Factors affecting consumers’ willingness to buy private label brands (PLBs)

Applied study on hypermarkets

Antecedentes de la predisposición de los consumidores a compra marcas de distribución

Una aplicación a los hipermercados

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Abstract

Purpose – The aim of this research is to investigate the factors affecting consumers’ willingness to buy private label brands (PLBs). The relationships among store image, familiarity with PLBs, consumers’ perceptions of PLB quality, risk, price consciousness and attitude towards PLBs are examined. Finally, the relationship between attitude towards, and willingness to buy PLB is explored.

Design/methodology/approach – Self-administered questionnaire was distributed to shoppers at Carrefour operating in Cairo, Egypt. The data obtained from 265 respondents were examined using structural equation modelling (analysis of moment structures) version 22, which empirically test the hypothesised relations established in the research conceptual model.

Findings – With the exception of perceived risk, the results suggest that all consumers’ perceptual and attitudinal factors affect directly or indirectly consumers’ willingness to buy PLB.

Research limitations/implications – This study is limited to international hypermarket/supermarket operating in Egypt. So the findings should be exercised with cautious while attempting to generalise the research results.

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Practical implications – Retail managers should focus on the enhancement of both store image and familiarity with PLBs to leverage consumers’ perceptions with respect to PLBs quality and risk to achieve differentiation and to increase sales.

Originality/value – This is one of the few studies that investigate the role of familiarity with PLBs in a developing context. In doing so, it proposes that familiarity with PLBs directly affects consumers’ perceived quality and perceived risk, while it indirectly influences consumers’ willingness to buy PLBs.

Keywords Price consciousness, Risk, Quality, Store image, Private label, PLB familiarity

Resumen
Propósito – El propósito de este trabajo es el de analizar los factores que afectan a la predisposición de los consumidores a comprar marcas de distribución. Es por ello que se examina la estructura de relaciones existentes entre la imagen de la tienda, la familiaridad con las marcas de distribución, las percepciones de calidad y riesgo así como la conciencia de precio y su posterior efecto en actitudes hacia las marcas de distribución y la predisposición de compra.

Diseño/metodología/enfoque – Se distribuyeron cuestionarios auto-administrados entre compradores de la cadena Carrefour en El Cairo, Egipto. Los datos proporcionados por 265 individuos fueron analizados con ecuaciones estructurales (AMOS) para contrastar empíricamente las relaciones planteadas en el modelo conceptual propuesto.

Resultados – Los resultados obtenidos sugieren que todos los factores actitudinales y perceptuales de los consumidores afectan directa o indirectamente a la disposición de los consumidores a adquirir marcas de distribución, excepto la percepción del riesgo.

Limitaciones/implicaciones – Este estudio se limita a las cadenas de supermercados e hipermercados que operan en Egipto, por lo que los resultados obtenidos tienen una limitada generalización fuera de este contexto.

Implicaciones practices – Los directivos de los detallistas deben centrar sus esfuerzos en ensalzar la imagen de la tienda y la familiaridad con las marcas de distribución con el propósito de influir en las percepciones de calidad y riesgo que los consumidores tienen sobre ellas con el fin último de lograr una diferenciación y un incremento de las ventas.

Originalidad/valor – Este estudio es uno de los pocos que investiga el papel que ejerce la familiaridad con las marcas de distribución en países en vías de desarrollo. Propone que la familiaridad afecta directamente a la percepción de calidad y riesgo de los consumidores e influye indirectamente en la disposición de los consumidores a comprar las marcas de distribución.

Palabras clave – Marcas de distribución, Imagen de la tienda, Familiaridad, Percepciones de calidad y riesgo, Conciencia de precio, Hipermercados

Tipo de artículo – Artículo de investigación

Introduction
Private label brands (PLBs), also known as “store brands”, or “own brands”, are developed and managed to a particular retail chain (Levy and Weitz, 2012; Kumar and Steenkamp, 2007). Their main objective is to increase profit, differentiation and market share (Wu et al., 2011). PLBs have been widely investigated in the literature, with special attention to developed countries at the expense of developing ones (Lin et al., 2009; Hyman et al., 2010). The reason behind such paucity of studies is that consumers lack trust in private brands while being strongly loyal to manufactured and known ones (Nielsen, 2014). Low awareness of and the risk associated with the purchase of unknown brands create barriers for private labels’ growth, specifically in Asia and the Middle East (Nielsen, 2014). Egypt, as an African and Middle Eastern country, is no different.

Although Egypt’s retail business is still dominated by traditional grocers, recently, the business has been facing tremendous changes, where consumers are mirroring the western lifestyle in shopping (GAIN, 2015). This tendency towards modernisation has attracted multinational investors to Egypt, where the consumer market is characterised by being
large and expanding, owing to the increasing number of household with double income; moreover, third of the population falls between 20 to 39 years of age (GAIN, 2017).

Accordingly, the French firm Carrefour took the initiative and was the first hypermarket to open in Egypt back in 2002. It introduced the consumers to a new shopping experience via its network of hypermarkets, supermarkets and express stores spread across Egypt (GAIN, 2015). Yet, in 2016, modern supermarket chains in Egypt accounted for less than 1 per cent of the establishments and 23 per cent of sales (GAIN Report, 2017). The hypermarket segment, which remains relatively small with only 37 outlets operating in Egypt, accounts for 4.5 per cent of total retail sales (GAIN Report, 2017). However, sales in modern supermarket and hypermarket chains are expected to continue to grow. Meanwhile, in developed and emerging countries such as Spain and the UK, hypermarkets market shares account for 60 and 24 per cent, respectively in 2012 (Nielsen, 2014).

As modern supermarket chains in Africa and the Middle East still operate at its infancy (Beneke, 2010), as do their PLBs, where they represent 1 per cent of dollar sales or less in all of Middle Eastern countries engaged in Nielsen (2014) global survey, Egypt was investigated. The survey revealed that more than 50 per cent of Egyptian respondents are willing to pay extra price for a manufacture known brand; another 56 per cent highlighted their loyalty to the manufacture brand they purchase, and a further 48 per cent ensured that, when speaking of quality, PLBs do not represent a suitable choice. Finally 55 per cent reported that testing new brands incur bearing the risk of losing money while trying new brand (Nielsen, 2014).

Researchers infer from a Nielsen (2014) survey findings that the reasons behind the slow growth and penetration of PLBs in Egypt are because of consumers’ perceptual factors regarding quality, risk and price. Despite Egyptian consumers being quite familiar with some store brands such as Carrefour, most of them still doubt PLBs in general and use them with caution as they are considered relatively new. As consumers of PLBs are price-conscious (Cho et al., 2015; Rubio et al., 2014; Nielsen, 2014), the level of risk associated with purchasing PLBs is quite high. Egyptian consumers are no different; they want to neither incur physical risk by trying PLB products, which may not rise to their expectations, nor bear the financial risks, even as the majority does not have enough disposable income to test new products (Nielsen, 2014).

However, 2017 has been a significant year for Egyptian consumers as they had to radically change their behaviour and to concentrate on the cost of products being bought; this is largely owing to the aftermaths of the Egyptian pound floatation (Nielsen, 2017). Accordingly, Egyptian consumers became even more price-conscious. Additionally, they have decided to lead a more simple life, where 88 per cent of respondents reported that they purchase lower-priced and less expensive products in the second quarter of 2017 as opposed to only 16 per cent during the same period in 2016. The research further revealed that 71 per cent of Egyptian consumers are currently looking for promotions during the second quarter of 2017, as compared to only 20 per cent during the same quarter in 2016 (Nielsen, 2017). Both the floatation of the Egyptian pound and Egyptian consumers leading more simple life style have provided private labels great opportunity for growth by introducing new products and serving options to match consumers’ altered needs (Nielsen, 2017).

Undoubtedly, culture plays a key role in the PLBs slow growth in Africa and the Middle East (Nielsen, 2014). Consumers in Eastern nations prefer using extrinsic cues in their buying decision, which make the manufacturer brands their preferred choice compared to PLBs counterparts (DeMooij and Hofstede, 2002; Nielsen, 2014). As a result, consumers perceptions of store image, familiarity with PLBs, quality and risk level of PLBs and price consciousness might justify the 1 per cent of the dollar sales or less of PLBs in Egypt, as reported by Nielsen (2014).

As a consequence, the researchers aim to address the extent to which the aforementioned perceptions, directly and indirectly, affect Egyptian consumers’ willingness to buy PLB products.
Theoretical framework and hypotheses development

Store image and private label brands perceived quality

The store image concept has been attracting the attention of both academicians and professionals (Kumar et al., 2014). It is perceived as a source of competitive advantage (Delgado-Ballester et al., 2014). The vast majority of scholars widely refer to Martineau’s (1958) definition of store image (Wu et al., 2011; Liljander et al., 2009). Martineau defined store image as “The store personality or image – the way in which the store is defined in the shopper’s mind, partly by its functional qualities and partly by an aura of psychological attributes” (p. 47).

Drawing on the cue utilisation theory, consumers depend on extrinsic and intrinsic cues while making product quality decisions (Collins-Dodd and Lindley, 2003; Dick et al., 1996). However, extrinsic cues represented in store image, store name, price and product packaging are more often used as they are easier to recognise, as opposed to their intrinsic counterparts signified by product taste, smell and texture (Teas and Agarwal, 2000; Dick et al., 1996). Nevertheless, Sarkar et al. (2016) underscored that both extrinsic and intrinsic cues affect Indian consumers’ evaluation of PLB, specifically taste, ingredients, packaging, price, brand name and store name.

Consumers usually evaluate store image according to several aspects that include, but not limited to, merchandise quality, store atmosphere, merchandise layout, store service and convenience and product assortment (Ailawadi and Keller, 2004; Liljander et al., 2009; Bao et al., 2011; Beristain and Zorrilla, 2011; Diallo, 2012; Delgado-Ballester et al., 2014; Diallo and Cliquet, 2016; Gil et al., 2017). Hence, store image is perceived as a multi-dimensional concept (Richardson et al., 1996; Shen, 2010a).

Consequently, the existing research refers to store image as a set of extrinsic attributes that include store name, store services, quality of merchandise and knowledgeable sales people that shape consumers perception of and attitude towards the store, and, accordingly, its private brand. These cues are derived from the literature (Sebora et al., 2014) and, hence, emphasise that Carrefour Egypt provides its consumers with variety of products, responsive staff and ease of service.

Branding extension literature asserts that PLBs could be considered an extension to the brand name of the store (Collins-Dodd and Lindley, 2003; Ailawadi and Keller, 2004; Burt and Davies, 2010). In addition, Kremer and Viot (2012) indicated that PLBs are exclusive to the retailer chain and associated with it in a unique way, particularly when the two share the same brand name. Furthermore, Ruiz-Real et al. (2017) ensured that customers transfer retailers’ favourable image to their PLBs and trust them. Accordingly, Manzur et al. (2011) and Loureiro (2017) emphasise the importance of effectively communicating the extension of the store image to the image of the store products. As such, greater the store image is, the higher the perceived quality of its PLB.

For many years, consumers characterised PLBs as low quality compared to their national brand counterparts (Richardson et al., 1996). However, this idea is changing as the level of quality of store brand has been progressing and advancing since the mid-90s, therefore allowing for holding more favourable attitude towards private labels, specifically in Western countries where private brands are well developed (Battersby, 2013; Mayer and Vambery, 2013; Ter Braak et al., 2014). Hence, consumers holding favourable store image
are highly likely to perceive its PLB of high quality and vice versa (Bao et al., 2011). Such argument demolishes the stereotype that portrays PLBs as low quality and high risk when compared to national brands (Sheau-Fen et al., 2012).

The relationship between store image and PLBs’ perceived quality is well established in the literature, with many scholars reporting a positive association (Yoo et al., 2000; Semeijn et al., 2004; Vahie and Paswan, 2006; Liljander et al., 2009; Bao et al., 2011; Wu et al., 2011; Beristain and Zorrilla, 2011; Beneke and Zimmerman, 2014; Porral and Lang, 2015; Vo and Nguyen, 2015). Accordingly, we propose the following:

**H1.** Greater store image results in higher private label brand perceived quality.

**Store image and private label brands’ perceived risk**

Bauer (1960) introduced the concept of “perceived risk” and its determinants, namely, uncertainty and negative consequences. Bauer (1960) believed that consumer behavior involves risk in the sense that any action of a consumer will produce consequences that he or she cannot anticipate with anything approximating certainty, and some of which are likely to be unpleasant” (Wu et al., 2011, p. 31). Additionally, Stone and Gronhaugh (1993) defined perceived risk as the subjective expectation of a loss.

There is a consensus among authors that perceived risk is a multidimensional concept, which includes different types of risks, as follows: financial, functional, psychological, time, social, physical and overall risks (Agarwal and Teas, 2001; Semeijn et al., 2004; Mieres et al., 2006; Laforet, 2007; Liljander et al., 2009; Beneke et al., 2013). Bhukya and Singh (2015) underscored an inverse association between four dimensions of perceived risk, namely, financial, functional, physical and psychological and PLB purchasing-intention among Indian consumers. Similarly, Kakkos et al. (2015) revealed a direct significant relation between lower perceived risk and PLB purchasing-intention among Greek consumers.

The literature assured that PLB perceived quality and perceived risk are interrelated, in which higher the former, lower is the latter (Girard et al., 2017). Hence, consumers can perceive PLBs of good store image as low risk.

The literature further indicated that good store image mitigates and relieves the perceived risk represented in the uncertainty and negative consequences associated with the purchase of PLBs (Semeijn et al., 2004; Aghekyan-Simonian et al., 2012).

In addition, number of studies revealed an inverse association between store image and different types of PLBs perceived risks, namely, psychological and functional risks (Semeijn et al., 2004); financial and social risks (Liljander et al., 2009); overall perceived risk (Diallo, 2012; Beneke et al., 2015); financial, functional and social risks (Delgado-Ballester et al., 2014); and product and financial/time risks in online store environment (Aghekyan-Simonian et al., 2012). Therefore, we hypothesise the following:

**H2.** Greater store image results in lower private label brand perceived risk.

**Familiarity and private label brands’ perceived quality and perceived risk**

Familiarity with PLBs plays an integral role in consumers buying decision (Bettman and Park, 1980). As more the consumers are familiar with PLB, the less likely they will depend on extrinsic cues (e.g. store name, price, product packaging, etc.) to justify and assess its quality and risk levels (Richardson et al., 1996; Dursun et al., 2011). Despite its importance, Lin et al. (2009) and Sheau-Fen et al. (2012) ensured that familiarity with PLB is still largely under-researched.

Laroche et al. (1996) and Wang et al. (2013), among others, suggest that brand familiarity refers to the visual or mental impression of a product/brand or consumer experience, which,
in turn, shapes consumers favourable and/or unfavourable attitudes towards a brand, and their willingness to purchase. Usually, consumers become familiar with a brand either via personal experience (Alba and Hutchinson, 1987; Arens et al., 2012), word-of-mouth from family and friends (Trusov et al., 2009) or through regular marketing communications (Alba and Hutchinson, 1987; Arens et al., 2012). According to this finding, brand familiarity is the result of number of factors (Bapat, 2017). Consequently, the current research refers to familiarity with PLB as consumers being aware of Carrefour private brand can distinguish it among other brands, can associate Carrefour’s private brand with its characteristics, have experienced the brand and actually know the brand.

A number of researchers underscored the relationship between familiarity with PLB, perceived quality and perceived risk, among other variables and PLB purchasing intention and actual behaviour (Jin and Suh, 2005; Sheau-Fen et al., 2012; Calvo-Porral and Levy-Mangin, 2016). However, Vo and Nguyen (2015) reported insignificant association between familiarity with PLB and perceived quality among Vietnamese consumers. Nevertheless, a number of scholars emphasised that familiarity with PLB positively influences consumer perceived quality, and negatively affects its perceived risk, inferring that the perceived quality of PLBs lessens and diminishes its perceived risk and uncertainty associated with the intention to or the actual purchase of PLB (Richardson et al., 1996; Mieres et al., 2006; Dursun et al., 2011; Rubio et al., 2014; Beneke and Carter, 2015; Girard et al., 2017). Therefore, the study hypothesises the following:

\[ H3 \] Greater familiarity with private label brand results in higher PLB perceived quality.

\[ H4 \] Greater familiarity with private label brand results in lower PLB perceived risk.

**Antecedents and consequences of attitude towards private label brands**

The current study draws on Ajzen and Fishbein’s (1980) theory of reasoned action in identifying the antecedents and consequences of attitude towards PLB. The literature highlighted number of determinants affecting consumer attitude and willingness to purchase PLB. Among the most commonly researched predictors are PLB perceived quality, PLB perceived risk and price consciousness (Richardson et al., 1996; Burton et al., 1998; Collins-Dodd and Lindley, 2003).

Recently, Muruganantham and Priyadharshini (2017) reviewed PLB literature and grouped the antecedents and consequences involved in the private brand purchase. The authors identified three groups as antecedents affecting consumer attitude, namely, consumer consciousness (i.e. price conscious, value conscious and discount conscious), perceived characteristics include (i.e. perceived quality, perceived risk, perceived value for money and smart shopper self-perception) and evaluation criteria (i.e. familiarity, shelf space, packaging, store image, brand image, brand name and store atmosphere).

Goldsmith et al. (2010) defined consumer attitude towards PLB as “the understanding of private brand products that aids the consumer’s decision-making process”. In addition, Burton et al. (1998) defined PLB attitude as “a predisposition to respond in a favorable or unfavorable manner to PLBs owing to product evaluation, purchase evaluation and/or self-evaluation associated with store brand grocery products”. Recently, private brands have been pursuing a makeover and face-lifting. They no longer target low income level consumers. Yet, they have been competing with national brands on quality basis, and in lower prices (Lymperopoulos et al., 2010; Diallo, 2012); for instance, Tesco and Carrefour private brands, at UK and France, respectively, are very good examples (Kumar and Steenkamp, 2007). Such favourable attitude towards PLB is quite general and not product-specific.
According to the cue utilisation theory, price is considered an extrinsic cue that consumers refer to while making purchase decision (Beneke et al., 2013). Lichtenstein et al. (1993, p. 235) defined price consciousness as “the degree to which consumers focuses exclusively on paying low prices”, without considering the product distinctive attributes that justify any increase in price. So, low prices seem to be the most important factor that consumers are interested in while purchasing PLB. Therefore, shoppers of PLB are usually expressed as price conscious (Cho et al., 2015; Rubio et al., 2014). Accordingly, Thanasuta (2015) reported that Thai consumers are price conscious and are more likely to purchase PLB products. Recently, Santos et al. (2016) revealed that low price own-label brands lead to more buying decisions as opposed to high price national brands for the same product. Apparently, the good quality–low price equation stimulates and attracts shoppers’ attention and, hence, allows for the development of favourable attitude, further increasing shoppers willingness to purchase PLB (Moore and Carpenter, 2006; Lee, 2008; Wu et al., 2011; Diallo, 2012). On the basis of these evidences, the following hypothesis is advanced:

\[ H5. \] Greater price consciousness of private label brand results in more positive attitude towards private label brands.

Despite PLB shoppers’ price consciousness, they also seek value for money. Private labels offer consumers “good quality” and “better value”. Usually, high quality brands provide consumers with confidence (Jaafar et al., 2012). Zeithaml (1988) conceptualises perceived quality as “the consumers global judgement of the brand or product’s overall excellence or superiority”. Further, Richardson et al. (1996) assert that consumers perception with respect to PLB quality determine its purchase level and market share. Yet, Thanasuta (2015) reported insignificant association between quality conscious Thai consumers and the purchase of PLB.

The relationship between consumer perception and attitude has long been established in the consumer behaviour literature. Recently, PLB perceived quality has constantly shown significant positive impact on consumers attitude (Richardson et al., 1996; Lin et al., 2009; Bao et al., 2011). The former finding disproves the long-standing stereotype that describes quality-conscious consumers as having negative attitude towards store brands (Veloutsou et al., 2004). Therefore, the following hypothesis is extended:

\[ H6. \] Greater perceived quality of private label brand results in more positive attitude towards PLB.

Girard et al. (2017), among others, emphasised the interrelation between PLB perceived quality and perceived risk, in which higher the former, the lower the latter. In addition, the well-established positive association between PLB perceived quality and attitude (Bao et al., 2011) allows number of scholars to underscore an inverse relation between PLBs’ perceived risk and attitude. Although Thanasuta (2015) found insignificant association between Thai consumers and the purchase of PLB, Semeijn et al. (2004) reported a negative relationship between perceived psychological, functional and financial risks and consumers’ attitude towards PLB.

\[ H7. \] Lower perceived risk of private label brand results in higher attitude towards private label brands.

Drawing on Ajzen and Fishbein’s (1980) theory of reasoned action, attitude is an antecedent of subsequent behaviour. The literature underscored significant positive association between attitude towards PLBs and willingness to purchase store brands (Burton et al., 1998; Jin and Suh, 2005; Diallo et al., 2013, 2015; De and Singh, 2017). In addition, Zielke and Dobbelstein
assert that compared to a specific store brand, attitude towards store brands in general has less impact on customers’ willingness to purchase. Thus, we expect the following:

H8. More positive attitude towards private label brand results in higher willingness to buy private label brands

Conceptual model

Figure 1 depicts the study conceptual model. It illustrates the hypothesised relationships. It emphasises the determinants of consumer attitude towards, and willingness to buy PLBs. The factors under investigation are store image, familiarity with PLBs, perceived quality, perceived risk of PLBs and price consciousness. Accordingly, the researchers aim to examine the above-mentioned relationships and scrutinise their applicability on Carrefour private brand in a developing context, namely, Egypt.

Methodology

Sample and data collection

The research population consists of consumers who shop for PLB products at hypermarkets/supermarkets in Egypt. Specifically, this paper targets the French international hypermarket Carrefour, the first and largest hypermarket in terms of number of stores and revenues, which began operating in Egypt since 2002. Data were collected using an intercept sample from candidates outside three Carrefour hypermarkets stores in Cairo, the capital of Egypt. Self-administered questionnaires were distributed on weekdays and weekends during the spring of 2018 to obtain more information for different shopping patterns and crowds. Four trained and qualified research assistants helped the researchers in collecting the data. The questionnaires were given to respondents, who regularly purchase PLB products. Of the 340 questionnaires distributed to shoppers, 265 were returned. This represented 77.9 per cent of the total number of shoppers being approached.

Measures

To measure the proposed concepts of the study, the researchers adapted scales measures underlined in the preceding literature. Store image was measured using seven items, adapted from Grewal et al. (1998). To measure familiarity with PLB, five items have been adopted from Mieres et al. (2006) and Calvo-Porral and Levy-Mangin (2016). Perceived quality was measured using three statements used by (Dodds et al., 1991), the same scale was later used by other authors (Beristain and Zorrilla, 2011). Price consciousness was measured using four items developed by Sinha and Batra (1999), and later, they have been extensively adopted in the context of private brand by Yang and Wang (2010), Wu et al. (2011) and Rubio et al. (2014).
Perceived risk scale was constructed by referring to the nine items scales developed by Jacoby and Kaplan (1972) and Roselius (1971), reflecting three types of perceived risk: functional risk (FPR), financial risk (FIPR) and physical risk (PPR). We adapt the measure for consumer attitude towards PLB, using six items, from the research of (Burton et al., 1998). Finally, we measured willingness to buy Carrefour PLB with five items combined and adapted from previous studies (Dodds et al., 1991; Grewal et al., 1998; Diallo, 2012).

Moreover, each item in the questionnaire was measured on a scale of 1 to 5 with anchors “strongly disagree” to “strongly agree” for the constructs measures. To ensure questionnaire consistency, and to validate the interpretation of the scales used, it was translated into Arabic and then back into English by the researchers and a bilingual translator.

The final questionnaire consists of 3 sections, including 39 statements measuring the 7 constructs of the proposed model. The first section included a filter question asking respondents whether they have purchased Carrefour PLB before, in addition to some questions related to their shopping patterns and Carrefour products that they have been purchasing and their preferred store. The second section embraced some questions related to the proposed model and the measurement of the constructs. Finally, the third section emphasised some personal information and the participants’ demographics characteristic. Before the final distribution, the research instrument was pre-tested with 25 respondents to avoid any ambiguous questions and improve the measurement scales. As a result, few statements were modified for further clarification.

The descriptive analysis emphasises that the sample was skewed in favour of female respondents as they represented 74 per cent of the sample, another 70 per cent of the sample were relatively young as they aged from 20 to 40 years; further half of them held monthly income ranged from L.E. 1,200 to less than L.E. 3,200. Of the whole sample, 47.5 per cent were married with kids, as opposed to 37.4 per cent who were married without kids. In addition, more than half of the sample (55 per cent) worked on a full-time base versus 25 per cent, who worked part-time. The remaining of the sample included housewives and the unemployed. The analysis also shows that 35.3 per cent of the sample purchased Carrefour toilet papers and tissues, while another 30.2, 25.8 and 8.7 per cent purchased detergents, dry food and other food products, respectively.

Data analysis
The data analysis of this study was executed in two steps, as suggested by Anderson and Gerbing (1988) for assessing the measurement and structural model by covariance-based structural equation modelling (SEM), using analysis of moment structures (AMOS) version 22.

Analysis of the measurement model
The measurement model comprising store image, familiarity, price consciousness, perceived quality, perceived risk, attitudes towards PLBs and willingness to buy PLB, was analysed using confirmatory factor analysis (CFA) by AMOS, with maximum likelihood estimation method to address the issues of convergent and discriminant validity (Anderson and Gerbing, 1988; Jöreskog and Sörbom, 1993).

The CFA exposed the need to remove some items from the research constructs owing to their low standardised factor loading, which was below the minimum recommended cut-off point of 0.50. The items removed were as follows: two items from store image, attitudes towards PLB products and willingness to buy private brand constructs respectively. Another, one statement from familiarity and price consciousness and further four statements from perceived risk constructs. Table I reveals the confirmatory factor analysis
<table>
<thead>
<tr>
<th>Constructs</th>
<th>Measures</th>
<th>Factor loading</th>
<th>R-square</th>
<th>P-value</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Store image (SI)</strong></td>
<td></td>
<td></td>
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<tr>
<td>SI1</td>
<td>Carrefour provides good overall service</td>
<td>0.907</td>
<td>0.822</td>
<td>***</td>
<td>0.862</td>
</tr>
<tr>
<td>SI2</td>
<td>Carrefour carries high-quality merchandise</td>
<td>0.591</td>
<td>0.349</td>
<td>***</td>
<td></td>
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<tr>
<td>SI3</td>
<td>Carrefour is close to my ideal store</td>
<td>0.746</td>
<td>0.556</td>
<td>***</td>
<td></td>
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<tr>
<td>SI4</td>
<td>Carrefour has helpful and knowledgeable salespeople</td>
<td>0.753</td>
<td>0.567</td>
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<tr>
<td>SI5</td>
<td>Carrefour provides attractive shopping experience</td>
<td>0.732</td>
<td>0.536</td>
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<tr>
<td><strong>Familiarity with private label</strong></td>
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<tr>
<td>FAM1</td>
<td>I can distinguish Carrefour brand products from other brands available at the point of sale</td>
<td>0.877</td>
<td>0.769</td>
<td>***</td>
<td>0.890</td>
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<tr>
<td>FAM2</td>
<td>I am quite familiar with Carrefour brand products</td>
<td>0.500</td>
<td>0.372</td>
<td>***</td>
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<tr>
<td>FAM4</td>
<td>I have plenty of experience in using Carrefour brand products</td>
<td>0.987</td>
<td>0.974</td>
<td>***</td>
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<tr>
<td>FAM5</td>
<td>I know the available Carrefour brand products well</td>
<td>0.980</td>
<td>0.960</td>
<td>***</td>
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<tr>
<td><strong>Price consciousness (PC)</strong></td>
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<tr>
<td>PC1</td>
<td>I tend to buy the lowest-priced brand that will fit my needs</td>
<td>0.823</td>
<td>0.677</td>
<td>***</td>
<td>0.921</td>
</tr>
<tr>
<td>PC2</td>
<td>When buying a brand, I look for the cheapest brand available</td>
<td>0.950</td>
<td>0.903</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>PC3</td>
<td>When it comes to buying, I rely heavily on price</td>
<td>0.909</td>
<td>0.826</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td><strong>Perceived quality (PQ)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PQ1</td>
<td>Carrefour brand products are high quality products</td>
<td>0.877</td>
<td>0.768</td>
<td>***</td>
<td>0.732</td>
</tr>
<tr>
<td>PQ2</td>
<td>Carrefour brand products are trustworthy</td>
<td>0.719</td>
<td>0.517</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>PQ3</td>
<td>Carrefour brand products give me the result I am looking for</td>
<td>0.590</td>
<td>0.348</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td><strong>Perceived risk (PR)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPR2</td>
<td>I am afraid that its resistance level may not be sufficient</td>
<td>0.860</td>
<td>0.740</td>
<td>***</td>
<td>0.889</td>
</tr>
<tr>
<td>FPR3</td>
<td>I am suspicious of the ingredients used in its manufacturing</td>
<td>0.767</td>
<td>0.589</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>FIPR1</td>
<td>I think that buying Carrefour brand is a waste of money</td>
<td>0.660</td>
<td>0.435</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>FIPR2</td>
<td>I am worried that it is not worth the money spent</td>
<td>0.979</td>
<td>0.958</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>FIPR2</td>
<td>I am afraid that it may damage your health</td>
<td>0.694</td>
<td>0.481</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td><strong>Attitude toward private label brand (ATT)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATT1</td>
<td>Buying Carrefour brand products makes me feel good</td>
<td>0.850</td>
<td>0.723</td>
<td>***</td>
<td>0.857</td>
</tr>
<tr>
<td>ATT2</td>
<td>I love it when Carrefour brand products are available for the product categories I purchase</td>
<td>0.786</td>
<td>0.618</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>ATT3</td>
<td>For most product categories, the best buy is usually Carrefour brand products</td>
<td>0.720</td>
<td>0.519</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>ATT5</td>
<td>Considering value for the money, I prefer Carrefour brand products to national brands</td>
<td>0.743</td>
<td>0.552</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td><strong>Willingness to buy (WTB)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTB2</td>
<td>I would purchase Carrefour brand product next time</td>
<td>0.589</td>
<td>0.347</td>
<td>***</td>
<td>0.773</td>
</tr>
<tr>
<td>WTB3</td>
<td>Although there are similar brands available, I would prefer to purchase Carrefour brand products</td>
<td>0.810</td>
<td>0.656</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>WTB4</td>
<td>There is strong likelihood that I will buy Carrefour brand products</td>
<td>0.798</td>
<td>0.637</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>

Cronbach alpha of all constructs is 0.791

**Notes:** SI – store image; FAM – familiarity with PLB; PC – price consciousness; PQ – PLB perceived quality; PR – PLB perceived risk; ATT – attitude towards PLB; WTB – willingness to buy PLB
results. All items of the research constructs loaded successfully on a single factor, and all standardised loadings are equivalents to or greater than 0.50 (Anderson and Gerbing, 1988) with values ranging from 0.500 to 0.987 at 95 per cent significant level that discloses strong convergent validity.

Additionally, CFA goodness-of-fit indices indicated satisfactory model fit were ($\chi^2 = 313.20$, df = 303, $p = 0.331$), GFI = 0.92, RMR = 0.029. Further, incremental fit indices results were as follows: CFI = 0.99; TLI = 0.99, NFI = 0.93, IFI = 0.98. Moreover, the parsimonious fit indices were PGFI = 0.73; PCFI = 0.86. All fit indices reached or exceeded the benchmarks suggested in previous studies (Jackson et al., 2009; Kline, 2010).

Cronbach’s alpha was calculated for each construct, the values ranged from 0.732 to 0.921, hence exceeding the minimum recommended value suggested by Nunnally (1978) and Hair et al. (2010). Further, the overall alpha value accounted for 0.791 (see Table I).

Table II hereunder demonstrates the final construct items along with their composite reliability (CR), the average variance extracted (AVE), the square roots of AVE for each construct and the maximum shared variance (MSV). It was noticed that all constructs exhibited acceptable composite reliability values, exceeding the threshold of 0.70 suggested by Bagozzi (1994). Additionally, the AVE values were greater than 0.5 for each construct (Fornell and Larcker, 1981), confirming internal consistency and convergent validity. Moreover, the square root of AVE of each and every construct was greater than the absolute value of the correlation between each pair of construct (Fornell and Larcker, 1981), hence confirming adequate discriminant validity. Furthermore, the AVE was found to be greater than the maximum shared variance (MSV) for all the research constructs, supporting another evidence of discriminant validity. Finally, following Bagozzi and Yi (1988), all the constructs items were checked for normality using Skewness and Kurtosis tests. Table III shows the results where all the values fall within the acceptable ranging from $-1.0$ to $+1.0$, thus providing support for normality.

In fact, the measurement model test results of items reliability and construct validity provided satisfactory and acceptable evidence for researchers to proceeding with the analysis and evaluate the structural model.

### Analysis of the structural model

Having established that the measurement model presents a good fit, the hypothesised relationships among constructs were examined by estimating an SEM through the AMOS, version 22, using maximum likelihood estimate. The overall model fit was assessed using a
number of measures, namely, the Chi-square goodness-of-fit test statistic, normed Chi-square (χ²/d.f.) ≤ 3, goodness-of-fit index (GFI) ≥ 0.90, adjusted goodness-of-fit index (AGFI) ≥ 0.80, comparative fit index (CFI) ≥ 0.90, root means square error of approximation (RMSEA) ≤ 0.08, root mean square residual (RMR) ≤ 0.10, parsimony comparative fit index (PCFI) ≥ 0.60 and Tucker–Lewis Index (TLI) ≥ 0.90, which are considered the most important fit indices.

Table IV shows that Chi-square (χ²) value of 319.987, with 313 degrees of freedom, was statistically insigniﬁcant (p = 0.381) at 0.05 level. The results further exhibit that all fit indices obtained are satisfactory and within the suggested boundaries as follows: (χ²/d.f.) [1.02], GFI [0.90], CFI [0.99], TLI [0.99], RMSEA [0.009], RMR [0.034], IFI [0.99], PCFI [0.89], hence conﬁrming an acceptable ﬁt of the proposed structural model (see Table IV).

Table IV and Figure 2 both depict the path coefﬁcients for the overall model. The results provide support to all research hypotheses except for H2. The structural model indicates that store image (β = 0.178, t = 2.527, p < 0.05) and familiarity with PLB (β = 0.173, t = 2.567, p < 0.05) were signiﬁcantly and positively inﬂuencing perceived quality towards PLB products. On the other hand, and contrary to our hypothesis, store image had insigniﬁcant positive impact effect on perceived risk (β = 0.019, t = 0.286, p = 0.775), whereas familiarity with PLB had signiﬁcant negative effect on perceived risk (β = −0.168, t = −2.640, p < 0.01). Therefore, H1, H3 and H4, respectively, were fully supported, whereas H2 was rejected.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
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<tbody>
<tr>
<td>SI</td>
<td>SI1</td>
<td>1.91</td>
<td>0.765</td>
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<td>0.557</td>
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<td>1.77</td>
<td>0.703</td>
<td>0.612</td>
<td>0.548</td>
</tr>
<tr>
<td></td>
<td>SI3</td>
<td>2.01</td>
<td>0.736</td>
<td>0.212</td>
<td>−0.208</td>
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<td></td>
<td>SI4</td>
<td>1.84</td>
<td>0.744</td>
<td>0.716</td>
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<td>SI5</td>
<td>1.83</td>
<td>0.745</td>
<td>0.721</td>
<td>1.051</td>
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<td>FAM</td>
<td>FAM1</td>
<td>3.55</td>
<td>0.980</td>
<td>−0.265</td>
<td>−0.346</td>
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<tr>
<td></td>
<td>FAM2</td>
<td>3.62</td>
<td>1.067</td>
<td>−0.689</td>
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<td>FAM3</td>
<td>3.49</td>
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<td>−0.398</td>
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<tr>
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<td>FAM4</td>
<td>3.51</td>
<td>0.950</td>
<td>−0.332</td>
<td>−0.092</td>
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<tr>
<td>PC</td>
<td>PC1</td>
<td>4.01</td>
<td>0.761</td>
<td>−0.642</td>
<td>0.985</td>
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<td>PC2</td>
<td>3.94</td>
<td>0.879</td>
<td>−0.853</td>
<td>0.896</td>
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<tr>
<td></td>
<td>PC3</td>
<td>3.88</td>
<td>0.903</td>
<td>−0.761</td>
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<tr>
<td>PQ</td>
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<td>0.742</td>
<td>−1.229</td>
<td>2.071</td>
</tr>
<tr>
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<td>0.719</td>
<td>−1.262</td>
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</tr>
<tr>
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<td>PQ3</td>
<td>3.40</td>
<td>1.131</td>
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<td>−0.842</td>
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<tr>
<td>PR</td>
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<td>2.43</td>
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<td>0.501</td>
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<tr>
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<td>2.18</td>
<td>0.869</td>
<td>0.408</td>
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<tr>
<td>ATT</td>
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<td>0.918</td>
<td>−1.038</td>
<td>1.112</td>
</tr>
<tr>
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<td>ATT2</td>
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<td>0.888</td>
<td>−0.913</td>
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<tr>
<td></td>
<td>ATT3</td>
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<td>0.895</td>
<td>−0.907</td>
<td>0.821</td>
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<tr>
<td></td>
<td>ATT4</td>
<td>3.99</td>
<td>0.951</td>
<td>−0.775</td>
<td>0.214</td>
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<tr>
<td></td>
<td>ATT5</td>
<td>3.76</td>
<td>0.796</td>
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</tr>
<tr>
<td>WTB</td>
<td>WTB1</td>
<td>1.64</td>
<td>0.693</td>
<td>0.821</td>
<td>0.277</td>
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<td></td>
<td>WTB2</td>
<td>1.69</td>
<td>0.739</td>
<td>0.896</td>
<td>0.519</td>
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<tr>
<td></td>
<td>WTB3</td>
<td>1.77</td>
<td>0.699</td>
<td>0.551</td>
<td>−0.068</td>
</tr>
</tbody>
</table>

Notes: SI – store image; FAM – familiarity with PLB; PC – price consciousness; PQ – PLB perceived quality; PR – PLB perceived risk; ATT – attitude towards PLB; WTB – willingness to buy PLB

Table III. Descriptive statistics and normality tests for the research constructs
Table IV highlights that price consciousness has the strongest significant positive impact ($\beta = 0.253, t = 3.783, p < 0.001$) on consumers’ attitudes towards PLB product as opposed to perceived quality ($\beta = 0.154, t = 2.203, p < 0.01$). This finding provides support for $H5$ and $H6$, respectively. However, perceived risk has negative and insignificant effect on consumers’ attitudes towards PLB product ($\beta = -0.084, t = 1.300, p = 0.194$), so $H7$ is rejected. Lastly, the findings also show that consumers’ attitudes towards PLB products ($\beta = 0.177, t = 2.363, p < 0.05$) significantly and positivity influence consumers’ willingness to buy, thus confirming $H8$.

**Discussion and conclusions**

The purpose of this study was to address to what extent consumers perceptual factors, directly and indirectly, affecting their willingness to buy PLBs, in the Egyptian hypermarkets and supermarkets, namely Carrefour. As a result, consumers’ perceptions of store image, familiarity with PLBs, quality and risk level of PLBs and price consciousness...
were scrutinised. The results lend support to seven hypotheses out of eight, as well as confirm attitudes towards PLB products as a critical determinant of consumers’ willingness to buy it.

Central finding of the study was that greater store image has positive effect on PLBs perceived quality. This finding is largely consistent with the work of number of authors (Bao et al., 2011; Wu et al., 2011; Beristain and Zorrilla, 2011; Beneke and Zimmerman, 2014; Calvo-Porral and Lang, 2015). In addition, the result is in line with the cue utilisation theory, which emphasises store image as extrinsic cue on which consumers depend while making product quality decisions (Collins-Dodd and Lindley, 2003; Dick et al., 1996). This finding further supports the notion that PLBs could certainly be perceived as an extension of the brand name of the store, where consumers consider it during the buying process (Ailawadi and Keller, 2004; Burt and Davies, 2010).

Meanwhile, contrary to our original supposition and inconsistent with the literature, the current study reveals an insignificant association between store image and PLBs’ perceived risk. This finding could be inferred to the fact that the Egyptian market is relatively new in introducing and developing private brands. Further, local consumers may not pay much attention to the perceived risk associated with PLBs products, as long as their quality level is acceptable.

Despite the importance of consumer familiarity with PLBs in the purchasing decision, few studies have investigated its relationship with PLBs’ perceived quality and perceived risk. The current research results support the notion that the more the consumer is familiar with the PLB, higher the PLBs’ perceived quality and lower its perceived risk. These findings are largely consistent with the literature (Beneke and Carter, 2015; Rubio et al., 2014; Girard et al., 2017). On the contrary, when consumers are less familiar with the private brand, they tend to treat it with doubt, uncertainty and mistrust. These findings emphasise that Egyptian consumers use both extrinsic and intrinsic cues to decide upon PLB quality and risk levels.

In consonance with the existing literature (Semeijn et al., 2004; Mieres et al., 2006; Lin et al., 2009; Bao et al., 2011), the hypothesised relationship between consumers perceptions of PLB quality and attitude was significant, and in the anticipated direction, where consumer perceptions towards PLB quality positively affected their attitude. This result infers that higher the PLB perceived quality, the more favourable the attitude is towards PLBs. This finding suggests that retailers should continue investing in leveraging their PLBs’ quality level.

Meanwhile, an insignificant relation was noticed between consumers’ perceptions of PLB risk and attitude. The rationale behind this result is that Egyptian consumers did not already associate store image with PLBs’ perceived risk. Such finding could be inferred to the fact that local consumers may not pay much attention to the perceived risk associated with PLBs products, as long as their quality level and price are at acceptable and affordable levels.

The results further suggest that Egyptian consumers perceive Carrefour private label products at the same footing with its national and/or manufacture counterpart with respect to quality and the associated risk. Thus, they suggest that when Egyptian consumers trusted the French hypermarket Carrefour, they extended the store name to its PLBs, became familiar with the brand and were encouraged to try it. Therefore, the uncertainty and risk associated with buying Carrefour PLBs were mitigated. This result is largely inconsistent with Nielsen (2014), hence demonstrating that Egyptian consumer perceptions towards PLBs cannot be generalised, although they are brand-specific given that there are other international private brands operating in Egypt, such as Sainsbury and Metro.
The relationship between price consciousness and consumers' attitude towards PLBs was found, as expected, to be highly significant. This finding is supported by ample literature (Moore and Carpenter, 2006; Lee, 2008; Wu et al., 2011; Diallo, 2012; Rubio et al., 2014; Elseidi and Metawie, 2017), which affirm that lower prices are antecedent to consumers' attitude towards PLBs. Finally, our finding demonstrates that attitude towards PLBs is a determinant of consumers' willingness to buy PLBs. Our result is consistent with the body of literature (Collins-Dodd and Lindley, 2003; Ailawadi et al., 2008; Lin et al., 2009), proposing that willingness to buy PLBs is highly influenced by consumers' favourable and/or unfavourable attitude towards the PLBs.

Overall, all the hypothesised relationships were found to be statistically significant, except for the relationship between store image and PLBs perceived risk, as well as PLB perceived risk and attitude. The results suggest that perceptual factors are key determinants of consumers' willingness to buy PLBs.

Managerial implications
On the basis of the current research results, we suggest some insights for retailers. Firstly, our study supports store image as a significant cue influencing consumers' perceived quality of the PLBs and their attitude and, ultimately, willingness to buy PLBs. This implies that retail managers should invest in enhancing store image to achieving differentiation via leveraging PLBs quality, thus increasing sales.

Retailers should also use other extrinsic cues to improve consumers perceived quality of PLB by using appealing packaging design, attractive labelling, displaying PLB next to the leading national brands or engaged in a strong partnership with suppliers to improve the quality of their products ingredients (Elseidi and Metawie, 2017). In addition, they should ensure conveying their favourable store image to their customers by increasingly expose them to their PLBs via different channels of communication.

Secondly, it is of significance to retailers to understand the extent to which PLBs familiarity affects consumers' willingness to buy PLBs via the mediating effect of some perceptual (i.e. quality and risk) and attitudinal factors. As a consequence, retailers should encourage consumers to experiencing PLBs by offering in store promotions and spend regularly on marketing communications given that consumers become aware of PLB either via personal experiences or word-of-mouth from family and friends.

Third, retailers should capitalise on the interrelationships between PLBs perceived quality, perceived risk and price consciousness, and their clear and obvious effects on attitude towards PLBs and their willingness to buy. Retailers should consider segmenting consumers either according to price or perceived quality to effectively target each segment with appropriate strategies.

Finally, the aim of the afore-mentioned implications is to remind international retailers entering Middle Eastern countries such as Egypt of the importance of some consumer perceptual factors that ultimately affect local consumers' willingness to buy PLBs, such as store image, familiarity with PLBs, quality and risk associated with PLBs and price consciousness.

Limitations and future research
Similar to any other research, this study suffers from some limitations that may suggest avenues for future research. Firstly, the current research was geographically bound to the city of Cairo, the capital of Egypt. Future research can examine and validate the research model in other Egyptian governorates, as well as other Middle Eastern countries, given that the majority of the existing research on PLBs focuses on Western countries (Diallo et al., 2013).
Secondly, the current study focuses on one hypermarket/supermarket namely Carrefour. It is advisable that future research examines other retail settings (e.g. discount stores, convenience stores, specialty stores, etc.), product categories, consumer level of involvement to explore and identify the similarities to and/or differences from the existing research.

Thirdly, although store image is a multi-dimensional construct, the variables considered in this research provide a simple store image counter to the real one. Thus, future studies may consider other variables. Fourthly, it would be useful for future research to investigate the moderating effect of socio-demographic (e.g. age, income, education, etc.) factors on the relationship between attitude towards PLBs and others antecedents or the actual purchase of the PLB.

Finally, the researchers hope that scholars would consider some of the above-mentioned suggestions to advance branding research in the area of PLBs, particularly in countries where PLBs are underdeveloped.

References


**Further reading**


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