Front of pack symmetry influences visual attention

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Abstract:

This paper investigates the impact on visual attention of a symmetrical versus an asymmetrical arrangement on the front of pack (FOP) of FMCGs. The authors conducted a laboratory experiment using an eye-tracking method. Two FOPs were designed for each product category (orange juice, chocolate bars, pasta and biscuits). In one version the information items were arranged symmetrically around a vertical axis, and in another they were asymmetrically arranged. The findings show that symmetry influences viewers' attention, first by influencing the visual attention paid to the entire FOP and, second, by its impact on the capacity of specific FOP areas to capture and hold visual attention.

Keywords: Front of pack, symmetry, visual attention, eye tracking.

Paper type: Research paper

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1. Introduction

"Symmetry is an important and prominent feature of the visual world." (Bertamini *et al.*, 2018, p. 1). "Symmetry is everywhere: in natural objects, from crystals to living organisms, in manufactured articles of many kinds, and in art works from all cultures throughout the world and at all times" (Wagemans, 1995, p.9). Symmetry is also a characteristic of front of pack (FOP) information on fast-moving consumer goods (FMCGs), with supermarket shelves displaying both symmetric and asymmetric designs within the same product category. In a symmetrical FOP, the arrangement of information items such as product category name, brand, product characteristics, slogan, image of the product and weight is displayed symmetrically around an axis, while in an asymmetric FOP, the information is not laid out symmetrically (Figure 1). Some concrete examples in the categories of chocolate chip biscuits and orange juice are Chips Ahoy! (asymmetric) and Pepperidge Farm (symmetric), and Welch's (asymmetric) and Simply Orange (symmetric), respectively. However, research on symmetry in marketing is rare and very few studies have assessed the impact of symmetry, with the exceptions of Creusen *et al.* (2010) in the context of product design and Bajaj and Bond (2018) in brand perception. Creusen and Schoormans (2005, p.68) distinguished six different roles of product appearance for consumers: communication of aesthetic, symbolic, functional product information, ergonomic product information, attention drawing and categorization. They highlighted the importance of attention-drawing from the product's appearance, noting that: "Gaining attention is an important first step in enabling consumer product purchase […]. When a product stands out visually from competitive products, chances are higher that consumers will pay attention to the product in a purchase situation, as it 'catches their eye'." Löfgren *et al.* (2008) also emphasised the fact that product package aspects (such as design) help the product to capture customer attention in what they call the "first moment of truth", i.e., product choice at point of purchase. The influence of a product's design on visual attention has thus been noted by several scholars. However, no study as yet has specifically investigated the influence of symmetry on visual attention. The present article therefore looks at two issues: (1) transferring the notion of symmetry to the field of product packaging and (2) investigating the impact of symmetry on visual attention using an eye-tracking method.

Insert Figure 1 about here

2. Conceptual Background and Hypotheses

Many studies in cognitive psychology (Bruce and Morgan, 1975; Tyler, 1995) and neuroscience (Sasaki *et al.*, 2005; Höfel and Jacobsen, 2007; Pecchinenda *et al.*, 2014) have suggested that symmetry is a special visual configuration that could influence consumer's attentional behaviour. Mach (1886/1914) was the first to discuss the influence of symmetry in visual perception, distinguishing three types of symmetry: translational, rotational and mirror. He showed that mirror symmetry was the only type of symmetry perceived without effort: "If we place two of the spots in positions symmetrical to the median plane of the observer, the relationship of the form is strikingly apparent" […] "When, however, we turn one spot far enough round with respect to the other, their identity of form is not recognizable without intellectual assistance" (Mach, 1914, p. 107). According to Van der Helm (2015, p. 108), mirror symmetry is "a visual regularity that can be defined by configurations in which one half is the mirror image of the other – these halves then are said to be separated by a symmetry axis."

2.1 Influence of symmetry on attention given to the entire FOP

As symmetry is ubiquitous, "it is no surprise then that biological vision systems have evolved adaptive strategies for perceiving such symmetries" (Wagemans, 1995, p.9). In the field of psychology, studies have shown that symmetric rather than random or asymmetric forms are more easily processed by the brain because the elements on each side of the vertical axis of symmetry are redundant (Barlow and Reeves, 1979). Treder (2010) suggested that the visual system is designed to recognize symmetry because regularity and redundancy play a major role in the recognition of forms and images. Other authors have also shown that introducing symmetry into an asymmetric stimulus allows the number of non-redundant and irregular elements to be reduced, thereby leading to a less complex stimulus (Attneave, 1957; Day, 1968). This transformation (graphic rearrangement to convert a non-symmetric picture into a symmetric one) simplifies the stimulus and the ease with which it is understood by facilitating visual exploration behaviour. This cognitive facilitation induced by reducing visual complexity leads to a lower level of visual attention (Nucci and Wagemans, 2007). Based on these findings, we propose the following hypothesis in the context of product packaging:

H1. Symmetric FOP will receive less attention than asymmetric FOP.

See Table 1 for an illustration of hypotheses.

2.2 Influence of symmetry on the capacity of a specific FOP area to attract visual attention

Symmetry appears to be a visual eye-catching pattern in the earliest stages of vision (Locher and Nodine, 1989). Individuals are able to determine forms, drawings and images as being symmetric or asymmetric within an extremely short exposure duration of between 10 and 100 milliseconds (Locher and Nodine, 1989). Furthermore, when viewing symmetric stimuli, individuals tend to look first at the centre of the form (Kootstra *et al.*, 2008) or the pattern's "centre-of-gravity" (Richards and Kaufman, 1969). More recently, Brouwer *et al*. (2009) showed that when observers look at simple geometric shapes (a square or a triangle), they tend to direct the first saccade towards the "centre of gravity". This initial focus on the centre of a symmetric object indicates that the centre of a symmetrical stimulus acts as an early attentional attractor. Kootstra *et al.* (2011) also observed that early fixations are on the centre of symmetrical images, both for simple artificial geometric stimuli and complex photographic images of natural (flowers) and man-made scenes (buildings, landscapes). They concluded that symmetry plays a key role in guiding eye movement and is an important predicator of the order of visual fixation. Based on these findings, we formulate the following hypothesis:

H2. Areas close to the centre of the FOP will attract visual attention more quickly for a symmetric FOP than for an asymmetric FOP.

The detection and recognition of symmetry is an important component of human visual processing. This recognition is made effective due to the presence of the axis of symmetry: observers can detect this axis from a large range of stimuli very rapidly (Locher and Nodine, 1987) and with little or no effort (Barlow and Reeves, 1979) compared to asymmetric forms. While there are different types of mirror symmetry (horizontal, vertical and oblique), vertical symmetry appears to be the easiest configuration for humans to detect (Cattaneo *et al.*, 2017). Using paintings and artwork as stimuli (Locher and Nodine, 1987), and more recently clouds of dots (Meso *et al.*, 2016), researchers have shown that individuals tend to look first at the areas close to the vertical axis of symmetry. Therefore, we hypothesize that:

H3. Areas close to the vertical axis of the FOP will attract visual attention more quickly for a symmetric FOP than for an asymmetric FOP.

2.3 Influence of symmetry on the capacity of a specific FOP area to hold visual attention

Locher and Nodine (1987) observed a concentration of visual fixations along the axis in images containing a single axis of symmetry, whereas visual fixations were more spread out for non-symmetric images. Similarly, Kootstra *et al.* (2008) showed that individuals had a strong tendency to focus their attention on the elements close to an axis of symmetry when looking at a complex symmetric image like a flower. Moreover, Meso *et al.,* (2016) also highlighted the strong salience of the symmetry axis; they demonstrated that gaze locations were aligned along the axis of symmetry and that fixations kept the fovea close to the symmetry axis. For these authors, the symmetry axis is also an unconscious landmark and "shape[d] all types of eye movements" (p. 1257). In parallel, in the context of art, Quiroga and Pedreira (2011) showed that in figurative and abstract paintings by different artists, elements close to the vertical axis received more fixations when paintings displayed a vertical axis of symmetry as opposed to an asymmetric one. Based on these findings, we hypothesize the following:

H4. An FOP area located around the vertical axis will receive more attention for a symmetric FOP than for an asymmetric FOP.

Locher and Nodine's research on simple symmetric and asymmetric shapes (1973, 1989) or modified abstract paintings (1987) revealed that participants' ocular fixations were concentrated on the left side of the stimulus for symmetric forms, while they were spread out over the entire figure for asymmetric forms. The same visual behaviour applies to face perception. Gallois *et al.* (1989), Butler *et al.* (2005) and Bindemann *et al.* (2009) showed that when participants were exposed to symmetrical faces, they clearly focused their visual attention on the left side of the faces as opposed to the right side. This dominant visual behaviour is called the "left visual field bias". We therefore tested the 'left visual field bias' in the context of product packaging, and propose the following hypotheses:

H5. For symmetric FOPs, the area located on the left side of the vertical axis will receive more attention than the area located on the right side of the vertical axis.

H6. For asymmetric FOPs, the area located on the left side of the vertical axis and the area located on the right side of the vertical axis will receive similar amounts of attention.

Insert Table 1 about here

3. Methodology

To investigate the role that symmetry plays in FOP visual attention, we conducted an eye-tracking laboratory experiment.

3.1 Stimuli

Orange juice, chocolate bars, pasta and biscuits were used as the stimuli. The rationale for the choice of these product categories is that they are frequently purchased and widely consumed by men and women of all ages. To avoid familiarity bias, the authors selected two brand names in each category that were previously unknown to participants, either because they had not been marketed in the country in which the study was conducted or because they were fictitious: *Tropsun* and *Valleys* (orange juice), *Montego* and *Hershey* (chocolate bars), *Granvois* and *Bellange* (biscuits), and *Cipriani* and *Miracoli* (pasta). For each brand, a professional designer created a symmetric and an asymmetric version of the FOP (Figure 2).

All of the FOPs displayed eleven information items selected from the most frequently displayed items in a real-life situation for the four product categories, such as product category name (e.g. "*Orange juice*"), brand (e.g. "*Tropsun*"), a single product characteristic (e.g. "*pulp free*"), a slogan (e.g. "*a mellow and smooth taste*"), an image of the product, the weight or the volume (e.g. "*1 litre*") and nutritional information (e.g. "*200 ml = 96 kcal, 5% of GDA*"). Information items were symmetrically arranged around the vertical axis for the symmetric FOP version, and asymmetrically for the asymmetric FOP. Likewise, the constitutive elements of the image (quarters of an orange, squares of chocolate, spaghetti, and biscuits) were arranged in a symmetrical way for symmetric FOP and in an asymmetric way for an asymmetric FOP.

To avoid sources of uncontrolled variance, the number of information items displayed on the FOPs was kept constant, as was the surface area occupied by these items. For each product category, each information item (e.g. name of product category, brand and slogan) occupied the same surface area on symmetric and asymmetric FOPs. Furthermore, for hypotheses H5 and H6, the number of information items and corresponding surface area displayed on the left and on the right side of the FOP was also controlled so that the same level of information was displayed on each side of the FOP.

Creusen and Schoormans (2005) argued that the level of typicality may influence attention to a product and, more specifically, that an atypical product appearance may help durable products to attract attention. Consequently, in order to control the level of typicality, the designer was asked to create FOPs typical of the category to which they belong. Prior to the main study, a pre-test (N=79) was conducted to measure the level of symmetry and typicality of the FOP stimuli proposed by the designer. As expected, symmetry level differed significantly between symmetric and asymmetric FOP ($p<0.05$), while typicality level did not ($p>0.05$). Based on this pre-test phase, the FOP stimuli proposed were considered suitable for the aims of the study.

Several presentation sets were designed for the experiment. For each product category, the participants were shown a set of two FOPs positioned next to one another, with one brand FOP displaying a symmetrical design and another brand FOP an asymmetrical one; thus, two different brands were presented in each set (see Figure 3 for an example). In this within subject-design, each participant had to be exposed to both experimental conditions (symmetry versus asymmetry) without being exposed to the same brand twice. The presentation order of product category and brand name within the same product categories, as well the position of the symmetric FOP (left or right), were randomized across participants. In total each participant was exposed to four sets, one set per product category.

Insert Figure 2 about here

Insert Figure 3 about here

3.2 Participants

The sample consisted of 46 participants (30 women), aged 19 to 57 (M = 28.96; SD = 12.114), recruited from university staff and initial learning programmes in a large European university. Twenty-eight participants were in employment and 18 were students. All of the participants had normal or corrected-to-normal visual acuity. All of the participants volunteered to participate in the study without any incentive.

3.3 Procedure

The tests were carried out individually and at separate times: each participant was given a specific arrival time and was welcomed at the laboratory by an experimenter. For each product category (orange juice, chocolate bars, pasta and biscuits), the participants were shown a set of two FOPs positioned next to one another, with one brand FOP displaying a symmetrical design and the other an asymmetrical one (within subject design). They were told that they would be shown several sets of product packages, with two product packages in each set, and that their task was to choose one of the two product packages for each product category. The participants were seated facing a 22” (48.7 cm x 27.4 cm) Dell screen, in front of which a binocular remote corneal reflection eye-tracking system had been installed (SMI RED 250). The benefit of using this material is that no devices are attached to participants’ faces, giving them a certain freedom of movement. The participants were positioned about 70 cm from the screen so that the screen package size matched real package size as much as possible. The experiment started with a calibration (tracking a moving red dot on the screen) that was successfully completed by all the participants. They then read a text explaining that the study was part of a test for new products that were likely to be available on the market in the near future. To familiarize the participants with the requested task, they were exposed to a first set of images (rice) whose results were not taken into account.

> *You will be presented with new brands that are likely to be marketed in France. You will be shown four product categories: orange juice, chocolate bars, biscuits and pasta. For each category, you will be asked to choose between two brands. Please look at these two brands as you would in a supermarket and then choose one. Once you have made your choice, please inform the experimenter. To move to the next category, press the space bar on the keyboard. By way of an example, the study begins with two product packages of rice.*

Exposure time was free, and participants could move on to the next set by pressing the keyboard space bar after having orally stated the product chosen. Once participants had seen the four sets, they answered questions about their age, gender and visual acuity. Finally, they were re-exposed to stimuli in order to measure the perceived symmetry and typicality of the FOP (manipulation checks). All of the participants were debriefed two to three weeks after the experiment had finished, rather than after each individual’s participation, to prevent the purpose of the experiment from being disclosed before all the participants had taken part.

3.4 Eye tracking measures

In their influential "eye-mind hypothesis", Just and Carpenter (1980) argued that eye movement and attention are closely related. By analysing eye movements collected via an eye-tracking system, researchers know where a person is looking at any given time, as well as the sequence in which their eyes shift from one location to another. When people process visual stimuli, they frequently reposition their gaze by making rapid eye movements that are called saccades. Between saccades, the eyes remain relatively still, maintaining their gaze on a single location. These fixations generally last for about 200-300 milliseconds (Rayner, 1998). Vision is largely suppressed during saccades and visual information is acquired mainly during eye fixations (Uttal and Smith 1968).

To measure attention devoted to an area of interest (AOI), there are at least two types of eye-tracking measure. The first type concerns the measure of noticeability of an area which indicates how fast the area will capture a consumer's attention. Usually, noticeability is measured with the 'entry time' that is defined as 'the duration from onset of stimulus until the area of interest is first entered' (Holmqvist *et al.*, 2011, p.437). This measure is related to H2 and H3. The second type of measure concerns the interest of an area, in other words, the ability of an area, once noticed, to maintain attention. Interest is usually measured by the fixation time in milliseconds (FT) (total duration of the fixations within an area of interest) and the fixation count (FC) (number of eye fixations within an area of interest). These measures are related to H1, H4, H5 and H6. So in our experiment, 'entry time', 'fixation time' and 'fixation count' are the dependent variables. To measure how attention was distributed across the FOPs during the experiment, we created five areas of interest: entire FOP, FOP centre, area along the vertical axis, left side of the FOP and right side of the FOP (see Table 1).

4. Results

To compare the effects of the two conditions (symmetric versus asymmetric) in a within-subjects design, paired-sample t-tests using SPSS were conducted on dependent variables.

4.1 Manipulation checks

As in the pre-test, symmetry was assessed using a one item self-report scale (1 = symmetric; 7 = asymmetric) developed by Pieters *et al.* (2010). In line with the pre-test, the symmetric FOP was perceived as being more symmetric than the asymmetric FOP (M_{SYM} = 1.96 (SD = .72), M_{ASYM} = 5.18 (SD = .81), t (45) = -17.30, p = .000). Again, as in the pre-test, typicality was assessed using the self-report scale developed by Loken and Ward (1990), consisting of three items measuring exemplar-goodness, typicality and representativeness (7-point scale). As expected, and in line with the pre-test, the level of typicality of the symmetric and asymmetric FOPs does not differ ($M_{TYP\ SYM}$ = 5.09 (SD = 1.04), $M_{TYP\ ASYM}$ = 5.03 (SD =.98), t (45) = .39, p = 0.697).

4.2 Main results

The results revealed that participants spent longer looking at asymmetric FOPs than symmetric FOPs (M_{SYM} = 6501ms (SD = 3564), M_{ASYM} = 6901ms (SD = 3861), t (45) = -2.17, p = .035). They also made more fixations on asymmetric versus symmetric FOPs, although the statistical significance of this result was only marginal (M_{SYM} = 26.3 (SD = 13.03), M_{ASYM} = 27.3 (SD = 13.46), t (45) = -1.79, p = .080). Thus, hypothesis 1 is partially supported.

The time to first fixation (entry time) on the area close to the centre of the FOPs was shorter in symmetric versus asymmetric FOPs ($M_{SYM\ EntryTime}$ = 3125ms (SD = 2692), $M_{ASYM\ EntryTime}$ = 4178ms (SD = 3507), t (45) = -2.33, p = .024). The time to first fixation (entry time) on the area close to the vertical axis of the FOPs was shorter in symmetric versus asymmetric FOPs ($M_{SYM\ EntryTime}$ = 1160ms (SD = 838), $M_{ASYM\ EntryTime}$ = 1810ms (SD = 1558), t (45) = -2.52, p = .015). Therefore, hypotheses 2 and 3 are supported.

The results showed that participants spent longer looking at the area close to the vertical axis for symmetric versus asymmetric FOPs (M_{SYM} = 1919ms (SD = 1123), M_{ASYM} = 1416ms (SD = 831), t (45) = -6.41, p = .000) and made more fixations for symmetric versus asymmetric FOPs at the area close to the vertical axis (M_{SYM} = 8.4 (SD = 4.58), M_{ASYM} = 6.3 (SD = 3.46), t (45) = -6.25, p = .000). Therefore, hypothesis 4 is supported.

With regard to symmetric FOPs, participants spent longer looking at the left side versus the right side of the FOP (M_{LEFT} = 3577ms (SD = 1972), M_{RIGHT} = 3093ms (SD

= 1758), *t* (45) = 2.33, *p* = .024) and made more fixations (M_{LEFT} = 14.6 (SD = 6.42), M_{RIGHT} = 12.7 (SD = 6.82), *t* (45) = 2.37, *p* = .022). Moreover, there was no difference between the attention paid to the left or the right side of asymmetric FOPs (fixation duration: M_{LEFT} = 3380ms (SD = 1904), M_{RIGHT} = 3485ms (SD = 2093), *t* (45) = -.59, *p* = .552; number of fixations: M_{LEFT} = 13.5 (SD = 6.70), M_{RIGHT} = 13.7 (SD = 7.40), *t* (45) = -.39, *p* = .697). Therefore, H5 and H6 are supported.

5. Discussion

The study outcomes contribute to the marketing literature in several ways. In product package design, previous research has focused on the influence of colour (Gordon *et al.*, 1994; Roullet and Droulers, 2005; Hurley *et al.*, 2016), shape (Berkowitz, 1987; Schoormans and Robben, 1997; Raghubir and Krishna, 1999; Krider *et al.*, 2001; Folkes and Matta, 2004; Raghubir and Greenleaf, 2006; Garber *et al.*, 2008), size (Folkes *et al.*, 1993; Wansink, 1996; Wansink and Van Ittersum, 2003) and product picture (Underwood *et al.* 2001; Underwood and Klein, 2002). To our knowledge, this is the first study that has been carried out on symmetry in the field of product packaging.

In line with the point made by Guyader et al. (2017) that "You can't buy what you can't see", gaining consumer attention is a key issue for manufacturers and retailers. Eye-tracking research has been conducted on factors under the retailer's control, such as number of facings and product positions (Atalay *et al.,* 2012; Chandon *et al.,* 2009), shelf disposition (vertical vs. horizontal, Deng *et al.,* 2016) and in-store layout (Harwood and Jones, 2014). Other research has examined the influence of the product's package design on visual attention, an element under the manufacturer's control, focusing for example on package colour (Hurley *et al.*, 2016), shape (Clement *et al.*, 2013; Piqueras-Fizszman *et al.*, 2013) and food labels (Oliveira *et al.*, 2016; Samant and Seo, 2016). However, to date, no research has examined the influence of the arrangement of displayed information items on the visual attention paid to FOPs, and more specifically, as in the present study, on symmetric versus asymmetric displays. The present study was therefore designed to address this gap in the research.

The findings show that in the case of a symmetric FOP, some areas act as early attention attractors, such as the centre of a symmetrical product package and the area close to the vertical axis of symmetry. We also noted that when exposed to symmetrical packaging, participants gaze longer at the left side of the FOP, thus confirming the "left visual field bias" in the context of product packaging, a phenomenon previously observed in face perception.

Moreover, the present study also shows that fixation durations are shorter for symmetric FOPs. It is possible that participants pay less attention to symmetric versus asymmetric FOPs because of the redundancy and regularity of elements displayed on each side of the vertical axis of symmetry. In this study, the findings that symmetric FOPs received less attention could be interpreted as a potential issue for FMCG manufacturers in a real-world setting. However, psychology studies have shown that symmetry leads to less complexity (Berlyne, 1971) and more perceptual fluency (Reber *et al.*, 2004). Therefore, the lower level of complexity generated by a symmetric FOP could lead to greater perceptual fluency and improved evaluation, as there is broad consensus in the psychology literature that perceptual fluency has a positive influence on aesthetic evaluation (Schwarz, 2004). These assumptions could be tested in future research.

It also means that, since participants pay less attention to symmetrical (vs asymmetrical) FOPs, and because the two areas of symmetrical FOP (centre of the package and close to the vertical axis) capture and hold attention more than asymmetrical FOP, a manufacturer choosing a symmetrical FOP should be aware that information placed outside these two specific areas will not be looked at very much.

Finally, the findings of this study are useful for designers, marketers and retailers as the visual attention given to specific information can be increased at no additional cost through a more appropriate arrangement of the information items.

6. Limitations

However, the study also has some limitations. First, it only dealt with four food products. It would be interesting to examine other food items as well as non-food packaged goods. Furthermore, the size of the sample (N=46) in this study, even if entirely within the standards of studies that use eye tracking method (25±50 participants in most studies), could have been larger. In addition, expanding this research to other communication media such as print advertising (Pieters *et al.*, 2010), websites (Tuch *et* *al.*, 2010) or billboards, could help to highlight other relevant insights. The focus of the current study was vertical symmetry, but it would be useful for future studies to examine other types of symmetries such as horizontal and oblique. In addition, as Huddleston *et al.* (2018) pointed out, the laboratory environment is not sufficiently representative of an actual retail environment. Thus, in the future, it would be interesting to conduct a similar study in an (experimental) real store. Finally, as Holmes and Paswan (2012) showed that consumer reactions to new package designs are influenced by the level of experience, comparing an indirect experience (seeing the product on the shelf) with a more direct one (handling or using the package), expanding this study by allowing the consumer to handle real packaging could help provide us with further useful insights.

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Figure 1. Symmetric FOP version (left) and asymmetric FOP version (right)

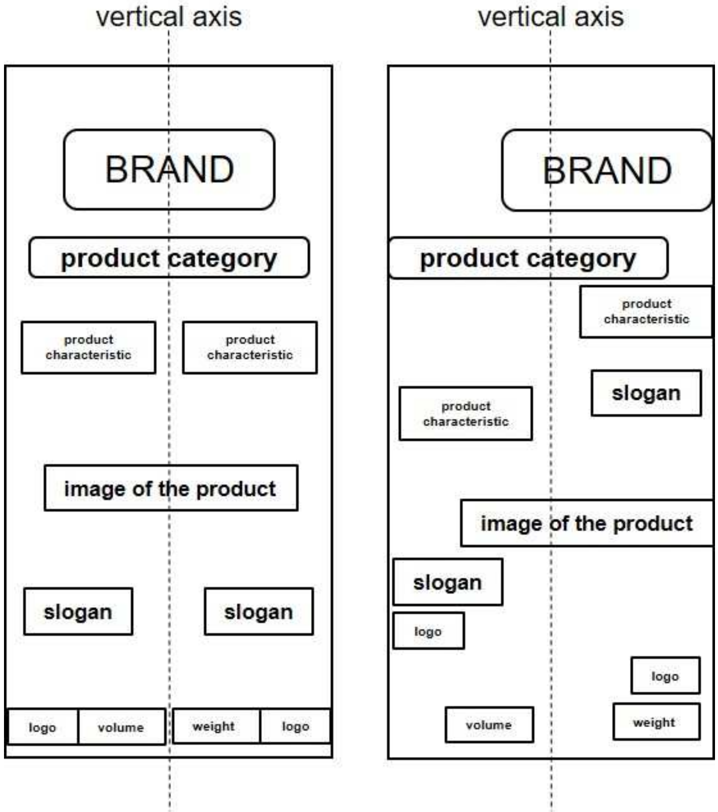
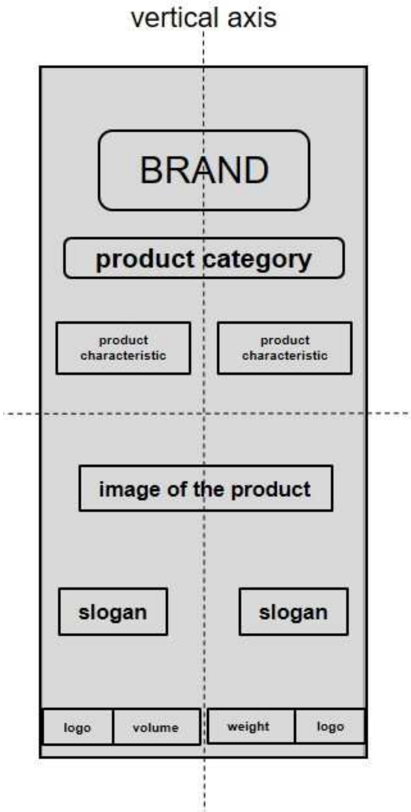
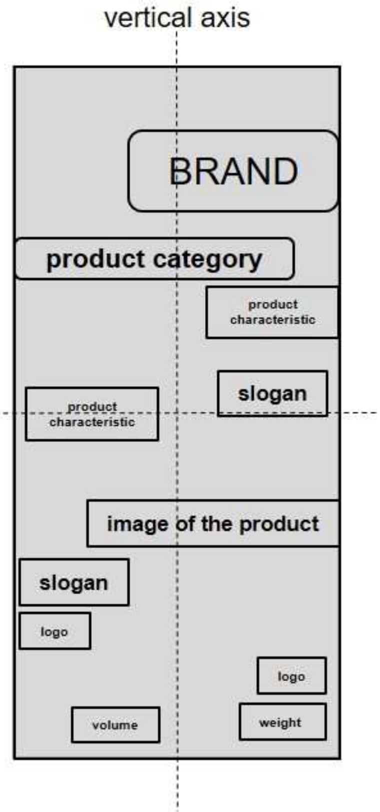
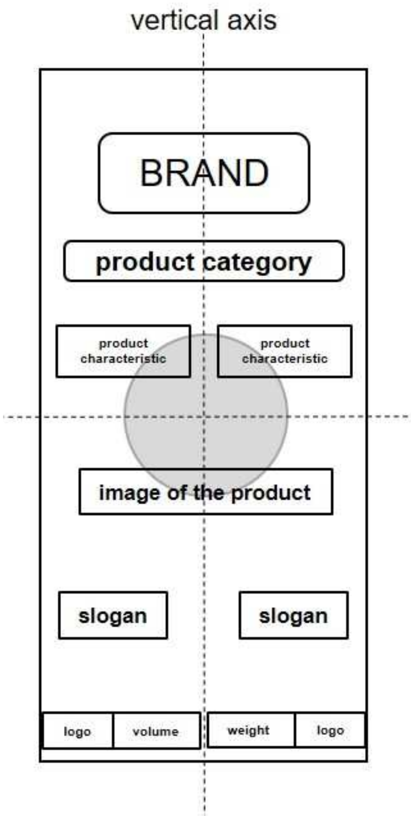
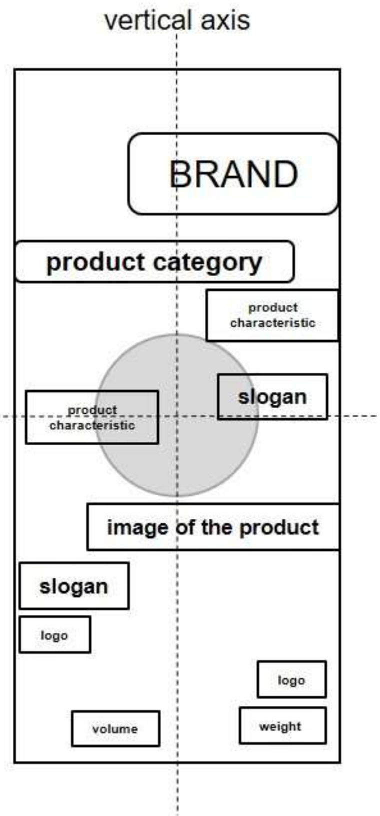
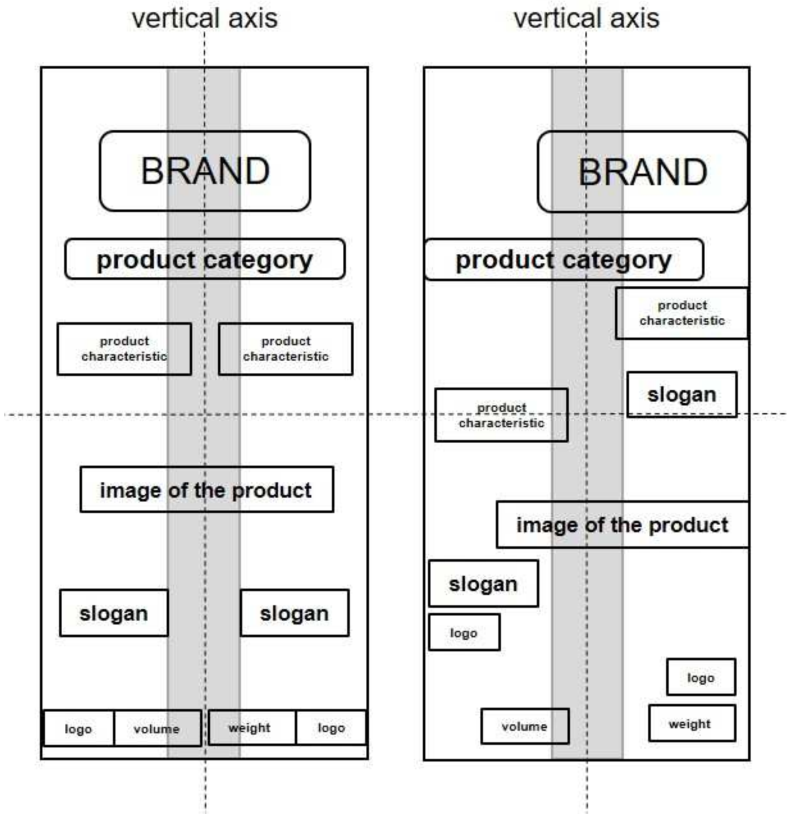


Figure 2. Stimuli designed for the experiment (symmetric: left and top and asymmetric: right and bottom)

Figure 3. Example of a set presented to participants (chocolate bar set)

Table 1. Research hypotheses (AOI are in grey)

	Symmetric FOP*	Asymmetric FOP*
H1. Symmetric FOP will receive less attention than asymmetric FOP.		
H2. Areas close to the centre of the FOP will attract visual attention more quickly for a symmetric FOP than for an asymmetric FOP.		

<table>
<tr>
<td>H3. Areas close to the vertical axis of the FOP will attract visual attention more quickly for a symmetric FOP than for an asymmetric FOP.
H4. An FOP area located around the vertical axis will receive more attention for a symmetric FOP than for an asymmetric FOP.</td>
<td>
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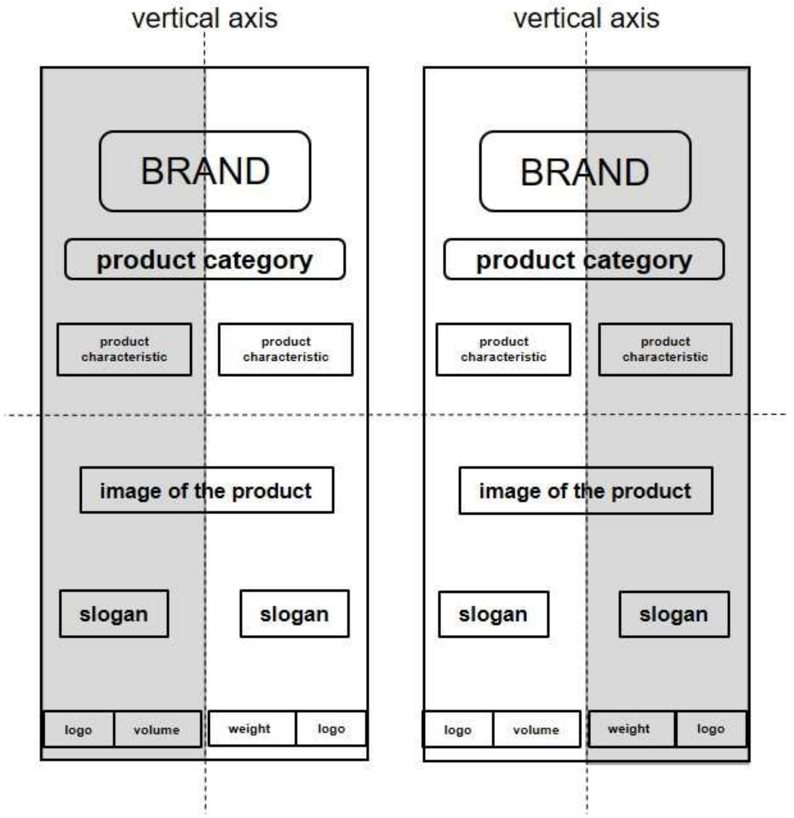
<tr>
<td>H5. For symmetric FOPs, the area located on the left side of the vertical axis will receive more attention than the area located on the right side of the vertical axis.</td>
<td>
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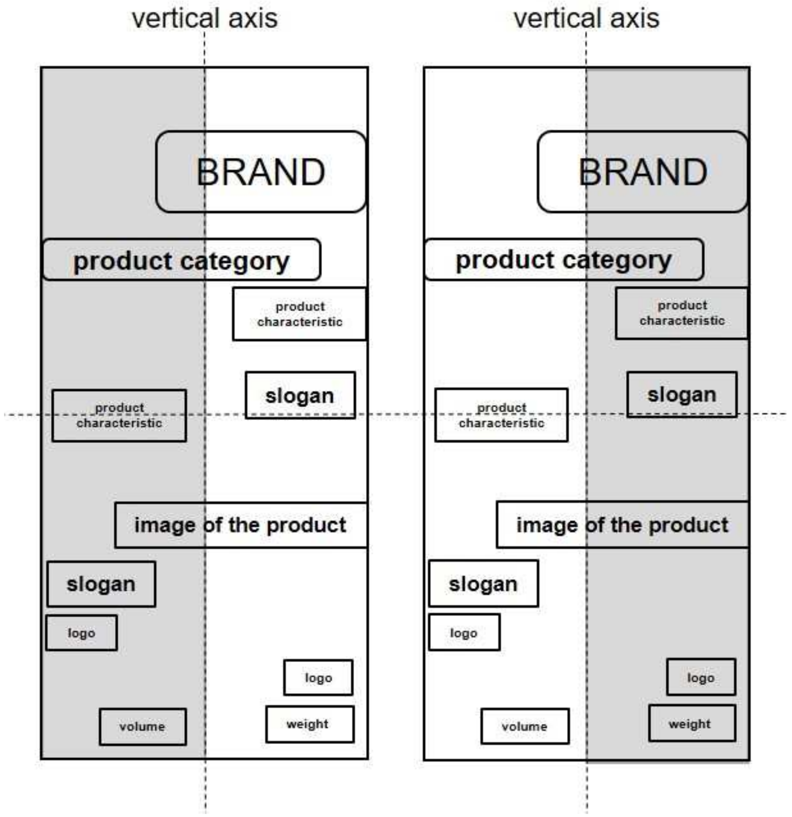
H6. For asymmetric FOPs, the area located on the left side of the vertical axis and the area located on the right side of the vertical axis will receive similar amounts of attention.	

** To avoid sources of uncontrolled variance, the number of information items displayed on the FOPs was kept constant, as was the surface area occupied by these items. Furthermore, the number of information items and the corresponding surface area displayed on the left and on the right side of the FOP was also controlled so that the same level of information was displayed on each side of the FOP.*