Segmentation and Drivers of Beer Consumption in the Brazilian Market

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ABSTRACT

The objectives of this study were to examine the importance of variables such as perceived quality, low price, social interaction, consumer knowledge, and packaging on purchase intention for beer in the Brazilian market; and to identify consumer groups with a distinct profile based on their behavior concerning these important variables. We found that perceived quality, low price, and social interaction were predictors of the willingness to buy beer. We also found that consumer product knowledge and packaging moderated the effects of perceived quality and low price on purchase intention. Our findings showed that the more product knowledge a consumer possesses, the less perceived quality would impact a beer brand's purchase intention; and the greater the influence of packaging, the less impact a low price will have on the purchase intention of a beer brand. Our research also identified three distinct groups of beer consumers: Bohemians, Tasters, and NOBELs (NOt a BEer Lover).

KEYWORDS

Brazilian beer market; beer market segmentation; beer consumption drivers; self-organizing maps.

Segmentação e direcionadores do consumo de cerveja no mercado brasileiro

RESUMO

Os objetivos foram examinar a importância das variáveis qualidade percebida, preço baixo, interação social, conhecimento do consumidor e embalagem na intenção de compra de cerveja no mercado brasileiro; e identificar grupos de consumidores com perfil distinto a partir de seu comportamento em relação ao efeito dessas variáveis. Descobriu-se que qualidade percebida, preço baixo e interação social foram preditores da intenção de comprar cerveja. No entanto, também foi encontrado que o conhecimento do consumidor sobre o produto e a embalagem moderou os efeitos da qualidade percebida e do preço baixo na intenção de compra. Os resultados mostraram que quanto mais conhecimento do produto um consumidor possui, menos a qualidade percebida impactaria a intenção de compra de uma marca de cerveja; quanto maior a influência da embalagem, menor será o impacto de um preço baixo na intenção de compra de uma marca de cerveja. Nossa pesquisa também identificou três grupos de consumidores de cerveja: Boêmio, degustadores e NOBELs (NOt a BEer Lover).

PALAVRAS-CHAVE

mercado brasileiro de cerveja; segmentação do mercado de cerveja; direcionadores de consumo de cerveja; mapas auto-organizados.

1. INTRODUCTION

Beer is the most widely consumed alcoholic beverage in the world (174 billion liters in 2021) (Statista, 2022). In terms of volume, China, the U.S., and Brazil are, respectively, the top three producers and consumers (Atlasbig, 2022; Statista, 2022). In terms of per capita consumption, the Czech Republic ranked first in 2014, with 181 liters per person; the U.S. and Brazil ranked 17th (72.8 liters per capita) and 23rd (65.1 liters per capita), respectively (Amoros, 2022). Per capita consumption in China (28.5 liters) is lower than in the U.S. and Brazil (Statista, 2022). Therefore, it is expected an increase in beer consumption in Brazil and China, although a decrease is expected in the U.S. (Statista, 2022). This way, there is enormous growth potential in emerging markets.

The global beer market was worth about US$563.9 billion in 2021, and this may increase 10.34% by 2025 (Statista, 2022). According to Nelson (2005) and Statista (2022), sellers in developed markets like the U.S. will have difficulty improving future profits due to intense price competition. In addition, cultural changes and consumption behavior changes (Gómez-Corona et al., 2017b), as well as strict government regulations in developed markets, have motivated companies like SAB-Miller, InBev, Heineken, and Kirin to improve their financial performance by moving into emerging markets, where regulations are not as strict and markets are not yet well developed. Gómez-Corona et al. (2017b) argued that culture is pivotal to the understanding of beer consumption and maintained that surveying the characteristics of the market is important for firms to remain competitive. In Brazil, for instance, the market share of craft beer brewers has recently been increasing (Brasil, 2022; ForbesAgro, 2022), but it is not yet a significant threat to international beer companies who focus on so-called industrial beer. In developing markets,

craft beer is priced relatively high (compared to developed markets), and consumer demand is therefore still lower.

When it comes to determinant factors in people's decision of what beer to drink, the existing literature has established that price plays a major role in consumers' choices about a specific beer brand. However, there is a debate in the marketing literature about what other factors also influence the buying behavior of beer consumers. For example, Smart (1988) argued that advertising does not play a significant role in changing consumer behavior, and Wilcox et al. (2015) found that it does not increase the consumption of alcoholic beverages. But advertising may have a significant influence in communicating other relevant aspects of products, such as packaging and design (Young, 2002), social interaction (Leiss et al., 1990), or product quality (Moorthy & Zhao, 2000; Koch & Sauerbronn, 2019). As well, Nelson (2005) argued that, in developed markets, advertising could influence market shares, and may even motivate wealthy consumers to trade up to more expensive beers. There are also intrinsic and extrinsic factors that are not related to the product itself (knowledge, familiarity, personal preferences, drinking partners, etc.) that impact purchase intentions for a specific brand of beer (Cardello et al., 2016; Gómez-Corona et al., 2017a). These factors have not been extensively explored in the literature, particularly in the context of emerging markets. Moreover, Gómez-Corona et al. (2017a) and Calvo-Porral (2019) strengthened the argument that studies should provide information on how firms should focus on consumer groups and how to develop products for these specific consumer segments – something that has been relatively untapped by the current literature.

To address the issues raised above, it is necessary to gain a deeper understanding of the extrinsic factors that can impact consumer buying decisions with respect to competing brands of beer within and across different segments. We first survey the literature in order to identify these important extrinsic factors, and then we develop a set of testable hypotheses regarding these factors. Next, we describe our methodology and the results yielded. We conclude the paper with a discussion of the implications of our findings.

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1. THE ROLE OF PRICE IN THE PURCHASE INTENTION OF BEER

In the marketing literature in general, price has long been considered one of the most important variables influencing consumer purchasing decisions. Chaloupka et al. (2002) argued that price is also important for beer. Premium and craft beers are far more expensive than industrial beers (Gómez-Corona et al., 2016), especially in emerging markets like Brazil (Barboza, 2013; Dias & Falconi, 2018); consumer demand is therefore much lower for craft beer than it is for industrial beer. Although price differences among industrial beers are relatively low, price considerations also affect consumer decisions about which industrial beer to buy (Gómez-Corona et al., 2016).

This fact might lead us to conclude that the intrinsic characteristics of beer – such as flavor, smell, color, and texture (Gómez-Corona et al., 2016) – are not very important, and that the extrinsic factor of price alone explains the wide acceptance of lower quality industrial beers (Mardegan et al., 2013). However, there are specific situations in which other variables are important, and therefore reduce the importance of price in consumer purchase intentions. For example, Manning et al. (1995) found that heavy and light beer drinkers are not as price sensitive as moderate drinkers, and that the demand of heavy beer drinkers might even be considered inelastic. These results

resonate with Rizzon, De Toni et al. (2022) findings with Brazilian consumers. Indeed, in some cases, low price appears to have little impact on purchase intention, and this might facilitate the appearance of more hedonic and symbolic attributes. In spite of these exceptions, price still represents a key variable in the overall purchase decision of beer. Thus, we hypothesize that:

- **H1.** *Low price positively influences the purchase intention of a beer brand.*

2.2. The role of social interaction in the purchase intention of beer

Socialization is a sociocultural adjustment that influences the choice of a specific brand of beer, as well the choice between beer and some other type of beverage (Silva et al., 2016; Heath, 1987; Sargent, 1971). Alcoholic beverages act as a social catalyst (Cahalan et al., 1969), and as a facilitator of interpersonal relations. The human need to engage in social relationships means that socialization is an important factor in the consumption of alcoholic beverages. Moreover, this need is expressed by a set of actions that associate the individual with his/her expected role in society. Pettigrew (2002), for instance, found that beer consumption is used by males to express their masculinity and by females to express their equality; females use their non-consumption of beer to show their femininity. In some cases, beer represents a totem of masculinity and directly contributes to shaping personal and social identities (Gómez-Corona et al., 2017b).

According to Crawford (1987), social obligations are micro-constraints that drive individual behavior to seek collective approval. Social obligations are more evident during ceremonies and celebrations, and they are underlying reasons for drinking beer. These "consumption rituals" may influence brand choice and the amount of the brand that is consumed, since the consumption of alcoholic beverages signals personal image and interests to the group (Crawford, 1987; Calvo-Porral, 2019). As a result, the individual may feel an indirect obligation to share the same collective practices, while the individual's real preferences are not revealed.

There is a substantial divergence between patterns of beer consumption in a social context and in a private context (Giacalone et al., 2015; Gómez-Corona et al., 2016). In social contexts, individual preferences are influenced by the presence of other people and the need to make collective decisions. Individuals may be reluctant to question a group decision and may therefore do things that they do not really want to do (e.g., drink a less appreciated beer). By contrast, in a private context where personal judgments drive buying decisions, individuals feel freer to choose a more appreciated alternative (e.g., a beer they like). We therefore hypothesize that:

- **H2.** *Socialization positively influences the purchase intention of a beer brand.*

2.3. The role of perceived quality in the purchase intention of beer

When there is uncertainty about a product and its attributes, consumers seek information about factors such as product quality in order to minimize their purchase risks (Jacoby et al., 1971). Zeithaml (1988) differentiated the concepts of quality and *perceived* quality, arguing that the former carries an objective evaluation of superiority and excellence, while the latter requires cognition and a subjective judgment by the individual. Perceived quality means that judgments are made about the intrinsic aspects of a product or service relative to excellence and superiority (e.g., taste and flavor). Although a product or service could possess objective quality (i.e., the product is made with high-quality materials), it is consumers' subjective perceptions that matter.

This is an important issue, because it means that perceived quality is influenced by previous judgments the individual has made about the subjective characteristics and attributes of a product or service. This, in turn, influences the individual's future choice of a specific brand, because it leads to inferences about the quality level of the product (Aaker, 1991; Calvo-Porral et al., 2013). Thus, a previous experience (good or bad) could alter an individual consumer's perception of the quality of a product or service (Aaker, 1996; Holbrook & Corfman, 1985; Morgan, 1985; Quintal et al., 2016), and this conclusion should hold for beer purchases as well (Gómez-Corona et al., 2016; Rizzon et al., 2022). We therefore hypothesize that:

- **H3.** *Perceived quality positively influences the purchase intention of a beer brand.*

2.4. MODERATING VARIABLES

Perceived quality is based on subjective characteristics and is therefore influenced by situational factors (Aaker, 1996; Holbrook & Corfman, 1985; Morgan, 1985; Quintal et al., 2016). One variable that has a major influence on an individual's perception of quality is knowledge about a product (Hernandez et al., 2014; Rao & Monroe, 1988). Knowledge leads consumers to engage in a more rational decision-making process, which increases the importance of objective attributes (e.g., product composition) and reduces the influence of more subjective attributes (e.g., taste and flavor; Hernandez et al., 2014; Jacoby et al., 1971). Furthermore, knowledge about beer could make consumers more diligent about quality aspects and therefore motivate their search for higher quality beers (Gómez-Corona et al., 2016; Capitello & Todirica, 2021). Indeed, Cardello et al. (2016), Gómez-Corona et al. (2017b), and Rizzon et al. (2022) suggested that familiarity with beer is a strong determinant in people's decisions of what beer to purchase. Thus, we hypothesize the following:

- **H4.** *The greater the consumer's product knowledge, the smaller the effect of perceived quality perceptions on purchase intention.*

Packaging is another attribute that has the potential to influence consumers' decisions about which beer to consume (e.g., Aquilani et al., 2015; Bamforth & Cabras, 2016; Gómez-Corona et al., 2016; Sester et al., 2013). Packaging plays a major role in marketing because it uses visual stimuli about a product in order to attract consumer attention (Venter et al., 2011). Studies about alcoholic beverages reveal that young adult consumers believe that packaging increases the perception of palatability (Gates et al., 2007). Although packaging is considered an extrinsic attribute, some researchers have found that beer labels, the sophistication of the packaging, and even the shape of the beer glasses may influence how consumers experience the product (Gómez-Corona et al., 2016; Mirabito et al., 2017; Betancur et al., 2020). Packaging can affect consumer perceptions of product quality (Chrea et al., 2011; Loose & Szolnoki, 2012; Mueller & Szolnoki, 2010) as well as price (Becker et al., 2011). For example, a sophisticated package and/or label might imply a premium price, which might negatively influence the selection of that particular brand if consumers are more price sensitive. Alternatively, consumers who are less price sensitive would be more positively influenced by a sophisticated package/label because it would imply higher quality. Hence, we hypothesize the following:

- **H5.** *The greater the influence of packaging, the smaller the effect of low price on purchase intention.*

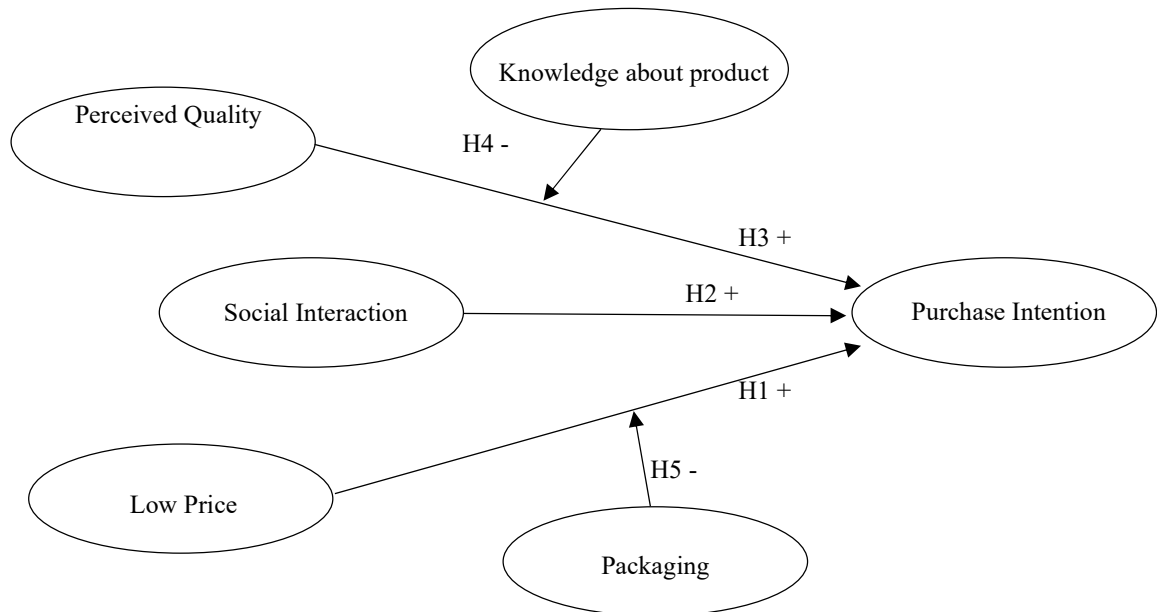The important conceptual variables discussed above are summarized in Figure 1.

Figure 1. Conceptual model.
Source: Author's own elaboration.

3. METHOD

3.1. DATA COLLECTION

To calculate the sample size we used GPower (Erdfelder et al., 1996) for F test with the following parameters: effect size $f^2 = 0.05$; a error probability = 0.05; power (1 - b error probability) = 0.95 for 5 predictor variables; a non-centrality parameter $\lambda = 20.10$; critical F = 2.2368 and; total sample size n = 402. Therefore, the results showed that there is a high chance of correctly rejecting the null hypothesis of no difference with more than 402 respondents. This amount was lower than that obtained in our study (419 valid respondents), proving to be more than enough.

The sample was based on 419 individuals who declared themselves as beer drinkers. This survey was carried out in 2019. The sample was non-probabilistic by accessibility and snowball. A link was created in google forms and shared through the researchers' social networks Data were gathered both online (314 respondents using self-administered questionnaires) and in person (105 respondents recruited at local bars and restaurants in Fortaleza, using personally administered questionnaires). All the respondents were Brazilian citizens, but most live in Fortaleza.

3.2. Survey instrument and measurement

The survey instrument was based on several reliable and valid scales and adapted and translated into Portuguese. The instrument was based on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree) and included scale items adapted from previous studies: social interaction (Gómez-Corona et al., 2016), low price (Suri & Monroe, 2003), perceived quality (Yoo & Donthu, 2001), knowledge, and packaging (Filieri & Lin, 2017).

It is important to emphasize that the Portuguese version of these items was adapted and translated by an MSc. in linguistics (English & Portuguese). Furthermore, for content validity, it was tested and validated by three marketing associate professors. Finally, for face validity, a pretest of the survey instrument was conducted with 17 respondents with the same demographic and behavioral profile as the real respondents of this study. The survey instrument required no further changes following the pretest screening process.

The survey was divided into two major parts. In the first part, respondents were asked to evaluate the brand of beer they often consumed; in the second part, they were invited to declare the brand of beer they liked the most. If participants declared the same brand in both parts of the survey, the questionnaire was categorized as "both" and the survey was stopped. If respondents stated a different beer brand at the beginning of the second part, they were invited to continue to answer the second part of the survey; this allowed us to identify the reason for the discrepancy between the preferred beer and the beer regularly consumed. Of the total sample, 186 of the 419 respondents answered the complete questionnaire (first and second parts).

3.3. Descriptive statistics

At the end of the survey, respondents were also asked a set of personal questions related to their beer consumption and demographics. Of the 419 respondents, 129 (30.8%) declared that they drank beer once or twice a month, 95 (22.8%) said three or four times a month, 129 (31%) said once or twice a week, 47 (11.3%) said three or four times a week, 16 (3.8%) said almost every day, and 3 (0.7%) did not respond. Of the 419 respondents, 237 (56.6%) were male and 182 (43.4%) were female. Respondent ages varied from 18 to 72, with the average being 31.6 years.

For the total sample of 419, the most mentioned brand was Skol (a Brazilian national brand) with 153 mentions (36.5%), followed by Heineken with 67 mentions (16.0%), Itaipava (another Brazilian national brand with 58 mentions (13.8%), and other brands 141 (33.7%). Respondents were also asked about the kind of packaging they preferred for their beer; the majority indicated bottles (173 preferred 355 ml bottles, 172 preferred 600 ml bottles, and 113 respondents chose 350 ml cans).

4. RESULTS AND ANALYSIS

The analysis was carried out in three steps. In the first step, structural equation modeling (SEM) was used to test the hypotheses. In the second step, we used self-organizing maps (SOM) with MatLab (v.R2014a) in order to identify beer consumer groups with distinctive characteristics. In the third step, we used ANOVA to assess whether the differences among variables in identified groups were statistically significant.

4.1. Hypothesis testing: Drivers of beer consumption

First, a conceptual model was built, and factor loadings of items and adjustment measures from the overall model were observed. All factor loadings reached values higher than 0.7. This result demonstrates the fitness of variables to their constructs, which highlights the convergent validity of the scale. The conceptual model also revealed satisfactory values, once all adjustment indexes exceeded the minimum required. For convergent and discriminant analysis, constructs presented acceptable values: Perceived Quality – CR = 0.935, AVE = 0.827; Social Interaction – CR = 0.912, AVE = 0.723; Low Price – CR = 0.936, AVE = 0.784.

In order to verify the research hypotheses, a structural model was designed based on theoretical contributions from the literature. We observed causal relationships among the independent variables (perceived quality, social interaction, and low price) on the dependent variable (purchase intention). The model presented high levels of goodness-of-fit indexes (Hair et al., 2006): CMIN/DF = 2.456, CFI = 0.972; GFI = 0.927; IFI = 0.972; TLI = 0.965, RMSEA = 0.059. Results from the structural model also revealed a significant impact on purchase intention for a beer brand from all independent variables. These findings are presented in Table 1. Perceived quality was the variable that had the most influence on purchase intention, followed by price and social interaction.

Table 1
Drivers of beer consumption

Dependent Variable	Independent Variable	Unstandardized Estimates (b)	S.E. (ε)	Standardized Estimates (β)	T-test	Hypothesis
Purchase Intention	Price	0.154	0.030	0.211	0.000**	H1 Confirmed
	Socialization	0.122	0.038	0.148	0.002**	H2 Confirmed
	Perceived Quality	0.685	0.050	0.721	0.000**	H3 Confirmed

**p < 0.01
Source: Author's own elaboration.

As shown in Table 1, our first three hypotheses were confirmed. That is, the main constructs are associated with the purchase intention of a beer brand, and thus all of the independent variables influence willingness to buy brands of beer.

Since low price, social interaction, and perceived quality were found to be strong predictors of purchase intention, a moderation test was undertaken in order to evaluate the leveraging effects of perceived quality (knowledge moderated) and low price (packaging moderated) on purchase intention. Results show that knowledge plays a negative role in moderating the effects of perceived quality on purchase intention as follows: $F(3.415) = 111.2206$, $R^2 = 44.57$, $p < 0.001$; perceived quality, $b = 0.5315$, $t(415) = 15.2969$, $p < 0.001$; knowledge about a product, $b = 0.1167$, $t(415) = 3.6402$, $p < 0.001$; and perceived quality × knowledge about a product, $b = -0.0861$, $t(415) = -3.8641$, $p < 0.001$. These outcomes support H4 (i.e., the greater the knowledge about beer, the lesser the effect of perceived quality on purchase intention).

We were likewise able to find that packaging indeed had the capacity to moderate negatively the effect of low price on purchase intention: $F(3,415) = 29.6033$, $R^2 = 17.63$, $p < 0.001$; low price, $b = 0.1433$, $t(415) = 4.7176$, $p < 0.001$; packaging, $b = 0.2721$, $t(415) = 7.3528$, $p < 0.001$;

and low price × packaging, $b = -0.0729$, $t(415) = -3.5303$, $p < 0.001$. These outcomes support H5 (i.e., as the effect of packaging increases, the effect of low price on purchase intention is significantly reduced).

4.2. SEGMENTATION ANALYSIS

To divide the group of respondents into distinct segments, we conducted a descriptive post hoc analysis (Wedel & Kamakura, 2000), because there is neither an a priori selected dependent variable to be used in the segmentation process nor an a priori specified amount of segments expected to be found. Thus, segmentation analysis was performed without prior assumptions regarding consumers' characteristics. This study also used a behavioral segmentation analysis due to its relationship to external attitudes that consumers supposedly would favor when making a purchase decision (Goyat, 2011; Snellman, 2000; Yankelovich & Meer, 2006).

The market segmentation analysis was conducted using the SOM method (for a more detailed explanation on the use of SOM in segmentation analysis, see Mazanec, 1999). As with any other artificial neural network technique, a main attribute of SOM is the ability to learn from the data. That is, it is not necessary to establish an a priori algorithm that will analyze the data; through training, the neural network will learn how to analyze the data on its own. Lee et al. (2004) suggested the use of a two-level SOM analysis, which consists in using two clusterization steps in building the groups. In the first clusterization, the number of neurons is defined by 5√N, where N is the sample size (Lee et al., 2004). As a result of this first step, the first clusters (called protoclusters) are formed through a combination of prototypes. The second clusterization is performed with the protoclusters (obtained in the first clusterization) in order to find the final clusters (López García & Machón González, 2004). For the second clusterization, Lee et al. (2004) and López García and Machón González (2004) recommended the use of the Davies–Bouldin (DB) index (see Equation 1). This index is related to the dispersion and similarity measures of the clusters. The literature indicates that the smaller the index number, the better the result in obtaining the ideal number of clusters.

Equation 1:

$$\frac{1}{C}\sum_{K=1}^{C} \max_{l \neq K} \left\{ \frac{S_c(Q_k) + S_c(Q_l)}{d_{ce}(Q_k, Q_l)} \right\} \tag{1}$$

Where:

C = number of clusters
$S_c(Q_k)$ = internal distance from cluster K
$S_c(Q_l)$ = internal distance from cluster L
$d_{ce}(Q_k, Q_l)$ = distance between cluster K and cluster L

After following the two-steps procedure suggested by Lee et al. (2004) and Souza et al. (2021), using MatLab v.R2014a and analyzing the DB index, we identified three distinct clusters (see Figure 2). Thus, based on the results of the SOM analysis, the 419 respondents were divided into three groups: Bohemians, composed of 141 respondents; Tasters, composed of 157 respondents; and NOBELs (NOt a BEer Lover), composed of 121 respondents. Next, the behavioral characteristics of the three identified clusters will be further analyzed using ANOVA tests.
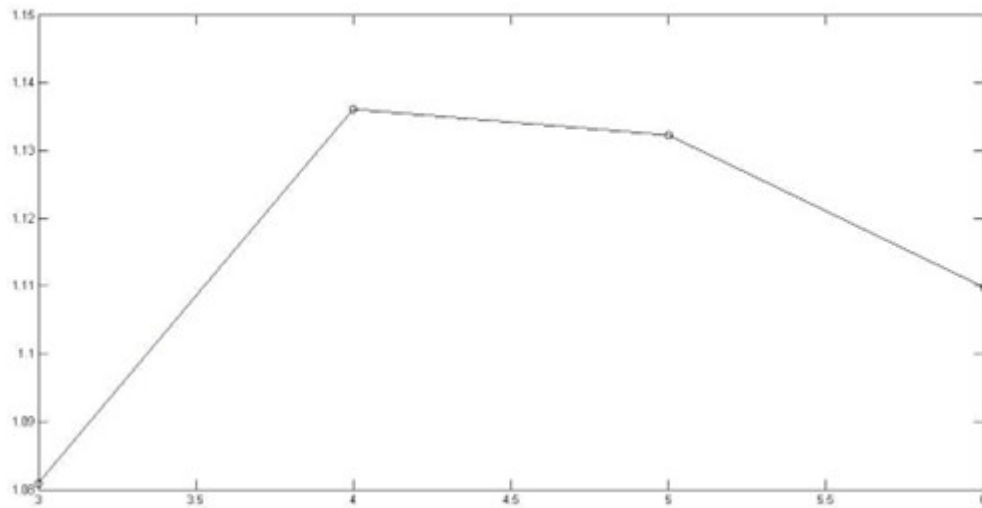
Figure 2. Results of the Davies-Bouldin (DB) index
Source: Author's own elaboration.

4.3. CHARACTERIZATION OF THE DIFFERENT BEER SEGMENTS

An ANOVA was performed in order to identify possible significant differences in the means of the groups of beer consumers identified by the SOM analysis, and to identify the major characteristics of each group (Hair et al., 2006). Respondents were grouped based on the variables that showed significant influence on the purchase intention of a beer brand (i.e., low price, social interaction, perceived quality, packaging, and knowledge). This approach also identified the characteristics that played a major role in the purchase decision of each group.

The behavioral variable results under ANOVA were analyzed for significance (see Table 2). Because of sample heterogeneity, sociodemographic variables did not show any significant differences between the groups (Table 3 presents the sociodemographic characteristics of each group, and Table 4 presents the beer consumption levels for each group); we therefore focus on the main purpose of this research, which is *behavioral* segmentation.

Table 2
ANOVA Results

Cluster	Bohemians	Tasters	NOBELs	Total	F	p
N	141	157	121	419		
Social Interaction	6.0105	5.2661	3.1539	4.9066	163.198	***
Perceived Quality	5.2247	6.1381	3.9449	5.1974	156.582	***
Packaging	4.1638	4.8503	2.8388	4.038	92.776	***
Low Price	5.6330	2.5710	2.9165	3.701	305.150	***
Purchase Intention	6.2931*	6.3822*	4.7879	5.8918	103.612	***
Knowledge about a product	3.45158*	3.5563*	2.6281	3.253	16.773	***

* Post hoc Scheffe's test shows no significant differences between groups.
*** *p* <.0001
Source: Author's own elaboration.

Table 3
Sociodemographic characteristics of each group

Characteristic		n	Groups			Total
			Bohemians	Tasters	NOBELs	
Gender	Male	*n*	75	99	63	237
		% of Total	17.9%	23.6%	15.0%	56.6%
	Female	*n*	66	58	58	182
		% of Total	15.8%	13.8%	13.8%	43.4%
	Total	*n*	141	157	121	419
		% of Total	33.7%	37.5%	28.9%	100.0%
Annual Household Income in USD	< 3,690	*n*	4	1	1	6
		% of Total	1.0%	0.2%	0.2%	1.4%
	3,690 – 11,071.00	*n*	38	32	24	94
		% of Total	9.2%	7.7%	5.8%	22.7%
	11,072 – 18,452	*n*	37	23	32	92
		% of Total	8.9%	5.6%	7.7%	22.2%
	18,453 – 36,903	*n*	36	45	39	120
		% of Total	8.7%	10.9%	9.4%	29.0%
	36,904 – 55,355	*n*	12	31	15	58
		% of Total	2.9%	7.5%	3.6%	14.0%
	55,356 – 73,806	*n*	4	8	3	15
		% of Total	1.0%	1.9%	0.7%	3.6%
	> 73,806	*n*	8	14	7	29
		% of Total	1.9%	3.4%	1.7%	7.0%
	Total	*n*	139	154	121	414
		% of Total	33.6%	37.2%	29.2%	100.0%
Education Level	< High School	*n*	1	0	4	5
		% of Total	0.20%	0.00%	0.90%	1.20%
	High School	*n*	76	57	28	161
		% of Total	18.10%	13.60%	6.70%	38.40%
	Undergraduate	*n*	33	49	45	127
		% of Total	7.90%	11.70%	10.70%	30.30%
	Graduate	*n*	31	51	44	126
		%of Total	7.40%	12.20%	10.50%	30.10%
	Total	*n*	141	157	121	419
		% of Total	33.70%	37.50%	28.80%	100.00%

Source: Author's own elaboration.

Table 4
Beer consumption levels for each group

Consumption Level		Groups			Total
		Bohemians	Tasters	NOBELs	
Once or twice a month	*n*	35	52	42	129
	% of Total	8.4%	12.5%	10.1%	31.0%
Three or four times a month	*n*	39	37	19	95
	% of Total	9.4%	8.9%	4.6%	22.8%
Once or twice a week	*n*	44	41	44	129
	% of Total	10.6%	9.9%	10.6%	31.0%
Three or four times a week	*n*	18	16	13	47
	% of Total	4.3%	3.8%	3.1%	11.3%
Almost every day	*n*	3	10	3	16
	% of Total	0.7%	2.4%	0.7%	3.8%
Total	*n*	139	156	121	416
	% of Total	33.4%	37.5%	29.1%	100.0%

Source: Author's own elaboration.

Based on ANOVA results, the main groups' characteristics are described below.

Bohemians. This group, which had the highest beer consumption, comprised 75 men and 66 women. A low price had a major influence on their purchase intention, and on this dimension they were not significantly different from Tasters (see below). Bohemians chose brands of beer that are popular and are cheaper than other brands. Bohemians do not like to drink beer alone, wherever the location; for them, drinking beer is an opportunity to socialize.

Tasters. For Tasters, the perceived quality of a beer was the most important attribute in purchase intention, and price was the least important variable (perhaps because this group had the highest average annual income; see Table 3). This group included 99 men and 58 women; they chose Heineken as their most preferred beer brand but exhibited the most variability among beer brands cited. This group mentioned more than 25 craft or premium beer brands (both national and international). Tasters value hedonic experiences, but they have the lowest consumption frequency, and they drink high-value beer brands. As long as price can be used as a measure of perceived quality (Jacoby et al., 1971), and packaging can be related to a willingness to pay a premium price for a product (Filieri & Lin, 2017), it makes sense that this group evaluates these variables higher than both Bohemians and NOBELs (see below). Although Tasters exhibited the highest purchase intention, they were not *significantly* different from Bohemians with respect to purchase intention (or product knowledge).

NOBEL (NOt a BEer Lover). This group included 63 men and 58 women; Skol was their preferred brand of beer. NOBELs scored lower than Bohemians and Tasters on social interaction, perceived quality, packaging, and product knowledge, and this group exhibited the lowest purchase intention. NOBELs sometimes do drink beer, but they often choose to drink another alcoholic beverage (e.g., wine, whisky, spirits). When evaluating beers, NOBELs are not much influenced by price, perhaps because they also consume other expensive beverages or because they do not really like beer very much. They drink it in casual situations, or when only beer is available, but in both situations they consume only small quantities.

5. DISCUSSION

5.1. SUMMARY AND DISCUSSION OF RESULTS

Our goal in this study of beer consumption behavior in Brazil was to (1) examine the importance of variables such as perceived quality, low price, social interaction, consumer knowledge, and packaging on purchase intention for brands of beer; and (2) identify consumer groups with a distinct profile based on their behavior with respect to these important variables. We found that the variables that were antecedents of purchase intention – perceived quality, low price, and social interaction – were indeed strong predictors of the willingness to buy beer brands in the Brazilian market. We also found that consumers' product knowledge and the nature of the packaging moderated the effects of perceived quality and low price on purchase intention. That is, the more product knowledge a consumer possesses, the less perceived quality will impact the purchase intention of a beer brand. Capitello and Todirica (2021) point out that specialist consumers with greater knowledge need special attention in market analysis. Furthermore, the greater the influence of packaging, the less impact a low price will have on the purchase intention of a beer brand. This finding is corroborated by Betancur et al. (2020), who argue that packaging influences the choice of beer. Consumers who have more knowledge about a product and who care about packaging issues are willing to pay more, since they objectively evaluate both *intrinsic* factors (knowledge moderating perceived quality) and *extrinsic* factors (packaging moderating low price).

Our research also identified three distinct groups of beer consumers: Bohemians, Tasters, and NOBELs. Each of these groups has characteristics that must be understood by beer providers as they try to position their beer portfolio for maximum effect. *Bohemians* value social interaction, and drinking beer is an opportunity to socialize. This group has the highest level of consumption; low price is an important attribute for them, and they choose brands that are cheaper and more popular. *Tasters* value perceived quality, social interaction (but not as much as Bohemians), and packaging. They value hedonic experiences, and price is less important to them (perhaps because they have a high annual income). They have the lowest consumption frequency, and they drink high-value brands. *NOBELs* exhibit the lowest intention to purchase beer, and attach the lowest significance to social interaction, perceived quality, low price, packaging, and knowledge. NOBELs sometimes do drink beer, but they often choose to drink other alcoholic beverages instead. Perhaps they do not really like beer very much. They drink in casual situations or when only beer is available, but they consume relatively small amounts.

Several researchers have observed that perceived quality is a strong predictor of purchase intention for beer (Chaloupka et al., 2002; Gómez-Corona et al., 2016; Ornstein, 1980). Our research showed that this positive effect of perceived quality on purchase intention is affected by consumers' product knowledge. At present, however, many Brazilian beer consumers do not have a high level of knowledge about beer, and many of them still drink low-value industrial beers (Mardegan et al., 2013). For high-quality craft beers to increase their market share, sellers will have to close the knowledge gap and communicate more effectively about intrinsic product attributes like flavor and texture (Betancur et al., 2020). When consumer knowledge about beer is high, lower perceived quality of a brand will have a negative impact on purchase intention for that brand (Hernandez et al., 2014; Rao & Monroe, 1988; Rizzon et al., 2022). This fact is important for the industry generally because consumers are gradually becoming more selective about brands of beer (Gómez-Corona et al., 2016; Nelson, 2005; Özsomer, 2012).

The impact of social interaction on purchase intention should not be underestimated. Brazilians (who exhibit a high level of collectivism; Hofstede & Hofstede, 2005) generally do not drink beer alone. Of course, this characteristic is not unique to Brazilians, but the social interaction factor may be less important in countries that exhibit high levels of individualism (Gómez-Corona et al., 2016; Silva et al., 2016; Pettigrew, 2002). Low price also has a positive impact on purchase intention of beer (Chaloupka et al., 2002; Ornstein, 1980). This is an important issue, because even in a market like Brazil that has extensive product offerings, drinkers still value low price when purchasing beer. Thus, craft brewers who set their prices significantly above those for industrial beer risk losing sales, because consumers do not see craft beers as having high enough perceived value to warrant the price difference (Barboza, 2013; Rizzon et al., 2022).

5.2. CONTRIBUTIONS AND IMPLICATIONS

This paper makes four contributions: (1) it provides an analysis of consumer behavior in the Brazilian beer market; (2) it illustrates the interrelationship among several variables that have been identified as important in the marketing literature (low price, perceived quality, and social interaction); (3) it identifies three groups of consumers whose purchase and consumption patterns are influenced by these variables; and (4) it shows that consumer knowledge about a product moderates the effect of perceived quality, and that the way the product is packaged moderates the effect of price on purchase intention.

These results suggest several implications for beer sellers. First, the Brazilian beer market is not solely price oriented. Rather, some individuals (labeled here as *Tasters*) are more willing to pay a premium price because they have higher incomes and because they value hedonic experiences. This has implications for craft beer sellers: Their communication with consumers can be made more effective through the use of packaging, because the effect of low price is moderated by packaging (which increases purchase intention). Also, beer characteristics should be communicated in a more direct way, since knowledge moderates perceived quality and therefore purchase intention.

Second, even for groups where low price is important (i.e., Bohemians), other factors cannot be ignored. Since Bohemians also value high perceived quality, they will not buy just any brand of beer. Producers therefore must develop strategies to increase the perceived quality of their product. This can be done by, for instance, improving the appeal of the package and label.

Third, some thought should be given to the feasibility of developing a strategy to attract consumers who drink alcoholic beverages, but who are not primarily interested in drinking beer (e.g., NOBELs). A first step in this strategy is understanding how much those consumers really value beer and what factors have historically limited their interest in beer. The results of such data gathering will help marketers decide whether or not to introduce new beer brands.

Despite its complexity, the Brazilian beer market can be divided into three relatively homogeneous groups. Therefore, this division proposal supports understanding the consumer market by revealing distinctive aspects of each group. The research results showed that extrinsic and intrinsic aspects could be used together to identify homogeneous groups present in the consumer market. This finding highlights the interrelationship between company and consumer in co-creating value in the beer market. For a niche market (such as offering premium beers) to consolidate, the component "knowledge about the product" needs to be intensified. In line with this, firms that operate specifically in this segment should seek more intimate strategies related to consumer immersion and education. By understanding the value associated with this product category mediated by knowledge, beer can be considered an acceptable choice for consumers. This strategy goes against traditional advertising actions that focus on merely hedonic aspects of the product.

However, disclosures that relate both hedonic and more informative and utilitarian appeals can be characterized as a differential for these markets.

Such inferences can prove to be important for companies that compete in the national market and, more broadly, in the international scenario. Large national industries have stood out globally. However, small and medium-sized producers dedicated to the craft beer market can still obtain larger market shares. Although the specific aspects of local culture should not be neglected, the market division model presented in this research can serve as a reference for accessing new markets. Indeed, positioning the brand for one of the three major categories of consumers proposed in the study is a pivotal first step in understanding how to access the target market.

5.3. LIMITATIONS AND FUTURE RESEARCH

The research reported here contributes to the field by identifying important variables that influence purchase intention for beer in emerging markets. Like all research, it has some limitations. One limitation is that the variables analyzed here are only a small fraction of the total that might be analyzed.

A second limitation is that we cannot generalize our findings to other emerging markets. Future research is needed that focuses on other emerging markets to determine whether the variables that we examined in this study are also important in other markets. Such future studies can also determine the relative importance of these variables in both mature and emerging markets.

Finally, the fact that NOBELs score low on various relevant factors compared to Bohemians and Tasters needs to be examined. Why do NOBELs attach relatively little importance to variables such as low price, social interaction, and product quality? If this question is answered, future research can identify the feasibility of increasing the importance of these variables to NOBELs; that, in turn, opens up the possibility of increasing future demand from NOBELs. Since NOBELs represent almost 30% of our sample, this is an area where clear findings could lead to the development of more effective marketing strategies. In addition, research has shown an increase in non-alcoholic beer (NAB) consumers (Betancur et al. 2020; Silva et al., 2016). Future research could analyze whether these consumers are part of the NOBEL category or if they represent a distinct consumer group, not identified in this research.

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