

IDENTIFYING EXTRINSIC AND INTRINSIC ATTRIBUTES IN RELATION TO MEXICAN CRAFT BEER PRODUCTION

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ABSTRACT

The purpose of this paper is to identify concordances between producer and consumer perceptions on the importance of craft beer's intrinsic and extrinsic attributes. Although beer is Mexico's most popular alcoholic beverage and craft beer consumption has increased, craft beer producers still face challenges for growth. We therefore examine how extrinsic and intrinsic attributes influence consumers' purchases and producer behavior. To analyze the producers' perspective, data were collected from a focus group of craft beer brewers; the results were evaluated with Nvivo and Atlas.ti software; then, semantic scales were designed for craft beer consumers. Main findings showed that craft beer's most relevant attributes, for master brewers and manufacturers, are style diversity, complexity, abundant hops and abundant malt, exotic ingredients, no additives, carbonated, non-industrial, independent, high-alcohol content, strong smell, and flavor, thirst-quenching, more expensive than industrial beer, artisan-made aesthetic, sold directly by the producer at a low volume. Craft beer brewers hold the central idea that this type of product ought not to be in any way associated with industrial beer. This artisanal mindset is not limited to craft beer elaboration and production but also encompasses administration and marketing. Craft beer brewers see themselves as a sort of elite, who manufacture beer for elite consumers. It seems that craft beer brewers choose to distance themselves from any idea or process, which is related to industrial processes or marketing concepts. The inclusion of these attributes would take them away from the realm of artisan-made products and include them in industrial-made ones. These results allow us to ascertain that the perceptions of brewers and manufacturers partially overlap with those of consumers. The main differences between consumers and producers lie in the greater importance consumers give to extrinsic attributes, which are of little relevance to master brewers, who believe intrinsic attributes and other specific traits lead to consumer satisfaction. This creates issues for craft beer brewers' success.

Key words: Craft beer, brewing decisions, intrinsic and extrinsic attributes, semantic differential, focus group, Mexico

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RESUMEN

El propósito del artículo es identificar la concordancia entre las percepciones del productor y del consumidor en cuanto a la importancia de los atributos intrínsecos y extrínsecos de la cerveza artesanal. La cerveza es la bebida alcohólica más popular de México y, a pesar del crecimiento en el consumo de cerveza artesanal en años recientes, los productores de cerveza artesanal aún enfrentan desafíos en el crecimiento. Por lo tanto, se estudia cómo los atributos extrínsecos e intrínsecos influyen en la compra del consumidor y el comportamiento del productor. Para analizar la perspectiva de los productores se recopilaron datos de un grupo focal de cerveceros de cerveza artesanal. Los resultados fueron evaluados con los softwares Nvivo y ATLAS.ti; luego se diseñaron escalas semánticas para los consumidores de cerveza artesanal. Los principales hallazgos revelaron que los atributos más importantes de la cerveza artesanal, tanto para maestros cerveceros como para fabricantes, son la diversidad de estilos, la complejidad, abundante lúpulo y abundante malta, ingredientes exóticos, sin aditivos, carbonatada, no industrial, independiente, alto contenido de alcohol, olor fuerte, y sabor, que quita la sed, más cara que la cerveza industrial, de estética artesanal, vendida directamente por el productor a bajo volumen. Los resultados también permitieron constatar la existencia de una superposición parcial entre las percepciones de los cerveceros y fabricantes y las de los consumidores. De otro lado, los productores de cerveza artesanal optan por distanciarse de cualquier idea o proceso relacionado con procesos industriales o conceptos de marketing. La inclusión de tales atributos les alejaría del ámbito de los productos artesanales y los incluiría en los de fabricación industrial. Las principales diferencias entre consumidores y productores radican en la mayor importancia que los consumidores otorgan a los atributos extrínsecos, poco relevantes para los maestros cerveceros, mientras que los intrínsecos residen en rasgos específicos que satisfacen a los consumidores. Tales hallazgos implican problemas adicionales para el éxito de los cerveceros artesanales.

Palabras clave: cerveza artesanal, decisiones de elaboración de la cerveza, atributos intrínsecos y extrínsecos, diferencial semántico, grupo de enfoque, México

RÉSUMÉ

Le but de cet article est d'identifier la concordance entre les perceptions des producteurs et des consommateurs sur l'importance des attributs intrinsèques et extrinsèques de la bière artisanale. La bière est la boisson alcoolisée la plus populaire au Mexique et, malgré une croissance de la consommation de bière artisanale, les producteurs de bière artisanale sont toujours confrontés à des défis de croissance. Ainsi, nous étudions comment les attributs extrinsèques et intrinsèques influencent les achats des consommateurs et le comportement des producteurs. Pour analyser le point de vue des producteurs, des données ont été recueillies auprès d'un groupe de discussion de brasseurs de bière artisanale ; les résultats ont été évalués avec les logiciels Nvivo® et ATLAS.ti® ; puis des échelles sémantiques ont été conçues pour les consommateurs de bière artisanale. Les principaux résultats ont montré que pour les maîtres brasseurs et les fabricants, les attributs les plus pertinents de la bière artisanale sont la diversité des styles, la complexité, l'abondance du houblon et du malt, les ingrédients exotiques, l'absence d'additifs, la carbonatation, l'absence d'industrie, l'indépendance, la forte teneur en alcool, l'odeur et la saveur fortes, la soif, le prix plus élevé que celui de la bière industrielle, l'esthétique artisanale, la vente directe par le producteur à un faible volume. Les brasseurs de bière artisanale ont pour idée centrale que ce type de produit ne doit en aucun cas être associé à la bière industrielle. Cet état d'esprit artisanal ne se limite pas à l'élaboration et à la production de la bière artisanale, mais englobe également l'administration et le marketing. L'inclusion de ces attributs les ferait sortir du domaine des produits artisanaux pour les inclure dans celui des produits industriels. Ces résultats nous permettent de constater que les perceptions des brasseurs et des fabricants se recoupent partiellement avec celles des consommateurs. Les principales différences entre les consommateurs et les producteurs résident dans l'importance plus grande que les consommateurs accordent aux attributs extrinsèques, ce qui est peu pertinent pour les maîtres brasseurs, qui pensent que les attributs intrinsèques et d'autres traits spécifiques conduisent à la satisfaction des consommateurs. Cela crée des problèmes pour le succès des brasseurs de bière artisanale.

Mots-clés : bière artisanale, décisions de brassage, attributs intrinsèques et extrinsèques, différentiel sémantique, groupe de discussion, Mexique

RESUMO

O propósito deste artigo é identificar a concordância entre as percepções do produtor e do consumidor do ponto de vista da importância dos atributos intrínsecos e extrínsecos da cerveja artesanal. A cerveja é a bebida alcoólica mais popular do México. Apesar do crescimento no consumo de cerveja artesanal nos anos recentes, os produtores deste artigo ainda enfrentam desafios no processo de expansão. Com efeito, neste artigo se analisa como os atributos

extrínsecos e intrínsecos influem na compra dos consumidores e no comportamento dos produtores. Para abordar a perspectiva dos produtores foram compilados dados de um grupo focal de cervejeiros artesanais. Os resultados foram analisados por intermédio de dois softwares (Nvivo e Atlas). A partir daí foram desenhadas escalas semânticas para os consumidores deste tipo de produto. Dentre os principais achados consta a indicação dos atributos mais importantes da cerveja artesanal, tanto no caso dos maestros cervejeiros como para os fabricantes, entre os quais merecem registro: a diversidade de estilos, a complexidade, abundância de lúpulo e de malta, presença de ingredientes exóticos, ausência de aditivos, carbonatação, natureza não-industrial, alto conteúdo de álcool, odor e sabor fortes, capacidade de saciar a sede, preço mais alto que a cerveja industrial, estética artesanal, bem como de ser comercializada diretamente e em pequena escala pelo próprio produtor. Os resultados também permitiram constatar a existência de uma superposição parcial entre as percepções dos cervejeiros e fabricantes e dos consumidores. Por outro lado, os produtores de cerveja artesanal optam por distanciar-se de qualquer ideia ou processo relacionado com processos industriais ou conceitos de marketing. A inclusão de tais atributos demarca as diferenças entre produtos artesanais e os oriundos de fabricação industrial. As principais diferenças entre consumidores e produtores radicam na maior importância que os consumidores outorgam aos atributos extrínsecos, pouco relevantes para os maestros cervejeiros, ao passo que os atributos intrínsecos residem em traços específicos que satisfazem aos consumidores. Tais achados supõem problemas adicionais para o êxito dos cervejeiros artesanais.

Palavras-chaves: cerveja artesanal, decisões de elaboração da cerveja, atributos intrínsecos e extrínsecos, diferencial semântico, grupo de enfoque, México

1. INTRODUCTION

Beer is the most popular alcoholic drink in Mexico. Although consumption slowed down and even declined in recent years, volume sales began to make a comeback in 2014 and ultimately increased by nearly 6% between 2015 and 2016, reaching 87.2 liters per capita (above legal drinking age) in 2016. Domestic premium lager had a strong total volume growth of 15% in 2017; beer is expected to have a total volume CAGR³ of 3% over the next forecasted period, with sales reaching 8.8 billion liters in 2022. For the most part, consumers drink domestic lager, but there is a growing demand for more expensive premium imported lagers. Most beer is purchased for consumption at home or at social gatherings (Euromonitor, 2014).

Nevertheless, sales of independently craft beers increased by 5% in 2017 and reached 7.8 billion liters (Euromonitor, 2018). Sales of independent beers are expected to continue growing actively, as small brewers invest in production capacity, and more brands enter the market. The growing curiosity among consumers about the different types of beer available is also likely to drive this trend (Euromonitor, 2018).

Independent beers are those produced exclusively with water, malt, hops, and yeast by independent brewers, who do not offer industrial beers. The emphasis on differentiating independent beers from craft beers emerged after major beer companies, such as AB InBev, acquired craft beer brands. This poses an essential challenge for independent beer producers, since they cannot compete with craft beers distributed by such large competitors. Other challenges include the highly concentrated competitive environment and individual taxes based on production costs, which are always higher for independent brewers than for industrial producers (Euromonitor, 2018). Another feature of independent craft beer producers is that they decide what type of beer to produce and which intrinsic and extrinsic attributes their beer must have, regardless of their target audience.

Although the influence of intrinsic and extrinsic attributes has been extensively studied from the consumer's perspective, its relationship with choice of attributes has been rarely studied from the producer's perspective. Unlike large beer industries, craft beer producers have limited resources for the understanding of consumption trends on a large scale. Therefore, they make production decisions based on limited information and

³ Compound annual growth rate.

subjective judgments. On top of this, producers (who are usually also the master brewers) usually regard their work as an artistic activity for self-expression and attach strong emotional concepts, such as *passion*, to their task (Murray and O'Neill, 2012).

Not withstanding, neither the importance of craft beer as a market segment, nor that of commercial success for craft brewers to remain operational, can be denied. Faced with this situation, three research questions were asked: what are the intrinsic and extrinsic attributes that craft beer producers take into consideration for satisfying their customers? What are the intrinsic and extrinsic attributes that craft beer consumers prefer? In addition, what are the differences between attributes raised by craft beer producers and those raised by consumers? Therefore, one of this work's objectives is to identify concordance between producer and consumer perceptions on the importance of craft beer's intrinsic and extrinsic attributes.

In order to achieve it, this work utilizes a mixed methodology, which combines two research techniques: a qualitative one, focus groups; and a quantitative one, a questionnaire with a semantic differentials scale. They jointly yield qualitative and quantitative results about the studied phenomenon. The way a master brewer's value judgments and production decisions are related to the resulting product's effectiveness at satisfying the craft beer consumer has not been studied in a consistent way. This work seeks to fill that void.

2. LITERATURE REVIEW

Beer making is a massive industry today. A significant number of breweries produce large quantities of brand-name beers for global consumption, while microbreweries bring out small amounts of specialty beers for local use (Chiffolo and Hesse, 2006). A great many different types, or styles, of beer are brewed across the world (Preedy, 2011). Below, a review of the literature regarding the following aspects of craft beer is presented: craft beer producer perspective, craft beer brewing process and decisions, craft beer intrinsic and extrinsic attributes:

2.1. CRAFT BEER PRODUCER PERSPECTIVE

Craft beer is a physically distinct product: the individual raw materials, the recipes, and the production process are all differentiated (Swinnen, 2011). Beers differ in appearance, odor, and taste. The term «craft» connotes both «small scale» and «high quality» → «quality» usually meaning no «adjuncts» (such as rice or corn) and no artificial ingredients (Rhodes, 2018).

Microbreweries produce less than 20,000 hectolitres (hl) of beer a year. They are licensed to produce both draft and bottled beer for home consumption and for sale to licensed establishments (Sneath, 2001). Microbrewing is a segment of the craft beer industry, which is itself a subsection of the beer industry (Blocker, Fahey and Tyrrell, 2003). Often these breweries specialize in a regional style, which is unavailable in other parts of the country (Sandford, 2013).

A nanobrewer is a brewery with a small production. There is no agreement on its definition, except that «it is small» (Bryson, 2010). Typically, it is a small brewery that has a brew length of about 5-8 hl and produces a range of traditional beers, which are all sold at the premises where they are made (Boulton, 2013).

Researchers have already demonstrated the importance of studying the traits of this new and promising market segment (Murray and O'Neill, 2012; Aquilani, Laureti, Poponi, and Secondi, 2015; Escalona-Buendía, García, Chollet and Valentin, 2016; Gómez-Corona, Lelievre-Desmas, Escalona, Chollet and Valentin, 2016; Rivaroli, Lindenmeier and Spadoni, 2019).

Craft brewers are committed to product innovation. They re-interpret traditional styles, adding unique innovations, and develop exclusive, unprecedented formulas. One of the main factors for distinguishing craft beers from traditional beers is therefore the sheer variety of types of beer, which are carefully developed, giving these drinks a better aroma and flavour (Kleban and Nickerson, 2012).

Murray and O'Neill's research (2012) has indicated that the success of craft breweries is strongly related to the desire to support the local community. Craft beer drinkers tend to

be interested in drinking beer brewed in either their or somebody else's backyard (Schnell and Reese, 2003).

Many major brewing companies operate several individual breweries. Multi-site breweries may be used to produce beer brands with an international market (Boulton and Quain, 2013).

The rise of brewpubs is part of an international wave of interest in craft brewing – seen by many as a backlash against the market dominance exerted by a few large brewers. Many consumers hold the view that these large brewers make their products with great emphasis on cost, rather than quality (Boulton, 2013).

Craft brewers create a niche by selling premium-priced beers, which are highly differentiated by taste and style (Garavaglia and Swinnen, 2017). Breweries respond to this by diversifying and producing new types of beer: mixed with other alcoholic drinks, or with a low alcohol content (Schiefenhövel and Macbeth, 2011).

Working with product concepts – not tasting the product, Donadini and Porretta (2017) report that beer containers, brewing technologies, and brewery types strongly influence consumer interest in craft beer.

All the above highlights the importance of knowing which attributes producers take into account when making craft beer – in addition to the fundamental processes for making this type of beverage.

2.2. CRAFT BEER BREWING PROCESS AND DECISIONS

The craft beer production process begins with wort production at the brew house (Drioli and Giorno, 2010). The brewing process consists of three main stages: wort manufacture, fermentation, and post-fermentation processing. Each of these stages comprise several distinct steps (Figure N° 1).

The precise details of each step depend on the beer being produced and, on the plant, used. There are, however, common factors, such as the raw materials for wort production: water, malt, hops and, possibly, adjuncts (Boulton and Quain, 2013).

Smaller microbreweries, who serve beer for local customers in a taproom or keg, often avoid the added expense of filtering or pasteurizing (Mosher and Trantham, 2016). Home brewers often start exploring the craft by creating ales (Mosher and Trantham, 2016). Craft beer producers also differentiate themselves by brewing local heritage with their beers (Gómez-Corona, Lelievre-Desmaset *et al.*, 2016).

Results obtained by Carvalho, Minim, Nascimento, Ferreira and Minim (2018) contribute to the creation of strategies by managers of established breweries for targeting groups with a low consumption rate for this beverage – by partially altering product properties or creating new types of beer.

Ramsey *et al.* (2018) showed how essential it is for the brewing industry to consider the overall sensory experience of beer consumption. Their findings provide insight into a broad range of sensory attributes and highlight which manufacturers should target when developing new low-alcohol products.

2.3. INTRINSIC AND EXTRINSIC ATTRIBUTES OF CRAFT BEER

According to Symmann (2019), the intrinsic and extrinsic attributes of food have been described by three main types of studies: sensory studies; self-evaluation and external evaluation studies; and methods based on external behavior.

Each type of study addresses a specific problem. Sensory studies allow us to identify the acceptance of the analyzed food, so they usually focus on the study of intrinsic attributes (for example, Jaeger *et al.*, 2017). Studies employing behavior-based methods are often quantitative and do not require qualitative interpretation, as they generally focus on the analysis of how extrinsic attributes influence consumer purchase behavior. For their part, studies which use self-evaluation and external evaluation methods can analyze consumer opinion based on the product's intrinsic and extrinsic attributes, and can be combined with other methods to provide qualitative information which allows for a deeper interpretation of the results; they can also record consumer sociodemographic data,

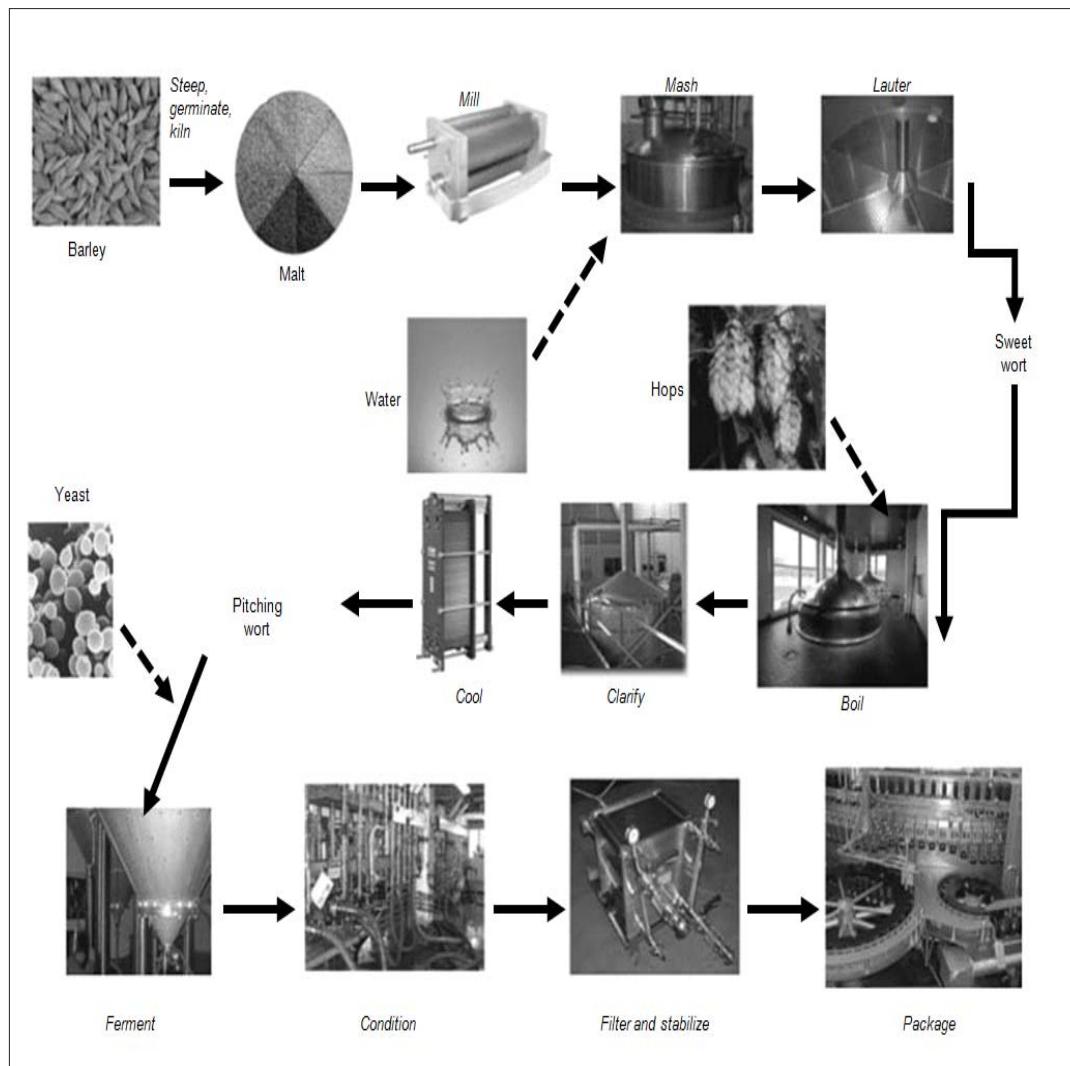


Figure 1. A simplified overview of the beer production process. Retrieved from Bamforth and Krochta (2009, p. 216)

consumption motivations (Taylor and DiPietro, 2019) and emotional responses (Jaeger *et al.*, 2017).

For the analysis of the intrinsic and extrinsic attributes of beverages, common practice has a two-step approach. The first step has an exploratory scope and is aimed at identifying intrinsic and extrinsic attributes, based on the performance of qualitative techniques such as interviews (Carvalho *et al.*, 2018; Chrysochou, 2014; Gómez-Corona, Escalona-Buendía *et al.*, 2016; Verdú, Lloréns and Fuentes, 2004) and

expert panels (Taylor and DiPietro, 2017). The second step is aimed at determining the influence of intrinsic and extrinsic factors via structured questionnaires which feature a Likert scale (Aquilani *et al.*, 2015; Carvalho *et al.*, 2018; Jaeger *et al.*, 2017; Verdú *et al.*, 2004), Best-Worst Scaling (BWS) (Chrysochou, 2014) and open questions (Carvalho *et al.*, 2018). The results are analyzed quantitatively via multivariate analysis (Aquilani *et al.*, 2015; Carvalho *et al.*, 2018; Jaeger *et al.*, 2017; Verdú *et al.*, 2004), although the textual analysis (Gómez-Corona,

Escalona-Buendía *et al.*, 2016) and the conjoint analysis (Muggah and McSweeney, 2017) are also considered.

The application of this information leads to product innovation and differentiation (Jaeger *et al.*, 2017; Sorenson and Bogue, 2006), as well as to identification of new market segments (Aquilani *et al.*, 2015; Sorenson and Bogue, 2006) and consumer preferences (Chrysochou, 2014; Muggah and McSweeney, 2017).

There is a certain consensus about the intrinsic and extrinsic attributes which characterize craft beer, as shown in Table Nº

1. These identified attributes are supported and complemented by findings on other products, which are either artisan-made or locally-produced using traditional knowledge –a key factor in consumer satisfaction and loyalty–, such as denomination of origin wines (Verdú *et al.*, 2004), olive oil from Lower-Aragon and Teruel ham (Espejel, Fandos and Flavián, 2007).

3. METHODOLOGY

One useful strategy for doing research on focus groups is to include methodological components in the ongoing research. This

Table 1
Craft beer intrinsic and extrinsic attributes

	Attribute	Type	Traits
Intrinsic	Style		Ale Lager
	Elaboration Process		Ingredient Concentration: Hops Producer's Know-how
	Production Scale		Industrial Craft
	Alcohol Content		
	Taste		Tasty/Less Tasty Bitter/Sweet Light/Strong
	Color		
	Froth		Carbonate Level
	Caloric Content		
	Nutritional Content		
	Refreshing Traits		Thirst-quenching/refreshing
Extrinsic	Brand		Brand Name
	Container		Green Bottle Amber Bottle Can
	Advertising		Has seen it advertised
	Price		Expensive Cheap
	Label		Indication of Origin Image/Artisan-Made Aesthetic Directly from the provider
	Distribution		At a restaurant To take home Through a producer they already know

Source: created internally, based on Aquilani *et al.* (2015), Chrysochou (2014), Espejel *et al.* (2007), Gómez-Corona, Lelievre-Desmas *et al.* (2016), Mora, Giussani, Pagliarini and Chaya (2019) and Mielby *et al.* (2018)

essentially amounts to varying the research procedures across groups, in order to find out what difference it makes to do experiments one way rather than other. Using new approaches, in addition to more traditional procedures, combines the methodological advantage of creating a head-to-head comparison with the practical advantage of not relying solely on unproven techniques. This combined methodology is especially useful when testing new techniques (Morgan, 2019).

3.1. FOCUS GROUP

The focus group at this stage was an exploratory one. Unlike what is already found in literature –research carried out via consumer focus groups–, we proposed to study the producers. Manufacturers and master brewers participated in this focus group. The aim was to identify which intrinsic and extrinsic attributes they, as expert manufacturers, value in a beer and use to guide their production decisions, as well as what their beliefs about the market are. The focus group's responses were analyzed using ATLAS. ti and NVivo transcription software, in order to develop a questionnaire with a semantic differential scale.

These were the topics addressed in the focus group:

- The definitions of beer and craft beer.
- Semantic networks: they wrote down the first five words that come to mind when they heard «craft beer».
- Types of craft beer.
- How they decide what type of beer to produce. What their decisions are based on for manufacturing the beer they offer? What their decision-making process is? Elements pertaining the decision-making process.
- In their experience, what the main attributes of craft beer are? Attributes are written down on flipchart paper; they are then asked to order them.
- In their experience, what attributes the national market demands for craft beer? Attributes are written on flipchart paper; they are then asked to order them.
- What consumers refer to when they talk about craft beer quality?
- What consumers refer to when they say they drink craft beer for its flavor.

- What is a rewarding craft-beer-buying experience for the consumer?
- What they imagine the profile of craft beer consumers to be: age, marital status, occupation, lifestyle, personality?
- Craft beer's main competitors, beside branded beer.

The focus group's objective was exploratory, to find out which attributes manufacturers and master brewers identify as their own when producing beer. The focus group was videotaped. The transcript was analyzed with ATLAS.ti informatics software, version 8.4.18.0. Later, codes were assigned, to serve as conceptual categories and subcategories. Codes identified as attributes underwent a lemmatization process. For each section of the focus group's topic guide, the network relations' coding and expression were performed.

3.2. SEMANTIC DIFFERENTIAL SCALE

The intrinsic and extrinsic attributes gathered from the focus group and literature served as the basis to create a questionnaire, which features a five-point semantic differential scale and questions on the purchase and consumption of craft beer. This type of scale allowed us to study to what degree producers and consumers agree about the most relevant intrinsic and extrinsic attributes of craft beer. Those are the attributes which ultimately drive consumption, and which producers should consider. It is therefore a test on the detectable differences of two opposite concepts.

The scale was included in a self-administered questionnaire spread online. Filter questions were added to ensure the suitability of the respondents, who had to at least be of legal drinking age in Mexico (18 years old) and to have drunk craft beer over the previous six months.

In addition to the evaluation of intrinsic and extrinsic attributes, other sections were added to capture demographic data about the respondents (area of residence, gender and age), consumption habits, scenarios in which they enjoy drinking craft beer, feelings and emotions related to craft beer consumption, defining traits for respondents regarding the consumption of craft beer as opposed to

industrial beer (frequency of craft beer consumption, degree of knowledge about craft beer and consumption habits of industrial beer). The application was created with the input from 106 respondents. Thanks to the filter questions, however, only 79 responses were deemed valid. To improve our understanding on what craft beer respondents like best, a space was provided at the end of the questionnaire for the respondent to express, if desired, a short word or phrase about what they like most about craft beer.

4. RESULTS

4.1. INTRINSIC AND EXTRINSIC ATTRIBUTES FROM THE MANUFACTURER'S PERSPECTIVE

The extrinsic and intrinsic attributes mentioned by manufacturers and master brewers during the focus group are included in Table N°2. The triggering question was: What are the main attributes of craft beer?

Together, manufacturers and master brewers cited attributes regarding ingredients, style, sensory expression, and quality. However, 51% of all mentions fall under four categories: quality, complexity, sensory expression, and balance.

When it comes to ingredients, the four basic ones are referenced. «Ample malt and ample hops» stand out, as well as «exotic ingredients.» Purity is associated with the ingredients in the sense that no other adjuncts—like dyes, syrups, or preservatives—should be added. Regarding styles, some of the qualities mentioned were affinity, cleanliness, or purity of style («that the beer is truly what it claims to be»), complexity (including surprising elements, «finding something to make it more fun, to tropicalize it») and diversity—in the sense of having several styles or variants of styles. Regarding sensory expression, the following were mentioned: organoleptic (mainly aroma, flavor, and body), harmony and balance, experimental blends, and alcoholic strength. Three aspects regarding quality were identified: i) process standardization, ii) certification, iii) repeatability of product traits, and, iv) ingredient traits.

Subsequently, focus group participants were asked to answer: What are the main demanded attributes? This question had a dual purpose:

i) to approach master brewers and manufacturer's knowledge about the market; and, ii) to identify if their notions about these main attributes match their perception of the demand.

There were four attributes that added up to 50% of the mentions: price, flavor, alcohol content and sensory expression—as can be seen in Figure N° 2. To point out these attributes, the experts first set apart two large consumer groups: the public and connoisseurs. Later, they identified a third group of consumers in their discourse, who are here referred to as «explorers». The results for manufacturers and master brewers are also presented.

The public defines itself as casual consumers of craft beer. Price and alcoholic content were the main attributes recorded for this segment. Regarding price, this consumer is willing to pay only slightly more than the price of an industrial beer. They generally look for the highest-possible alcohol content. Experts attribute this behavior to their lack of knowledge about craft beer; their willingness to spend on craft beer derives from a comparison to how much another drink with a similar or higher alcohol content would cost them. They are consumers who «drink for the sake of drinking». Their purchases are also influenced by factors such as beer presentation and fashion.

Connoisseurs pay attention to attributes such as general quality, sensory expression, balance, and repeatability. According to manufacturers and master brewers, price is also an attribute put into consideration in this instance; purchase decisions will depend, for example, on expert opinions that support the beer's quality. The manufacturers and master brewers pointed out other attributes demanded by consumers, such as distribution and availability—that their preferred craft beer is available at all kinds of shops.

Manufacturers and master brewers agree with the market on only five words: flavor, diversity, sensory expression, balance, and quality (shown in Figure N° 2). Other words are related only indirectly. For example, exotic ingredients and care for the process are only related to what the consumer is looking for

Table 2

Most important intrinsic and extrinsic attributes according to master brewers

Attribute	Type	Traits
Intrinsic	Style	Ale
		Lager
		Tropicalized
		Differentiated
		In line with the original, clean
		Experimental
		Diverse
		Complex
		Abundant hops
		Abundant malt
Intrinsic	Ingredients	Water
		Yeast
		Natural
		No additives (preservatives, coloring, syrups)
		Exotic
		Pure
		Fizzy/Carbonated
		Fermentation
		Manual
		Obsolete
Intrinsic	Elaboration Process	Independent
		Not industrial
		Standardized
		Seasonal
		High
		Bitter
		Strong
		Full-bodied
		Harmonious
		Flavor contrast
Extrinsic	Alcohol Content	Strong
		Refreshing Traits
		Thirst-quenching
		Brand
		Brand name
		Price
		Expensive
		More expensive than industrial beer
		Advertising
		Small reach
Extrinsic	Label	Recommended by experts
		Image/artisan-made aesthetic
		Distribution
		Directly from the provider
		Sold in smaller volumes
		Available
		Seasonal

Source: created internally based on focus group

through the more general concept of quality. However, for final customers, quality bears more relation to repeatability and

reproducibility, especially for connoisseurs. In other words, quality is associated with more consistent brand planning: finding once again,

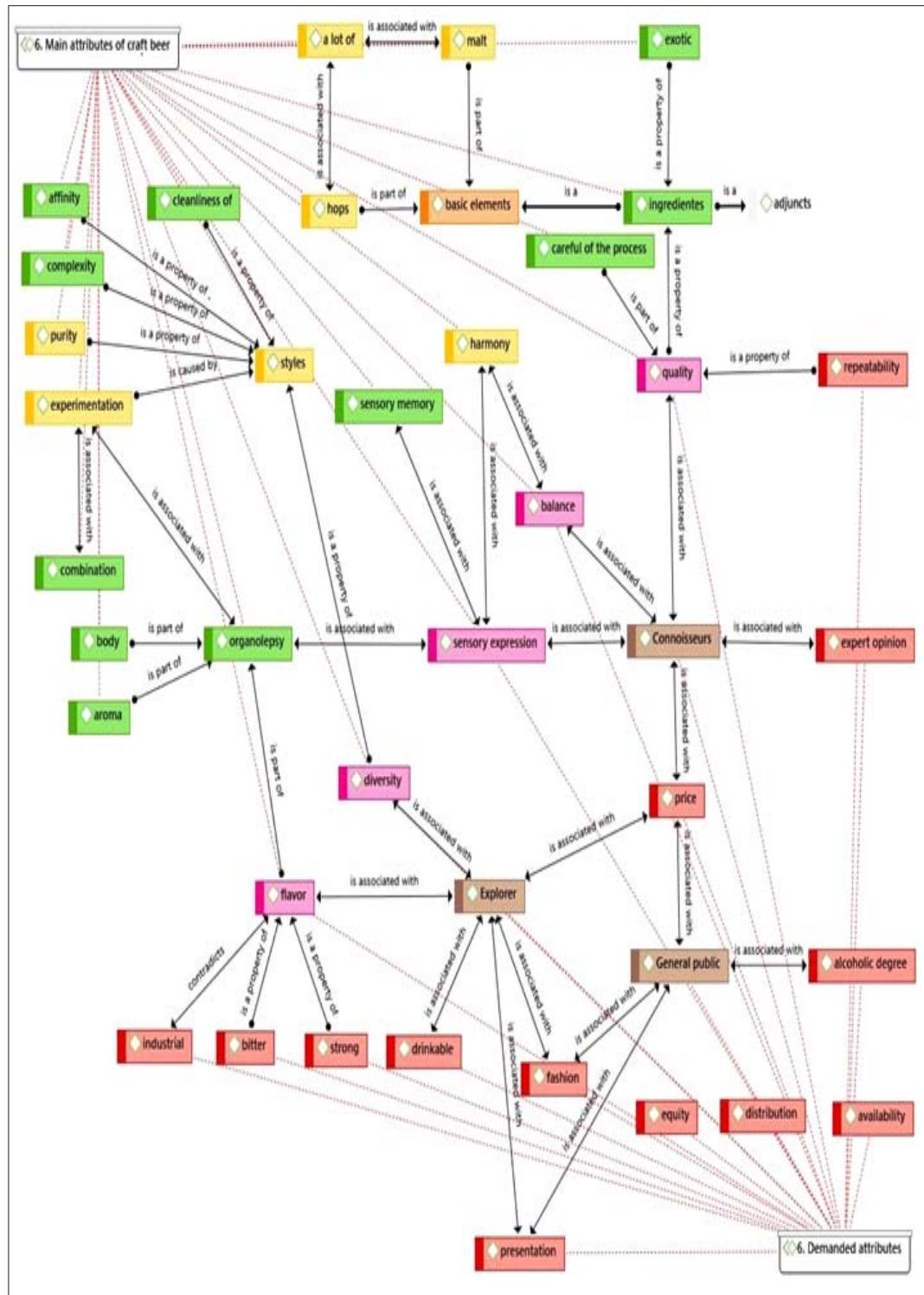


Figure 2. Relationship between offered and demanded attributes. Source: own elaboration based on focus group using ATLAS.ti

in their next consumption, the flavor and traits which they enjoyed.

Flavor and diversity attributes are more related to explorer clients. On the other hand, sensory expression, balance, and quality are more related to connoisseurs. The attributes demanded by the public are apparently the least present in the minds of manufacturers, for instance: alcoholic content and presentation. On the other hand, there are other demanded attributes which are equally related to all three-consumer profiles, and which were not mentioned as main traits: presentation, fashion, price, repeatability, distribution, and availability. This shows a series of opportunity areas to better focus production decisions, based on specific markets and concrete positioning and sale objectives.

Explorers are consumers who, thanks to the promotion of beer culture, are beginning to enter the world of craft beer. Although experts did not refer to them in any way, they commented that this type of consumer behaves like them at the start of their foray into craft beer: explorers are interested in diversity; they are beginning to learn about different styles and taste them. Price is an issue they do give some thought to, however. Not being knowledgeable, they exercise caution when purchasing. They are not acquainted with the brands and do not know what to expect. They may however be willing to spend significant amounts if the drink is in style. As is the case when it comes to the public, presentation can be an important attribute. Craft beer presentation must be differentiated from that of industrialized beer by a label which denotes craftsmanship, and with a design and an illustration that transmit the casual atmosphere typically associated with craft beer. Also, experts observe that this customer profile will look for «drinkable» beers, that is, with a different flavor from that of industrial beers, but not too complex as they do not yet enjoy it. In this regard, manufacturers and master brewers point out that the most popular flavors are «strong» and «bitter.» In any case, their flavor is expected to be different from that of industrial beers.

Moreover, manufacturers and master brewers were asked—during the focus group—to express which elements they considered

when deciding what to produce in terms of style, flavor, quantity, etc. As can be seen in Figure N° 3, quality is the only element which explicitly figures as a demanded and offered attribute. It also plays a role in production decisions. However, there are two interpretations of quality which can influence production decisions. On the one hand, a production decision may be guided by a master brewer's desire to outdo themselves (something that was expressed as a «quality challenge»), while it may also be a desire to match and exceed the quality of the competition in a particular style. Unlike other mentioned parts during the focus group, at this point, the brew masters and the manufacturers did not relate quality to normalization, standardization, process management or certifications, but rather to «doing better than the competition».

The defining production factor is the manufacturer's own taste in craft beer. Manufacturers explain that, since their breweries tend to be independent and even personal projects, the styles they produce are frequently defined by the personal taste of the master brewer. Another manufacturer points out that their production is based on personal hedonism, something that will not change. They produce it, in principle, to satisfy themselves.

Not withstanding, they all agree that such preferences are mediated or regulated by other factors. These include partner (or board of directors) preferences and, in some cases, market factors, such as target customer preferences, consumption seasons, costs and differentiation from the competition.

There are various target customer interpretations and approximations. On the one hand, consumers are consulted about their tastes and preferences; differentiators, such as «tropicalizing» certain styles, are then implemented to align the styles with the preferences expressed by customers. On the other hand, it is thought that many segments exist, and that «there are tastes for everything». Guided by this belief, craft beer manufacturers seem to think that whatever they produce will eventually find a customer. Even when they know market data—for instance, that lager takes up 96% of the market given, its easy

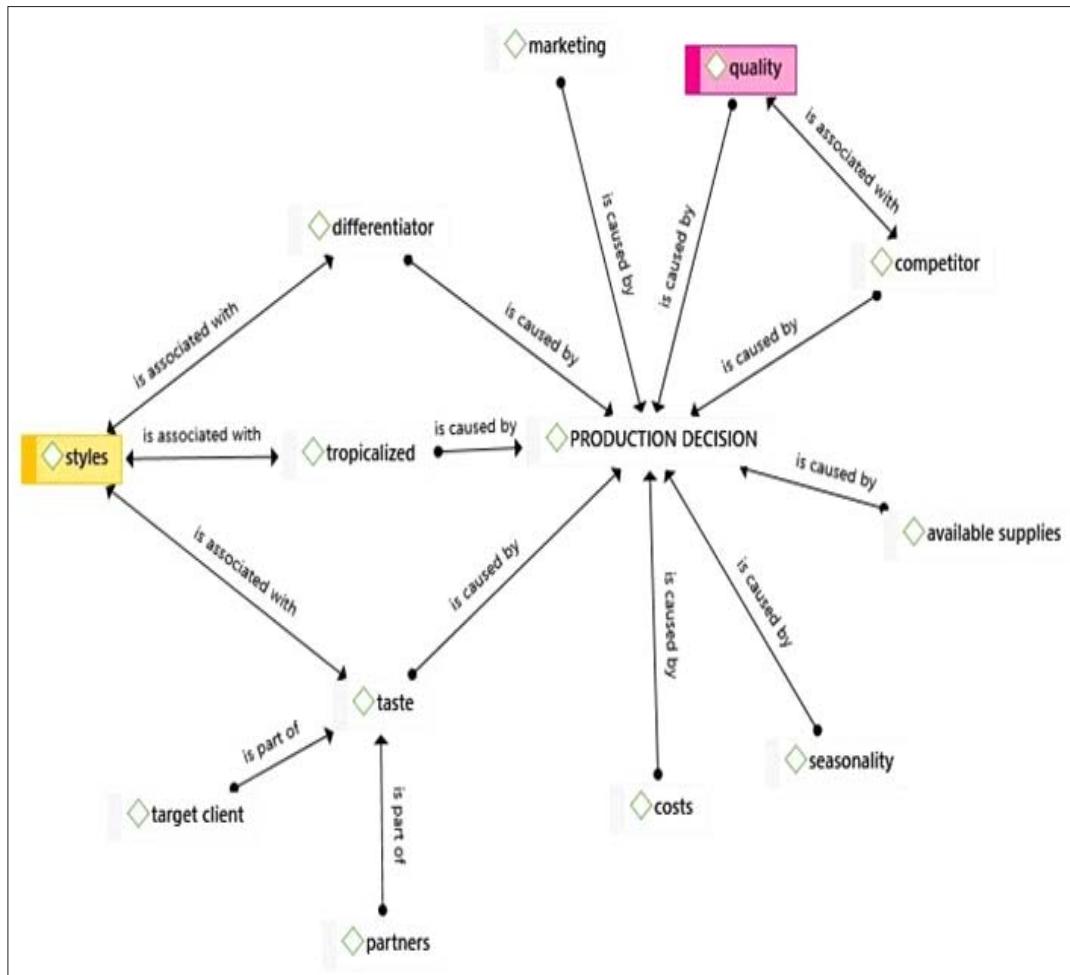


Figure 3. Production decision. Source: own elaboration based on focus group using ATLAS.ti

consumption – it was observed that only a small number of manufacturers do consumer market studies in a professional way.

Costs also play an important role, although the importance which each manufacturer gives them is different. While craft beer is assumed to involve higher costs than industrial beers, some craft manufacturers care about a range of costs, while others say they completely ignore them to focus on quality. Their approaches vary depending on the market in which they have managed to consolidate themselves.

Other elements which influence production decisions are seasonality, as an opportunity to

launch seasonal products, marketing, and available inputs. This last element is related to the master brewer's creativity, given the need to make the best use out of the available inputs at a given time.

4.2. INTRINSIC AND EXTRINSIC ATTRIBUTES FROM THE CONSUMER'S PERSPECTIVE

To ascertain the degree to which craft beer's intrinsic and extrinsic attributes are valued by the final consumer, a semantic differential scale was applied. It utilized the tributes selected from the qualitative phase and complemented them with those mentioned in the literature. In this way, we attempt to identify if the

attributes mentioned by the brewers coincide with those most frequently pointed out by real consumers. The intrinsic and extrinsic attributes which were analyzed, as well as the applied semantic differential and result frequency, are shown in Table N° 3.

The respondents' profiles were: 67% live in Mexico City; 63% are women, 54.4% are 18-30 age range; 71% have drunk craft beer for more than a year; 87% consider themselves casual drinkers, and 71% novices; 61% consumes much more industrial than craft beer.

Regarding the open responses, 54 respondents expressed a comment, which is equivalent to 68% of them. Together, these 54 respondents offered 66 different expressions (some gave more than one). Out of these mentions, 54% allude to favorite attributes, where in most mentions highlight flavor. Only four respondents mention body, style, aroma, and texture, respectively, and only one did so specifically about the fruity flavor. Next, 44% refer to craft beer qualities using adjectives such as different, authentic, original, varied, unusual, alternative, novel, innovative, natural, and fresh. Only 7% of the mentions highlight producer traits; consumers like it the most when producers are Mexican, local, independent, and different from industrial producers. In addition, 6% link an emotion to what they enjoy the most about craft beer: surprise, pleasure, and novelty. A final 6% mention different and isolated elements, such as pairing, quality and design. Each word's placement, within its category, is shown in Figure N° 4.

5. DISCUSSION

5.1. REGARDING INTRINSIC ATTRIBUTES

Regarding intrinsic attributes, master brewers and manufacturers concur with their clients in that flavor (especially strong and bitter), style diversity, sensory expression and balance are some of craft beer's main attributes. Furthermore, they consider that customers value other attributes such as price (lower if the customer is less knowledgeable) and high alcohol content.

Findings from the questionnaire identify ingredients being «natural» as craft beer's attribute with the highest degree of acceptance (86%), which is coincidentally intrinsic. In

descending order, other relevant ingredient attributes are organic (76%), no additives (75%), no artificial flavors (72%), harmonious (71%) and exotic (48%).

The next attribute with the highest acceptance was a «normal» caloric content (82%). It could indicate that this is not a relevant variable for craft beer consumers. Even in the questionnaire's open question, one respondent pointed out that «pleasure takes up no space».

Regarding flavor, findings from the questionnaire reveal that the most sought-after traits by consumers, in order of importance, are balance (71%), full-bodied (71%), sensory expression (68%), strong (62%), unexpected (47%) and bitter (42%). Even though flavor-related traits did not garner much acceptance, it is undoubtedly an attribute of primary importance, both since flavor and aroma traits are fundamental for this drink's product evaluation, as well as the fact that it was the most often mentioned attribute in the questionnaire's open response field. Its lack of acceptance is probably due to the respondent profile: one who drinks craft beer casually and does not consider themselves knowledgeable. Additionally, the questionnaire did not include criteria for linking flavor traits with the main styles available in Mexico.

Regarding visual attributes, pure (71%) and bright (68%) stand out. Regarding the light-dark dichotomy, answers were not very consistent since only 48% opted for dark, but 27% were indifferent, and a similar percentage (28%) favored light. These results may be related to the previously mentioned style issue.

Alcohol content is the next attribute with the highest degree of acceptance. Even though 57% of the respondents chose a «high» alcohol level, it should be noted that 38% chose the number 3 on the scale, which could be interpreted as not highly relevant to alcohol content. This contrasts with the views of master brewers, who consider that a high alcohol content is very relevant for consumers. Finally, nutritional value also seems to be of little relevance to craft beer consumers, despite a widespread belief at least in some sectors of the Mexican population, that beer is a nutritious drink.

Table 3

Attribute importance from the consumers' perspective

Attribute	Type	Semantic Differential	Result
Intrinsic	Appearance	Murky – Shiny	Shiny (68%)
		With impurities – Pure	Pure (71%)
		Light - Dark	Dark (48%)
	Styles	Unique - Diverse	Indifferent (37%)
		Few – Many	Indifferent (53%)
		Conventional – Exotic	Exotic (48%)
	Ingredients	Discordant – Harmonious	Harmonious (71%)
		Sparse malt – Abundant malt	Indifferent (52%)
		Sparse hops – Abundant hops	Indifferent (54%)
	Production	Artificial – Natural	Natural (86%)
		With additives – No additives	No additives (75%)
		With artificial flavors – No artificial flavors	No artificial flavors (72%)
Extrinsic	Alcohol Content	Inorganic – Organic	Organic (76%)
		Manual - Industrial	Manual (43%)
		Low – High	Indifferent (65%)
	Flavor	Restricted – Ample	Indifferent (56%)
		Artisan-made - Mechanized	Artisan-made (52%)
		No alcohol – High alcohol content	High alcohol content (57%)
	Froth	Light – Full-bodied	Full-bodied (71%)
		Sweet – Bitter	Bitter (42%)
		Soft – Strong	Strong (62%)
	Nutritional Value	Unbalanced – Balanced	Unbalanced (71%)
		Expected – Unexpected	Unexpected (47%)
		Normal – Unusual	Indifferent (38%)
	Caloric Content	No sensorial expression – With sensorial expression	With sensorial expression (68%)
		No froth – Abundant froth	Indifferent (44%)
		Not nutritious - Nutritious	Nutritious (48%)
	Refreshing Traits	Low-in-calories – High-in-calories	Indifferent (57%)
		Light - Normal	Normal (82%)
		Not-thirst-quenching – Thirst-quenching	Indifferent (42%)
	Advertising	Not-advertised – Advertised	Indifferent (44%)
		No special offer – With special offers	Indifferent (47%)
		Cheap - Expensive	Indifferent (75%)
	Price	Artisan-made – Modern	Artisan-made (44%)
		Small – Large	Indifferent (48%)
		Can – Other material	Other material (84%)
	Container	Glass – Other material	Glass (82%)
		Green – Other color	Other color (59%)
		Amber – Other color	Amber (62%)
	Label	Does not mention origin – Mentions origin	Mentions origin (85%)
		Artisan-made – Industrial	Artisan-made (67%)
		Obsolete - Current	Current (67%)
	Distribution	Restricted – Accessible	Accessible (67%)
		From a known distributor – Directly from producer	Directly from producer (46%)
	Distribution	At home – Away from home	Away from home (49%)

Note: Except for «Indifferent,» results percentages presented are the sum of the highest two top boxes

Source: created internally, based on focus group analysis

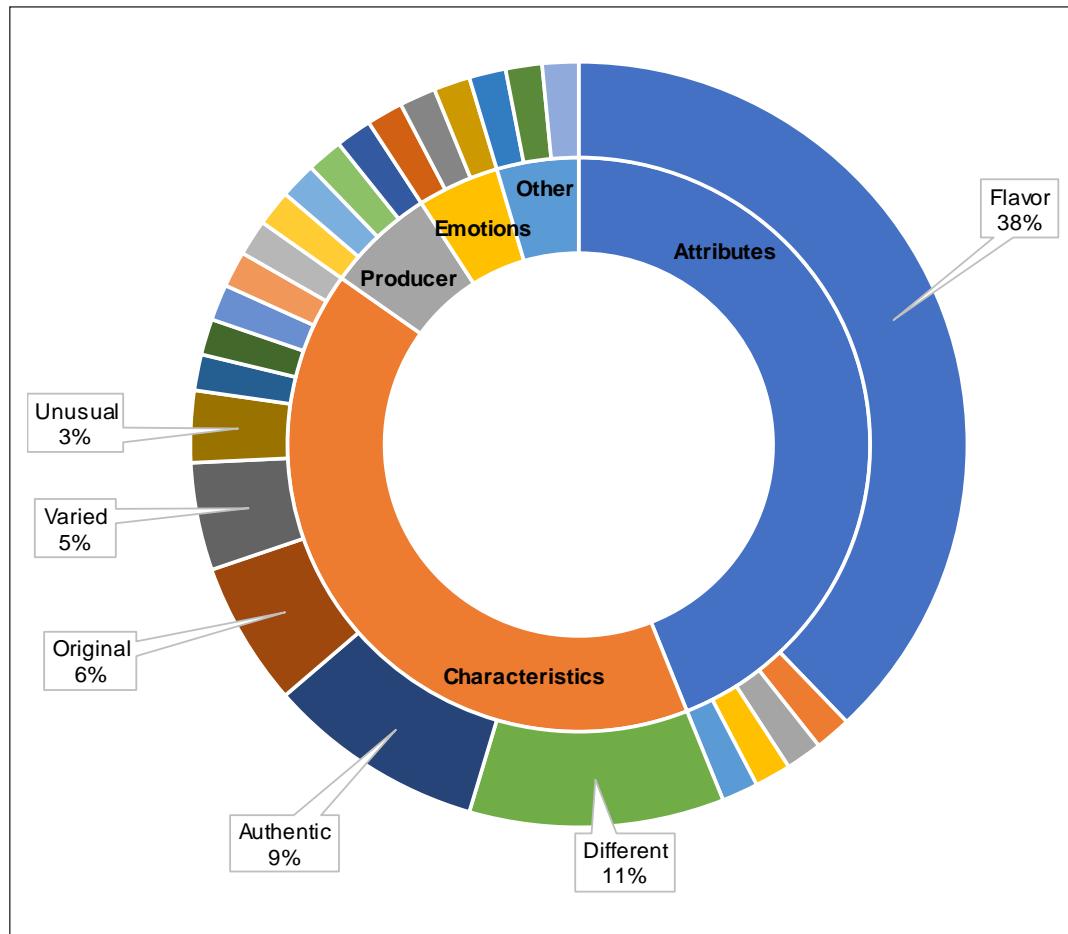


Figure 4. Mentions on what consumers like the most about craft beer. Source: created internally based on responses. Note: Only labels for responses with more than two mentions are shown

Other intrinsic attribute features, which were not determinant, area refreshing or «thirst-quenching» quality, being high or low in calories, amount of froth, style diversity, unusual flavors, and production volume (low or high).

Also, there is conspicuously little agreement on the number of ingredients beer should have. In particular, the presence of abundant malt and abundant hops, which were constantly mentioned by master brewers. The little relevance consumers give to these traits may be related to the little knowledge they have about intrinsic product attributes.

However, even though consumers do not consider these traits as important as master brewers do, they are certainly fundamental to

obtain other traits which are important for consumers, such as the strong and bitter taste, the dark color, and the body. Therefore, it is necessary to highlight three things: i) clients do not associate ingredient traits with the resulting flavor and appearance; ii) master brewers must however understand which value traits are valued by clients and adapt their discourse accordingly, if they want to increase their product's market acceptance; and, iii) these findings support the comments made by some master brewers during the focus group about the need to influence consumer beer culture.

It is pertinent to comment on the term «quality», mentioned by both master brewers and consumers. Master brewers relate quality

to four possible factors, namely: i) implementation of management systems; ii) certifications; iii) ingredients; and, iv) a careful brewing process. «Quality» is relevant in the master brewers' analysis, as it is the sole attribute which, in their opinion, is an important factor for production decisions – in addition to being requested by clients.

However, as we designed the semantic differential scales, the word «quality» was not specifically addressed. There are several reasons not to analyze quality among consumers this way. On the one hand, it constitutes an obvious response on a «quality / no quality» scale. On the other hand, such scale tells us nothing about how consumers define quality. Rather, we can link the «quality» construct to craft beer attributes which consumers find satisfying. This approach has been successfully used in the literature for analyzing the attributes of other foods and beverages (Fandos and Flavián, 2006; Verdú *et al.*, 2004). It can be therefore surmised that all craft beer intrinsic and extrinsic attributes are quality signifiers for consumers. On the other hand, only one person responded, in the open-ended question section, that «quality» was the thing they liked most about craft beer.

5.2. REGARDING EXTRINSIC ATTRIBUTES

The first main element to highlight about these attributes is that master brewers scarcely mentioned them. In the master brewers' opinion, craft beer's main attributes are intrinsic. Extrinsic attributes are only mentioned by master brewers when they were asked: «What do you think your customers consider to be the main attributes of craft beer?» and in a secondary sense. It is at this moment that mentions of extrinsic attributes come up – such as availability, distribution, price, expert opinion, presentation, and quality as process repeatability and result guarantee (Figure N° 2). Weight is assigned to these attributes based on each master brewer's target customer, as well as the presence of other mediating elements – such as the opinions of partners or the board of directors, competition, available inputs, seasonality, and costs.

We must however highlight the great importance respondents to the questionnaire

attach to extrinsic attributes. In overview, although the highest-rated attribute is intrinsic and related to flavor; the second and third, on the overall list, are extrinsic and discussed below.

Firstly, a label-related trait got the highest score: 85% of consumers prefer it if the label mentions the drink's origin. It is extremely interesting that such a specific attribute, not explicitly mentioned by the master brewers, obtained such a high score. One respondent to the questionnaire even noted that what they like the most about craft beer is «the story behind it.» This result can be explained through various elements. To begin with, producers already see craft beer production as an activity involving great passion; on top of that, beer consumption is already associated with a vast emotional lexicon (Mora *et al.*, 2019). Part of this lexicon could be associated with the narrative that accompanies the beer brand. On the other hand, craft beer production and consumption have been linked to social processes such as local terroir construction (Sjölander-Lindqvist, Skoglund and Laven, 2019) and canals to be linked to growing consumer interest in ethical, social, and environmental issues related to product differentiation (Del Giudice, Cavallo and Vecchio, 2018). Consumers may even acquire a product primarily for these attributes (Memery, Angell, Megicks and Lindgreen, 2015).

The next attribute with the highest acceptance is related to packaging. It is noteworthy that 84% of respondents opted for a container of any material, as long as it was not an aluminum can: 82% opted for glass, especially amber-colored (62%). Whether or not the packaging is artisan-made does not seem to have a major impact: although 44% of respondents opted for this trait, 37% declared themselves indifferent.

Distribution traits obtained the lowest percentages for extrinsic attributes. A significant part of the respondents prefers to consume craft beer away from home (49%) and to purchase it directly from the producer (46%). However, 38% were indifferent about the two distributor options presented to them, and 45% were indifferent to place of consumption (at home / away from home). However, other

studies have proven that container traits, such as color and weight, affect the perception of quality on carbonated drinks (Mielby *et al.*, 2018).

On the one hand, the responses obtained on container type can be interpreted as a rejection of aluminum containers for craft beer, even though aluminum packaging is an excellent option for the preservation of craft beer's properties, shelf-life extension and for allowing consumers to consume it at home or in other contexts after having purchased it. Can-packaging often leads to consumption expansion into other markets.

However, preference for glass and the relative importance given to purchasing the drink directly from the producer, away from home, could be related to how craft beer has come to be associated with being sold in restaurants and the importance it has gained in various cities as part of a wider gastronomic culture (Sjölander-Lindqvist *et al.*, 2019). Although producers like to deal directly with customers, selling craft beer in restaurants, with the possibility of experiencing various pairings which that entails, is an important type of craft beer consumption.

Finally, there were several traits to which respondents were largely indifferent: price (75%), package size (48%), promotion (47%), and advertising (44%). Price is a topic that calls for special attention since master brewers saw it as one of the most relevant attributes for all types of consumers. This evidently differs from what consumers themselves expressed.

6. CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS FOR FUTURE STUDIES

The present study aimed to identify craft beer's intrinsic and extrinsic attributes from the perspective of master brewers, manufacturers, and consumers. In addition, it aimed to see to what degree the views of master brewers and manufacturers on the importance of craft beer's intrinsic and extrinsic attributes coincided with those of consumers. Main results allow us to affirm that the opinions of master brewers and manufacturers partially match those of consumers. The main differences lie in:

- The greater importance consumers give to extrinsic attributes, which are of little relevance to master brewers. Price has proven to be a particularly interesting topic on this matter, since it is a trait master brewers consider relevant for all types of consumers, but consumers seem to be largely indifferent.

- For intrinsic attributes upon which manufacturers and consumers somewhat agreed, there were still some differences of opinion about the specific traits which make consumers satisfied.

Craft beer's most relevant attributes, for master brewers and manufacturers, are style diversity, complexity, abundant hops and abundant malt, exotic ingredients, no additives, carbonated, non-industrial, independent, high-alcohol content, strong smell, and flavor, thirst-quenching, more expensive than industrial beer, artisan-made aesthetic, sold directly by the producer at a low volume.

For consumers, the most relevant attributes of craft beer are shiny appearance, pure, dark, harmonious, with natural or organic ingredients, no additives or artificial flavors, hand-made, high-alcohol content, full-bodied, balanced flavor, amber-glass bottle, label which mentions the drink's origin and has an artisan-made aesthetic.

Regarding to the main limitations and recommendations for further studies, it is necessary to consider that even though flavor-related traits did not garner the greatest acceptance, it is undoubtedly an attribute of primary importance – both since flavor-and-smell-related traits are fundamental for this beverage's product evaluation, and since it was the most mentioned attribute in the questionnaire's open response field. The lack of alignment is probably due to the respondent profile – one who drinks craft beer in a rather casual manner and does not consider themselves knowledgeable. Additionally, the questionnaire did not include criteria for linking flavor traits to the main styles available in Mexico. Therefore, this topic should be deepened in future studies.

The role of alcohol content as a defining attribute of satisfaction or perception of quality will require further study as well. However, an important factor which must also be considered is that some craft beer consumers make the

price-drunk equation; that is, they consider that in order to get drunk with artisanal beer, they oftentimes need to spend more money than if they drank any other beverage with a higher alcohol percentage. This implies that adult consumers in Mexico care more about the drink's effects than its traits.

Based on these possibilities, it seems necessary to study in more detail the role indication of origin plays in consumer preference. In the present study, this trait was analyzed as a label feature. However, it is possible that it has, on its own, important implications for craft beer marketing and branding in general.

Likewise, it seems pertinent to analyze in greater depth if there is any correlation between packaging and distribution, as well as what implications correlation would have on craft-beer-market expansion attempts.

Finally, there were several traits to which respondents were largely indifferent: price (75%), package size (48%), promotion (47%), and advertising (44%). Regarding these attributes, we suggest reconsidering the presented scales and to analyze their influence – for instance, view in ghow they compare to industrial beer's attributes. An example of this would be, in the case of price: cheaper than industrial beer / more expensive than industrial beer. The topic of price requires special attention, since brew masters mentioned it as one of the most relevant attributes for all consumers, regardless of type.

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