Consumers’ evaluation of line extensions that are positioned on atypical attributes

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Abstract

Objective: New product launches have always been a common strategy for firms seeking strategic growth. Nevertheless, product failure rate is significantly high, reaching 70% to 80% in some market segments. In order to minimize the high product failure risk as well as to differentiate their product offerings companies are adopting the so called line extension strategy, positioning the new variants on their atypical attributes. However, there is evidence that this market strategy does not guarantee the success of the line extension. In the present research it was aimed to investigate how consumers evaluate line extensions that are positioned on atypical attributes. Method: 424 participants, with an average age of 30.07 years (SD= 10.43) participated in the experiment. This research used a 2 (brand equity: low vs. high) X 2 (product shelf positioning: centre vs. edge) X 2 (degree of the new attribute atypicality) between subject design. The dependent variable was the consumers’ evaluation of new product variants. Results: In line with expectations both brand equity and product shelf positioning had a significant main effect on consumers’ responses. However, the degree of new attribute atypicality was not found to be significant. With respect to the interaction effects, partial support was found for the significant interaction effect between brand and degree of the new attribute atypicality. Conclusion: Parent brand equity is an important asset for the success of the line extension strategy. Whereas high equity brands are likely to benefit from its image and reputation, low equity brands might benefit from being innovative when extending their products line. In addition, this study finds support for the “center-stage effect”, that is, the results indicate that consumers hold higher evaluations towards products that are positioned in the centre of the shelf display. Finally, contrary to the well-recognized categorization theory, in this research no support was found for the fact that the moderate incongruity option will consistently receive higher evaluations.

Keywords: Line extension, product extension, product shelf positioning, center-stage effect, atypical attribute, attribute atypicality, degree of product incongruence, categorization theory,
1- INTRODUCTION

New product launches have always been a common strategy for firms seeking strategic growth (Reddy et al., 1994). Over the past decade, an unprecedented rate of proliferation of brands and new product launches has been observed in every category of consumer goods and services (Valenzuela et al., 2012). According to the latest figures overall 240,000 new products are introduced globally (Mintel, 2013). Nevertheless, product failure rate is significantly high, reaching 70% to 80% in some market segments (Linton, 2012).

One increasingly popular approach that most companies have pursued to reduce the high risk of product failure is product line extension (Aaker and Keller, 1990; Quelch and Kenny, 1994; Reddy et al., 1994; Lee et al., 1996). This marketing strategy occurs when an existing brand name offers a new product in the same product class or category (e.g. Diet Coke, Vanilla Coke, Cool Ranch Doritos, Liquid Tide, and Tide Pods). In addition, the new variants only differ from their original brand in relatively minor ways, such as package size, flavours, and product composition (Reddy et al., 1994; Desai and Keller, 2002). In fact, according to Kim and Sullivan (1998) the majority of product launches involves line extensions. In line with that, Aaker (1991) reported that in a survey of a leading consumer goods company it was found that 89% of new product introductions were line extensions, 6% were brand extension, and 5% bore new brand names. Though the line extension strategy has been widely used, this marketing strategy does not necessarily guarantee success (Lee et al., 1996). In fact, the failure rates of product extensions are nearly as high as the failure rate of new brand introductions (Reddy et al., 1994; Schneider and Hall, 2011).

In addition to aiming to reduce the risk of product failure, the line extension strategy is usually taken based on two important aspects: firstly, due to the financial risk and high cost of introducing a new brand; and the latter reason regards the manufactures’ interest in taking the advantage of the parent brand recognition and its image (Aaker and Keller, 1990). Following such a strategy can be a way to exploit the most positive aspects owned by a brand. A successful example of line extension is the case of the Cool Ranch Doritos. Sales of the entire Doritos line of corn chips rose to more than $1 billion due to the success of the Cool Ranch Doritos extension. More recently, in the crowded laundry detergent category, the company Procter & Gamble launched the Tide Pods (atypical package), with which the company is estimating $500 million in first-year retail sales for the product (Neff, 2012). The above figure demonstrates how successful the product launch is, as less than 3% of new consumer packaged goods exceed first-year retail sales of $50 million, which is considered the benchmark of a highly successful launch (Schneider and Hall, 2011).
By contrast, the strategy of line extension also risks weakening the value of brand’s asset (Aaker and Keller, 1990), as parent brand/new variant association can lead to undesirable outcomes (Reddy et al., 1994; Desai and Ratneshwar, 2003). For example, according to Tauber (1981) the parent brand is very likely to be seriously affected when it launches an unsuccessful product. An example of unsuccessful line extension was the launch of Crystal Pepsi, in which PepsiCo. introduced a clear cola (atypical colour), marketing the product based on its purity. Nonetheless, the line extension did not appeal to consumers and eventually, it failed. A potential reason for this product failure is the strong beliefs that consumers hold towards the cola category, in which they expect the products to be brown (Brownell, 2012). This example suggests that it is not only sufficient to consider the new product attribute individually, but also the product as a whole and its context when launching a new variant.

According to Desai and Ratneshwar (2003), a considerable number of the new launched products have been positioned and differentiated via atypical product attributes. Given that consumers’ preferences change as well as product categories evolve, it is imperative for companies to continuously adapt its product lines in order to conquer an advantage position in the competitive market. Thus, it seems that companies are trying to differentiate their product offerings based on atypical attributes. Some examples of successful line extensions based on atypical attributes are: Tide Pods (atypical package), Doritos Locos Taco (atypical “design”), Pepsi Next (atypical composition) (Hall, 2013), and Huggies Jeans Diapers (atypical design) (Ryan, 2010). Common of all these products is that they all are in the top 10 list of the most memorable new product launches of their year (i.e. the first three in 2012 and the last in 2010). Overall, these instances suggest that adopting such a strategy can be a way to launch successful products. Nonetheless, it does not necessarily guarantee the success of all line extensions as demonstrated in the Crystal Pepsi example.

Therefore, the important question of how consumers categorize and perceive such product variants that are positioned on an atypical attribute is unveiled, especially when the differentiating attribute of the product variant is so atypical of the product category and the parent brand itself (Desai and Ratneshwar, 2003). Nonetheless, little research has focused on the issue of using well-established brand names in the case of line extensions that are positioned on the basis of atypical product attributes (Desai and Ratneshwar, 2003). In addition, little research has been dedicated to product line extensions taken into consideration consumers’ perceived incongruence (i.e. the extent to which a product feature is common to a product class) of the atypical attribute to the product-category
One of the few examples of study that has evaluated consumers’ perception of product line extensions positioned on atypical attributes was conducted by Desai and Ratneshwar (2003). Despite this, the authors did not consider different degrees of incongruence of the atypical attribute to the product-category schema. As a matter of fact, the researchers investigated the joint effects of brand familiarity, retail shelf display, and consumer goal orientation on consumers’ perception of new product variants positioned on an atypical attribute. Conversely, the authors manipulated only one degree of incongruence of the atypical attribute (i.e. low fat chips) to the product-category schema. Furthermore, the potential different results of line extension depending on the different parent brand equities were not taken into consideration either.

Thus, following this reasoning it seems logical that a deeper knowledge on how consumers perceive and interpret such new variants is needed. Therefore, to address the aforementioned research voids, the present research has as its aim to investigate how consumers evaluate line extensions that are positioned on an atypical attribute, depending on different levels of parent brand equity (i.e. the value of a brand, such as its name and symbols (Aaker, 1991)), different product shelf positioning (i.e. the physical position of products in retail shelf displays), and different degrees of incongruence (i.e. the extent to which a product feature is common to a product class) of the atypical attribute to the product-category schema. These aspects are considered in this research as it is posited that they have a critical influence on consumers’ evaluations of line extensions when they encounter such products in the marketplace. This reasoning is put forward based on: (1) consumers are very likely to assign the quality of the parent brand to the new variant (Aaker and Keller, 1990; Kevin Lane Keller, 2003); (2) the incongruence between the new variant attribute and the product-category schema affects how consumers evaluate the new variants (Mandler, 1982; Meyers-Levy and Tybout, 1989); finally, (3) depending on the product shelf positioning consumers assign different meanings to the products (Wright, 2002; Valenzuela and Raghubir, 2009). To accomplish the research aim, literature on brand and line extension, categorization theory, as well as shelf positioning is investigated.
In order to accomplish the aim of this research the following research question is formulated:
How do consumers evaluate new line extensions that are positioned on atypical attributes?

Sub questions:
How do different brand equities (high vs. low) influence consumers’ evaluation of new line extensions?

How do consumers evaluate new line extensions depending on the incongruence of the new atypical attribute to the product-category schema?

How do consumers evaluate new line extensions that are positioned in the centre vs. edge shelf displays?

Do the interaction effects of the independent variables affect consumers’ evaluation of new line extension?

In the present research it is proposed that three main aspects are likely to influence consumers’ evaluation of new product variants, namely, (1) parent brand equity; (2) consumers’ perceived incongruence of the new variant attribute to the product-category schema; (3) new variant positioning in retail shelf space. In summary, all three factors, separately and through interaction are likely to affect consumers’ evaluation of new product variants. With respect to the interaction effects, it is put forward that consumers’ evaluations of new variants are influenced by the joint effects of the independent variables. All the interaction effects put forward in this research are discussed in more in-depth in a corresponding section.

With regard to the implications of this research, so long as the theoretical side is concerned, this research will add to the literature on line extension. As noted by Sinapuelas and Sisodiya (2010) and Kim et al. (2001) research on product extension has mostly focused on brand extensions. Whereas little study has been dedicated to line extensions, specially, those that focus on line extensions that are positioned on atypical attributes (Desai and Keller, 2002), though many line extensions have been positioned and differentiated via atypical product attributes (Desai and Ratneshwar, 2003). This in turn makes the endeavour of this work extremely pertinent. In addition, the present research shares a unique characteristic, which is the investigation of both main effects and the interaction effects of the factors proposed in this research to influence consumers’ evaluation of new product variants. For that reason, it is proposed that this research will give insight to an area of the line
extension literature that has not been looked at extensively. Moreover, by combining different streams of literature (i.e. brand and line extension, categorization theory, and shelf positioning literature) it is posited that this work will be able to extend the knowledge on line extension, which can lead to a better comprehension of brand positioning and consumer acceptance of new products.

Alternatively, from a managerial perspective, the development of product line extensions is a competitive reality. As mentioned earlier, line extension accounts for the brands’ major new product launches (89%) (Aaker, 1996; Kim and Sullivan, 1998). Nevertheless, product failure rate has been reported to be very high (Reddy et al., 1994; Schneider and Hall, 2011) which shows that a better comprehension of the implications of the line extension is needed. Therefore, it is proposed that the outcomes of this research may assist managers on their decision of product line extensions. More specifically, this study will be applied to the investigation of a potential future line extension sought for one of the investigated companies. Therefore, the current work has a direct and important practical implication. In addition, this research is likely to help retailers on their work to organize their product assortment, positioning the new products in a manner that will increase both product sales and consumer satisfaction with the store.

With respect to the organization of the paper, it is structured as follows. The next section is dedicated to the development of the theoretical background, in which the proposed concepts of this thesis are discussed in detail. In addition, the interactions effects put forward in this work are also discussed. Subsequently, a conceptual model is proposed, in which the six hypotheses of this research are illustrated. Following that, the aspects related with the study, such as the product category, brands, and atypical attributes are covered in-depth. Next, the methodology used in the research is reported. Then, the results found are presented, followed by a discussion. Next, the theoretical and managerial implications are proposed. The limitations and area for future research are then presented. Lastly, the conclusion section ends this research.
2- THEORETHICAL BACKGROUND

2.1- Line extension/Brand extension
The financial risk, high cost of entering a new market segment, and manufactures’ interest in taking the advantage of the parent brand recognition and its image, as well as the willingness to reduce the risk of product failure have been reported as important causes of manufactures to opt for extending an existing line of products (Aaker and Keller, 1990; Quelch and Kenny, 1994; Reddy et al., 1994; Lee et al., 1996). For example, the cost of introducing a major new consumer brand in the USA, Japan or Europe is estimated at one billion dollars, and as such, extension strategies have been a way to reduce introductory costs (Kalama et al., 2006). In fact, line extension has been reported as the most common form of new-product launches (Kim and Sullivan, 1998). According to Sinapuelas and Sisodiya (2010) new product launches represent an opportunity to develop the equity of brands. In their study the authors examined 318 brands from 30 consumer packaged goods categories, and the empirical results support their proposition that the number of line extension launches improves parent brand equity.

However, there has been a focus on the study of brand extension rather than on line extension (Kim et al., 2001; Sinapuelas and Sisodiya, 2010), even though line extension accounts for the brand’s major new products introduction efforts (Kim and Sullivan, 1998). Brand extensions occur when companies launch new products into different categories (e.g. Starbucks coffee liqueur and The Tide to Go stain removal pen) (Sinapuelas and Sisodiya, 2010), whereas line extensions are a brand’s new product offerings within the same product category (e.g. Diet Coke, Vanilla Coke, Cool Ranch Doritos, Liquid Tide, and Tide Pods) (Reddy et al., 1994), typically involving minor modifications from the parent brand (e.g. packaging and flavour) (Reddy et al., 1994; Desai and Keller, 2002), and targeting current consumers, which is often the case (Kim and Sullivan, 1998). Further, Kim et al. (2001) distinguish between two types of line extensions, one called “vertical” (i.e. when it extends upward or downward, for example, the new variant is launched at different quality levels) and the other named “horizontal” (i.e. when an extension is launched keeping the same quality level as the original brand). In either case, line extensions expand the parent brand’s market coverage, as a wider variety of products is offered, which may attract potential new consumers to the brand (Sinapuelas and Sisodiya, 2010). In addition, it has been reported that brands which offer a wide variety of products are likely to benefit, as consumers tend to have higher quality perceptions towards brands that offer diverse options (Chernev, 2003). Alternatively, there are pitfalls for launching line extensions. For example, a wide variety of line extensions may confuse consumers (Quelch and Kenny, 1994), as a brand can be considered without a specific focus, which may distort
the brand’s existing image in consumers’ minds (Sinapuelas and Sisodiya, 2010). As a consequence, this can lead customers to decline the line extension and other related products. In addition, when consumers perceive line extensions to be inconsistent with the parent brand, the brand is at the risk of diluting (i.e. negative change in consumer brand association) (Loken and Roedder John, 1993; Boisvert, 2012). Moreover, line extensions can lead to cannibalization of the original brand, which refers to a decrease in sales volume, sales revenue, or market share of the parent brand, due to the activities of the line extension (Reddy et al., 1994).

Therefore, the line extension decision is of crucial importance to an organization. The decision has to be based on the evaluation of the potential rewards and risks involved with the new product introduction. On the reward side, line extension can result, in among others things, higher market share and consumers’ loyalty to the parent brand (Sinapuelas and Sisodiya, 2010). On the risk side, line extension can create damaging associations between the new variant with parent brand that may be expensive, or even impossible to change (Aaker and Keller, 1990; Desai and Ratneshwar, 2003).

According to the brand extension literature, the consumers’ perceptual fit (i.e. whereby a product extension is believed to have meaningful associations with the parent brand) between the original brand and the new product is considered to be a key element in extension success (Tauber, 1988; Aaker and Keller, 1990). In addition, according to Aaker and Keller (1990), a successful product extension depends on consumers’ beliefs and attitudes towards the parent brand. From this perspective two opposite situations can take place, (1) consumers hold positive beliefs towards the original brand, and this in turn is likely to be transferred to the extension, or (2) consumers hold negative beliefs which can be associated with the new product variant (Aaker and Keller, 1990). The outcomes of these two situations are quite clear. When the first situation is present, line extensions are likely to be successful, whereas in the second, the probability of failure is incredibly high. Support for this proposition is found in the research by Reddy et al. (1994) in which the authors found that line extensions of symbolic brands as well as of strong brands enjoy greater market success than those of less symbolic brands as well as of weak brands, respectively. Likewise, Smith and Park (1992) and Broniarczyk and Alba (1994) reported that the strength of the parent brand is positively related to the market share of the product extension.

Thus, on the one hand, when consumers believe that a parent brand is of high quality, it is plausible to propose that they are more likely to associate the line extension with high quality. On the other
hand, if consumers associate the original brand with low quality, the extension is likely to be associated with low quality. According to Kevin Lane Keller (2003) consumers tend to associate high-equity brands with high quality products and low-equity brands with low quality products. On the basis of the abovementioned evidences, it is predicted that, all other things equal, consumers with higher perceived quality towards the parent brand will evaluate more positively the line extension. Therefore, the following hypothesis is proposed:

**H1**: The evaluation of line extensions positioned on atypical attributes will be higher when the new product is of a high-equity brand rather than a low-equity brand.

### 2.2- Product innovativeness and Product categorization

In the face of today’s competitive market environment, companies are searching for advantages to differentiate one from the other. Therefore, when deciding to launch line extensions, it is essential for managers to provide innovative variants as a way to stand in the crowd (Boisvert, 2012). As reported by Danneels and Kleinschmidt (2001), innovativeness have to be addressed both from consumers’ point of view as well as companies’ perspective. For instance, innovation attributes (e.g. new functionality or new flavour) is one of the aspects regarded by consumers as forms of product newness, whilst project-firm fit and technological aspects are considered by companies as part of product innovativeness (Danneels and Kleinschmidt, 2001). According to Sorescu and Spanjol (2008), “within supermarket packaged goods categories, innovations are those which provide novel and significant consumer benefits to the market in the form of new formulation, new packaging, or incorporating new technology”.

In a recent study carried by Sinapuelas and Sisodiya (2010), it was reported that level of innovativeness of a new product variant enhances the original brand equity, the higher the newness of the new variant, the higher is the original brand equity. The authors argue that this is indeed the case as innovative line extensions provide additional aspects of differentiation for the original brand. Moreover, according to Aaker (2007) product innovativeness can enhance new variant’s attractiveness and increase consumer loyalty. One dimension of perceived innovativeness that has been reported in the literature is product uniqueness (Danneels and Kleinschmidt, 2001), which was found to have a positive relationship with purchase intentions (Taylor et al., 2007). Therefore, it is plausible to propose that consumers’ perceived innovativeness of line extensions will in turn affect purchase likelihood.
Nevertheless, the inclusion of an innovative aspect into a line extension product should not be considered a straightforward process. In other words, just because a new product variant has an innovative aspect it does not necessarily mean that consumers will hold positive beliefs towards it. The adverse results might be even more prominent when the innovation aspect is a atypical attribute. To understand the way consumers assimilate new product extensions, it is fundamental to considerate the categorization theory. For the way consumers integrate new products into existing knowledge structure has been shown to influence consumers’ judgements (Stayman et al., 1992), information search (Ozanne et al., 1992), and evaluations (Meyers-Levy and Tybout, 1989) depending on how new variants are similar or dissimilar to product-category schemas organized in memory (Ozanne et al., 1992). According to Stayman et al. (1992), product-category schemas are organized structures of existing knowledge stored in memory. This prior structure contains cumulative knowledge about products and brands that consumers acquire through experience. This proposition is congruent with the work of Rosch (1975), in which it is reported that to help consumers deal with the overflowing of information that they encounter in daily life a hierarchical schema-level representation is maintained by them on the basis of perceived similarities and dissimilarities. In other words, consumers store information in memory around a set of category expectations, that is, products that share similar attributes are likely to be categorized within one particular category. When consumers encounter a new product either a match or mismatch will occur. In the former situation, the product encountered is likely to share attributes that match with the product-category schema, whereas in the latter scenario the product encountered has attributes that are inconsistent with the product-category schema. In this last situation, when consumers experience dissonance a strategy to solve it might be employed, in order to integrate the new variant into one product-category schema. Examples of such strategies are: assimilation, subtyping, or even schema switching, depending on the degree of incongruence (Mandler, 1982).

In the categorization literature, congruence has been visualized as a continuum (Stayman et al., 1992), in which researchers have focused on three points: congruence, moderate incongruence, and extreme incongruence. On the basis on the model proposed by Mandler (1982), schema congruity results in mild favourable responses, as assimilation of the new variant occurs easily, without causing physiological arousal, because the new object is aligned to consumers’ prior expectations. This proposition is supported by the study of Meyers-Levy and Tybout (1989) in which was found that product-category schema congruity leads to minor favourable evaluations. Moreover, Ozanne et al. (1992) found that when a product-category schema is congruent the level of information
searched is the lowest. The authors argue that this is the case because the new objects conform to consumers’ prior expectations. Therefore, the need to search for additional information is minimal.

Unlike product-category schema congruity, moderate incongruity leads to more positive evaluation due to the arousal caused by the novelty of the object (Meyers-Levy and Tybout, 1989), and greater cognitive effort required for assimilation within the evoked schema (Stayman et al., 1992). According to Mandler (1982), moderate incongruities are those which after some cognitive effort consumers are able to successfully resolve, which results in the optimal level of physiological arousal (Stayman et al., 1992).

For example, a consumer encounters a new product that is labelled as and contains the general characteristics of a laundry detergent, although it is a “unit-dose” detergent, an attribute that is inconsistent with the product category in the Brazilian market. This incongruence with the product-category schema is likely to be considered moderate if consumers are able to resolve it without spending a lot of cognitive resources on the task. As mentioned above, strategies such as assimilation (e.g. “Well, this is just one more laundry detergent.”), or subtyping (e.g. “Well, this is a laundry detergent, but one that comes in unit-doses.”) can be employed to resolve the inconsistency. As a consequence of these situations, that is, after the incongruence has been resolved, consumers are likely to be rewarded with a positive feeling (Mandler, 1982).

A moderate level of incongruence occurs when most, but not all, of the information conveyed by the new product is consistent with prior product-category schema. In this situation, the new product characteristics do not conform to the consumers’ expectations, which means that additional information is ought to be searched in order to solve the discrepancy (Ozanne et al., 1992). In fact, as demonstrated by Ozanne et al. (1992), at moderate level of incongruence, search for information reaches the highest level. The argument the authors put forward is that the trade-offs between the benefits of information acquisition and the costs to get this information is worth the effort. Further, information acquisition is a viable solution for solving the moderate incongruence. In addition, moderate schema incongruence is also found to lead to more favourable evaluation than either schema congruence or extreme schema incongruence (Meyers-Levy and Tybout, 1989).

In contrast, extreme incongruence is hypothesized as incongruence which cannot be solved or requires a great deal of cognitive effort to make changes in the existing product-category schema. When the attempt to solve the incongruence is not successful consumers experience strong
frustration (Mandler, 1982). On the other hand, even when the attempt to solve the incongruence is successful consumers are not likely to experience positive feelings as much as they do when they encounter moderate incongruities (Mandler, 1982).

On the basis of the Mandler’s model, the present work investigates consumers’ evaluations of new product variants that are positioned on an atypical attribute. Differently from Mandler’s model, however, low and moderate incongruence are the degrees of incongruence which are considered. It is posited that the atypical attribute that is added to the new product makes it an instance that distorts from the congruent product-category schema. As consumers do not expect to find the atypical attribute in the new variant, their expectations will not be matched, which would characterize, according to Mandler’s model, a product-category schema incongruity. Therefore, it is logical to posit that the congruent option does not fit within the scope of this research. Hence, it will not be further investigated. Further, as line extensions are typically characterized by involving only minor modifications from the parent brand (Reddy et al., 1994; Desai and Keller, 2002), it is proposed that companies are not likely to drastically modify the new product variant. A potential explanation could be that companies fear that consumers may perceive inconsistency between the line extension and the parent brand, which may lead to brand dilution (Boisvert, 2012). Thus, in reality, the extreme incongruence option is hardly ever adopted by companies. Therefore, it will not be further considered in this research. On the basis on the presented evidences, the following hypothesis is proposed:

H₂: The evaluation of line extensions positioned on atypical attributes will be higher when the degree of incongruence of the new atypical attribute is moderate rather than low.

2.3- Product shelf positioning
Optimizing product assortment has been one of the greatest concerns of many retailers, and this task is becoming increasingly more difficult (Simonson, 1999), as proliferation of brands and new product launches have been observed, leading to shelf space scarcity (Valenzuela et al., 2012). As a consequence, this has affected how retailers manage their product assortments (Dhar et al., 2001; Van Herpen and Pieters, 2002). Recent research has demonstrated the importance of product assortments in the overall shopping experience, having for example, a significant impact on consumers’ willingness to buy (Scheibehenne et al., 2010). Moreover, product shelf positioning has been demonstrated as having the power to influence the attractiveness of offerings (Rettie and Brewer, 2000) as well as the importance of specific product attributes (Areni et al., 1999). In addition, Valenzuela et al. (2012), point out the importance of understanding the way consumers
interpret the positioning of products and how they deal with product assortment, as these two
aforementioned aspects affect consumers’ judgments and decisions. For this reason, marketers have
demonstrated an ever increasing focus of attention and promotional budget on in-store
merchandise, hoping to attract consumers at the point of purchase (Chandon et al., 2009), for the
way customers choose is fundamentally influenced by the setting in which their choices occur
(Scheibehenne and Todd, 2009). Accordingly, Procter & Gamble (P&G) considers that the first
seconds (i.e. three to seven seconds) that a consumer notices a product on a store shelf as the “first
moment of truth” (Valenzuela et al., 2012).

Retailers can use numerous different ways to present their merchandise to consumers, such as,
organizing by brand or by price, which can ease the comparison and processing of competitive items
(Suri et al., 2012). Previous research has shown that the information conveyed by category labels can
inform customers about the attributes of the products presented under each heading (Johnson and
Payne, 1985). Therefore, the organization of items may help buyers to refine their set of options
(Chakravarti and Janiszewski, 2003), which in turn can lower search costs for quality information
(Alba et al., 1997) and facilitate preference identification (Chakravarti and Janiszewski, 2003).
Furthermore, it has been reported that consumers are likely to assume that every act of
communication is transmitting a message (Clark, 1985). In line with that, prior literature suggests
that consumers share beliefs regarding the shelf positioning of items in the marketplace (Wright,
2002; Valenzuela and Raghubir, 2009). These beliefs that consumers hold about the strategies that
cOMPANIES use to exert persuasion in the marketplace, that is, the implicit theories that consumers
believe that govern the marketplace are part of the marketplace meta-cognition (Wright, 2002).
Accordingly, Valenzuela and Raghubir (2009) propose that consumers belief that the physical
ordering of products within arrays is part of the rules that govern the marketplace, and therefore
they use the information conveyed by the position of a product to guide their decision.

However, inconsistent findings have been reported regarding of what a position advantage is. A
position advantage is described as “a position that results in more favourable evaluation, a higher
choice likelihood and/or higher sales of a product occupying a specific position in an array”
(Valenzuela and Raghubir, 2009). For example, Chandon et al. (2009) reported that the effects of
shelf position are mixed. It was found that brands positioned on the top shelf and close to the centre
(i.e. vertical positioning) of a shelf improves both attention and evaluation, whereas items placed in
the middle shelf (i.e. horizontal positioning) draw consumers’ attention without increasing
evaluation. Likewise, Chung C. et al. (2007) reported that with respect to the horizontal positioning,
centrally located products were preferred in the smaller dairy cases in convenience stores, whereas for larger and more complex cases in supermarkets an edge shelf positioning was preferred.

In addition, in the study conducted by Inman et al. (1990), it was showed that when an item is positioned at the end-of-aisle displays consumers evaluate that product more favourably, which generally leads to an increase in sales. The authors argue that this type of shelf display organization is interpreted by some consumers as a promotion signal, which in turn leads them to think that the product is discounted and it consequently alters the brand choice behaviour. The authors point out that for different consumers’ trait (low need for cognition vs. high need for cognition) the change in the behaviour towards the product positioned at the end-of-aisle is different. In the case of low NFC only the promotional signal alone is likely to affect their purchase intentions, however, for high NFC, a simultaneous price cut is needed.

In other research, Shaw et al. (2000) reported that people prefer the centre option rather than the extremes. The authors carried out three experiments, (1) participants had to choose from a set of three highlighters and they had to answer a questionnaire that contained three options (e.g. a - b - c); (2) participants had to choose to sit in a chair from a set of three chairs; (3) participants were exposed to a set of 3-posters, after this they had to report what they had seen. All three experiments lent support for people’s preference for the centre option.

In a more recent study, Valenzuela and Raghubir (2009) showed that customers believe that items positioned in the centre of an array are the most popular (i.e. product most preferred; product with the highest market share in its category) and they evaluate these products more positively. As a consequence, consumers assign the centre position as displaying the best products, which leads them to select these products more often (Valenzuela and Raghubir, 2009). The authors named this effect as the “center-stage effect”. Support for the center-stage effect is found by Valenzuela et al. (2012). The researchers showed that consumers do indeed assign the central position to the most popular products. However, there seems to be some extent of controversy of what mechanism guides this preference for the centre option. For example, according to Christenfeld (1995) people’s preference for the centre option is due to their desire to minimize mental effort, which sometimes can even occur unconsciously. By contrast, Valenzuela and Raghubir (2009) argue that the preference for the centre option is a reflection of a position-belief mechanism. Nonetheless, it is not of the scope of this work to investigate what mechanism drives consumers’ preferences for the centre items. Instead, this research aims to investigate if indeed consumers have higher preferences
for items positioned in the centre rather than on the edges of shelf displays. More specifically, this research investigates whether the “center-stage effect” occurs with respect to the laundry detergent category. In summary, as noted above, prior literature has shown divergent results of what the ideal product positioning is. In the present research, based on the findings of Valenzuela and Raghubir (2009), the following hypothesis is proposed:

\[ H_3: \text{The evaluation of line extensions positioned on atypical attributes will be higher when the new product is positioned in the centre position rather than on the edges of a shelf display.} \]

3- INTERACTION EFFECTS
As noted by Valenzuela et al. (2012) prior research has shown examples of position-based schemas, however it has not taken into consideration consumers’ beliefs about the interaction of the factors that are likely to influence consumers’ evaluations of products. Therefore, in order to develop a deeper understanding of how consumers evaluate new products the interaction effects of the dependent variables must be considered.

One dimension that can be considered is whether different product positioning (i.e. centre vs. edge) influences how consumers perceive the new attribute incongruence to the product-category schema. More specifically, will attribute incongruence be perceived differently when the products are positioned in the centre vs. on the edges of shelf displays? Another dimension that can be evaluated is whether parent brand equity (i.e. low vs. high-equity) influences consumers’ perception of the new attributes incongruence to the product-category schema. In other words, will consumers perceive the new attribute incongruence differently depending on the original brand equity? Finally, the influence of consumers’ beliefs about the positioning of brands that vary in degree of equity (i.e. low vs. high brand equity) can be considered. To put it in another way, will consumers’ perception of the position of brands be altered when the product is of a high equity vs. low equity brand? Hence, the following section is dedicated to the explanation of the interaction effects that are likely to occur between the three factors proposed in this research to influence consumers’ evaluations of new product variants that are positioned on atypical attributes.

As mentioned earlier, when consumers encounter new products that are easily assimilated into the product schemas they hold in their minds (i.e. when the new variant encountered is congruent with consumers’ prior expectations), they will experience product-category schema congruity. As a consequence, consumers’ are not likely to be subjected to physiological arousal, which in turn, will produce only mild favourable responses towards the product (Mandler, 1982). Likewise, it is
proposed that in the case of the new attribute being only a low incongruent to the product-category schema, consumers are likely to experience a similar process. For example, in the case of the laundry detergent category in Brazil, the liquid attribute of laundry detergents might be perceived as low incongruent to the product category, as the powder attribute is the typical feature of the category. Nonetheless, as Brazilian customers have had some exposure to the liquid variants over the recent years (Maganhotto, 2012), it is posited that consumers will be able to easily assimilate the new liquid laundry detergent line extension into the product-category schema. However, it is believed that in this particular case, the favourable response towards the product will be more positive than in the case of a perfect match (i.e. product-category congruence), but not as positive as in the case of a moderate incongruence. With respect to the latter, as noted earlier, when a product is moderate incongruent to its product-category schema, consumers are likely to have higher evaluations towards the product (Mandler, 1982; Meyers-Levy and Tybout, 1989). For instance, with respect to the laundry detergent category in Brazil, a moderate incongruent attribute would be characterized in the case of a unit-dose package containing the liquid laundry detergent in its inside.

In addition, it is proposed that the effect resulted by the new attribute incongruence is likely to be more favourable when the new product is placed in the centre position as opposed to being positioned on the edges of the shelf display. To put it in a different way, consumers’ perceptions of the incongruence of the new product attribute to the product-category schema are likely to differ depending on the positioning of the product. The positioning of the product and the degree of incongruence of the new attribute interact, influencing how consumers evaluate the new variants. As demonstrated by Valenzuela and Raghunbir (2009) consumers believe that products that are positioned in the centre of an array are the most popular (i.e. the product most preferred and with the highest market share in its category). In consequence, consumers evaluate these products more favourably. Therefore, based on this evidence, it is put forward that consumers’ evaluation of the new variant that contains an incongruent attribute to the product-category schema will be more positive when the product is positioned in the centre as opposed to the edges of the shelf display.

In short, with regard to the low congruity, even though consumers might easily assimilate the new instance within their product schema, which causes only mild favourable evaluation towards the product, when the product is found in the centre position, due to the beliefs consumers hold, it will be evaluated more positively. Likewise, in the case of the moderate incongruence, consumers will have higher evaluations towards the product when it is found in the centre of the shelf display. Nevertheless, it is proposed that the effect of shelf positioning will be stronger for the low incongruent option. As the moderate incongruent option is likely to result in the most favourable
evaluation towards the product (Meyers-Levy and Tybout, 1989), even when the product variant is positioned on the edges consumers are likely to evaluate the product favourably, because the moderate incongruity is likely to lead to the optimal level of physiological arousal (Stayman et al., 1992). By contrast, with regard to the low incongruity variant, it may only benefit when it is positioned in the centre of the shelf display. Therefore, it is formally proposed that:

H₄: The effect of shelf positioning will be stronger when the new attribute is low incongruent to the product-category schema rather than moderate incongruent.

Similarly, consumers’ perceptions of incongruence of the new attribute are likely to be influenced by the interaction of the new attribute incongruence with the parent brand equity. More specifically, it is put forward that the original brand equity influences how the incongruence is perceived. So long as attribute incongruence is concerned, as noted above, low incongruence of the new attribute to the product-category schema merely produces minor favourable evaluations towards the product. Whereas, moderate incongruence results in high product evaluations (Mandler, 1982). Nonetheless, as consumers tend to associate high-equity brands with high quality products and low-equity brands with low quality products (Kevin Lane Keller, 2003), and as they are likely to infer that product launches share the same quality as its parent brand (Broniarczyk and Alba, 1994) it is proposed that product evaluations of both low and moderate incongruent variants are likely to be more positive when the product is of a high-equity rather than of a low-equity parent brand. In addition, it is put forward that for low-equity brands the degree of incongruence will have greater effect than for the case of high equity brands. As consumers associate products of high equity brands with high quality, even in the case of low incongruence consumers are likely to have favourable evaluations towards the product. On contrary, low equity brands may only benefit when consumers encounter moderate incongruent products.

To sum up, only minor favourable evaluations occur when there is low incongruence between the new attribute and the product-category schema that consumers hold. Nevertheless, when the new variant is of a high-equity brand, consumers are likely to have stronger favourable responses towards it, due to the beliefs that the line extension is a high-quality product, which is not likely to occur for low equity brands. Hence, the following hypothesis is set:

H₅: The effect of the incongruence of the new product attribute to the product-category schema will be greater for the low rather than for the high equity brand.
Furthermore, as mentioned previously, consumers hold beliefs about the shelf positioning of products in the marketplace (Wright, 2002; Valenzuela and Raghubir, 2009), that is, they expect the products to have particular characteristics depending on its shelf positioning. According to Valenzuela et al. (2012), when consumers experience incongruence between their beliefs and the real market organization adverse effects are likely to occur, including the decrease in the probability of consumers making a purchase and making consumers loyal to the store (Valenzuela et al., 2009). By contrast, according to Sujan et al. (1986), when a disparity between consumers’ expectation about the marketplace and the actual situation encountered occurs, it does not necessarily mean that consumers will be less satisfied. The authors suggested that consumers’ prior expectations influence how they process information in the marketplace. Further, it was reported that when consistence between consumers’ expectations and the actual experience occurs, consumers base their evaluation on simple heuristics, with minimal search for additional information. In the context of shelf positioning (centre vs. edge /high vs. low equity brand), consistence occurs when consumers find popular (high equity brand) in the centre position (Valenzuela and Raghubir, 2009), and consequently, low equity brands on the edges. In this scenario consumers are likely to base their product evaluations solely on heuristics (e.g. “Well, the low-equity brand is where it should be (edge), so there is nothing really different with that product. It is not a really good option.”). On the other hand, when consumers experience inconsistency between their prior expectation and the real situation, they are more likely to search for additional information and analytically process specific arguments at their disposal (Sujan et al., 1986). In the context of shelf positioning, an example of inconsistency would be when consumers find the low-equity brand in the centre of a shelf display. In this scenario consumers would experience inconsistency which can lead them to systematically search for extra information or arguments that could resolve the inconsistency (e.g. “Oh, the low-equity brand is not positioned where I thought it would be, it is actually in the centre, so probably there is something up with this product. Maybe, the product is so good that it is becoming popular. So, I should give it a try.”). Therefore, when a low-equity brand is positioned in the centre of a shelf display consumers are likely to evaluate the product more favourably than when it is on the edges. In addition, as consumers already expect to find popular products (high-equity brand) in the centre, when they do, they will not experience inconsistency. To sum up, it is proposed that the preference for the centre option is likely to benefit more the low-equity brand rather than the high-equity brand. Thus, the following hypothesis is formally proposed:

H₆: The center stage effect will be stronger for low-equity brands rather than for high-equity brands.
Table 1 - Summary table of research hypotheses

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Parent brand equity</th>
<th>Consumers' evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>High equity brand</td>
<td>More favourable</td>
</tr>
<tr>
<td></td>
<td>Low equity brand</td>
<td></td>
</tr>
<tr>
<td>H2</td>
<td>Degree of incongruence</td>
<td>More favourable</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>H3</td>
<td>Shelf positioning</td>
<td>More favourable</td>
</tr>
<tr>
<td></td>
<td>Centre</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Edges</td>
<td></td>
</tr>
<tr>
<td>H4</td>
<td>Interaction effects</td>
<td>The effect of shelf positioning will be stronger for the low rather than for the moderate incongruent option</td>
</tr>
<tr>
<td>H5</td>
<td>Brand equity ↔ Degree of incongruence</td>
<td>The effect of the incongruence will be stronger for the low rather than for the high equity brand.</td>
</tr>
<tr>
<td>H6</td>
<td>Brand equity ↔ Shelf positioning</td>
<td>Center effect stage stronger for low-equity brand</td>
</tr>
</tbody>
</table>

Figure 1 - Conceptual Model
4- STUDY
This following section is dedicated to the reasoning for the choices of the product category, brands, and atypical attributes that are investigated in this work.

4.1- Product category
The setting for the present empirical investigation is the laundry detergent product category. The laundry detergent industry is a fertile area for the study of line extensions as line extensions are commonly found (Lee et al., 1996; Euromonitor, 2012). More specifically, this research focuses on the investigation of consumers’ evaluation of laundry detergent extensions in the Brazilian market. In Brazil, over the past ten years an increase in the consumption of household products has been observed with the laundry care products category accounting for approximately 60% of this market growth (Datamonitor, 2010) and there is no sign of stagnation in this category (Euromonitor, 2012; Lambrecht, 2012). Nonetheless, compared with developed countries the consumption of laundry care products in Brazil is still very low (Euromonitor, 2012). For example, with respect to the consumption of the powder detergent variant, in Brazil the annual consumption is of 3.65kg per consumer, while in the U.S. it is 5.47kg and in Europe it reaches 8.4kg (Lambrecht, 2012).

Furthermore, together with the rise in the consumption of laundry care items in Brazil it has been observed that consumers are more willing to pay a premium price for value-added products, such as eco-friendly formulae, liquid and concentrated versions of detergent, innovative formulations and packaging, and new fragrances. As a consequence, manufacturers are investing widely in new product launches (Euromonitor, 2012). Hence, given the abovementioned market characteristics and extension activities, it is proposed that the laundry detergent category is a good venue in which to investigate consumers’ evaluation of line extensions positioned on atypical attributes.

4.2- Investigated brands
In this work, a high-equity brand and a low-equity brand are investigated. With respect to the high-equity brand, the selected brand is called OMO. Support for this choice is found on recent market reports, in which OMO is stated as having the highest market share in the laundry detergent category in Brazil, accounting for approximately 50% of the sales in the category (Nca Consultoria, 2000). In addition, in a recent market survey carried out in Brazil, OMO was reported as the strongest brand of 2012. Among the aspects considered in the survey were aspects such as the brands that consumers remember more frequently and the brands that they are more loyal to (Redação, 2012). Hence, based on these evidences, it seems plausible to select OMO as the high-equity brand to be investigated in this study.
With regard to the low-equity brand, the selected brand to be investigated is called ARCUS, which was founded in 2003, focusing its sales exclusively on the textile industry. In 2007, the company launched its first line extension, when it started spreading its market coverage to household consumers. Since its establishment, ARCUS has offered its laundry detergents only in the liquid variant, as the company sees it as a market opportunity, given that the liquid attribute is still an atypical attribute of the laundry detergent category in Brazil. Nowadays, ARCUS offers its products in 73 different cities, all being located in the state of Minas Gerais (i.e. Southeast of Brazil). The company has a great potential of growth and it aims to expand its market coverage in the short future (Arcus, 2012). Nonetheless, ARCUS is still a low-equity brand, therefore its hypothetical line extensions are further considered in this research. In the table below, the laundry detergent variants of OMO and ARCUS that are currently offered in the Brazilian market are presented.

Table 2 - Laundry detergent variants currently offered in the Brazilian market

<table>
<thead>
<tr>
<th>Brand</th>
<th>Powder detergent</th>
<th>Liquid detergent</th>
<th>Unit-dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omo</td>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Arcus</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

4.3- Atypical attributes

In the present research two different degrees of new product attribute incongruence to the product-category schema are manipulated, low incongruence and moderate incongruence. Among other ways to differentiate line extensions from its original brand are to modify its composition and/or package (Reddy et al., 1994; Desai and Keller, 2002). In Brazil, the powder detergent variant is the most consumed one. In 2011 it accounted for approximately 68% of the total consumption of the laundry detergent category and it is estimated to account for 65% in 2016 (Maganhotto, 2012). Thus, the powder variant can be considered as the typical exemplar of the laundry detergent category. On the other hand, many manufactures are introducing some type of liquid laundry detergent, such as concentrated versions (i.e. all liquid variants are offered in bottles) and the popularity of these products is apparently increasing. In 2011, liquid laundry detergents accounted for roughly 5% of the total expenditure in the category and it is estimated to account for 12% in 2016 (Maganhotto, 2012), which suggests that the liquid attribute is presently an atypical attribute of the laundry detergent category. Nonetheless, as consumers have been exposed to some extent to this variation of laundry detergent, it is proposed that the liquid attribute can be considered as a low incongruent attribute to the laundry detergent category schema. Therefore, in this present work, the new attribute being low incongruent to the product-category schema will be manipulated through the hypothetical line extension of a liquid laundry detergent. More specifically, the hypothetical extension will be a liquid...
laundry detergent being targeted to wash sportswear, which has been demonstrated to be a recent marketing trend in the category (Maganhotto, 2012).

With respect to the unit-dose variant, this variant of the product is not yet offered in the Brazilian market (Maganhotto, 2012), thereby suggesting that unit-dose package is currently an atypical attribute in the category. Further, different variations of unit-dose laundry detergents can be found in other markets, such as those in tablets or those alike the Tide Pods (i.e. containing different chambers within the same package). In this research the moderate incongruent option will be manipulated through the selection of the simplest version of the unit-dose variant, which occurs when the liquid detergent is stored in a small plastic bag (i.e. sachet). As consumers have some degree of familiarity with the liquid version of the laundry detergent, the unit-dose package will not be perceived as extremely incongruent to the product-category schema. Previous of conducting the actual experiment a pre-test was carried out in order to assure that respondents would perceive the research’s manipulations as proposed. Below the pre-test is discussed in more detail.

5- PRE-TEST
A pre-test was conducted in order to make certain that the proposed research manipulations were perceived by the study participants as expected. The data was analysed using ANOVAs. Thirty one respondents (17 female (55%) and 14 male (45%)) from six different Brazilian States, with the majority of the participants living in the Minas Gerais State (68%), in a within subjects design, participated in the pre-test. The age of the participants ranged from 18 to 62 years (M=33.03, SD=13.09). More specifically, six age groups were established, as follows: <20 (3%), 20-25 (29%), 25-30 (29%), 30-40 (7%), 40-50 (16%), and >50 (5%). In addition, closing the questions pertaining to the demographics, participants were asked to state their combined monthly household income range. The highest load was observed in the income range between 5 and 10 Brazilian minimum salaries (32%) (i.e. one Brazilian minimum salary corresponds to approximately € 245).

5.1- Realism of the line extensions
Participants were asked to rate how realistic the products (i.e. pictures) were on three seven-point items (α = .80) anchored by strongly disagree/strongly agree, with strongly agree indicating a more positive evaluation (1- The image of the product is of high quality; 2- The product is a good representation of a product in the laundry detergent category; 3- The image of the product is realistic). The results showed that for Arcus liquid (M= 5.22, SD=1.07), Arcus sachet (M=5.12, SD=1.39), Omo liquid (M= 5.73, SD=0.85), and Omo sachet (M= 5.59, SD=0.98). In addition, the results also showed a significant main effect of the type of brand on ratings of the images,
F(1,30)=11.57, p=.002 (i.e. a potential reason for this finding is presented in section 5.4). By contrast, regarding the format (i.e. degree of atypicality) as expected, results did not show a significant main effect of format on the evaluations of the images F(1,30)=0.31, p=.582. Finally, there was not a significant interaction effect between brand and format F(1,30)=0.04, p=.847.

5.2- Line extensions atypicality
Participants were asked to rate their perception with respect to the products atypicality to the product category on three seven-point items (α =.87) anchored by extremely atypical/extremely typical, not at all unusual/very unusual, and matches very well/does not match at all well. As expected, results did not show a significant main effect of brand on the perception of atypicality F(1,30)=0.48, p=.49. Conversely, in line with expectations, there was a significant main effect of the format on the perception of atypicality F(1,30)=10.87, p=.003. Importantly, results showed that the sachet variants (M=3.27, SD=1.42) were indeed perceived as more atypical than the liquid products (M=4.33, SD=1.43). Finally, there was not a significant interaction effect between brand and format F(1,30)=0.064, p=.802.

5.3- Brand familiarity
Participants were then asked to rate their familiarity towards the brands on three seven point items (α =.79) anchored by strongly disagree/strongly agree (1- “Brand” is the most popular brand of the laundry detergent category; 2- When I need to buy a laundry detergent, immediately I think of “brand”; 3- When asked about laundry detergent brands, “brand” is the first one that I think). In line with expectations, results showed a significant difference regarding brand familiarity F(1,30)=137.11, p<.001. As expected, results showed that Arcus can indeed be considered a low equity brand (M=1.90, SD=1.10) whereas Omo can be acknowledged as a high equity brand (M= 5.71, SD=1.27).

Furthermore, participants were asked to answer an open-ended question (i.e. Did you notice anything unusual about any product?). Considering all provided answers, it can be concluded that we did not get any adverse comments regarding the realism of the products’ designs that were developed.

5.4- Discussion of the pre-test
The pre-test was of crucial importance in order to assure the internal validity of this research. As it can be observed from the results herein presented the research manipulations were perceived by the study respondents as proposed. More specifically, the two different products (i.e. liquid and sachet variants) were indeed perceived differently. That is, the sachet variants were considered
more atypical than the liquid products. Therefore, it is proposed that the sachet variant can be categorized as a moderate atypical product to the laundry detergent category, whereas the liquid variant can be considered as a low atypical product to the laundry detergent category. Moreover, as found, the two different brands did not influence on how respondents perceived the attribute atypicality. In other words, both liquid and both sachet products were perceived similarly with respect to product atypicality regardless of their brand.

In addition, as intended, the two investigated brands (i.e. Omo and Arcus) were perceived as low and high equity brands, respectively. Finally, with respect to the quality/realism of the products/images designed, overall, they were all found to be a good representation of a real product. However, contrary to expectations, a main effect of the type of brand on ratings of the images was found. Herein a potential explanation for this finding is proposed. The reasoning involves respondents’ familiarity towards the two brands. It was found that Arcus was not known by most of the respondents. Hence, when respondents saw a product of a brand they did not know they presumed it would not be a product of a high quality and/or that the products were made up. As a consequence, it resulted in the evaluation of the images of the products not being as high as in the case of Omo’s products. Nevertheless, all in all, as anticipated, all products’ designs were evaluated positively.

In conclusion, as anticipated, all research manipulations were acknowledged by the study participants as expected. Therefore, no adjustment was done for the actual experiment.

6- METHODOLOGY
The experiment in this research investigates consumers’ evaluation of line extensions positioned on atypical attributes. In the study conducted in this work, subjects were firstly shown a slide of a shelf display of laundry detergents. Next, they were shown a picture of one of the investigated laundry detergent extensions on their own computers’ screen. Brand equity of target products, the product shelf positioning, and the degree of the new attribute atypicality were manipulated. Subsequently of seeing the slides, participants were asked to complete a questionnaire, which was ministered through Qualtrics.

6.1- Participants
Participants in the study consisted of 607 Brazilian respondents. One hundred and eighty three participants were excluded from the sample: one hundred and seventy three respondents did not complete the survey entirely; five participants stated to be currently living in a different country.
other than Brazil; two participants partially guessed the research aim correctly. Hence, the resulting sample consisted of 424 participants (287 females and 137 males) from sixteen different Brazilian States. As in the pre-test the majority of the participants are residents of the Minas Gerais State (78%). The age of the participants ranged from 17 to 57 ($M= 30.07, SD= 10.43$). These demographics as well as some additional ones are summarized in table 3. Furthermore, the information about the research was spread via email and social network (e.g. Facebook). Voluntary participation was motivated by an opportunity to win, through a lottery, one of ten prizes (i.e. a kit of promotional products of one of the brands).

Table 3 - Summary of demographics

<table>
<thead>
<tr>
<th>GENDER</th>
<th>AGE</th>
<th># OF PEOPLE IN THE HOUSEHOLD</th>
<th>TOTAL HOUSEHOLD INCOME* (R$)</th>
<th>STATE OF RESIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>%</td>
<td>Category</td>
<td>%</td>
<td>Category</td>
</tr>
<tr>
<td>Female</td>
<td>68</td>
<td>&lt; 20</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Male</td>
<td>32</td>
<td>20-25</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26-30</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31-40</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>41-50</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 50</td>
<td>8</td>
<td>&gt;5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/A</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

* One Brazilian minimum salary corresponds to approximately € 245

6.2- Stimuli

Colour slides were created to simulate laundry detergent displays on the shelves of actual supermarkets. A Photoshop program was used in order to design the different conditions investigated in this research. All slides were of the same size and displaying the same number of products. In addition, to create the laundry detergent extensions for the target brands, the labels were carefully developed and were pasted on the front side of the package. It was ensured that the labels would not be perceived as atypical or made up.

To create the low-incongruent variants (i.e. liquid laundry detergent) for the target brands, it was assured that all the hypothetical extensions were designed according to the main characteristics of its original brand, such as the package shape, size, and colour as well as labels to ensure that participants perceived the line extensions as realistically as possible. With respect to the moderate-incongruent variants (i.e. unit-dose variants, which are new in the Brazilian laundry detergent category), in order to avoid participants’ suspicion, the package and labels of this variant had a slightly similar size, shape, and positioning for both brands. The unit-dose variants were also
developed in accordance with the main characteristics of each parent brand. Aiming to create a more realistic scenario, the slides of the shelf displays portrayed the investigated products embedded with other laundry detergent products that are currently offered in the Brazilian market. All the other variants were shown exactly in accordance to their original designs. Below the products that were created are depicted.

![Arcus Liquid (low atypicality)](image1)
![Omo Liquid (low atypicality)](image2)

6.3- Design and Procedure

The current study is designed to measure consumers’ evaluation of laundry detergent extensions positioned on atypical attributes. The data was collected using a 2 (brand equity: low, high) X 2 (product shelf positioning: centre, edge) X 2 (degree of the new attribute atypicality: low, moderate) between subjects design.

Participants completed the experiment individually on their own computer stations. Each participant was randomly assigned to one of the experimental conditions. Through an internet link that was sent to them they were able to take part in the study. Prior to starting their participation, subjects were informed that they would take part in a study about consumers’ responses to laundry detergent.
products. Following that, they were told that they would be shown a slide of a shelf display containing some laundry detergent variants representing an actual supermarket’s shelves. Then, they were asked to look at the display as they would normally do at supermarkets’ shelves when they go shopping. After participants finished reading the research instructions they were randomly presented one of the eight possible shelf display stimuli slides. The figures below illustrate the eight different possibilities.
After seeing one of the above stimuli slides participants were asked to make a choice for a particular product and briefly explain why (i.e. open-ended question). In the next screen, regardless of their product choice participants saw a picture of the individual product (i.e. one of the investigated products) which was the one sought them to evaluate. For example, those participants who saw the first and second slides were presented the following product. This method was repeated for all other conditions.
Next, participants were instructed to complete a variety of measures at their own pace. Firstly, they were asked to rate their attitude towards the products on three seven-point items ($\alpha = .89$) anchored by very unfavourable/very favourable, very negative/very positive, and unlikely to be of a high quality/likely to be of a high quality. Next, they were asked to rate their willingness to buy the products on three five-point items ($\alpha = .92$) anchored by very unlikely/very likely and strongly disagree/strongly agree (1- It is very likely that I will buy “product”; 2- I will purchase “product” the next time I need a laundry detergent; 3- I will definitely try “product”). In addition, participants were asked to answer about their perception of relevant attributes of the laundry detergent category (i.e. cleanness and ease of use) on a single five-point item anchored by not very clean/very clean and very difficult/very easy, respectively. Following, they were asked to rate their perception with respect to the products atypicality to the product category on three seven-point items ($\alpha = .85$) anchored by extremely atypical/extremely typical, not at all unusual/very unusual, and matches very well/does not match at all well. In addition, participants were then asked to rate their familiarity towards the brands on three seven-point items ($\alpha = .83$) anchored by strongly disagree/strongly agree.

Subsequently, participants were asked demographic questions such as age, gender, income, city of residence, number of people in the household. Next, they were asked to indicate the brand being currently used at their home. Participants then were asked to state on a single five-point item their laundry detergent buying experience and usage experience, anchored by never/very often. In addition, this research assessed respondents’ level of motivation while participating in the experiment on three seven-point items, with one inverted score item anchored by completely disagree/completely agree (1- I was very motivated to give an accurate evaluation of the laundry detergents presented to me; 2- I did not put much effort into the evaluation of the products; 3- It was very important to read the questions carefully). Additionally, participants were asked to indicate their judgments of how realistic the experiment was on a single seven-point item ($M= 5.32$, $SD= 1.31$). Next, a suspicion probe open-ended question, wherein participants were asked to guess the purpose of the study was administered. To finalize their participation, respondents were given the option to provide their emails in order to have the chance to win one of the promotional kits. Then, they were told that some of the products that had been shown were fictitious. Finally, they were thanked for their participation in the study.
7- RESULTS

The effects of the three experimental factors (i.e. brand equity, product shelf positioning, and format (i.e. degree of the new attribute atypicality) as well as their interaction on the evaluation of laundry detergent extensions that are positioned on atypical attributes were analysed using ANOVAs. In addition, the Binary Logistic Regression was used in order to estimate a model for product choice. In the following section the results are presented in details.

7.1- Product choice

In order to predict a model for product choice the Binary Logistic Regression applying the forward regression method was used. In the analyses brand, shelf positioning, and degree of atypicality were entered as the independent variables, whereas product choice was entered as the dependent variable. In addition, the interaction effects of the covariates were analysed. Product choice was coded as 0 for the selection of any product other than the one investigated in a particular condition. Further, when the product investigated was chosen it was coded as 1. The results showed that only the factor namely brand reached significant levels (p<.05). In addition, none of the interaction effects reached acceptable significant levels (p<.05), as shown in table 4. In addition, table 5 presents a summary of the logistics regression model. As it can be observed, only the variable brand is present in the model.

Table 4 - Binary Logistic Regression

<table>
<thead>
<tr>
<th>Variables</th>
<th>Score</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand</td>
<td>97.128</td>
<td>.000</td>
</tr>
<tr>
<td>Degree of atypicality</td>
<td>2.564</td>
<td>.109</td>
</tr>
<tr>
<td>Positioning</td>
<td>.115</td>
<td>.734</td>
</tr>
<tr>
<td>Brand x Atypicality</td>
<td>2.377</td>
<td>.123</td>
</tr>
<tr>
<td>Brand x Positioning</td>
<td>.029</td>
<td>.866</td>
</tr>
<tr>
<td>Atypicality x Positioning</td>
<td>2.266</td>
<td>.132</td>
</tr>
<tr>
<td>Brand x Atypicality x Positioning</td>
<td>.775</td>
<td>.379</td>
</tr>
</tbody>
</table>

Table 5 - Summary of the Logistic regression model

<table>
<thead>
<tr>
<th>B (SE)</th>
<th>95% CI for Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-2.32 (.261)</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td></td>
<td>Odds Ratio</td>
</tr>
<tr>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>Brand</td>
<td>3.56 (.522)</td>
</tr>
<tr>
<td></td>
<td>12.637</td>
</tr>
<tr>
<td></td>
<td>35.155</td>
</tr>
<tr>
<td></td>
<td>97.802</td>
</tr>
</tbody>
</table>

Note: R²=.212 (Cox & Snell), .343 (Nagelkerke). Model χ²=114.62, p<.001
Support for this finding is found in the analyses of participants’ reasoning for their product choice. In an open-ended question participants were asked to explain what motivated them to select a particular product. After analysing respondents’ answers, each one of them was entered in one or more categories, depending on the number of arguments provided. The categories were developed on the basis of the responses provided. As it can be observed below, participants mostly acknowledged Brand as the most important criteria for choosing a laundry detergent (29%), followed by Quality (21%), and Cost-benefit (14%).

![Figure 8 - Reasoning for product selection](image)

### 7.2- Attitudes

As expected, the analyses of attitudes showed a significant main effect of brand on the evaluations of the new line extensions $F(1,416)=33.99, p<.001$. As predicted, the two line extensions of OMO (high-equity brand) received more favourable evaluations ($M=5.30$) in comparison with the two new variants of ARCUS (low-equity brand) ($M=4.64$). As anticipated, the results also showed a significant main effect of shelf positioning on the evaluations of the new products $F(1,416)=7.99, p=.005$, $\eta^2=.19$. More specifically, the evaluations of the new line extensions were higher when they were positioned in the centre ($M=5.13$) rather than on the edge ($M=4.81$). By contrast, with respect to the format (i.e. degree of atypicality), no significant difference was found in the way that respondents evaluated both products’ format $F(1,416)=.62, p=.431$.

Regarding the interaction effects, none of them reached significant levels ($p<.05$). More specifically, there was no significant interaction effect between brand and format $F(1,416)=2.47, p=.117$. In addition, there was no significant interaction effect between brand and shelf positioning $F(1,416)=2.06, p=.152$. Further, the interaction between shelf positioning and format was also found to be non-significant $F(1,416)=.39, p=.533$. The results also did not show a significant interaction effect between the three independent variables $F(1,416)=.658, p=.418$. 

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Overall, regarding ARCUS, the condition under which participants had the most positive attitudes towards the line extensions occurred when they found the sachet variant in the centre of the shelf display ($M=5.10$). By contrast, in the case of OMO, the most favourable attitudes towards its line extensions was observed when participants found the liquid variant positioned in the centre ($M=5.44$). All means are presented in table 6.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Format (degree of atypicality)</th>
<th>Shelf positioning</th>
<th>Mean</th>
<th>Std. Error</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCUS</td>
<td>Liquid (low)</td>
<td>Centre</td>
<td>4.67</td>
<td>.164</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
<td>4.35</td>
<td>.156</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Sachet (moderate)</td>
<td>Centre</td>
<td>5.10</td>
<td>.164</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
<td>4.45</td>
<td>.159</td>
<td>54</td>
</tr>
<tr>
<td>OMO</td>
<td>Liquid (low)</td>
<td>Centre</td>
<td>5.44</td>
<td>.169</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
<td>5.26</td>
<td>.161</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Sachet (moderate)</td>
<td>Centre</td>
<td>5.33</td>
<td>.161</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
<td>5.19</td>
<td>.153</td>
<td>58</td>
</tr>
</tbody>
</table>

In summary, the results of the analysis of attitudes on the evaluation of line extensions showed that the parent brand equity plays a fundamental role when consumers evaluate new product variants. In fact, as reported, brand equity was found to have a significant effect on participants’ evaluations of the four proposed line extensions, with line extensions of the high equity brand being significantly more favourably evaluated. Therefore, support for $H_1$ was found.

However, contrary to expectations, the degree of product atypicality, either low or moderate atypical, did not reach acceptable significant levels ($p<.05$). On this basis, it can be concluded that the degree of atypicality of the new atypical attribute did not affect significantly the evaluation of the new line extensions. Therefore, no support for $H_2$ was found.

In addition, as expected, shelf positioning was found to have a significant main effect on the evaluation of the new products. That is, regardless of the parent brand and format, all products were more favourably evaluated when found in the centre. Thus, $H_3$ was supported.

Finally, none of the proposed interactions reached acceptable significance levels ($p<.05$). Therefore, no evidence was found supporting neither hypotheses $H_4$, $H_5$, nor $H_6$. 

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7.3- Purchase intentions

The results for willingness to buy the proposed line extensions resembled those for attitudes, except for the interaction between brand and format, which was found to be significant (p<.05). As expected the results showed a significant main effect of brand on intentions to buy the new variants \( F(1,416)=11.36, p=.001 \). More specifically, participants indicated to be more willing to buy the products of OMO (\( M=3.30 \)) than the new variants of ARCUS (\( M=2.91 \)). Likewise, there was a significant main effect of shelf positioning on participants’ purchase intentions \( F(1,416)=7.74, p=.006, \eta^2 = .18 \), such that all products received higher purchase intentions when positioned in the centre (\( M=3.26 \)) rather than on the edge (\( M=2.94 \)). Contrary to expectations, there was no significant main effect of format (i.e. degree of atypicality) on intentions to buy \( F(1,416)=2.61, p=.107 \).

Importantly, the results showed a significant interaction effect between brand and format \( F(1,416)=5.11, p=.024 \). In line with expectation, the effect of the degree of atypicality was stronger for the low equity brand than for the high equity brand. In other words, for the high equity brand the intentions to buy did not significantly alter depending on the format \( F(1,210)=.167, p=.683 \), whereas for the low equity brand participants indicated to have significantly higher intentions to buy the moderate incongruent option (sachet product) \( F(1,210)=7.63, p=.006 \). The interaction is shown in figure 9.

![Figure 9 - Purchase intentions of laundry detergent extensions (+SE, -SE)](image)

In the same manner as for attitudes, there was no significant interaction effect between brand and shelf positioning \( F(1,416)=.22, p=.637 \). Regarding the interaction effect between format and shelf positioning, the results again did not show a significant interaction effect \( F(1,416)=.142, p=.904 \).
Finally, there was no significant interaction effect between the three independent variables $F(1,416)=1.21$, $p=.272$. All in all, in the same way as for attitudes, for ARCUS, participants demonstrated to be more willing to buy the sachet variant when it was positioned in the centre of the display ($M=3.33$). On the contrary, for OMO, participants indicated to have higher intentions to buy the liquid variant when it was found in the centre of the shelf display ($M=3.57$). All means are shown in table 7.

Table 7 - Means and Std. Error of the interaction effect between all independent variables (Purchase Intentions)

<table>
<thead>
<tr>
<th>Brand</th>
<th>Format (degree of atypicality)</th>
<th>Shelf positioning</th>
<th>Mean</th>
<th>Std. Error</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCUS</td>
<td>Liquid (low)</td>
<td>Centre</td>
<td>2.75</td>
<td>.166</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
<td>2.62</td>
<td>.158</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Sachet (moderate)</td>
<td>Centre</td>
<td>3.33</td>
<td>.166</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
<td>2.93</td>
<td>.161</td>
<td>54</td>
</tr>
<tr>
<td>OMO</td>
<td>Liquid (low)</td>
<td>Centre</td>
<td>3.58</td>
<td>.171</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
<td>3.09</td>
<td>.163</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Sachet (moderate)</td>
<td>Centre</td>
<td>3.39</td>
<td>.163</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
<td>3.13</td>
<td>.156</td>
<td>58</td>
</tr>
</tbody>
</table>

To sum up, resembling the results for attitudes, the findings of the analysis of purchase intentions of the four line extensions showed that the parent brand equity and shelf positioning had significant main effects on intentions to buy the products. With respect to the former, in accordance with expectations, the line extensions of the high equity brand had higher purchase intentions compared with those of the low equity brand. Regarding the latter, as anticipated, all line extensions when positioned in centre received higher buying intentions. This research has therefore found evidence supporting both $H_1$ and $H_3$. However, contrary to expectations, the format of the new product variant did not reach acceptable significance levels ($p<.05$). Hence no support for $H_2$ was found.

In addition, a significant interaction effect between brand and format was found. As expected, the different product formats (liquid vs. sachet) had more influence for the low equity brand rather than for the high equity brand. To be more precise, the results indicate that the format of the product has a significant effect on purchase intentions for the low equity brand. Whereas, for the high equity brand purchase intentions was not found to significantly differ depending on the product format. Therefore, $H_5$ is supported. This was the only interaction effect that reached significance. Hence no support for $H_4$ or $H_6$ was found.
7.4- Attributes of the laundry detergent category

7.4.1- Cleanness and Ease of use
The analysis of the data showed that for both attributes (i.e. the analyses were run separately) there was only one main effect that reached significance, namely, brand. To be more precise, in the case of respondents’ perception of how clean each product would leave their clothes, the analysis showed that brand had a significant main effect $F(1,416)=9.59, p=.002$ on respondents’ cleanness expectations (ARCUS - $M=4.15$, OMO – $M=4.35$). Regarding participants’ perception of how easy the use of each line extension would be, again the results showed a significant main effect of brand $F(1,416)=10.83, p=.001$ on subjects’ perception of easiness of product usage (ARCUS - $M=4.05$, OMO - $M=4.29$). With respect to the interaction effects, none of them reached acceptable significance levels ($p<.05$).

In sum, for both laundry detergent attributes, brand was the only dependent variable found to have a significant effect. The results is in line with the findings for attitudes and purchase intention, in which brand was reported to significantly affect respondents’ answers. Differently from the findings for attitudes and purchase intentions, product shelf positioning was not found to have a significant effect on participants’ perception. Finally, none of the interaction effects was found to be significant ($p<.05$).

7.5- Atypicality
The results found regarding participants’ perception of product atypicality support those found in the pre-test. More specifically, as expected, there was no significant main effect of brand on perception of variant atypicality $F(1,416)=2.07, p=.151$. In other words, subjects’ perceptions of the new line extensions did not significantly alter depending on the parent brand (ARCUS - $M=3.53$, OMO – $M=3.73$). Importantly, the format of the new products (i.e. liquid vs. sachet) was found to have a significant main effect on participants’ perception of product atypicality to the product category $F(1,416)=13.70, p<.001$. As predicted, participants indicated the sachet variants as being more atypical ($M=3.37$) than the liquid products ($M=3.88$). Conversely, there was no significant main effect of shelf positioning on perception of product atypicality $F(1,416)=.02, p=.900$.

Regarding the interaction effects, as found for purchase intentions, the interaction effect between brand and format was the only one found to reach significance $F(1,416)=6.04, p=.014$. To be more precise, the analyses of the interaction of these two factors showed that for the high equity brand the different products’ format had a greater discrepancy on perception of atypicality compared with
the low equity brand. To put another way, the effect of the different products’ format on perception of product atypicality was found to be significantly stronger for the high equity brand $F(1,208)=18.90, p<.001$. Whereas for the low equity brand it did not reach significance $F(1,210)=.816, p=.367$. The interaction is illustrated in figure 10 (i.e. higher scores mean more typical).

![Figure 10 - Product Atypicality (+SE, -SE)](image)

In short, the analysis of product atypicality showed, as expected, a significant main effect of product format on subjects’ perception of variant incongruence to the product category schema. On the contrary, neither the main effect of brand nor shelf positioning reached significance. With respect to the interaction effects, there was only one interaction found to be significant, namely, brand and format. The results showed that for the high equity brand the different products’ format played a significant role regarding how atypical participants’ considered the new variants. On the other hand, for the low equity brand, perception of atypicality regarding the different formats did not reach significance. Taken together, these findings suggest that participants may hold a stronger product category schema regarding the high equity brand than for the low equity brand. As a consequence, they considered the low atypical variant of the high equity brand to be more typical compared with the same variant of its counterpart brand $F(1,206)=8.21, p=.005$. However, the same pattern was not found for the moderate atypical variant, as no significant difference was found between the sachet products of the two brands $F(1,214)=.497, p=.482$.

### 7.6- Buying frequency and product usage

The same $2 \times 2 \times 2$ Univariate General Liner Model, with buying frequency and product usage experience entered as covariates, was run in order to verify whether either one of them had a significant effect on respondents’ answers regarding their attitudes, purchase intentions, and
perceived atypicality towards the investigated line extensions. A summary of the findings are shown in table 8.

Table 8 – Summary of findings for Buying frequency and Product usage experience

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Covariate</th>
<th>F*</th>
<th>Sig.</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes</td>
<td>Buying frequency</td>
<td>1.57</td>
<td>.211</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Usage experience</td>
<td>.001</td>
<td>.982</td>
<td>1.00</td>
</tr>
<tr>
<td>Purchase Intentions</td>
<td>Buying frequency</td>
<td>1.06</td>
<td>.305</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Usage experience</td>
<td>.53</td>
<td>.469</td>
<td>1.00</td>
</tr>
<tr>
<td>Atypicality</td>
<td>Buying frequency</td>
<td>.001</td>
<td>.976</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Usage experience</td>
<td>2.14</td>
<td>.144</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*df=(1,415)

In short, as it can be seen in the table, there was no significant effect of neither buying frequency nor product usage experience on any of the three dependent variables. In other words, the results showed that there was no significant difference among the dependent variables when participants’ buying frequency and their product usage experience were taken into account. The means and standard deviations found for buying frequency and product usage experience were (M=3.87, SD=0.78) and (M=4.17, SD=0.72), respectively. Overall, these means suggest that participants were relatively well-experienced with the product category investigated. At last, the variance inflation factor (VIF) values, 1.0, indicate that collinearity is not an issue for those models (i.e. they were run separately for each pair of constructs), as shown in the table above.

7.7- Brand Familiarity

As there was only one factor influencing participants’ response regarding their familiarity with the investigated brands in this research One-Way ANOVA was used to analyse the data. In accordance with expectations, the results showed that participants indicated to be significantly more familiar with OMO rather than with ARCUS F(1,422)=943.27, p<.001. Importantly, this result supports the choice for the investigations of product line extensions of OMO (M=5.57) and ARCUS (M=1.77), as high and low equity brands, respectively. The means and standard errors are shown in figure 11.
7.8- Participants motivation

In this study three questions were ministered to the participants in order to assess their level of motivation to participate in the study. One of the items was an inverted score item. Therefore, it was recoded before the analysis was run. For example, a participant who answered 2 in this inverted score item, ended up scoring a 6. The results showed that $M=5.63$ and $SD=1.36$. This finding indicates that participants demonstrated to have a relatively high level of motivation while taking part in the study. In addition, in order to rule out any effect of low motivation in the study’s results, those participants who scored low in the inverted score had their answers excluded from the analyses. Nonetheless, no significant difference was observed with respect to any result that has been presented here.
7.9- Summary of hypotheses
In this section a summary pertaining to whether the proposed hypotheses were supported by the study findings is presented.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Supported by study’s findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$: The evaluation of line extensions positioned on atypical attributes will be higher when the new product is of a high-equity brand rather than a low-equity brand.</td>
<td>Yes</td>
</tr>
<tr>
<td>$H_2$: The evaluation of line extensions positioned on atypical attributes will be higher when the degree of incongruence of the new atypical attribute is moderate rather than low.</td>
<td>No</td>
</tr>
<tr>
<td>$H_3$: The evaluation of line extensions positioned on atypical attributes will be higher when the new product is positioned in the centre position rather than on the edges of a shelf display.</td>
<td>Yes</td>
</tr>
<tr>
<td>$H_4$: The effect of shelf positioning will be stronger when the new attribute is low incongruent to the product-category schema rather than moderate incongruent.</td>
<td>No</td>
</tr>
<tr>
<td>$H_5$: The effect of the incongruence of the new product attribute to the product-category schema will be stronger for the low rather than for the high equity brand.</td>
<td>Partially</td>
</tr>
<tr>
<td>$H_6$: The centre stage effect will be stronger for low-equity brands rather than for high-equity brands.</td>
<td>No</td>
</tr>
</tbody>
</table>

8- DISCUSSION
In this research it was investigated how consumers evaluate line extensions that are positioned on atypical attributes depending on the different levels of parent brand equity, different product shelf positioning, and different degrees of incongruence of the new attribute. The objective here was to verify whether new product variants benefit from the equity of well-established brands. Secondly, the influence of product shelf positioning on consumers evaluations and buying intentions towards the new products was investigated. More specifically, it was inquired whether consumers would have a more favourable response towards the line extensions when they were found in the centre rather than on the edge of the shelf display. In addition, we considered the effects of different degrees of the new attribute atypicality on consumers’ responses to the new variants. Finally, the interaction effects of the three variables were explored. Below a discussion of the main findings of the study is presented.
8.1- Brand equity
This study has found strong evidence that line extensions of high equity brands are more likely to enjoy greater market success than those of low equity brands. More specifically, it was found that consumers have both more favourable attitudes as well as higher purchase intentions towards line extensions of high equity brands in comparison with low equity brands. These findings are consistent with prior research, such that it has been found that the strength of the parent brand is positively related to the market share of the line extension (Smith and Park, 1992; Reddy et al., 1994; Desai and Ratneshwar, 2003). As reported by Reddy et al. (1994), line extensions of strong brands are more successful than extensions of weak brands.

Moreover, we found support that associations (e.g. quality) of parent brands are transferred to the new product variants (see Aaker and Keller, 1990; Broniarczyk and Alba, 1994; Desai and Ratneshwar, 2003; Kevin Lane Keller, 2003). To be more precise, it was found that the new variants of the high equity brand received more positive responses than the ones of the low equity brand in two important attributes of the laundry detergent category (i.e. cleanliness and ease of use). The confidence of consumers that new products of a high equity brand will be of a higher quality than extensions of a low equity brand clearly reflects the significant influence of the strength of the parent brand on consumers’ evaluation of line extensions. Taken together, these results clearly suggest that parent brand is an important asset for the success of the line extension strategy.

8.2- Product shelf positioning
As mentioned previously, inconsistent findings have been reported with respect to what a position advantage is (e.g. a position that results in a product being more favourably evaluated (Valenzuela and Raghubir, 2009)). This study investigated whether consumers hold more positive evaluations towards products that are positioned in the centre of the shelf display. In other words, it was investigated whether the “center-stage effect” occurs regarding the laundry detergent category.

In accordance with our predictions, it was found that new products variants received more favourable responses when they were found in the centre of the shelf display. More specifically, the current study shows that consumers not only demonstrated to have more positive attitudes towards the line extensions but also reported to have higher purchase intentions towards the new variants when they were positioned in the centre of the shelf display. Thus, the results herein presented do lend support for the findings reported by Valenzuela and Raghubir (2009) and Valenzuela et al. (2012) in which it was shown that products positioned in the centre of the shelf display are more positively evaluated. In addition, our results are partly in line with those reported by Chung C. et al.
The authors found that the preference for the centre option held true for the smaller dairy cases in convenience stores but not in the case of supermarkets. Given that in our research only one hypothetical buying scenario was investigated, the question of whether the centre preference is ‘type of shop’ sensitive remains as a potential area for future research. We propose that given the small effect (partial $\eta^2 = .19$) found in our study it seems plausible to suggest that further investigation is needed in order to make a definite statement of whether the “center-stage effect” is likely to occur in the case of the laundry detergent category in the Brazilian market regardless of the ‘type of shop’.

8.3- Degrees of incongruence of the new attribute
Previous research has reported that when a product is moderate incongruent to its product category it is more likely to be more positively evaluated than either a congruent option or an extreme incongruent option (Mandler, 1982; Meyers-Levy and Tybout, 1989). On that basis we investigated whether there is indeed a preference for the moderate incongruent option in the laundry detergent category.

However, this was not supported by our results, which consistently showed no significant effect of the “moderate incongruity effect” on neither attitudes nor purchase intentions. These findings have important implications for the understanding of consumer evaluations, as the moderate incongruity effect has been described as normative by many researchers. For example, as Campbell and Goodstein (2001) pointed out, it has been suggested that building in moderate incongruity could be effective in product development. Yet, the same authors found that this is not always the case. The researchers showed that factors, such as, perceived risk is likely to influence consumers’ preference. To be more precise, it was reported that even under a minimal level of risk consumers opted for the ‘product norm’. Hence, the results herein presented sound a note of caution for the straightforward use of the moderate incongruity effect. Strictly speaking about the Brazilian laundry detergent market, it has been reported that Brazilian consumers are relatively conservative when deciding on what product to buy/use (Lambrecht, 2012), which can potentially explain why the moderate incongruity effect did not occur. Therefore, it is posited that the process as well as the context in which the line extension will be launched must be well understood before any prescription is made.

8.4- Interaction effects
In this section a discussion related to the interaction effects found in our research is presented. Firstly, with respect to the interaction effect between brand and format (i.e. degree of incongruence) the current study partly finds support for the hypothesis that the effect of different
product incongruence has a stronger effect for low equity brands than for high equity brands. These findings indicate that the decision to opt to add an incongruent attribute to a line extension is more risky for low equity brands. In line with that, it was found that for the low equity brand, the moderate incongruent (vs. low incongruent) option had more favourable responses, whereas for the high equity brand there was no significant difference. Hence, these results once again lend support for the strong influence of the parent brand on consumers’ evaluation of line extensions (see Smith and Park, 1992; Reddy et al., 1994; Desai and Ratneshwar, 2003). Finally, contrary to what was found by Sinapuelas and Sisodiya (2010) that only high equity brands gain from innovation, our results suggest that low equity brands are the brands that can potentially benefit from being innovative. This indicates that low equity brands could potentially take advantage of the moderate incongruity effect, as consumers are not yet likely to hold strong associations about the brand.

Regarding the interaction effect between brand and shelf positioning, it was hypothesized that shelf positioning would have a stronger effect for low equity brands. This was not supported by our results. Lastly, with respect to the interaction effect between shelf positioning and degree of incongruence, the results did not conform to our expectations. As reported, the results consistently showed that the effect of shelf positioning is not significantly different for the low and moderate incongruent options. This is also consistent with the findings reported in section 7.5, in which there was no significant main effect of shelf positioning on perception of product atypicality. In short, these results indicate that different shelf positioning does not significantly affect how consumers respond to different product atypicality.

In the following section we point out how this research adds as well as extends existing literature on line extension. We also present some important managerial implications that can be drawn from this study.

**9- THEORETICAL AND MANAGERIAL IMPLICATIONS**

On the theoretical side, this research has contributed to the understanding of line extension, especially those that are positioned on atypical attributes. By combining different streams of literature, it enabled this study to broaden the knowledge concerning line extension. To be more precise, as long as brand extension literature is concerned, this research found support for the strong influence of brand on the success of product extension. Likewise, regarding the product shelf positioning literature, this work adds to the premise that products in the centre of an aisle will be more favourably evaluated. By contrast, the results presented here are contrary to the well-recognized categorization theory, which suggests that the moderate-incongruity effect is not a
definitive formula for product success. Instead, the findings suggest that the entire context where the product is to be launched must be well-understood.

Furthermore, there are important managerial implications to the current research. As previously mentioned, brand has been found to be a crucial factor influencing products’ evaluation. Nonetheless, it is important to point out that other factors, such as product fit (Aaker, 1991) has been reported to be also a very important factor affecting consumers’ responses towards new product variants. This research suggests that managers of high equity brands should take the advantage of the image and reputation of the brand when launching a new product. On the other hand, managers of low equity brands are encouraged to emphasize on the benefits that a new product can offer to its consumers. For example, managers of low equity brands could consider investing part of the company’s budget on advertising focusing on the positive rewards that consumers will have by using its products. Additionally, they could also invest on promotional support (e.g. coupons), so that consumers who are not yet familiar with the products can become aware of it.

Moreover, given the ever increasing launching of new products shelf space scarcity has been a prominent issue (Valenzuela et al., 2012). The present study indicates that product managers should be willing to pay a premium price to have their products positioned in the centre of shelf displays as to increase the evaluations of their products as well as to foster more positive buying intentions. Additionally, supermarket managers could also take advantage of the “center-stage effect”. For example they can position the brands with higher margins in this position. In addition, they can negotiate with brand managers a higher price for having their products positioned in the centre of the shelf display. Finally, with respect to the degree of incongruence of the product’s attribute, as it was found in this research, the different degrees of product atypicality only matters to low equity brands. Therefore, it is suggested that managers of low equity brands should pay an extra effort while considering what attribute to add to a product line. Given this study’s findings it is suggested that a moderate atypical attribute should be preferred rather than a low atypical one as to increase products’ evaluation and buying intentions.

To sum up, with respect to one of the motivations of this study, which was to investigate a potential future line extension for Arcus, based on this thesis’s results it can be suggested the following:

- The brand should communicate the benefits that its new product brings into the market, rather than focus on the brand itself;
- Its managers should battle for the centre position on supermarkets’ shelves. A potential way to do that is to make a win-win agreement with retailers;
- The brand should exploit the innovativeness factor. As it was shown consumers hold more positive responses towards the moderate incongruity product.

10- LIMITATIONS AND AREA FOR FUTURE RESEARCH
This study has various limitations. To begin with, the data was collected through an online questionnaire, therefore neither control over participants’ behaviour nor over the experimental environment was possible. As a consequence, as observed in the time respondents took to participate in the study, it can be seen that some participants took much longer than others, which may imply that they were distracted during the experiment (i.e. although data was analysed without outliers and no significant difference was observed). Hence, in order to generalize the study’s findings it is suggested that future research should aim to create a more neutral environment where distracters can be minimized. This in turn will enable researchers to estimate the real effect of a given independent variable.

In addition, only one product category was investigated in this study. Future research could examine the generalizability of the present findings to other product categories and a much wider range of product attributes. Furthermore, with respect to the selection of the target brands, it can be said that each studied brand belongs to a side of a spectrum, that is, Omo as the most popular brand in the Brazilian market and Arcus at the other extreme. Thus, future investigation could examine other brands’ equities.

In this research price was not explicitly mentioned to participants. As price is an important component in products’ evaluation and choice, the results herein presented should be treated carefully. Nevertheless, it is argued that it’s not consideration in this research does not bias the results. Brazilian consumers normally have a good estimation of the price of products. In addition, given that respondents reported a relatively high laundry detergent buying frequency (M= 3.87, SD= 0.78), it can be argued that they are likely to be aware of the price of products. Moreover, prices of products in the Brazilian laundry detergent market are not likely to vary from product to product (i.e. small price range difference).

This research also did not take into account participants traits, such as preference for innovativeness. It is quite possible that those people who score high in this trait will evaluate the
moderate incongruity option more favourably. Future research could examine whether this would indeed be the case. With respect to the finding that there was no significant difference for the evaluation of the different products’ atypicality, it is proposed that future research should aim to make the difference more visible, as in the present case the difference in the perception of atypicality is not so pronounced. It might be the case that when the difference is made more salient consumers will hold more favourable responses towards the moderate incongruity option.

Finally, although it was found that consumers demonstrated to have a higher preference for the centre option, there is still a remaining question regarding the mechanism that guides this response towards the centre option. This question is suggested for an area for future research. Additionally, as only one buying scenario was investigated, it is proposed that other scenarios should be studied in order to rule out the hypothesis that the “center-stage effect” could potentially be type-of-shop sensitive, as demonstrated by Chung C. et al. (2007).

11- CONCLUSIONS
In this current research it was aimed to investigate how consumers evaluate line extensions that are positioned on atypical attributes. It was proposed that it is important to extend the knowledge on line extension, because even though this marketing strategy is believed to account for nearly 90% of new product launches, research in the area is limited by comparison.

As it has been reported, some noteworthy results were found in the present study. Firstly, it was found that parent brand equity has a robust influence on how consumers evaluate new product variants. The results indicate that high equity brands are likely to benefit from its image and reputation when extending its product line. In particular it was found that low equity brands are more sensitive to different products atypicality than high equity brands. Moreover, it was found that consumers hold higher evaluations towards products that are positioned in the centre of the shelf display, which indicates that the centre position merits a premium price. In addition, contrary to the well-recognized categorization theory, in this research no support was found for the fact that the moderate incongruity option will consistently receive higher evaluations. It is suggested that the process as well as the context where the line extension will be launched should be well understood. Finally, it is important to point out that there are many other factors that influence consumers’ responses towards a product. For example, their mood, time pressure, shopping environment, etc. have all been demonstrated to influence consumers’ responses. The present research aimed to collaborate in the comprehension of consumer acceptance of new products.
APPENDICES

1- QUESTIONNAIRE (Portuguese version)

Prezado(a),

Esta pesquisa tem como objetivo investigar a resposta de pessoas em relação a produtos da categoria de sabão lava roupas no mercado Brasileiro. Portanto, nós gostaríamos de saber a sua opinião em relação à alguns dos produtos na categoria de sabão lava roupas.


Com a sua participação neste estudo você vai ter a chance de concorrer a um kit com produtos relacionados a categoria de sabão lava roupas.

Muito obrigado por sua ajuda!

Álvaro Henrique Prado Carvalho (MSc student at Wageningen University – MCB group)
Supervisors: Dr. Erica van Herpen
Dr. Andres Trujillo-Barrera
No próximo slide você vai ver uma imagem que representa uma prateleira de um supermercado. Olhe a imagem e a considere como se você estivesse fazendo suas compras.

Suponhamos que você precisa comprar um sabão lava roupas. Qual o sabão você compraria?
(Para selecionar o produto click sobre a imagem. Você poderá escolher somente 1 produto).

2- Por favor, em poucas palavras explique por que você escolheu este produto.

No próximo slide você verá a imagem de um sabão lava roupas. Com relação a este específico produto responda as próximas perguntas.

Descrição do produto:
Sabão lava roupas líquido criado especialmente para a limpeza de roupas esportivas.
Por favor, responda as seguintes perguntas considerando o produto mostrado na FIGURA ACIMA.

Qual é a sua opinião em relação ao produto acima?

Muito desfavorável                                                                 Muito favorável

Muito negativa                                                                      Muito positiva

Certeza de não ser de boa qualidade                                               Certeza de ser de boa qualidade

Caso este produto esteja disponível no mercado, eu definitivamente vou experimentá-lo.

Muito improvável                                                                   Muito provável

Se disponível no mercado eu vou comprar este produto na próxima vez que eu precisar de um sabão lava roupas.

Muito improvável                                                                   Muito provável

É muito provável que eu compro este produto.

Discordo                                                                          Concordo
Como você espera que este produto deixe suas roupas?

☐ ☐ ☐ ☐ ☐ Muito sujas
☐ ☐ ☐ ☐ ☐ Muito limpas

Como você espera que seja o uso deste produto?

☐ ☐ ☐ ☐ ☐ Muito difícil
☐ ☐ ☐ ☐ ☐ Muito fácil

Em geral, como você considera o produto mostrado na FIGURA ACIMA em relação aos demais produtos da categoria de sabão lava roupas?

☐ ☐ ☐ ☐ ☐ Extremamente atípico
☐ ☐ ☐ ☐ ☐ Extremamente típico

☐ ☐ ☐ ☐ ☐ Extremamente incomum
☐ ☐ ☐ ☐ ☐ Extremamente comum

☐ ☐ ☐ ☐ ☐ Totalmente diferente em relação aos demais
☐ ☐ ☐ ☐ ☐ Totalmente igual em relação aos demais

Em relação a marca dos produtos apresentados, qual é sua opinião em relação as seguintes afirmativas?

OMO/ARCUS é a marca mais popular da categoria de sabão lava roupas.

☐ ☐ ☐ ☐ ☐ Discordo completamente
☐ ☐ ☐ ☐ ☐ Concordo completamente

Quando eu preciso comprar sabão lava roupas, eu imediatamente penso na marca OMO/ARCUS.
Quando perguntado(a) sobre marcas de sabão lava roupas, OMO/ARCUS é a primeira marca que eu penso.

Qual é a marca de sabão lava roupas que normalmente é usada na sua casa?

ARIEL  ARCUS  OMO  Outra

Qual é a frequência que você compra sabão lava roupas?

Nunca  Muito frequentemente

Qual é a frequência que você usa sabão lava roupas?

Nunca  Muito frequentemente

Qual é a sua idade?

Qual é o seu sexo?

- Masculino
- Feminino

Quantas pessoas moram na mesma casa que você?

Qual é a renda mensal dos moradores da sua casa? (em salários mínimos)

Até 1  Entre 1 e 2  Entre 2 e 3  Entre 3 e 5  Entre 5 e 10  Entre 10 e 20  Mais de 20  Não responder
Qual é a sua cidade de residência?

Qual a sua opinião em relação as seguintes afirmativas? Por favor escolha a alternativa que melhor represente sua opinião.

Eu estava motivado em avaliar cuidadosamente os produtos que me foram apresentados.

- [ ] Discordo completamente
- [ ] Discordo
- [ ] Duvido
- [ ] Concordo
- [ ] Concordo completamente

Eu não me esforcei na avaliação do produto que me foi apresentado.

- [ ] Discordo completamente
- [ ] Discordo
- [ ] Duvido
- [ ] Concordo
- [ ] Concordo completamente

Foi muito importante para mim ler as perguntas cuidadosamente.

- [ ] Discordo completamente
- [ ] Discordo
- [ ] Duvido
- [ ] Concordo
- [ ] Concordo completamente

Qual a sua opinião em relação à seguinte afirmativa?

As imagens que foram apresentadas neste estudo representam bem uma situação real.

- [ ] Discordo completamente
- [ ] Discordo
- [ ] Duvido
- [ ] Concordo
- [ ] Concordo completamente

Para terminar a sua participação neste estudo, por favor responda a seguinte pergunta.

Na sua opinião qual é o objetivo desta pesquisa?


Caso você queira concorrer a um dos kits que serão sorteados escreva o seu email abaixo!!


Este é o final do questionário. Para terminar sua participação passe para a próxima página. MUITO OBRIGADO por sua participação!!! Caso você tenha qualquer dúvida em relação a este estudo, por favor me envie um email (alvaro.henriquepradocarvalho@wur.nl).

Observação: Alguns dos produtos apresentados neste estudo são fictícios.

2-QUESTIONNAIRE (English version)

Dear respondent,

This research attempts to investigate consumers’ responses to laundry detergent products in the Brazilian market. Therefore, we would like to ask your opinion about some of the products in the laundry detergent category.

On the next pages you will see two pictures ((1) shelf display; (2) laundry detergent product). It is important that you carefully view each image. After that, you are kindly asked to answer some questions. We are interested in YOUR opinion, so there are no right or wrong answers. This survey will take approximately 15 minutes. The results are processed anonymously.

By participating in this research you will have the chance to win one of ten kits of laundry detergent products.

Thanks for your cooperation!

Álvaro Henrique Prado Carvalho (MSc student at Wageningen University – MCB group)
Supervisors: Dr. Erica van Herpen
            Dr. Andres Trujilo-Barrera
One shelf display (i.e. from the four possible conditions) was shown (randomly).

Participants will be asked to look at the displays as they would normally do at supermarket shelves when they go shopping.

2- Briefly explain why

Regardless of their choice, participants then saw one of the investigated products. (E.g. participants who saw the image above saw the following product:
Based on the product shown participants were asked the following questions:

3- Attitudes towards the product

What is your attitude towards the product X?

[Blank boxes for rating scale]

Very unfavourable

[Blank boxes for rating scale]

Good

[Blank boxes for rating scale]

Unlikely to be of a high quality

[Blank boxes for rating scale]

Likely to be of a high quality

4- Purchase intentions

What is your opinion towards the following statements?

1- It is very likely that I will buy (product).

[Blank boxes for rating scale]

Strongly disagree

[Blank boxes for rating scale]

Strongly agree

2- I will purchase (product) the next time I need a laundry detergent.

[Blank boxes for rating scale]

Very unlikely

[Blank boxes for rating scale]

Very likely

3- I will definitely try (product).

[Blank boxes for rating scale]

Very unlikely

[Blank boxes for rating scale]

Very likely
5- Relevant attributes

How well do you think the (product) would clean your clothes?

Not very clean  Very clean

How easy do you think it would be to use the (product)?

Very difficult  Very easy

6- Product atypicality (in relation to the products in the laundry detergent category)

Extremely typical  Extremely atypical

Not at all unusual  Very unusual

Matches very well  Does not match at all well

End of the common part
Brand familiarity (randomly presented) anchored by strongly disagree/strongly agree

7- (Arcus or Omo) is the most popular brand of the laundry detergent category
8- When I need to buy a laundry detergent, immediately I think of (Arcus or Omo)
9- When asked about laundry detergent brands, (Arcus or Omo) is the first one that I think

10- What is the brand currently being used at your home?
   ___Ariel; ___Arcus; ___Omo; _______Other

11- How often do you buy laundry detergents?
   Never___; Rarely ____; Sometimes ____; Quite often ___; Very often ___

12- How often do you use laundry detergents?
   Never___; Rarely ____; Sometimes ____; Quite often ___; Very often ___

13- How old are you? __________

14- What is your gender? __________

15- Number of people in the household: __________

16- What is your combined monthly household income? (Ranges were provided)

17- City of residence: __________

Participants’ motivation anchored by very untrue/very true

18- I was very motivated to give an accurate evaluation of the laundry detergents presented to me

19- I did not put much effort into the evaluation of the products

20- It was very important to read the questions carefully

21- What is your opinion towards the following statement?
   The experiment presented here is realistic.

   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Strongly disagree

   Strongly agree

Suspicion probe
22- Please, could you give a brief explanation of what you think the aim of the study is?

This is the end of the questionnaire, THANK YOU for your cooperation!!!! If you have any question regarding this study do not hesitate to contact me at alvaro.henriquepradocarvalho@wur.nl.
If you want to have a chance to win one of the kits, please write your email down in the box below

Note: The products presented in this research are fictitious.
12- REFERENCES

Datamonitor (2010). Household Products in Brazil to 2013 [Online].
Euromonitor (2012). Laundry Care in Brazil [Online].


