

The Role of Anonymous Usage and Consumer Identity in Impacting Consumers' Attitudes Toward Private Label Products in Saudi Arabia

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ABSTRACT

This study investigated the role of anonymous usage and consumer identity in consumer attitudes toward private label products in Saudi Arabia. A sample of 272 consumers participated in this empirical study. Two new factors—anonymous usage and consumer identity—were introduced for the first time and explored alongside social, functional, and financial risks. No differences were found between consumer groups based on their demographic data, such as age, income, gender, and education. A path analysis was performed to test the conceptual framework. Nine hypotheses were constructed, of which seven were accepted. Social risk had a significant impact on consumer identity, but no such impact was found for functional risk. Moreover, functional risk and price had a significant impact on anonymous usage, unlike financial risk. Anonymous usage, consumer identity, and price all had a significant influence on consumer attitudes toward private label products. Finally, consumer attitudes toward private label products significantly impacted consumer purchasing intention.

Keywords: Private label, anonymous usage, consumer identity, Saudi Arabia, attitude, purchasing intention

INTRODUCTION:

Private label (PL) brands are owned and controlled by a retailer or distributor (Kotler & Keller, 2009). PL brands come in three forms: private name brands that are delivered and exclusively claimed by the retailer; brands that are claimed and created by the retailer, although this reality is not clearly passed on to the Overseer; and brands that are not claimed by retailers but are only found in their stores (Anitha & Krishnan, 2022). The consumption of private label products (PLPs) has grown in recent years. For instance, Slaba (2021) reported that, in Europe, PLPs account for 42–49.6% of sales in seven countries, and between 30–37% in another 11. Tiboldo et al. (2021) concluded that PLs enhance consumer welfare. This may be because they provide consumers with more options (in terms of price, value, and variety) in the marketplace. These options are reflected in the multi-tiered PLPs that are offered. For example, 41% and 37% of US grocery retailers offer two and three tiers, respectively, while 17 of the top 20 European retailers offer multi-tiered PLPs (Keller et al., 2022).

The present study focuses on the factors that predict consumer purchases of PLPs in the Saudi market, for several reasons. First, the majority of PL research has been conducted on traditional Western grocery settings, leaving non-Western markets

underexplored (Keller et al., 2022). Although Keller et al.'s (2022) recommendation was based on their study of multi-tiered PLs, these are still nascent in Saudi Arabia compared to those in Western markets, and their standard tier should be studied before more in-depth investigations can be made. Second, in Saudi Arabia, PLs have only a 1% market share, whereas the world average is 16.5% (Nielsen, 2014). Third, the findings of this study may inform Saudi retailers and contribute to the PL literature, especially given the Saudi market's particularities (e.g., sociodemographic and cultural differences) compared to the well-studied Western markets. Researchers have suggested that country-specific factors, such as consumer culture, are influential in purchase behavior (Shukla, 2010), making additional research in cross-cultural contexts necessary (Shukla et al., 2013).

Literature Review and Conceptual Framework

The reasons for choosing PLPs differ by product or consumer. This inconsistency is the result of various factors. Two important dimensions of consumption require further study: form and status. The consumption form of a product denotes whether it is used as an ingredient or consumed in its final form. Meanwhile, consumption status relates to whether the consumer's identity is known or unknown to others during the product's

consumption or use. This study proposes new terms based on the combination of these dimensions: anonymous usage and consumer identity. Anonymous usage refers to situations when a product is used or consumed by an unknown purchaser or as an ingredient, whereas consumer identity concerns situations when the consumer's identity is known and/or the product is used in its final form. Demographics, perceived risk, price, anonymous usage, and consumer identity are the main areas of focus of this literature review and empirical study.

Demographic Characteristics

Education

Studies have reported different conclusions regarding the connection between income level and the tendency to purchase PLPs. For example, Richardson et al. (1996) found that the higher the level of education, the lower the propensity to purchase from PL brands. In contrast, Burton et al. (1998) observed that consumers with a higher level of education display a higher tendency to buy PL brands. Moreover, more educated consumers appear to be better at differentiating between national brands (NBs) and PLPs (Ailawadi et al., 2001; Shukla et al., 2013). This inconsistency may be due to the type of product. For example, Lybeck et al. (2006) found that more educated consumers typically prefer PL chocolate. Thus:

H1a: Consumers with a lower education have more positive attitudes toward PLPs than more highly educated consumers.

Income

Sapmaz and Yercan (2017) singled out income as the most influential factor in the consumption of PL food products given that the target market for these is low- and middle-income consumers. Liu and Wang (2008) found that the direct effect of demographic variables on attitudes toward purchasing PL brands seems weak except for income, which has a significantly impact. In the Czech Republic, Slaba (2021) observed that single women with low incomes buy and prefer PLPs. De and Singh (2017) also noted that PLPs are purchased by lower-income consumers in India. However, other studies have found that income does not affect PLP purchasing (Kakkos et al., 2015). Accordingly:

H1b: Lower-income consumers have more positive attitudes toward PLPs than high-income consumers.

Age

Nielsen (2005) found no difference between age groups in terms of preference for PLPs. In contrast, Kakkos et al. (2015) reported that age affects intention to purchase PLPs, with younger consumers more likely to buy these products. Relatedly, according to Shukla et al. (2013), older buyers are less sensitive to deals and less impulsive than younger buyers. Lybeck et al. (2006) noted that PL chocolate is usually preferred by middle-aged groups, while De and Singh (2017) revealed that PLPs are purchased by younger consumers in India. Therefore:

H1c: Younger consumers have more positive attitudes toward PLPs than older consumers.

Gender

When it comes to shopping activities, women are more than men (Homburg & Giering, 2001; Baltas, 2003). Sherman et al. (2001) observed that in the shopping context, women are more deal-prone, have a higher sense of adventure, and are more knowledgeable about the market. According to Ailawadi et al. (2001), this could be because women value self-expression and exploration more than men. Thus:

H1d: Male consumers have more positive attitudes toward PLPs than female consumers.

Perceived Risks

Perceived risk refers to “the expectation of certain results or events that may occur and that are negative or suspect” (Rubio et al., 2014, p. 290). Meanwhile, Cherenkov et al. (2020) defined it as “consumer risk representing uncertainty and expected negative consequences associated with the purchase of a particular product (brand)” (p. 350). Consumer perceptions of risk differ and are influenced by various factors, such as consumers themselves, products, situations, and cultural background (Rahmawati, 2013). The risks perceived by consumers include social risk (e.g., a loss of image or status is expected when purchasing a specific product), financial risk (e.g., a loss of money is expected when purchasing a low-quality product), and functional risk (i.e., uncertainty about a product's performance; Mathur & Gangwani, 2021). Previous studies have found that consumers avoid purchasing PLPs when they anticipate a high level of risk (Sheau-Fen et al., 2012; Wu et al., 2011; Konuk, 2020; İpek & Yılmaz, 2022). While some authors have treated risk as one variable (İpek & Yılmaz, 2022; Konuk, 2020; Cherenkov et al., 2020), others have detailed and divided it into different dimensions, such as social, financial, and functional risks (Gangwani et al., 2020; Mathur & Gangwani, 2021). These three dimensions of

perceived risk were chosen for study because they are the focus of relevant research on PL purchasing behavior (Beneke & Zimmerman, 2014; Diallo, 2012; Liljander et al., 2009; Sheau-Fen et al., 2012; Gangwani et al., 2020; Zielke & Dobbelsstein, 2007).

Social Risk

Social risk refers to “the possible perceived loss of image, status, consumer’s ego and self-image when making a product (brand) choice in public or when buying a product offered to guests” (Loebnitz et al., 2020). Social risk becomes more important when the products are visible to others. This is the case for clothing or apparel, for instance, because these products are visible to others and reflect consumers’ social identity or self-image (Liljander et al., 2009). Consumers have higher expectations of NBs than PL brands, which encourages them to favor the former in socially risky situations (Loebnitz et al., 2019).

Financial Risk

The financial risk associated with a specific product category is defined as the potential financial loss incurred due to unsuitable purchases and thus depends on the price level of each product category. Specifically, more expensive products come with a greater financial risk (Horvat & Ozretić Došen, 2013). Financial risk is an important factor that consumers take into account when considering PLPs and that positively influences purchasing intention (Mathur & Gangwani, 2021). Although consumers are attracted to the lower prices of PLs, their concerns about financial loss remain a significant factor in their decision-making processes (Rahmawati, 2013). In this regard, Bhukya and Singh (2015) concluded that perceived financial risk has a direct, significant negative effect on consumers’ intention to purchase PLPs.

Functional Risk

Functional risk arises when consumer expectation about a product’s performance is surrounded by uncertainty and doubt that the product will perform as anticipated. Beneke et al. (2012) found functional risk to have a significant negative influence on South African consumers’ intention to purchase PLPs. Regarding functionality, Italian consumers tend to trust famous NBs over PLPs (Tiboldo et al., 2021). Similarly, Mieres et al. (2006) concluded that due to the uncertain functional performance of PLPs, they are often perceived as significantly more risky than NBs. Accordingly, Rubio et al. (2014) argue that investing in communication about the quality of PL

brands is necessary to eliminate functional risk. Manikandan (2020) found a negative (albeit weak) correlation between functional risk and a retailer’s perceived quality and loyalty factors and concluded that perceived quality may reduce functional risk. Different measures can help ensure product quality for consumers. First, government regulations can ensure a minimum level of quality. In their study of Turkish consumers, Sapmaz and Yercan (2017) found that in regulated markets, such as the food industry, where quality is perceived as having been ensured, consumers may not pay attention to the brand type but to other factors, such as lower prices, promotions, and discounts. Second, PL quality can be ensured by large corporations with good reputations manufacturing the products and by revealing the name of the manufacturer on the package (Bisht & Nair, 2021). Consumers’ intentions to purchase PLPs are negatively and significantly affected by the perceived functional risk (Bhukya & Singh, 2015).

Many studies have investigated PLs based on specific products (Kiss et al., 2022), product categories (Horvat & Ozretić Došen, 2013; Koschate-Fischer et al., 2014; Ailawadi et al., 2008), or reasons for purchasing (Valaskova et al., 2018). Product usage and consumer identity are crucial for PL brands as they tend to be affected by the surrounding society and culture. In developing countries, lowering the prices of PLPs is not enough to change consumers’ shopping behaviors due to social and cultural stigma associated with PLPs because brands are viewed as symbols reflecting consumers’ social standing (Sebri & Zaccour, 2017). For instance, the choices of Thai consumers were found to be more influenced by social factors than those of American consumers, which makes them less likely to favor bargain hunting (Mandhachitara et al., 2007). Therefore, anonymous usage and consumer identity should be considered. Product usage and consumer identity can be classified into different types. Notably, whether the product will be consumed as is or serve as an ingredient and whether it will be consumed in front of others (e.g., friends, guests, coworkers) are relevant characteristics to take into account. For instance, the majority of Hungarian participants in Mozsár’s (2013) study purchased PL chocolate for themselves rather than as a gift, and they tended not to like others sending them PL chocolate as a present. Meanwhile, Indian consumers seek the approval of their friends and family for apparel purchases, which they relate to their self-image, unlike for grocery PLPs (Mathur & Gangwani, 2021). Consumers tend to buy PLPs for themselves when shopping at discount stores but shift to NBs

when shopping for socially risky situations (Loebnitz et al., 2020). Accordingly, anonymous usage and consumer identity being known to others while buying or using PLPs appear to be important factors in shaping consumer attitudes and purchasing intentions.

Based on the above, the following hypotheses are proposed:

H2: Social risk impacts consumer identity.

H3: Functional risk impacts consumer identity.

H4: Functional risk impacts anonymous usage.

H5: Financial risk impacts anonymous usage.

H8: Anonymous usage impacts consumer attitudes toward PLPs.

H9: Consumer identity impacts consumer attitudes toward PLPs.

Price

To take a market share of the manufacturers' brands, marketers should focus on PLP prices rather than product quality in their marketing strategies (Gooner & Nadler, 2012; Stanton et al., 2015). Indeed, the price of PLPs is, on average, 31% lower than their manufacturer-branded counterparts (Beneke et al., 2013; Thanasuta, 2015; Blanchard et al., 2017). Lower prices have been found to be the most influential factor in purchasing food-related PLPs (Nair & Abraham, 2017). This focus does not mean that PLPs are of low quality but that they offer competitive prices and quality levels (Doyle, 2007). According to Jin and Suh (2005), maintaining lower prices for PLPs in the food industry is more crucial than offering quality similar to recognized brands. Price knowledge of PL brands scores significantly higher in recall and recognition processes during consumer decision-making (Kenning et al., 2011). Store loyalty can be directly predicted by product pricing due to their strong relationship (Nair & Abraham, 2017). For instance, in their study of food industries, Sgroi and Salamone (2022) found that price is the most important reason for consumers' choice to purchase food-related PLPs. Bockholdt et al. (2020) also reported that choosing PLPs is positively influenced by price orientation and less so by discounts. Thus:

H6: Price significantly impacts anonymous usage.

H7: Price significantly impacts consumer attitudes toward PLPs.

Attitude

Burton et al. (1998) defined attitudes toward PLs as the predisposition to favorable or unfavorable responses in a product's evaluation, purchase probability, and self-evaluation. Consumer attitudes toward PLPs are affected by various factors (Kiymalioglu et al., 2011). Where some

studies (e.g., Richardson et al., 1994) concluded that the consumers' tendency to purchase PLPs depends on certain demographic factors, such as income, family size, age, and education, as well as specific consumer perceptions of particular product categories, others have found such factors as quality, price, packaging, consumer status, and innovation to influence consumer attitudes (Kasotakis & Chountalas, 2014). Moreover, consumer attitudes toward PLPs are significantly affected by perceptions of financial and functional risk, as well as the context of anonymous usage. A critical dimension influencing consumer attitudes is perceived risk, particularly its financial and functional varieties, which negatively affect attitudes and purchase intentions toward PL brands (Horvat & Ozretić Došen, 2013). Notably, high functional risk, or doubts about the product's performance and reliability, diminishes favorable attitudes (Mathur & Gangwani, 2021). Similarly, Semeijn et al. (2023) showed that higher perceived financial and functional risks are associated with more negative attitudes toward PLs because consumers fear wasting money or experiencing product failure. The context of anonymous usage moderates these relationships: for example, in low-involvement categories, such as household goods, consumers are more accepting of PLs despite the perceived risks, whereas in high-involvement categories, such as personal care, risk perceptions more strongly hinder positive attitudes (Horvat & Ozretić Došen, 2013; Kasotakis & Chountalas, 2014; Semeijn et al., 2023). Therefore:

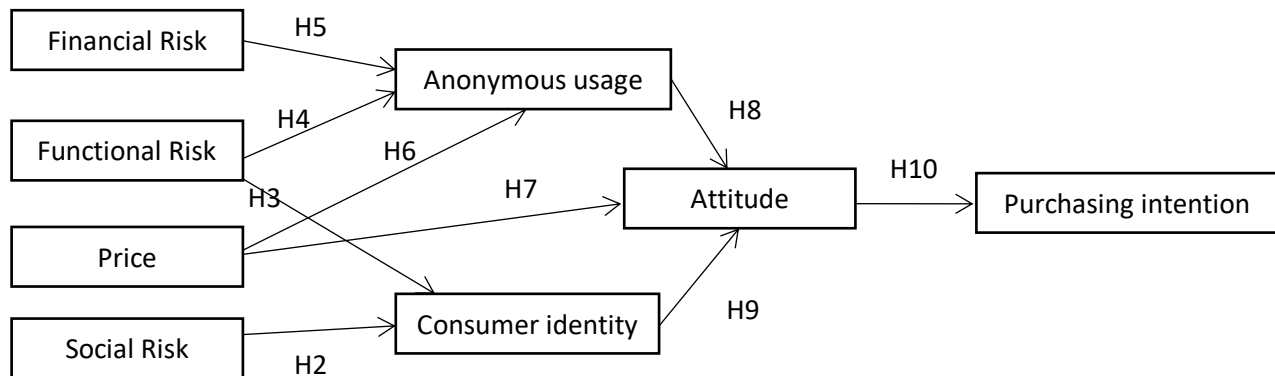
H10: Attitude significantly impacts purchasing intention for PLPs.

Purchase Intention

Purchase intention is a form of planned behavior by prospective customers that may lead to purchase behavior (Schiffman & Wisenblit, 2015). A study in Ecuador found that attitude toward PLs is a critical factor in purchase intention (Macías et al., 2023). Andarini and Alversia (2023), in a study in Indonesia, also found that a positive attitude toward PLs strongly predicts consumers' intention to purchase these products. Consumers who are more sensitive to price tend to view PLPs more positively, associating them with greater value and cost savings, which increases their likelihood of purchasing them (Macías et al., 2023). The relationship between these constructs is well-established, and Sawanah and Phang (2021) reported that all store-related variables, including price perception, have significant correlations with attitude toward purchasing PLPs, which, in turn, affects purchase intention. Thus, price and attitude

are interrelated constructs that jointly influence consumers' intention to purchase PLPs.

The suggested conceptual framework is summarized in the figure below.



METHODOLOGY

The data used in this study were collected from Saudi consumers via a self-administered online questionnaire. The definition of “private label products” was given to the participants to ensure that they understood the topic under research. The questionnaire consisted of a total of 22 items, 16 of which were based on the literature review, and six items for anonymous usage and consumer identity were constructed by the researcher for the purpose of this study. The items from the literature were as follows: attitude items from Mostafa and Elseidi (2018), purchasing intention items from Diallo et al. (2015), price items from Walsh and Mitchell (2010), social risk items from Yusuf Arslan (2013), financial risk items from Mieres (2006), Yusuf Arslan (2013), and Konuk (2020), and functional risk items from Thuy and Nguyen (2015) and Burton et al. (1998).

A back translation was applied to ensure that the items' meaning remained unchanged: they were written in English, translated from English into Arabic, and then back to English by a marketing specialist. The items were then presented to the participants in Arabic after the author had ensured the reliability of the Arabic survey with a focus group. A five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree) was attached to each statement.

A total of 272 completed questionnaires were used for this descriptive study (the questionnaire design disallowed the submission of incomplete surveys). The majority of the sample was male, and over half of the participants were aged between 36 and 50 years (with approximately one third between the ages of 26 and 35). The average monthly income of over half of the sample was more than 15,000 Saudi Riyals (SR) (1 USD = 3.75 SR). More than half the sample were postgraduates.

Validity and Reliability

To test the validity and reliability of the study, several analyses were conducted. Two new variables (factors), namely, anonymous usage and consumer identity, were introduced. Accordingly, the Kaiser-Meyer-Olkin (KMO) test was applied to assess the suitability of using factor analysis. As shown in Table 1, the KMO value was .848, which is considered very good. Bartlett's Test showed ($\chi^2 = 2338.2$, $df = 231$, $p < .001$), confirming that the correlation matrix was not an identity matrix and that there were significant relationships among the variables. These findings suggested the appropriateness of factor analysis for this dataset (Field, 2018). In the factor analysis, both factor loading and Cronbach's alpha were examined (Table 2). Factor loading reflects the relationship between the items and the construct, with an acceptable threshold set at 0.4 (Shrestha, 2021; Pituch & Stevens, 2015). For reliability, Cronbach's alpha was the main focus. As shown in Table 2, the overall Cronbach's alpha for all items combined was .835, and those of the individual factors exceeded the .4 threshold set by Ekolu and Quainoo (2019). Thus, the validity and reliability tests were passed.

Table 1: Kaiser-Meyer-Olkin and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.848
Bartlett's Test of Sphericity	Approx. Chi-Square	2338.223
	df	231
	Sig.	.000

Table 2: Items information

Attitude toward private label brand	Item	Factor loading	Reliability	Mean	SD
ATT1	Buying PL brand products makes me feel good	.805	.878	3.49	1.209
ATT2	For most product categories, the best buy is usually the private label products (PLPs)	.648		3.19	1.219
ATT3	Considering value for money, I prefer PLPs to national brands (NBs)	.549		3.14	1.288
ATT4	I love it when PLPs are available for the product categories I purchase	.561		3.48	1.199
Buying intention			.820		
Buy-Int1	I will recommend buying PLPs	.645		3.50	1.097
Buy-Int2	I would consider buying PLPs	.611		3.58	1.111
Buy-Int3	The probability that I would consider buying PLPs is high	.487		3.45	1.106
Price			.736		
PRC1	PLPs are reasonably priced	.652		3.79	.926
PRC2	PLPs are good products for the price	.871		3.85	.841
Social risk			.622		
Soc-R1	People's opinions of me are positively affected when I buy a PLP	.585		3.18	1.235
Soc-R2	If I buy a PL brand, I like to be sure that I receive positive feedback from the people whose opinions I value	.613		3.39	1.141
Financial risk			.807		
FIN_R1	I think it is not a wise way to spend money (reversed)	.823		2.68	1.151
FIN_R2	I think that PL brands are reliable	.545		2.65	1.100
FIN_R3	Buying PLPs is not worth the money spent (reversed)	.674		2.87	1.205
Functional risk			.745		
Fun-R2	I am uncertain that PLPs will provide the real value that I expect (reverse)	.706		2.30	.944
Fun-R3	I am suspicious of PLP quality (reverse)	.738		2.53	1.165
Anonymous usage			.447		
Anony. Usage1	When buying a product as an ingredient, I make sure that I buy it at a lower price	.472		3.81	.904
Anony. Usage2	When buying products for public consumption, price is more important than quality, especially when my identity is unknown	.477		3.90	1.008
Anony. Usage3	When donating to charity, more products at a lower price is better than fewer branded products	.410		3.69	1.103
Consumer Identity			.449		
Con_Iden1	When buying products for public consumption, quality is more important than price, especially when my identity is known	.498		3.82	1.050
Con_Iden2	When I buy a product that is consumed in its final form (e.g., cheese, jam), I buy products of higher quality, even if the price is higher	.462		4.14	.884
Con_Iden3	Quality is more important when buying for guests	.521		4.32	.680
Questionnaire reliability			.835		

Data analysis and findings

In this section, hypotheses and the framework model are going to be tested. Demographic analysis and measurement model are the main focus.

Demographic analysis

The differences in attitudes toward PLPs between demographic groups were tested. The results are discussed in the following subsections.

Education

H1a: Consumers with a lower education have more positive attitudes toward PLPs than more highly educated consumers.

Table 3: ANOVA results

Attitude					
	Sum of squares	df	Mean square	F	Sig.
Between groups	7.771	3	2.590	2.380	.070
Within groups	291.709	268	1.088		
Total	299.480	271			

A one-way ANOVA was conducted to test H1a. The results indicated a between-groups sum of squares of 7.77 (df = 3) and a within-group sum of squares of 291.7 (df = 268), with an F-value of 2.380 and a significance level of $p = 0.070$. Thus, the difference in attitudes toward PLP across education levels was not statistically significant at the 5% level. Consequently, H1a was not supported.

Income

H1b: Lower-income consumers have more positive attitudes toward PLP than high-income consumers.

Table 4: Independent samples test results

		Levene's test for equality of variances		t-test for equality of means		95% confidence interval of the difference				
		F	Sig.	t	df	Sig. (two-tailed)	Mean difference	Std. error difference	Lower	Upper
Attitude	Equal variances assumed	1.049	.307	1.549	270	.123	.25044	.16168	-.06787	.56875
	Equal variances not assumed			1.584	79.038	.117	.25044	.15807	-.06419	.56506

An independent samples *t*-test revealed no significant difference in attitude toward PLPs between groups based on monthly income. The sample was divided into two groups: Group 1 earned less than SR 10,000, and Group 2 earned SR 10,000 or more. Although Group 1 showed more positive attitudes than Group 2, this was insignificant (Group 1: $M = 3.528$, $SD = 1.01$; Group 2: $M = 3.278$, $SD = 1.05$; $t(270) = 1.549$, $p = 0.123$). Thus, the difference in attitudes toward PLPs based on monthly income was not statistically significant at the 5% level. Accordingly, H1b was not supported.

Age

H1c: Younger consumers have more positive attitudes toward PLPs than older consumers.

Table 5: ANOVA results

Attitude					
	Sum of squares	df	Mean square	F	Sig.
Between groups	.969	3	.323	.290	.833
Within groups	298.511	268	1.114		
Total	299.480	271			

A one-way ANOVA was applied to test whether younger consumers had a more positive attitude toward PLPs than older consumers. The results showed no significant difference in attitudes between age groups ($F(3, 268) = .290$, $p = 0.833$). The high p -value indicates that age did not significantly affect attitudes toward PLPs. Thus, H1c was not supported.

Gender

H1d: Male consumers have more positive attitudes toward PLPs than female consumers.

Table 6: Independent samples test results

		Levene's test for equality of variances		t-test for equality of means		Sig. (two- tailed)	Mean difference	Std. Error Difference	95% confidence interval of the difference	
		F	Sig.	t	df				Lower	Upper
Attitude	Equal variances assumed	.572	.450	.481	270	.631	.09531	.19812	-.29474	.48536
	Equal variances not assumed			.447	38.155	.657	.09531	.21307	-.33596	.52658

An independent samples *t*-test revealed no significant difference in attitudes toward PLPs between men ($M = 3.34$, $SD = 1.04$) and women ($M = 3.24$, $SD = 1.14$; $t(270) = 0.481$, $p = 0.631$). Therefore, H1d was not supported.

Measurement Model

A structural equation model using SPSS AMOS was applied to test the relationships. The model was considered to have a good fit based on the following values: CMIN/df = 1.87 (i.e., < 2), goodness-of-fit (GIF) = .904 (i.e., > .9), Confirmatory Fit Index (CIF) = .920 (i.e., > .9), IFI = > .923 (i.e., > .9), and RMSEA = .57 (i.e., between .5 and .8) (Hair et al., 2010).

Social risk appeared as the dominant predictor of consumer identity ($\beta = .853$), explaining approximately 72% of its variance. In contrast, functional risk did not significantly predict consumer identity ($\beta = -.16$), explaining approximately 2.5% of the variance only. Together, these predictors accounted for 74% of the variance in consumer identity. Anonymous usage was found to be negatively influenced by functional risk ($\beta = -.52$, explaining approximately 27% of its variance and signifying that higher functional risk perceptions reduced the likelihood of anonymous usage, whereas financial risk did not have a significant effect ($\beta = -.057$). Meanwhile, price emerged as a strong positive predictor of product usage ($\beta = .916$, $p < .001$), highlighting the importance of price perceptions in driving anonymous usage behavior. Functional risk, financial risk, and price explained approximately 83% of the variance in anonymous usage. Regarding attitudes, anonymous usage exhibited a significant negative effect ($\beta = -.783$), while both consumer identity ($\beta = .688$) and price ($\beta = .843$) had significant positive effects, underscoring the multifaceted determinants of consumer attitudes and explaining approximately 81% of their variance. Finally, attitude was found to be a robust predictor of buying intention ($\beta = .871$), explaining 75% of the variance and confirming its central role in shaping purchase intentions

Table 7 shows the path coefficients for the overall model. Of the nine hypotheses, seven were supported and two rejected. Social risk ($\beta = .85$, $t = .111$, $p = ***$) had a positive and significant impact on consumer identity, thus supporting H1. However, functional risk ($\beta = -.16$, $t = .077$, $p = .35$) had a negative but insignificant effect on consumer identity, leading to H3 being rejected. Functional risk ($\beta = -.52$, $t = .131$, $p = .001$) and price ($\beta = .916$, $t = .223$, $p = ***$) had significant impacts on anonymous usage, thus supporting H4 and H6, respectively. However, financial risk ($\beta = -.057$, $t = .124$, $p = .668$) had a negative but insignificant effect on anonymous usage, leading to the rejection of H5. Anonymous usage ($\beta = -.783$, $t = .352$, $p = .004$), consumer Identity ($\beta = .688$, $t = .454$, $p = ***$), and price ($\beta = .843$, $t = .459$, $p = ***$) all had significant impacts on attitude, confirming H7–H9. Similarly, attitude ($\beta = .871$, $t = .067$, $p = ***$) had a positive and significant effect on purchasing intention, thereby supporting H10.

Table 7: Path coefficients

Hypothesis		β	S.E.	t-value	P	Decision
H2	Social risk → Consumer identity	.853	.111	4.082	***	Accepted

H3	Functional risk	→	Consumer identity	-.160	.077	-.934	.350	Rejected
H4	Functional risk	→	Anonymous usage	-.520	.131	-3.22	.001	Accepted
H5	Financial risk	→	Anonymous usage	-.057	.124	-.429	.668	Rejected
H6	Price		Anonymous usage	.916	.233	5.669	***	Accepted
H7	Price	→	Attitude	.843	.459	3.319	***	Accepted
H8	Anonymous usage	→	Attitude	-.783	.352	-2.911	.004	Accepted
H9	Consumer identity	→	Attitude	.688	.454	3.594	***	Accepted
H10	Attitude	→	Buying intention	.871	.067	11.518	***	Accepted

DISCUSSION

The demographic differences in attitudes toward PLPs were not as hypothesized: no differences were found between consumer groups based on their education, income, age, and gender. Although this finding is unexpected, it is not unique to this study. Similar findings have been reported in prior research, including by Ailawadi et al. (2001), Shukla et al. (2013), and Valaskova et al. (2018), who observed no impact of such sociodemographic factors as education, income, age, and gender on attitude. This may indicate that other non-demographic factors have a stronger influence.

The present study's findings highlight the dominant role of social risk in shaping consumer identity. This aligns with the literature underlining social risk as a central component of perceived risk, reflecting the influence of societal judgments, peer approval, and reference groups on consumer decision-making (Andrian & Selamat, 2022; Maziriri & Mokoena, 2016). Previous research has demonstrated that social risk can drive consumers to conform to group expectations and avoid choices that may result in social embarrassment or disapproval, which makes it a key determinant in identity construction (Mathur & Gangwani, 2021). In contrast, functional risk was found to be insignificant when it comes to consumer identity. This may have been because this risk is perceived as inconsequential for products that are used in front of others.

Meanwhile, financial risk was negatively related to anonymous usage, consistent with some previous studies. However, the relationship was not significant, which contradicts other studies (Semeijn et al., 2004; Wu et al., 2011; Mathur & Gangwani, 2021). Functional risk had a negative and significant association with anonymous usage. This supports the notion that concerns about

product performance and reliability are integral to perceived risk, in line with Featherman and Pavlou (2003). Price was also found to be relevant to anonymous usage. This finding is supported by numerous studies that identified price as the main reason for buying PLPs. It appears that the usage of the product is highly important to purchasing PLPs, as consumers ascribe less importance to products they will not use directly, that will be used or consumed by others, and those used by consumers whose identities are unknown.

Consumer identity was found to significantly predict attitudes toward PLPs. This result is consistent with prior studies reporting that consumers use purchases to maintain their status because they consider products as symbolic and take into account the social risks attached to them (Vahie & Paswan, 2006; Mathur & Gangwani, 2021). Saudi consumers appear to be more cautious regarding their status when consuming or using products in front of others, leading them to avoid using PLPs publicly. This finding is supported by Al Rushoud (2022), who observed that social status imposes particular forms of consumption.

Anonymous usage had a significant impact on consumer attitudes toward PLPs, corroborating previous studies (e.g., Valaskova et al., 2018). The participants generally preferred to give away more lower-priced products to charity than fewer higher-priced products, regardless of the brand name. This finding, coupled with financial risk being insignificant for products consumed by others, may support the idea that consumers tend to believe that PLPs are appropriate if isolated from social risk. The relationship between price and attitude toward PLPs was found to be significant. This finding aligns with previous studies, which have consistently identified price as a major driver of PLP purchases (Surjaatmadja & Purnawan, 2018).

Although price significantly impacts the buying intentions of Saudi consumers, it appears to be secondary to risks that affect social status. Consumers who are not price sensitive are not prone to purchase PLPs (Horvat & Došen, 2020).

Lastly, attitude impacted PLP buying intention positively and significantly. This relationship has been observed consistently in different contexts. For example, Rendón et al. (2023) found that Ecuadorian consumers' attitudes toward PLPs have positive and significant effects on purchasing intention. The same conclusion was reached by Yadav and Kar (2024), who reported that attitude positively influences PLP purchase intention.

Conclusion and Implications Theoretical Contributions

This study introduced two new factors influencing consumer attitudes toward PLPs: anonymous usage and consumer identity. Anonymous usage concerns situations when a product is used or consumed without the buyer's identity being involved or as an ingredient. Consumer identity relates to situations when the product is used or consumed in front of others in a socially risky situation or the product is in its final form. Previous studies have predominantly examined products by category. The challenge of using the product category is its limitation to that exact product. The two new factors proposed here will allow researchers and retailers to examine different categories through the same lens.

Practical Implications

The findings of this study can inform retailers carrying PLPs or planning to introduce them to their shelves. Focusing on PLPs used as ingredients is a suitable strategy in both the short and long term: in the short term, PLPs can quickly demonstrate their product quality, and in the long term, they can sustain customer relationships and foster loyalty. Retailers may also look to partnerships with charity organizations because donors value the quantity of products over the brands. Retailers may also focus on displaying the manufacturers of their PLPs to reduce the social risk, which may encourage consumers to buy them. Additionally, retailers should pay more attention to the quality of their PLPs to encourage consumers to try these products. Further, because demographic factors do not appear to impact consumer attitudes toward PLPs, retailers should be encouraged to consider other factors more closely and seek to identify new ones as they may change over time.

Limitations and Future Research

As with all studies, this paper has limitations that should be discussed. The convenience sampling used may have impacted the generalizability of the findings. The sample was drawn from one city—Riyadh—which may also impact the study's generalizability. However, some recommendations for future researchers can be made based on the study. Future research may look into the two factors proposed here (anonymous usage and consumer identity) in different countries and cultures. Because the demographic factors' effects on consumer attitude and buying intention have been inconsistent in the literature, deeper investigations in this area should be encouraged, particularly in the context of the new digital world, where consumers appear to be similar in many ways.

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