communication'.

By doing this classification, we have found that the responses have been affected by the gender and the age of the participants. Specifically, the group of people who is willing to change choices is entirely composed by women between forty and sixty, while participants who don't care about the communication are men between forty and sixty. Young people (20-40 years old) of both genders, are found among those who eat cookies only occasionally and don't want to change product but are willing to consumer fewer cookies.

Study 2

Methodology

The experiment was aimed to explore consumers' behavior in front of the new display, investigate consumer's willingness to change products, and the efficacy of the communication. Three stimuli were used during the experiment: the "traditional display" (i.e. the cookies display founded instore), the "stars display" (i.e. the nutritional display communicated with stars symbol) and the "silhouettes display" (i.e. the nutritional display communicated with silhouettes symbol).

A sample of 115 individuals has been recruited and divided into two groups, as the number of communication alternatives proposed. Members of the first group have been placed in front of the traditional display and asked to select one product in one minute. Then, they were asked to make the same choice in front of the stars display. To facilitate the comprehension of the new display, an information card was given to them before the choice. The same procedure has been followed for the second group, which has been exposed to the silhouette stimulus. In order to understand whether or not the shopper has changed the quality nutrition of his choice, we have assigned to each product chosen in front of the traditional display the correspondent score (from 1 to 4) and we have taken note of the rating of the product chosen on front of the new display.

It is important to notice that each display was projected in different places in order not to create confusion and affect the responses. Taking into consideration the results of the focus groups conducted before the experiment, we have tried to override the effect of age, gender, health attitude and frequency of purchase, which

have been found to affect shoppers' attitude towards the nutritional value segmentation. Specifically, we have used a screening questionnaire in the recruitment process in order to be able to create two homogeneous groups. Each of them had the same proportion of male and female, the same proportion of people who buy cookies frequently and occasionally, the same proportion of consumers who are careful about health and the same average age. Additionally, the time given for the choice had the aim to conform the decision's conditions.
Data were processed using SPSS statistical software. The analysis tool used was the contingency table that allowed us testing the association between phenomena if at least one of them is measured on a nominal or ordinal scale. The chi-square test had been used in order to test the null hypothesis of absence of associations between them, at a .05 significant level.

Findings

In order to answer to the second question (Q2), we have compared the score of the two products chosen for each participant. The aim was to understand if the new nutritional segmentation is able to lead consumers to make better choices, in terms of better nutritional quality.
The results (Table II) show that, overall, 33 percent of shoppers interviewed have changed the nutritional quality of the choice, while the 67 percent of the sample have not been affected by the new segmentation. Within this 67 percent of respondent who haven't changed their choice, there is a 28.7 percent of people whose first choice was a product with the highest nutritional quality score. So, only a 38.3 percent of consumers have decided not to improve the quality of the product chosen.
Table II also shows the intensity of purchase change for each communication stimulus. What is important to notice is that none of the participants has decided to select a product with a lower nutritional quality than the one of the product initially chosen.

Table II. Intensity of change of the purchase

			Nutritional quality – new display				Tot
			1	2	3	4	
Tot	**Nutritional quality – traditional display**	1	20,9%	7,0%	2,6%	6,1%	36,5%
		2		15,7%	4,3%	5,2%	25,2%
		3			1,7%	7,8%	9,6%
		4				28,7%	28,7%
	Tot						100,0%
Stars	**Nutritional quality – traditional display**	1	10,2%	11,8%		8,5%	30,5%
		2		15,3%	5,1%	3,4%	23,7%
		3			1,7%	11,9%	13,6%
		4				32,2%	32,2%
	Tot						100,0%
Silhouettes	**Nutritional quality – traditional display**	1	32,1%	1,8%	5,4%	3,6%	42,9%
		2		16,1%	3,6%	7,1%	26,7%
		3			1,8%	3,6%	5,4%
		4				25,0%	25,0%

In order to answer to the third question (Q3), we have considered the two groups separately. The aim is to understand which is the more effective way to communicate the nutritional value segmentation and which communication leads shoppers to healthier choices. Given that some people haven't changed their choices because they had already chosen a product with the highest nutritional score, we have decided to take into account only the respondents who had the possibility to improve their decisions. This means that we have considered only respondent whose first choice was a product with 1, 2 or 3 nutritional quality score. The final sample is composed by 82 respondent.
The statistical output (Table III) shows the presence of a significant association between "communication stimulus" and "nutritional quality change" at a significance level of .005 (Chi-square 5.859; p<.005; Phi -0.267; p<.005; V Cramer .267; p<.005).

Table III. Communication stimulus * Nutritional quality change

			Nutritional quality change		
			No change	**Change**	**Tot**
Communication stimulus	**Stars**	Number	16	24	40
		% of communication stimulus	40,0%	60,0%	100,0%
		Std. resid.	-1,2	1,3	
	Silhouettes	Number	28	14	42
		% of communication stimulus	66,7%	33,3%	100,0%
		Std. resid.	1,2	-1,2	
Tot		Number	44	38	82
		% of communication stimulus	53,7%	46,3%	100,0%

In particular, the results show that shoppers who have seen the stars display are more willing to improve the quality of their choice (60 percent) than shoppers who have been exposed to the silhouettes stimulus (33.3 percent).

General Discussion

Our research aimed to find new ways to help consumers choosing healthier product among packaged food inside grocery stores. Specifically, we have proposed a new display which segments the products based on nutritional values in order to make shoppers' decisions easier during the shopping trip and encourage them toward the purchasing and the consumption of good food. Therefore, we have tested two different communication alternatives in order to find out the more effective one. Our findings bring out important considerations on the effectiveness of in-store marketing levers, managed by retailers with the aim to stimulate healthy purchases at the point of sale.

Firstly, the research highlight that the new marketing strategy is appreciated by the majority of the individuals interviewed. In particular, the new display is considered useful as it helps consumers saving time when choosing the products and as it plays an informative role. However, the usefulness is associated with the interest in healthy issue. According to some participant people who are not interested in adopting a healthy diet, are not influenced by the nutritional segmentation and consider the display confusing.

Secondly, the research has found that gender, age, health interest and frequency of consumption influence the willingness to change purchases. In particular, women are found to be more inclined to change their habits and experimenting healthier products, while men are less prone to change their choices and prefer taste instead of health. In addition, young people try to find a compromise by eating less amount of their favorite product if this has low nutritional quality. While age, sex and habits have been widely discussed in the literature (Ajzen, 1991; Rodin, 1986; Umberson, 1992; Tepper et al. 1997; Wardle et al., 2004), the frequency has never been taken into account but it has been found to be a crucial element. By considering the frequency of purchase, retailers could improve the effectiveness of their strategies, since individuals have stated to be more careful about products consumed every day.

Finally, is has been found that stars are more effective than silhouettes in changing consumers habits. This means that, in this case, a rational communication is better able to influence purchasing decisions instead of a more emotional one. The limited effectiveness of the silhouettes could be explained by the fact that they are associated primarily to physical conditions and not to health in its broadest definition. Another possible reason come from the fact that consumers are used to face with 'stars' since they are a common way to rank objects and performances while silhouettes are newer and never used before.

Conclusions, limitations and future research

Our work is a first attempt to support retailers in promoting healthier choices by managing instore marketing levers - space management and display communication – in an innovative manner. Our findings could suggest retailers new approaches in the management of the categories based on criteria of segmentation (nutritional facts) which seem to better answer to consumers' needs. In particular, this research suggests that gender, age, health interest, frequency of consumption and way of communication are important variables that must be taken into account by retailers before the implementation of a strategy.

Our research, however, has some limitations. First of all, some limits are associated with the methodologies used.

On one hand, limitations of focus groups include the tendency for certain types of socially acceptable opinion to emerge, and for certain types of participant to dominate the research process (Smithson, 2000). On the other hand, the experiment has limitations connected with the fact that it is a simulation and is far from the reality, since external variables are controlled and their effects restrained.

We haven't, in fact, considered the price variable in order to isolate the effectiveness of the segmentation and the communication. Price is found to be one the main obstacles in adopting and maintaining healthy eating behaviors, since the price of healthy products are higher than the price of unhealthy ones (Pollard et al., 2002; Glanz et al., 2004; Sallis et al., 2008, Mhurchu et al., 2010).

Future researches could consider the price variable in order to provide a complete framework of the choice. Finally, it would be useful to implement the strategy proposed inside the store. This could give important information about shoppers' behaviors in a real situation and could allow us to have data about the sellout.

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