

THE DETERMINANTS OF CONSUMER TRUST DURING RETAILER BRAND NAME SUBSTITUTION

Kannou Ahmed, University of Tunis El Manar
Kaouther Saied Ben Rached, University of Tunis El Manar

ABSTRACT

The purpose of this article is to propose and test a model that aims to identify the key determinants that could generate consumer trust during a retailer brand name substitution. Given the causal nature of the research, a quantitative study was conducted in Tunisia on a 340-consumer sample. Structural equation modeling (SEM) was performed to evaluate the research model.

The results of this research highlight four variables that can contribute to building consumer trust during a retailer brand name substitution, namely (1) information about the change; (2) the difference in price image between the two brands; (3) the similarity between the new and the initial brands; and (4) the perceived benefits derived from the change. The research offers a better understanding of the processes involved in the building of consumer trust in the retailer brand name substitution. However, it only constitutes a first step in the attempt to understand this phenomenon. This paper helps practitioners to identify the key success determinants that can easily transfer consumer trust from the old retailer brand to the new one. It reveals guidance for successful retailer brand name substitution.

Keywords Brand name, Retailer brand name substitution, Retailer brand trust transfer.

INTRODUCTION

Every year, several companies make a major shift in their communication strategy by changing their brand. This is a sensitive operation that occurs at a pivotal moment. This change can take place during a period of crisis for the brand or to give the brand a new image (Muzellec and Lambkin, 2006). It can also be to realign the brand towards a target audience, to engage in a new strategic axis or simply to boost its business and increase its sales (Miller et al., 2014). Spectacular examples include Raider-Twix, Treets-M&M's, L'Alsacienne-Lu, Chambourcy-Nestlé and Danone's Bio yoghurt-Activia by Danone. These brands substitutions are most often motivated by the need to reduce the brand portfolio that has become bloated due to numerous acquisitions or by the desire of building global brands (Collange, 2008). Indeed, this phenomenon is not merely confined to food products: it can encompass the retail sector.

Today, distributors are looking for new growth drivers, particularly through brand substitution, which make it possible to strengthen their attractiveness to consumers and to maintain their market relevance (Lachaud et al., 2012). Brand substitution has therefore become a common managerial practice even though it is a risky, costly and lengthy exercise (Collange, 2015; Bolhuis et al., 2018; Nana et al., 2019; Marques et al., 2020). It concerns the replacement of a brand with less potential by a more strategic one in order to stimulate a change in the consumers' attitudes, perceptions and behaviours (Kannou, 2021).

In Europe, for example, and as part of a "multi-format" "mono-brand" strategy, the European food distribution leader "Carrefour" replaced the brand name of its "Champion" supermarkets with the brand name "Carrefour -Market" so as to consolidate its hegemony on the market and maximize the synergy effects between the formats. Carrefour's substitution strategy was first implemented in France, Spain, Poland and Turkey. In Tunisia, this movement was observed during the substitution of the *Promogro* brand by the well-known national brand *Magasin General* "MG". The objective was to modernize all the former retailer brands, to give the brand a new image under the "MG" umbrella and to reposition it on the Tunisian market.

This strategy is not without risk, and its consequences can be serious for the company since it affects one of the fundamental roles of the brand, namely identification (Kapferer, 2007). Such an undesirable or poorly executed change could be a source of doubt and confusion for its customers, which can weaken or destroy their trust in the new brand, thus producing a drastic loss of brand loyalty (Collange & Bonache, 2015).

Indeed, previous research on the retailer brand relationship emphasized the central role of brand trust in maintaining and developing customer loyalty to the retailer brand (Guenzi et al., 2009; Rubio et al., 2017; Atulkar, 2020). Despite this central position in the literature review, it is quite surprising that little research has analyzed the impact of trust in the retailer brands in the case of retailer brand name substitution. The main works identified to date are oriented towards modeling consumer attitudes towards product (Pauwels & Mogos, 2013) and service (Collange, 2015) brand substitution or corporate rebranding (Muzellec & Lambkin, 2006) or towards understanding the process of brand substitution (Lachaud et al., 2012).

The question of consumer trust in the case of retailer brand name substitution is one of the key problems for managers. If the new retailer brand is not legitimate to consumers, it risks losing its credibility and failing in the market. In light of this, the problem of this research is posed as follows: What are the determinants of consumer trust in the case of retailer brand name substitution?

Identifying the variables that account for consumer trust can help define the key success factors for a change of brands from the consumer's perspective. To do this, in the absence of academic research on the subject, we will rely on the body of literature that presents similarities with our problem in order to proceed by analogy with the works on product brand substitution.

Indeed, our study therefore aims to at least partially fill this gap in the literature by proposing two major contributions. First, on the theoretical front, this study relies on the analogical reasoning theory between product brands and retailer brands on the one hand (Dimitriadis, 1993; Arnett et al., 2003; Ailawadi & Keller, 2004), and product brands substitution and retailer brands substitution on the other hand (Keller, 1998; Lachaud et al., 2012), to develop and test a comprehensive research model aimed at explaining the determinants of consumer trust in retailer brands substitution.

Secondly, on an empirical basis, our study is the first quantitative research which was conducted to determine how managers can efficiently transfer the retailer brand trust from the old to the new retailer brand in the retailing sector. Therefore, the results of our research will provide managers with a list of key determinants, allowing them to reduce negative consumer reactions to the retailer name change and to preserve the brand trust capital in the case of a retailer brand substitution.

Our research attempts to propose and empirically test a conceptual model that links trust with its key determinants in the case of a retailer brand name substitution. A survey of 350 individuals is conducted to obtain data to evaluate the proposed model. The structural equations methodology is used to test the hypothesized relationships. The rest of this paper is structured as follows. A first part discusses the theoretical arguments concerning the relationship between trust and its determinants and develops the hypothesized relationships. A second part presents the methodological details and statistical results. In the third part, the discussion of the results is presented. Finally, the conclusions, contributions, limitations and extensions of our research will be discussed in the fourth and last part.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The Principle of Reasoning by Analogy

Reasoning by analogy is a scientific research topic in which several researchers have taken an interest. It is considered an essential form of inductive reasoning (Cauzinille-Marmèche et al., 1985) and is omnipresent in our daily life, especially when we have to deal with new situations (Sternberg, 1977). Thus, reasoning by analogy makes it possible to facilitate the knowledge transfer from an already known situation to an unknown situation (Sander, 2000; Holyoak, 1984). An abstract knowledge structure describing the relationships between the two situations or domains would be created by this transfer, and this new structure would facilitate future knowledge transfers to other domains (Holyoak et al., 1984; Gentner & Holyoak, 1997). It is possible to transfer the knowledge already acquired to new areas that the individual organises by analogy. In the context of our research, to establish an analogy, it is necessary that the entities of the two fields studied be similar. The objects are then different but the roles that each plays in the structure are identical, it is a question of substantial analogy when the two entities “share a common property” (Nagel, 1961). This means that the analogy compares two domains but which share similarities in their structures or in their relationships.

In marketing, the concept of reasoning by analogy was the subject of a lot of research. For example, some research shows that the retailer brands accomplish many functions by analogy to the product brands (Kapferer, 1998; Filser & Pilchon, 2004; Ambroise et al., 2010; Fleck and Nabec, 2010). They show that the retailer brand, like the product brand, allows the consumer to identify the brand's offer, differentiate it from competitors', offer a of a certain level of quality guarantee of the product-service offer, validate one's personality, and provide symbolic, hedonistic and experiential benefits (Kapferer, 1998; Fleck and Nabec, 2010). Other research uses the concept of retailer brand equity, also based on a theoretical analogy with brand equity (Arnett et al., 2003; Pappu and Quester, 2006; Jinfeng & Zhilong, 2009; Calvo-Porrall et al., 2015; Gil-Saura et al., 2017).

(Collange, 2008; Delassus & Gomez, 2012) relied on the work carried out on brand extensions which, according to them, presents similarities with the problem of brand substitution. The practice of brand stretching is based on the principle that the consumer will transfer their attitude towards the renowned brand, supposedly positive and favorable, to the unknown stretch, and that this will encourage them to buy it (Collange, 2008). Similarly, the practice of brand substitution is based on the principle that the consumer will transfer their attitude towards the brand (known), supposedly positive and favorable, to the new brand (known or unknown) and

that this will encourage them to continue to buy it. From the above, it seems very legitimate to us to refer by analogy to prior research carried out on brand substitutions in order to identify the determining variables of brand trust in the case of retailer brand substitution. Therefore, we assume, by analogy to brand substitution, that retailer brand substitution is also based on the principle that the consumer can transfer their trust and attitude from the old (known) brand, supposedly positive and favorable, to the new one (known or unknown), and that this will encourage them to continue to frequent it.

Trust

Trust was studied in the context of relationship marketing and largely inspired by the contributions of inter-personal and inter-organisational trust (Deutsch, 1960; Dwyer et al., 1987). These two notions paved the way for the concept of trust to be transposed to the brand and the retailer (Gurviez & Korchia, 2002). Brand trust is an essential and central variable in consumer purchasing decisions (Veloutsou, 2015). All researchers agree in recognising the fundamental character of this concept in the construction and maintenance of the consumer-brand relationship and the predictive aspect of commitment or loyalty (Gurviez & Korchia, 2002; Aurier and N'Goala, 2010; Veloutsou & Guzmán, 2017). Like the brand, trusting the retailer brand is also a fundamental element in the consumer's decisions and choice process. Retailer brand as a private label has an evocative, affective and identifying power equivalent to that of product brands. They seek to respect their promises, to develop the trust of their customers and to be closer to their expectations, needs and interests of (Kaabachi, 2015, Rubio et al., 2017).

Brand trust was defined by Kaabachi (2015) as “*the fact of being able to count on the credibility and benevolence of the brand in a lasting way*”. This definition includes the credibility and the benevolence dimensions. The credibility of the brand is its ability to respect its commitments in a sustainable and continuous manner, thus allowing the consumer to ensure their current and future brand credibility. Benevolence is the brand's ability to defend the consumer's own interests, while taking care not to take advantage of their vulnerability, thus reflecting the brand's benevolence and honesty.

Retaining as many consumers as possible and quickly regaining their trust after implementing a brand substitution strategy is an absolute priority for distributors. Indeed, during a brand substitution, consumers will rationally evaluate the performance of the new brand (performance in terms of product quality, services quality, etc.), in order to judge its credibility (Lombard & Louis, 2014; Garaus & Treiblmaier, 2021). This performance that will be established with the new retailer brand allows the identification of certain elements that can trigger trust. Therefore, a consumer will trust the new retailer brand only if they are convinced that this brand is performing well enough to meet their expectations (Rubio et al., 2017).

Indeed, several studies have shown that this strategy has a negative impact on the consumer's evaluation toward product brand substitution or retailer brand substitution (Muzellec & Lambkin, 2006; Delassus et al., 2014; Collange, 2015). For example, (Pauwels & Mogos, 2013) found that brand name substitution leads to a significant decline in the quality of consumers' relationship with the brand in terms of perceived quality, brand trust, and loyalty. This loss can be explained by the fact that brand substitution is a destabilising event: consumers are disoriented and forced to make an extra effort to adapt (Collange, 2015). This allows us to expect that the level of trust in the brand will decrease after the brand name substitution.

Therefore, we consider the change in the level of trust in the consumer as the dependent variable in our research model. This change is the difference (Δ) before and after retailer brand name substitution.

H1. The level of consumer trust will decrease after retailer brand name substitution.

Information About Change

According to Callon (1998), “*the only antidote to combat the poison of distrust is to amplify information actions*”. Delassus et al., (2014) point out that the absence of information on the brand substitution and on the interest in the latter, added to the misunderstanding of the merits of the decision or the perception of dissonant arguments can lead to resistance. Communication about substitution presents one of the most important factors for successful change (Ohme & Boshoff, 2019; Joseph et al., 2021; Peccei et al., 2011; Plewa and Veale, 2011; Collange, 2015; Pauwels & Mogos, 2018). It reduces the surprising effects of change, improves trust in companies and limits the effect of negative emotions generated by the change (Collange & Bonache, 2015).

Previous research shows that consumer knowledge of the change is positively related to their trust in the new brand (Pauwels & Mogos, 2013). The need to communicate in advance about substitution, therefore, seems to be a crucial step in creating consumer trust for the distributor. This allows the distributor to make market players (i.e., customers, producers, distributors) adhere to the substitution and to minimize their resistance (Muzellec & Lambkin, 2006; Delassus et al., 2014; Peterson et al., 2015). We then assume, like brand substitution (Peccei et al, 2011; Collange, 2015; Pauwels & Mogos, 2018), that if the distributor informs consumers in a transparent and progressive way about the change while reassuring them of the maintaining the same service quality level, they will tend to easily accept the substitution and will be ready to patronize the new retailer brand again. This improves trust in the new retailer brand and thus limits the effect of negative reactions to retailer brand name substitution. Therefore, we propose the following hypothesis:

H2. The more consumers are informed in advance about brand name substitution, the greater the trust in the new retailer brand.

Perceived Benefit

Perceived benefits are the sum of benefits that satisfy consumers' needs and desires (Wu, 2003). In the case of brand substitution, the perceived benefits can be considered as the consumer's belief that they will derive an additional advantage from the change (Delassus & Descotes, 2018). Perceived benefits can be classified into two types: utilitarian and non-utilitarian benefits (Loureiro, 2013; Zhang et al., 2013). The first deal with convenience, which is a wide range of products with lower prices within the store. Non-utilitarian benefits are related to hedonic pleasure in the sense of a new shopping experience.

Generally, perceived benefits are negatively associated with perceived risks (Ho et al., 2019). Several previous researches have shown that perceived benefits have a positive and significant effect on customers' behavioural intention (Anisimova, 2007; Loureiro, 2013; Li, 2014; Ryu, 2018). For example, Loureiro (2013) showed that the perceived benefits of online

banking services (such as ease of use and convenience) contribute significantly to building consumer trust. Anisimova (2007) showed that functional benefits for the consumer are the most important loyalty predictors.

Other works carried out in the case of brand name substitution showed that the perceived benefits from the change make it possible to minimize consumer resistance, develop positive word-of-mouth (Pauwels & Mogos, 2018) on the new brand and encourage other consumers to frequent it (Delassus et al., 2014). However, it is clear that a brand substitution accompanied by additional benefits is likely to promote change and create consumer trust in the brand. If a consumer is satisfied with the benefits provided by the new brand, they are likely to become a regular customer. The reverse is also true: if consumers do not really see the opportunity to realise the benefits derived from the change, this can create a certain mistrust, which can cause their dissatisfaction, or even prevent them from returning to other brands. Therefore, we propose the following hypothesis:

H3. A perceived benefit derived from retailer brand substitution is likely to create trust in the new retailer brand.

Perceived Similarity

In the marketing literature, perceived similarity between two objects refers to their "perceived similarity by the consumer" (Tauber, 1981). The greater the similarity between two objects, the more knowledge and attitude will be transferred from a well-known object to a less-known object (Martin and Stewart, 2001). Perceived similarity, therefore, plays a crucial role in the transfer of knowledge and attitude from one known object to another. Perceived similarity is the effect of subjective judgment about brands, which helps consumer's categories, generalize and discriminate between brands and form attitudes towards the brand through cognitive processing (Baker et al., 2002). This concept was identified in the marketing literature as one of the key success factors in brand strategies (Collange, 2015).

Studies on brand stretching show that consumers tend to evaluate it positively when they identify certain similarities with the parent brand (Aaker & Keller, 1990; Czellar, 2003; Hem et al., 2003; Völckner & Sattler, 2006). Pauwels & Descotes (2012) observe that the level of perceived similarity between the old and the new brands contributes to the transfer of brand image and associations to the new brand. For Collange (2008), a high level of similarity between the old and the new brands promotes positive evaluations and purchase intentions of the product. (Descotes & Delassus, 2015) rely on the work of (Collange, 2008) and also show that the existence of a high level of similarity between the two brands plays a facilitating role in the transfer of consumer trust from the old to the new brand. In the case of a retailer brand name substitution, the degree of similarity between the old and the new brand name seems to be a necessary condition for consumer trust. Therefore, we propose the following hypothesis:

H4. Perceived similarity between the old and the new retailer brand is likely to build consumer trust in the new brand.

Effect of Price Image Differential on Trust

Brand price image is defined as “*the general belief about the overall level of prices that consumers associate with a particular retailer*” (Hamilton and Chernev, 2013 p.2). It is consistent with the idea that consumers tend to make as simple purchasing decisions as possible. In other words, the price image symbolizes how consumers perceive the price and this is related to the consumers’ emotional experience which can affect their actions (Cheah et al., 2020). The price image is one of the tools that the marketing manager can use to face the market, either by attracting and retaining customers directly, or by fighting competitors (Boonlertvanich, 2009; Diallo, 2012).

The consequences of price image were understudied in previous research. The price image was considered by some researchers as the main driver of consumer purchase intentions (Diallo, 2012; Zielke, 2018; Sihotang & Ellyawati, 2020; Cheah et al., 2020). Some studies pointed out that the price image can have a significant impact on consumer loyalty (Hamilton and Chernev, 2013; Diallo et al., 2015; Zielke, 2018). Other studies conducted in the retail context also highlighted the causal relationship between price image and consumer trust (Lombart et al., 2016; Suhaily & Darmoyo, 2017; Louis & Lombart, 2018 Cheah et al., 2020).

In the context of a retailer brand name substitution, the consumers’ evaluation of the new retailer price is supposed to influence their store frequenting. This evaluation, if negative, can have harmful effects on the profitability of the brand expressed by a loss of trust of a considerable segment of consumers. Therefore, a price image evaluated as favorable influences the credibility of the store to consumers (Erdem et al., 1999), especially those who are price sensitive. In addition, (Kannou, 2021) observed in his qualitative study on the retailer brand substitution that any perception of price increase or any promotional offer deemed useless by consumers would be considered as attempts to affect their financial situation negatively. This would result in negative attitudes towards the new brand expressed through consumer resistance. However, our study suggests that the more consumers judge the prices of the new retailer brand favourably, the higher their trust in it. Therefore, the following hypothesis is postulated: Figure 1

H5. The stronger the price image of the new retailer brand compared to the initial retailer brand, the higher the trust in the new retailer brand.

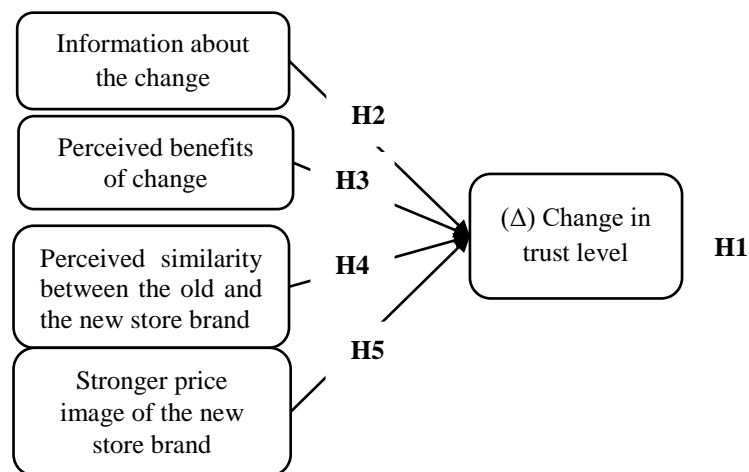


Figure 1
CONCEPTUAL MODEL

METHODOLOGY

In order to obtain the information needed to test the above-mentioned hypotheses, a quantitative survey including 340 consumers is performed. A questionnaire is designed to gather information on consumer perceptions about the variables selected based on the literature review. The questionnaire was conducted during face-to-face interviews with consumers who are familiar with the old and new retailer brands. The interviews took place along different days and times over one month in order to guarantee the sample representativeness. The characteristics of the sample are described in Table 1. A large part of the sample was female (52.6%). 59% of consumers were between 25 and 60 years old. The buyers were divided according to their marital status (62% married and 38% single). The sample was fairly well educated, with 34.7% of consumers having completed college and 47.9% having obtained a university degree. All income brackets were well represented.

In our study, we focus on a retailer brand name substitution in the retail sector. To this end, two Tunisian retailer brand name substitutions in the food retail sector were chosen, namely the 'Promogro' brand name substitution by 'MG' (*Magasin Général*). This substitution is part of the MG group's strategy to diversify and support its customers in their daily expectations. This will entail a new brand image and a policy change, both in terms of brand positioning and pricing strategy.

This retailer brand substitution was particularly risky because the retailer brand name substitution was accompanied by a radical change (direct change after 30 days of closure). In addition, MG did not communicate its retailer brand name substitution to the consumers. Indeed, consumers surveyed found it difficult to understand what went wrong with the old retailer brand name. For this reason, this retailer brand name substitution is of particular interest for our research, insofar as it was likely to lead to retailer brand trust loss.

Table 1 CHARACTERISTICS OF THE SAMPLE		
Categories	N	%
Gender		
Male	161	47,3
Female	179	52,6
Age		
18 – 25	43	12,6
25 – 45	89	26,1
45 – 60	112	32,9
> 60	96	28,2
Marital status		
Married	210	61,7
Single	130	38,3
Income (per month)		
500 – 800	63	18,5
800 – 1200	116	34,1
1200 – 1600	84	24,7
1600 – 2000	51	15,0
> 2000	26	7,6
Education		
High school or less	118	34,7
Bachelor level	126	37,0
Master/PhD	37	10,9
Others	59	17,3

Measures

The operationalisation of the constructs was based on the use of measurement scales tested in the previous literature. These scales are presented in Table 2, while Table 3 describes the difference scores used in the study. To measure information about the change, 4 items from the scale of (Pauwels & Mogos, 2018) were used. The perceived similarity between the two retailer brands was measured by 3 items adapted from (Collange, 2008; Bhat & Reddy, 2002). The perceived benefit derived from the change was measured by 3 items adapted from Wendlandt and Schrader (2007). The price image was measured by 4 items adapted from previous work by (Lombart et al., 2016). The dependent variable trust was measured by 5 items adapted from (Kaabachi, 2015). All items were measured on a seven-point Likert scale ranging from “strongly disagree” to 5 “strongly agree”.

To determine the validity of our measurement instruments, we used exploratory factor analysis (EFA) and confirmatory factor analysis (FCA) (Anderson & Gerbing, 1988). These methods make it possible to process all the linear relationships between the dependent variables

in the unidirectional or reciprocal direction (Roussel et al., 2002). The EFA results showed that the KMO values are higher than 0.7 (from 0.81 to 0.86) and the Barlett tests are significant since the probability of obtaining the value of the test is lower than the 5% threshold. The total variance explained by the factors was higher than 58.5%. All constructs obtained a Cronbach's alpha higher than 0.7.

The measurement model was subsequently tested using structural equation modelling (SEM). We performed a confirmatory analysis in which we estimated the parameters by the maximum likelihood (ML) method on the covariance matrix between all indicators using AMOS 22. Since this estimation technique is very sensitive to data multinormality violation (Roussel et al., 2002), a Mardia multinormality coefficient was calculated. The overall measurement model showed good fit indices: normalised χ^2 : 2.132; GFI: 0.911; AGFI: 0.901; RMR: 0.042; RMSEA: 0.055; NFI: 0.92 and CFI: 0.961.

We subsequently used FCA to verify the reliability (by calculating the Jöreskog Rhô) and validity of our measurement instruments obtained while following the procedure of Fornell and Larcker, (1981). Table 2 shows that the values of the Jöreskog Rhô coefficient are satisfactory as they exceed the recommended minimum threshold of 0.7. Furthermore, we found that the conditions for convergent validity were met since the average extracted variance values (AVE) (rVC) are above 0.5 (Fornell & Larcker, 1981). The discriminant validity of constructs was assessed following (Fornell & Larcker, 1981) by comparing r VC values to squared correlations between the latent variables, and was found satisfactory (see Table 2).

Construct / Items	Loading s	Cronbach alpha (α)	Joreskog' s	VE	Discriminant validity
Rho					
Information					0,789> δ2 INFO – BP = 0,44
INFO1	0,887				0,789> δ2 INFO – SIM = 0,31
INFO2	0,906	0,911	0,937	0,789	0,789> δ2 INFO – PIMG (A) = 0,30
INFO3	0,891				0,789> δ2 INFO – PIMG (B) = 0,20
INFO4	0,869				0,789> δ2 INFO – TRUST(B) = 0,37
Perceived benefits					
BP1					0,716> δ2 BP – INFO = 0,39
BP2	0,835				0,716> δ2 BP – SIM = 0,33
BP3	0,855	0,802	0,883	0,716	0,716> δ2 BP – PIMG (A) = 0,29
	0,849				0,716> δ2 BP – PIMG (B) = 0,41
					0,716> δ2 BP – TRUST (B) = 0,37
Perceived similarity					
SIM1					0,821> δ2 SIM – INFO = 0,34
SIM2	0,901				0,821> δ2 SIM – BP = 0,26
SIM3	0,923	0,893	0,932	0,821	0,821> δ2 SIM – PIMG (A) = 0,24
	0,894				0,821> δ2 SIM – PIMG (B) = 0,22

					0,821> δ2 SIM – TRUST(B) = 0,37
Price image (A)					
PIMG1					0,622> δ2 PIMG (A) – INFO = 0,17
PIMG2	0,789				0,622> δ2 PIMG (A) – BP = 0,23
PIMG3	0,682	0,805	0,867	0,622	0,622> δ2 PIMG (A)– SIM = 0,45
PIMG4	0,839				0,622> δ2 PIMG (A) – PIMG(B) = 0,16
	0,834				0,622> δ2 PIMG (A) – TRUST(B) = 0,12
Price image (B)					
PIMG1	0,804				0,675> δ2 PIMG (B) – INFO = 0,49
PIMG2	0,781	0,822	0,892	0,675	0,675> δ2 PIMG (B) – BEF = 0,43
PIMG3	0,855				0,675> δ2 PIMG (B) – SIM = 0,47
PIMG4	0,843				0,675> δ2 PIMG (B) – PIMG (A) = 0,36
					0,675> δ2 PIMG (B) – TRUST (B) = 0,33
Trust (B)					
Trust 1	0,793				0,684> δ2 TRUST (B) – INFO = 0,61
Trust 2	0,813				0,684> δ2 TRUST (B) – BP = 0,48
Trust 3	0,841	0,852	0,915	0,684	0,684> δ2 TRUST (B) – SIM = 0,28
Trust 4	0,816				0,684> δ2 TRUST (B) – PIMG (A) = 0,37
Trust 5	0,871				0,684> δ2 TRUST (B) – PIMG (B) = 0,39

Table 3 DIFFERENCE SCORES (ADAPTED FROM COLLANGE, 2015)	
Variable	Score calculation
Change in trust level	(Δ) = (Trust level in B – Trust level in A)
Difference in price image between the two store name brands	(Δ) = (Price image of store brand B - Price image of store brand A)

The Results of the Causal Model and Validation of the Research Hypotheses

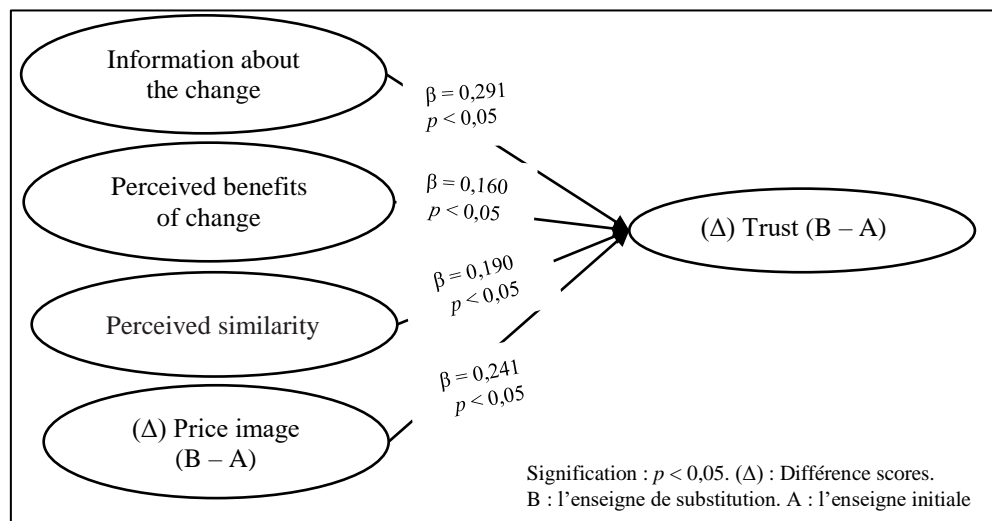
We examined the hypothesized relationships among constructs by estimating a structural equation model using Amos 22. In accordance with hypothesis H1, brand name substitution results in a significant drop in the level of consumer trust after the substitution. Table 4 shows that the level of consumer trust decreases from (Men: 4.71 to 4.32). Hypothesis H1 is therefore validated.

The causal model presented in Figure 2 allows us to verify the research hypotheses and informs us about the intensity of the causal links between trust and its determinants. The research hypotheses were verified by examining the values relating to Student *t-test* which must have a minimum absolute value higher than 1.96 ($p\text{-value} < 0.05$) as well as the significance of the probability levels (at the 5% threshold) associated with each value of the *t-test*. In addition, we used the bootstrap procedure (at 200 replications) to ensure the robustness of the coefficients estimated by the maximum likelihood (ML) method and to deal with the violation of multinormality data (Mardia = 73.227) (Roussel et al., 2002).

Table 5 shows that the information on the change ($\beta = 0.291$; $p < 0.05$), the similarity between the two brands ($\beta = 0.190$; $p < 0.05$) and the perceived benefit ($\beta = 0.160$; $p < 0.05$) have positive, direct and significant effects at the 5% threshold on customer trust. These results, then, make it possible to confirm hypotheses H2, H3 and H4. To verify hypothesis 5 (the positive and direct effect of the differential effect between each brand's price image of on trust), we used the two-step approach of (Collange, 2015) to calculate the difference score between each retailer's price image (Table 3). First, we calculated the difference scores on the factorial scores of the variables, and not directly on the item measures, in order to eliminate measurement errors and to obtain a better measure. Then, we included these scores as single variable constructs in our model. The path coefficients of the variables are presented in Fig 1 and in Table 5. As expected, the stronger the price image of the new retailer brand name compared to the initial retailer brand name, the more consumer trust in the new retailer brand name, hence, hypothesis H5 is validated ($\beta = 0.211$; $p < 0.05$). Therefore, we can conclude that trust depends simultaneously on these four factors which represent key elements for distributors and essential action variables for the creation and consolidation of customer trust. On the other hand, it should be noted that these factors do not contribute in the same way to explaining customer trust. Indeed, Figure 2 reveals that the impact of information and the price image differential on trust is relatively greater. This justifies the importance of taking into consideration the weight of each element of the mix.

Variables	L'enseigne initiale		La nouvelle enseigne		T de Student	P
	Promogro		MG			
	Moyenne	Ecart type	Moyenne	Ecart type		
H1. Trust	4,71	1,461	4,32	1,298	11,020	***

Table 5 SIGNIFICANCE OF CAUSAL LINKS			
Research hypotheses	Standardised regression coefficient	C.R.	P
	β		
H2. Trust (B) <--- Information	0,291	3,471	***
H3. Trust (B) <--- Perceived benefits	0,160	2,430	0,033
H4. Trust (B) <--- Perceived similarity	0,190	2,352	***
H5. Trust (B) <--- (Δ) Price image	0,241	3,131	***
Note(s): Significant at: **p, 0.05 and ***p, 0.001 levels ns: not significant)			



**Figure 2
CONCEPTUAL MODEL TESTED**

CONCLUSION, IMPLICATIONS, LIMITS AND EXTENSIONS

Our research focused on a strategy that has so far only given rise to a limited number of academic works, namely the retailer brand name substitution strategy. This research therefore has theoretical, methodological and managerial implications. From a theoretical point of view, this is the first time that consumer trust in retailer brand name substitution has been modelled. Research on the substitution strategy has modelled the transfer of product brand equity (Delassus & Descotes, 2012) or consumer attitudes towards a product/services brand substitution

(Collange, 2008; 2015), or corporate rebranding (Bolhuis et al., 2018; Joseph et al., 2021), or analysed the process of a rebranding strategy (Muzellec & Lambkin, 2006; Miller et al., 2014). It is therefore the first time that a complete model of the determinants of consumer trust during a retail brand substitution has been proposed and tested.

This study also extends the work carried out on product brand substitution by (Pauwels & Mogos, 2013) by including two additional variables in the model, which are specific in the case of retailer brand substitution. This transfer of knowledge, based on the principle of reasoning by analogy, is justified by the fact that the two strategies present several similar points. For example, some benefits provided by the retailer brand substitution strategy as well as certain inherent risks are of the same type to those associated with the product brand substitution strategy. Based on the similarity between the retailer brand and the product brand on the one hand, and on the retailer brand substitution strategy and the product brand substitution strategy the other, our study shows that it is relevant to use and to adapt the conceptual tools from cognitive psychology that made it possible to understand consumer trust during a retailer brand name substitution to propose a model of the determinants of consumer trust. However, some results obtained in the context of product brand substitution were confirmed in the context of retailer brand substitution. Thus, by introducing two new variables that are little used in academic research, and more particularly in the work on retailer brand substitution, new relationships were tested and validated. In particular, we showed the influence of perceived benefit and price image differential on consumer trust in the case of retailer brand substitution. These relationships are specific to the retail sector. Therefore, these results contribute to a better understanding of the specificities of a retail brand.

Finally, this research provides a better understanding of the impact of retailer brand substitution on consumer trust. First, it shows that this impact contributes to a significant loss of consumer trust after retailer brand substitution. This is in line with observations already made by previous research (Pauwels & Mogos, 2013; Collange, 2015). It also shows that this impact depends on four variables: (1) information on the change (2) the difference in price image between the two brands (3) the perceived similarity between the two products, and (4) the perceived benefit derived from the change. More precisely, the more consumers are informed in advance about the change, the more the price image of the new brand is superior to that of the initial brand. Also, the more the new retailer brand is similar to the initial retailer brand, and the more the perceived benefits are present in the change, the easier the consumer trust transfer from the old retailer brand to the new one.

From a methodological point of view, even if this research did not require the construction of a specific methodological element, it made it possible to test or confirm instruments from different theoretical fields. Therefore, based on the principle of analogical reasoning, we were able to validate three measurement scales in the case of a retailer brand substitution, namely; information about the change, the perceived benefit and the perceived similarity.

From a managerial perspective, our research allows managers to obtain important indications into how they can build consumer trust in the case of retailer brand substitution. The results allowed us to identify a list of key determinants for successful retailer brand substitution. Thanks to this list, managers could accurately estimate the extent to which consumer trust can be transferred to the new retailer brand.

The first managerial lesson concerns the implementation of a communication strategy for retailer brand change. Indeed, of all the determinants taken into account in the conceptual model, information about the change is the one that has the strongest influence on trust. It would therefore be important to communicate transparently about the change by juxtaposing the two brand names together so that consumers take their time to better understand and evaluate the value of the change and quickly become familiar with the new retailer brand. Moreover, the success of retailer brand substitution essentially depends on the involvement of contact personnel, a factor that is more difficult to control than tangible factors related to brand change (Lachaud et al., 2012). However, it is desirable to inform the contact personnel in advance about the change and the benefits it will bring about to ensure the smooth running of the change. More specifically, if the contact personnel are thoroughly informed about the change, they can reassure the consumer throughout the change by conveying positive information about the new brand.

The second lesson concerns the price image differential between the two brands. The results obtained show that the superiority of the price image of the MG substitution brand compared to that of the initial brand is the second most determining factor of consumer trust. Our research then suggests highlighting the importance of the role that the price image can play in building trust during a brand substitution process. It would therefore be desirable, when replacing brands, to ensure that a more attractive price image is developed compared to the old brand, because the consumer is always afraid that the distributor will make them pay for the substitution through a price increase. However, supporting consumers during the brand substitution is necessary, by showing them that the new brand does offer real solutions (e.g., useful promotions, savings ideas, etc.) allowing them to spend less, especially in this period of crisis.

The third lesson concerns the perceived similarity between the two brands. The perception of a similarity between the two brands is a necessary condition for the success of such a substitution. The results of our study show that the perceived similarity between the old and the new brands facilitates the transfer of trust to the new brand. By ensuring that the new and the old brands appear as close as possible to the consumers and that the quality of service does not differ much after the substitution, consumers can transfer certain central and peripheral associations to the new brand, which encourages their attitudes and preserves their trust in the brand despite its brand name change.

The fourth lesson concerns the benefits that change can bring about to consumers. This could lead some managers wishing to have the success of their substitution strategy to first ensure that they retain the benefits currently perceived in the old brand. Secondly, it is desirable to provide consumers with the opportunity to perceive other additional benefits derived from this change. On the other hand, the perception of these benefits allows both to value the effort made by the new brand and to develop the feeling that they make a good bargain when they frequent it. These benefits must be clear, attractive and well explained in order to avoid negative word-of-mouth.

Like all research, our work has limitations that can open up new research avenues. First of all, our research dealt with only food retail brands (Promogro & MG). This choice allows us to generalise our results to a large number of food retail brands, but not to other types of brands such as specialised brands. In addition, the choice to work on the substitution of a known local brand by another excludes other specific cases and ignores other possible modifications of the

retailing mix which could provoke consumer resistance. It would therefore be interesting to study different cases of brand substitution so that it is possible to provide managers with various reliable tools to guide them in their decisions. Another limitation is that our study does not include the time factor in its methodology since the change was radical. Future research could use longitudinal approaches to capture changes in the effectiveness of consumer trust transfer over time. Finally, our research only focused on consumer reactions, whereas the role of other market players (e.g., employees) is also very important in this case.

REFERENCES

- Aaker, D. A., & Keller, K. L. (1990). Consumer evaluations of brand extensions. *Journal of marketing*, 54 (1), 27-41.
- Ailawadi, K. L., & Keller, K. L. (2004). Understanding retail branding: conceptual insights and research priorities. *Journal of retailing*, 80(4), 331-342.
- Ambroise, L., Brignier, J. M., et Mathews, C. (2010). Les motivations cachées des consommateurs de marques d'enseigne : et si on parlait d'autre chose que du rapport qualité-prix?’, *Revue française du marketing*, 227, 45-62.
- Anatolevena Anisimova, T. (2007). The effects of corporate brand attributes on attitudinal and behavioural consumer loyalty. *Journal of consumer marketing*, 24(7), 395-405.
- Arnett, D. B., Laverie, D. A., & Meiers, A. (2003). Developing parsimonious retailer equity indexes using partial least squares analysis: a method and applications. *Journal of retailing*, 79(3), 161-17
- Atulkar, S. (2020). Brand trust and brand loyalty in mall shoppers. *Marketing Intelligence & Planning*, 38(5), 559-572.
- Aurier, P., & N’Goala, G. (2010). The differing and mediating roles of trust and relationship commitment in service relationship maintenance and development. *Journal of the Academy of marketing science*, 38(3), 303-325.
- Baker, T. L., Hunt, J. B., & Scribner, L. L. (2002). The effect of introducing a new brand on consumer perceptions of current brand similarity: the roles of product knowledge and involvement. *Journal of marketing theory and practice*, 10(4), 45-57.
- Bhat, S., & Reddy, S. K. (2001). The impact of parent brand attribute associations and affect on brand extension evaluation. *Journal of business research*, 53(3), 111-122.
- Bolhuis, W., De Jong, M. D., & Van Den Bosch, A. L. (2018). Corporate rebranding: effects of corporate visual identity changes on employees and consumers. *Journal of marketing communications*, 24(1), 3-16.
- Boonlertvanich, K. (2009). Conceptual model for the repurchase intentions in the automobile service industry: the role of switching barriers in satisfaction-repurchase intentions relationship. *International journal of business research*, 9(6), 140-157.
- Callon, M. (1998). Introduction: the embeddedness of economic markets in economics. *The sociological review*, 46(1), 1-57.
- Cauzinille-Marmèche, É., Mathieu, J., & Weil-Barais, A. (1985). Raisonnement analogique et résolution de problèmes. *L'année psychologique*, 85(1), 49-72.
- Cheah, J. H., Waller, D., Thaichon, P., Ting, H., & Lim, X. J. (2020). Price image and the sugrophobia effect on luxury retail purchase intention. *Journal of Retailing and Consumer Services*, 57, 102188.
- Collange, V. (2008). L'impact de la substitution de marques sur l'évaluation et l'intention d'achat du produit. *Recherche et Applications en Marketing*, 23(2), 1-18.
- Collange, V. (2015). Consumer reaction to service rebranding. *Journal of Retailing and Consumer Services*, 22, 178-186.
- Collange, V., et Bonache, A. (2015 Collange, V., & Bonache, A. (2015). Overcoming resistance to product rebranding. *Journal of product & brand management*, 24(6), 621-632.
- Czellar, S. (2003). Consumer attitude toward brand extensions: an integrative model and research propositions. *International journal of Research in Marketing*, 20(1), 97-115.
- Delassus, V.P., et Mogos Descotes, R. (2012), “Brand name substitution and brand equity transfer”, *Journal of Product & Brand Management*, Vol. 21 No. 2, pp.117-125.

- Deutsch, M. (1960). The effect of motivational orientation upon trust and suspicion. *Human relations*, 13(2), 123-139.
- Diallo, M. F. (2012). Effects of store image and store brand price-image on store brand purchase intention: Application to an emerging market. *Journal of Retailing and Consumer Services*, 19(3), 360-367.
- Diallo, M. F., Coutelle-Brillet, P., Riviere, A., & Zielke, S. (2015). How do price perceptions of different brand types affect shopping value and store loyalty?. *Psychology & Marketing*, 32(12), 1133-1147.
- Dimitriadis, S. (1993). L'extension des marques et des enseignes: cadre conceptuel et problématique managériale. *Recherche et Applications en Marketing*, 8(3), 21-44.
- Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing buyer-seller relationships. *Journal of marketing*, 51(2), 11-27.
- Erdem, O., Ben Oumlil, A., & Tuncalp, S. (1999). Consumer values and the importance of store attributes. *International Journal of retail & distribution management*, 27(4), 137-144.
- Filser, M., & Plichon, V. (2004). La valeur du comportement de magasinage: statut théorique et apports au positionnement de l'enseigne. *Revue française de gestion*, (1), 29-43.
- Fleck, N., & Nabec, L. (2010). L'enseigne: un capital pour le distributeur. *Management & Avenir*, 38(8), 14-32.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- Garaus, M., & Treiblmaier, H. (2021). The influence of blockchain-based food traceability on retailer choice: The mediating role of trust. *Food Control*, 129, 108082.
- Gentner, D., & Holyoak, KJ (1997). Raisonnement et apprentissage par analogie : Introduction. *Psychologue américain*, 52 (1), 32 .
- Gil-Saura, I., Šerić, M., Ruiz-Molina, M. E., & Berenguer-Contrí, G. (2017). The causal relationship between store equity and loyalty: Testing two alternative models in retailing. *Journal of Brand Management*, 24(2), 193-208.
- Guenzi, P., Johnson, M. D., & Castaldo, S. (2009). A comprehensive model of customer trust in two retail stores. *Journal of Service Management*, 20(3), 290-316.
- Gurviez, P., & Korchia, M. (2002). Proposition d'une échelle de mesure multidimensionnelle de la confiance dans la marque. *Recherche et Applications en Marketing (French Edition)*, 17(3), 41-61.
- Hamilton, R., & Chernev, A. (2013). Low prices are just the beginning: Price image in retail management. *Journal of Marketing*, 77(6), 1-20.
- Hem, L. E., De Chernatony, L., & Iversen, N. M. (2003). Factors influencing successful brand extensions. *Journal of Marketing Management*, 19(7-8), 781-806.
- Ho, S. S., Leong, A. D., Looi, J., Chen, L., Pang, N., & Tandoc Jr, E. (2019). Science literacy or value predisposition? A meta-analysis of factors predicting public perceptions of benefits, risks, and acceptance of nuclear energy. *Environmental Communication*, 13(4), 457-471.
- Holyoak, K. J. (1984). Analogical thinking and human intelligence. *Advances in the psychology of human intelligence*, 2, 199-230.
- Holyoak, K. J., Junn, E. N., & Billman, D. O. (1984). Development of analogical problem-solving skill, *Child development*, 55, 2042-2055.
- Jinfeng, W., & Zhilong, T. (2009). The impact of selected store image dimensions on retailer equity: Evidence from 10 Chinese hypermarkets. *Journal of Retailing and Consumer Services*, 16(6), 486-494.
- Joseph, A., Gupta, S., Wang, Y., & Schoefer, K. (2021). Corporate rebranding: An internal perspective. *Journal of Business Research*, 130, 709-723.
- Kaabachi, S. (2015). *Pour une approche relationnelle de la fidélité du consommateur à l'enseigne : intégration des notions de valeur perçue, de satisfaction cumulée, de confiance et d'engagement : une application au domaine des enseignes de distribution alimentaires*, Thèse de doctorat en sciences de gestion, Université Paris 1, Panthéon-Sorbonne, Paris.
- Kannou, A (2021). *Les déterminants de la confiance du consommateur lors d'une substitution d'enseignes*, Thèse de doctorat en sciences de gestion, Université de Tunis el Manar, Tunis.
- Kapferer, J.N. (2007). *Les marques, Capital de l'entreprise, 4^e édition*, Paris, Les Editions d'Organisation.
- Kapferer, J-N. (1998). *Les marques, capital de l'entreprise, 3^eme édition*, Editions d'Organisation, Paris.
- Keller, KL. (1998). *Building, Measuring and Managing brand Equity*, New York: Prentice Hall.

- Lachaud-Collin, I., Herbert, M., et de Pechpeyrou, P. (2012). Substitution d'enseignes et création de valeur pour les clients. *Décisions Marketing*, 65, 57-69.
- Li, Y. (2014). The impact of disposition to privacy, website reputation and website familiarity on information privacy concerns. *Decision support systems*, 57, 343-354
- Lombart, C., & Louis, D. (2014). A study of the impact of Corporate Social Responsibility and price image on retailer personality and consumers' reactions (satisfaction, trust and loyalty to the retailer). *Journal of retailing and consumer services*, 21(4), 630-642.
- Lombart, C., Louis, D., & Labbé-Pinlon, B. (2016). Price image consequences. *Journal of Retailing and Consumer Services*, 28(1) 107-116.
- Louis, D., & Lombart, C. (2018). Retailers' communication on ugly fruits and vegetables: what are consumers' perceptions?. *Journal of Retailing and Consumer Services*, 41, 256-271.
- Loureiro, S. M. C. (2013). The effect of perceived benefits, trust, quality, brand awareness/associations and brand loyalty on internet banking brand equity. *International Journal of Electronic Commerce Studies*, 4(2), 139-158.
- Marques, C., da Silva, R. V., Davcik, N. S., & Faria, R. T. (2020). The role of brand equity in a new rebranding strategy of a private label brand. *Journal of Business Research*, 117, 497-507.
- Martin, I. M., et Stewart, D. W. (2001), 'Martin, I. M., & Stewart, D. W. (2001). The differential impact of goal congruency on attitudes, intentions, and the transfer of brand equity. *Journal of Marketing Research*, 38(4), 471-484.
- Miller, D., Merrilees, B., & Yakimova, R. (2014). Corporate rebranding: An integrative review of major enablers and barriers to the rebranding process. *International Journal of Management Reviews*, 16(3), 265-289.
- Muzellec, L., & Lambkin, M. (2006). Corporate rebranding: destroying, transferring or creating brand equity?. *European journal of marketing*, 40(7/8), 803-824.
- Muzellec, L., & Lambkin, M. (2006). Corporate rebranding: destroying, transferring or creating brand equity?. *European journal of marketing*, 40(7/8), 803-824.
- Nagel E. (1961). *The Structure of Science*, New York: Brace and World.
- Nana, S., Tobias-Mamina, R., Chilya, N., & Maziriri, E. T. (2019). The impact of corporate rebranding on brand equity and firm performance. *Journal of Business and Retail Management Research*, 13(4).
- Ohme, R., & Boshoff, C. (2019). The role of implicit learning in logo substitution. *Journal of Consumer Marketing*, 36(5), 610-619.
- Pappu, R., & Quester, P. (2006). A consumer-based method for retailer equity measurement: Results of an empirical study. *Journal of retailing and consumer services*, 13(5), 317-329.
- Pauwels Delassus, V., & Mogos Descotes, R. (2018). Fan resistance towards a change in club identity. *Management international*, 23(1), 78-90.
- Pauwels-Delassus, V., & Mogos Descotes, R. (2013). Brand name change: Can trust and loyalty be transferred?. *Journal of Brand Management*, 20, 656-669.
- Peccei, R., Giangreco, A., & Sebastiano, A. (2011). The role of organisational commitment in the analysis of resistance to change: Co-predictor and moderator effects. *Personnel Review*, 40(2), 185-204.
- Peterson, M., AlShebil, S., & Bishop, M. (2015). Cognitive and emotional processing of brand logo changes. *Journal of Product & Brand Management*, 24(7), 745-757.
- Plewa, C., Lu, V., & Veale, R. (2011). The impact of rebranding on club member relationships. *Asia Pacific Journal of Marketing and Logistics*, 23(2), 222-242.
- Porral, C. C., Fernández, V. A. M., Boga, Ó. J., & Mangin, J. P. L. (2015). Measuring the influence of customer-based store brand equity in the purchase intention. *Cuadernos de gestión*, 15(1), 93-118.
- Roussel, P., Durrieu, F., Campoy, E., et El Akremi, A., (2002), *Méthodes d'équations structurelles : Recherches et applications en gestion*, Edition Economica, PARIS.
- Rubio, N., Villaseñor, N., & Yagüe, M. J. (2017). Creation of consumer loyalty and trust in the retailer through store brands: The moderating effect of choice of store brand name. *Journal of Retailing and Consumer Services*, 34, 358-368.
- Ryu, H. S. (2018). What makes users willing or hesitant to use Fintech?: the moderating effect of user type. *Industrial Management & Data Systems*, 118(3), 541-569.
- Sander, E. (2000), *L'analogie, du Naïf au Créatif*, Editions le Harmattan.

- Sihotang, L. V., & Ellyawati, J. (2020), Overall Store Price Image (OSPI), Antecedents, and Its Effect on Repurchase Intention, *Jurnal Manajemen*, 24(3), 460-480.
- Sternberg, R. J. (1977). Component processes in analogical reasoning. *Psychological review*, 84(4), 353.
- Suhaily, L., & Darmoyo, S. (2017). Effect Of Product Quality, Perceived Price and Brand Image On Purchase Decision Mediated By Customer Trust (Study On Japanese Brand Electronic Product). *Jurnal Manajemen*, 21(2), 179-194.
- Tauber E. (1981), Brand franchise extensions: new products benefits from exiting brand names, *Business Horizons*, 24(2), 36-41.
- Veloutsou, C. (2015), Brand evaluation, satisfaction and trust as predictors of Brand loyalty: the mediator-moderator effect of Brand relationship, *Journal of Consumer Marketing*, 32(6), 405-421.
- Veloutsou, C. and Guzmán, F. (2017), The evolution of Brand management thinking over the last 25 years as recorded in the journal of product and Brand management, *Journal of Product and Brand Management*, 26(1), 2-12.
- Völckner, F., & Sattler, H. (2006), Drivers of brand extension success, *Journal of marketing*, 70(2), 18-34..
- Wendlandt, M., et Schrader, U. (2007), Consumer reactance against loyalty programs, *Journal of consumer marketing*, 24(5), 293-304.
- Wu, S. I. (2003), The relationship between consumer characteristics and attitude toward online shopping, *Marketing Intelligence & Planning*, 21(1), 37-44.
- Zhang, Y., Bian, J., & Zhu, W. (2013), Trust fraud: A crucial challenge for China's e-commerce market, *Electronic Commerce Research and Applications*, 12(5), 299-308.
- Zielke, S. (2018), Effects of Price image dimensions on consumer buy intention, *European Journal of Marketing*, 44(6), pp. 748-770.

Received: 27-May-2023, Manuscript No. IJE-23-13723; **Editor assigned:** 01-June-2023, Pre QC No. IJE-23-13723(PQ); **Reviewed:** 15-June-2023, QC No. IJE-23-13723; **Revised:** 20-June-2023, Manuscript No. IJE-23-13723(R); **Published:** 27-June-2023