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## Article

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## Research Article

# The role of neighborhood characteristics for firm performance in the experience economy: A case study of production volumes in California's Brewpub industry

Rebekka E. Apardian<sup>a</sup>, Isabelle Nilsson<sup>b</sup>, Neil Reid<sup>a,\*</sup>, Julie Wartell<sup>c</sup><sup>a</sup> Department of Geography and Planning, University of Toledo, Toledo, OH, 43606, USA<sup>b</sup> Department of Geography and Earth Sciences, The University of North Carolina at Charlotte, Charlotte, NC, 28223, USA<sup>c</sup> Urban Studies and Planning, University of California-San Diego, La Jolla, CA, 92093, USA

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## ABSTRACT

The number of craft breweries in the United States grew from 37 in 1985 to over 8,000 in 2019, establishing craft breweries as a ubiquitous feature of the American landscape. At a time when consumers are increasingly shifting their spending from material goods to experiences, the craft brewery industry is a quintessential example of this burgeoning experience economy. Local craft breweries sell a sensorial experience along with their product. By engaging in adaptive reuse of abandoned buildings, combining production and sales under the same roof, offering educational tours, and providing other activities (e.g., board games) for patrons to enjoy, many craft breweries offer a unique venue to enjoy a pint of locally made beer. While the internal appeal of craft breweries and beer contributes to their popularity, our focus in this paper is the role of external neighborhood characteristics in understanding performance variations among a specific type of craft brewery - brewpubs. Many brewpubs are located in mixed-use gentrified neighborhoods, where they co-exist with coffee shops, restaurants, retail boutiques, and other drinking establishments. We use California as our case study and production volumes as a proxy for performance to explore the effect of neighborhood characteristics on brewpub performance. We find that neighborhood variables associated with variations in brewpub production volumes varies depending on whether the brewpub is located in a city or rural area. However, brewpub production volumes in both urban and non-urban areas are negatively associated with neighborhood property values and positively associated with nearby clustering of other drinking establishments. This suggests a desire for affordable production space and illustrates a positive impact of clustering with similar establishments in a neighborhood. Hence, allowing these establishments to locate in areas zoned for commercial activities may be important for their success. Interestingly, walkability was found to have no significant effect on brewpub performance in urban areas while it was found to have significant effect in non-urban areas, suggesting that non-urban areas may be able to increase production by encouraging more walkable environments.

\* Corresponding author.

E-mail addresses: [Rebekka.Apardian@rockets.utoledo.edu](mailto:Rebekka.Apardian@rockets.utoledo.edu) (R.E. Apardian), [inilssol1@uncc.edu](mailto:inilssol1@uncc.edu) (I. Nilsson), [neil.reid@utoledo.edu](mailto:neil.reid@utoledo.edu) (N. Reid), [jwartell@ucsd.edu](mailto:jwartell@ucsd.edu) (J. Wartell).<https://doi.org/10.1016/j.jum.2022.05.010>

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2226-5856/© 2022 The Authors. Published by Elsevier B.V. on behalf of Zhejiang University and Chinese Association of Urban Management. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## 1. Introduction

In recent years, there has been growing scholarly interest in understanding the emergence of what has been termed “the experience economy”. In their seminal work on this topic, [Pine and Gilmore \(1998\)](#) predicted that the selling of experiences would become increasingly common in the 21<sup>st</sup> century economy. Indeed, many parts of the retail and entertainment sectors are now offering consumers an experience as a strategy – and in some cases a pre-requisite – to propel them towards success. Bored with traditional retail offerings, consumers respond positively and will part with more of their dollars when offered an experience. Classic examples of experiential retail include stores such as Niketown and Cabellas, restaurants such as Hard Rock Café and Rainforest Café, and theme parks such as Disneyland ([Pine & Gilmore, 1998](#)). The experience economy stresses the “emotional, aspirational and participative over the functional and rational” ([Morgan et al., 2009](#)). For some parts of the service sector, transitioning from a focus on selling passive services to participatory experiences is a natural, and necessary, evolution - the next step in the “progression of economic value” ([Pine & Gilmore, 1998](#)). [Kickert \(2021\)](#) believes that the rise of the experience economy has fundamental implications for the urban retail landscape. With e-commerce growing in popularity ([Kerick, 2019](#)), selling experiences is one strategy that brick-and-mortar retailers can utilize to attract and retain customers ([Lahart, 2020](#)). Given this expansion, it is important to understand factors that can contribute to success in experiential markets so that both communities and businesses can take advantage of the opportunities. While the on-site experiences offered by individual businesses will undoubtedly be critical, place-based factors such as neighborhood characteristics may also be important for success. Therefore, characteristics such as the built environment can also contribute positively to desirable consumer experiences. Examples of these neighborhood characteristics can include the walkability of the area, safety from crime and traffic, a mix of land-use that offers (or does not offer) variety (e.g., vendor mix), density of the area, urban or rural character, and nearby socio-demographics ([Kickert, 2021](#); [Litman, 2003](#); [Reid & Gatrell, 2017](#); [Wennberg & Lindqvist, 2010](#)).

In this paper, we use brewpubs<sup>1</sup> to assess the impact of neighborhood characteristics on the performance (as measured by production levels) of an experiential establishment. Craft breweries, of which brewpubs are a subset, are fast becoming a ubiquitous feature of the American urban fabric. In 1985, there were 37 craft breweries in the United States. By 2019, this number had increased to 8,419 ([Brewers Association, 2022](#)). The phenomenon of craft breweries as experience venues is well documented: craft breweries “provide visitors with a unique, place-based, experience” [Reid and Gatrell \(2017, 93\)](#). Craft beer drinkers are dominated by the Millennial demographic, and tend to be male, well-educated, and live in households with above-average incomes ([Herz, 2016](#); [Kraftchick et al., 2014](#); [Slocum, 2018](#); [Watson, 2014](#)). They overlap with much of the same demographic that is increasingly valuing experiences over products ([Kickert, 2021](#)). Craft breweries excel at providing their patrons with an “experience”. In addition to offering a unique drinking experience, many craft breweries cluster together in space resulting in the formation of “brewery districts,” an example of a built environment element ([Nilsson et al., 2018](#); [Reid & Gatrell, 2017](#)).

Our study evaluates the role of surrounding neighborhood characteristics on the performance of brewpubs, an experientially based establishment, which has become an important economic driver for many cities and small towns especially in the United States. Such analysis is needed; as noted by [Strohacker et al. \(2021, 6\)](#), “empirical assessments of the built environments surrounding craft breweries are lacking”. We use brewpub production volumes (amount of beer produced for sale) as a measure of performance. Our goal is to assess if, and if so to what degree, external neighborhood characteristics explain brewpub success, as proxied by amount of beer produced for sale. While brewpubs are the focus of this study, the findings may be of relevance to other types of businesses (e.g., coffee shops and book stores) that rely upon foot-traffic. City planners and others who have a vested interest in fostering vibrant neighborhoods may also find the results of this study informative. The results highlight the locational factors that are of importance to the success of craft breweries and therefore can inform debates taking place in cities and towns around the United States with regards to zoning restrictions surrounding craft breweries. For example, whether they are considered manufacturing or commercial establishments and hence whether they should be allowed in mixed-use districts ([Iddings, 2018](#); [Trotter, 2016](#)).

## 2. Background: the experience economy, brewpubs, and place-based characteristics

Consumers are increasingly shifting their spending from material goods to experiences. This aspect of the economy refers to the selling of an experience, through staging and performance. In fact, the growth in this sector of the economy is outpacing that of goods and services. From 2014 to 2016, spending on experiences grew 6.3 percent, compared to 1.6 percent and 4.7 percent growth in goods and services spending respectively ([Goldman et al., 2017](#)). The Millennial generation is leading this trend shift, as they are both spending on and valuing experiences over products more than previous generations ([Goldman et al., 2017](#); [Kickert, 2021](#)). Indeed, “experiential retail formats often target highly educated urban residents, specifically their millennial and Generation Z cohorts” ([Kickert, 2021, p. 163](#)). A survey of the Millennial cohort, by The Harris Poll, found that 3 in 4 millennials prefer to spend their money on a desirable experience over purchasing something desirable ([Eventbrite, 2014](#)).

Experiences can be created in a variety of ways - even if a business’ primary product is not explicitly an experience, it can be turned into one. The goods sold by the company function as props to the wider experience. Some have described this shift towards experiences as a move towards a meaningfulness mindset, highlighting a desire for greater social connection ([D’Arcy, 2020](#)). A classic example of this is described in [Pine and Gilmore’s \(2011\)](#) seminal work on the experience economy. Drinking a cup of coffee is a somewhat

<sup>1</sup> Brewpubs are craft breweries that produce under 15,000 of barrels of beer per year, depend upon foot traffic for their sales, and have an on-site kitchen that sells food. For other types of craft breweries please see <https://www.brewersassociation.org/statistics-and-data/craft-beer-industry-market-segments/>.

mundane experience. However, sipping hot coffee, while taking in sights and sounds, and the overall atmosphere of a place such as St. Mark's Square in Venice is very much an experience; an experience that is reflected in the price of the coffee.

In this context, craft beer drinkers and brewpubs are quintessential examples of the experience economy. By definition, a brewpub is a craft brewery that sells 25 percent or more of its beer on-site and has a kitchen that offers food to patrons (Brewers Association, 2021a). The success of brewpubs is, therefore, heavily dependent upon customers visiting their taprooms and purchasing and consuming their beer on-site. As a result, brewpubs rely heavily upon foot traffic (Moore et al., 2016). Framing the consumption of locally made beer in a brewpub taproom as an experience is one selling point that brewpubs utilize to attract patrons. Social interaction is at the heart of many brewpub experiences and creating tasting rooms conducive to social interaction is important to the success of these brewpubs (Fig. 1). Indeed, brewpubs have emerged as a new type of Third Place on the American landscape (Morrison, 2017, Jolly, Quisto, & Greenhaw, 2011). In discussing the modern-day craft brewery, Morrison (2017) observes that:

“You won't find people hypnotized by giant television screens blaring sports or their smartphones at places like this. You'll find them talking at community tables, maybe playing a game like Cards Against Humanity, Scrabble or cribbage, or intensely removing one piece at a time from a giant Jenga set.”

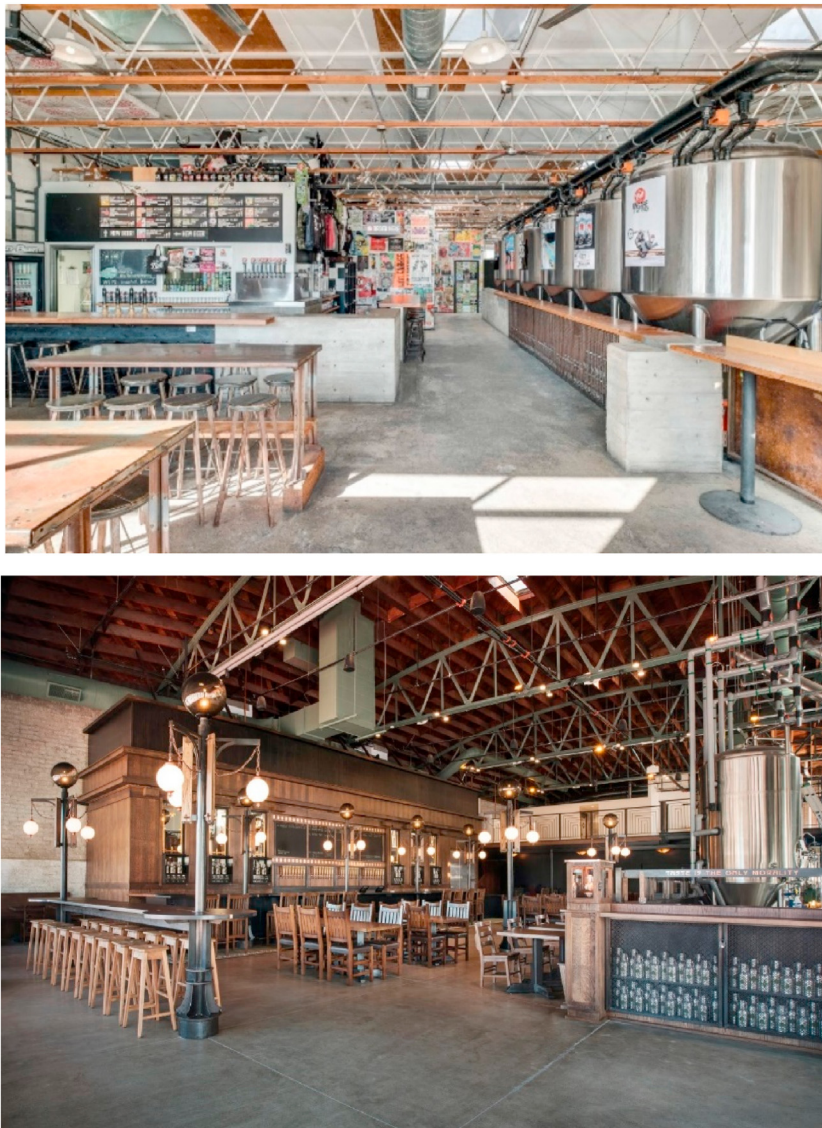
Companies can also create experiential aspects by recasting “production as a miniaturized plant tour” (Pine & Gilmore, 2011, p. 26). Giving the public a look into the production of a good serves as an additional offering for the company and contributes towards its overall atmosphere. In fact, The Guinness Storehouse in Dublin, Ireland and the Heineken Experience in Amsterdam, the Netherlands are two large beverage companies doing just that (Pine & Gilmore, 2011). Customers are increasingly concerned and interested about where their products come from, as evidenced by the growing popularity of buying locally-made products (Zepeda & Nie, 2012). This allows businesses to connect with their consumers in deeper ways: “people want to learn and be educated whilst spending time with friends and family in a happy environment” (D'Arcy, 2020). The business then must supply the experience while simultaneously educating their customers (Sundbo & Darmer, 2008). In many brewpubs, the fermentation tanks are visible from the taproom, thus allowing patrons to see the production of the beer they are drinking. Many brewpubs also offer tours of their production space (Fig. 2). Brewpubs are examples of what Kickert (2021, 164) refers to as “maker ecosystems”, which are characterized by “shared production, education, distribution and sales facilities”.

As brewpubs became increasingly ubiquitous, a growing number of municipalities began to recognize the role that they could play in the economic transformation of distressed neighborhoods. Craft brewery entrepreneurs seek out inexpensive real estate, with many locating in what Weiler (2000, 168) refers to as “economically peripheral” locations. As a result, craft brewery entrepreneurs engage in adaptive reuse, and so it is common to find brewpubs in old churches, fire stations, automobile dealerships, warehouses etc. (Feeney, 2017; Reid et al., 2019). In engaging in adaptive reuse, brewpubs often maintain the historic integrity of a building. In cases where a historically significant building is adaptively reused, “their preservation impacts on community wellbeing, sense of place and therefore social sustainability” (Bullen & Love, 2011, p. 419). A brewpub located in an old church or fire station provides craft beer drinkers with a one-of-a-kind venue for drinking craft beer. As has been observed, ‘craft beer is as much about getting creative with the space the brewery is located in as it is about creating unique beer recipes’ (Colliers International, 2015, 5). One industry expert has suggested, “the craft beer consumer is looking for a unique atmosphere, taste, and overall experience and it is up to the breweries to meet those expectations. The physical space and its associated atmosphere play an important role in achieving the ‘experience’ consumers have come to expect” (CRBE, 2016, 4) and “an adaptive reuse location can deliver a unique experience to the consumer not found in other types of



**Fig. 1.** Experiential drinking: Playing a board game, tannery bend beerworks, napa, CA (Photo credit: Author).





**Fig. 2.** Fermentation tanks visible from the taprooms at fall brewing company (top) and north park beer company (bottom) in San Diego, CA (Photo Credit: Dustin Hauck).

conventional real estate” (CBRE 2016, 2). In a study of craft breweries in Alabama, the internal atmosphere of a brewery was identified as a key characteristic that attracts patrons (Carr et al., 2017).

In seeking space for their brewery, many brewpub owners are challenged with finding a building that occupies land that is appropriately zoned. Brewpubs are a hybrid between light manufacturing and commercial land uses. Initially, municipalities did not realize the positive impact that brewpubs could have on neighborhood vibrancy and their local economies, and were caught off-guard by the growth of the craft brewery sector. As the sector grew however, many city planning departments began recognizing the socio-economic benefits of craft breweries and began adjusting zoning regulations to accommodate their land and building needs (Lehnert et al., 2020).

Place and activity are inextricably linked, so we can often expect to see a connection between the experience economy and the built environment where the experience occurs. According to Kickert (2021, 167), the “experience economy fuels consumer desire for urban sense of place”. The formation of brewery districts in many urban areas contributes towards this sense of place (Reid & Gatrell, 2017). These districts are destinations for craft beer drinkers, offering a concentrated area of breweries and additional similar experiences such as other alcohol-related establishments, restaurants, and entertainment venues. This agglomeration of experiences results in important economic benefits to both the seller and the buyer.

Across the United States, there are numerous examples where craft breweries have contributed to neighborhood gentrification. These include the Ohio City neighborhood in Cleveland, OH, the River North Arts (RiNo) district in Denver, CO, the Pearl District in

Portland, OR, and North Davidson (NoDa) neighborhood in Charlotte, NC. (Alexander, 2013; Reid, 2018; Walker & Miller, 2019). These neighborhoods have become re-imagined mixed-use gentrified hot spots within their respective cities where craft breweries co-exist with independently owned coffee shops, galleries, salons, restaurants etc. (Allard, 2014). Brewery districts are destinations that attract Millennials and Generation X consumers in search of an afternoon or evening of fun and enjoyment. In a study of Charlotte, NC, Nilsson and Reid (2019) found that being within half-a-mile of a craft brewery resulted in higher values for single-family homes and condominiums. This suggests that craft breweries may be perceived as a neighborhood asset, and that people value living within walking distance of one. This may be because many craft breweries serve as neighborhood Third Places (Morrison, 2017; Jolly, Quisto, & Greenhaw, 2011). In a comparative study of microbreweries and brewpubs in San Diego, CA, Apardian and Reid (2020) found that brewpubs are located in neighborhoods with higher walk scores, while in Knoxville, TN, “neighborhoods where craft breweries are located, compared to neighborhoods across the City of Knoxville, were significantly more walkable” (Strohacker et al., 2021, p. 11). The same study also found that Knoxville’s walkable neighborhoods have a “significantly higher score for the amenities of public transit, culture, and dining and drinking opportunities” (Strohacker et al., 2021, p. 12).

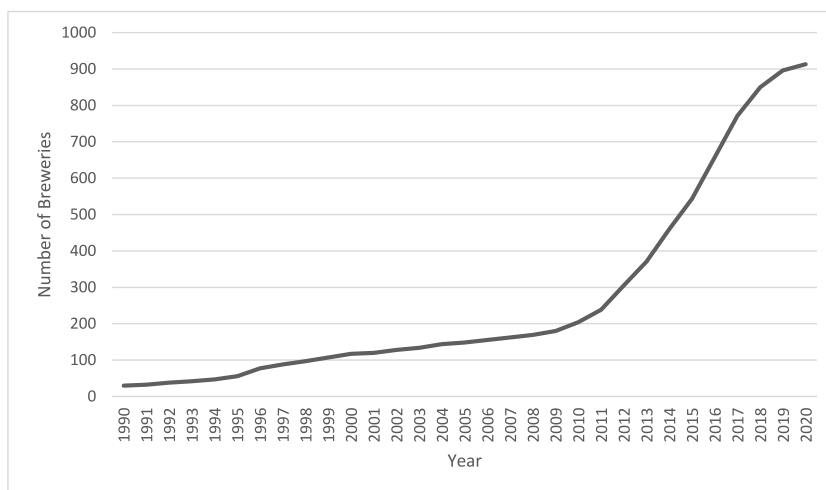
These external characteristics can be thought of as place-based factors – elements that are unique to the neighborhood in which the experience is offered. As described by Andrews et al. (2012, 1929), “places and the perception of places are deeply associated with the structure, practice and culture of movement activities”. This certainly provides context as to how the built environment is intricately linked to the establishments that exist within.

An important place-based factor is the overall walkability of the area. How walkable a neighborhood is can be broadly defined by the degree to which traveling by foot can be achieved safely and conveniently to desired destinations. Good walkability encompasses many factors, both physical and perceived, but is often characterized as having a choice of desirable amenities within a short and safe distance (Adkins et al., 2012; Hall & Ram, 2019).

Common walkability measures include components such as density of population, establishments, housing, and/or intersections; the degree of variety of land use and amenities; and network distances to amenities (Hall & Ram, 2019). Additional elements such as sidewalk availability and quality are also important. Environmental aspects such as these are often included in qualitative studies or studies across small-scale geographies (Adkins et al., 2012). Due to the lack of standardized database and difficulty in measuring this across large scales, physical characteristics such as sidewalks are not often part of walkability indices, a limitation of the measurement.

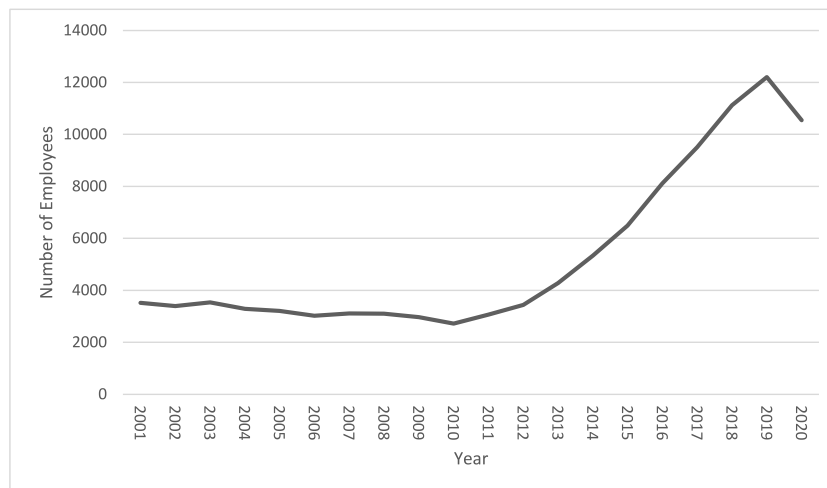
Highly walkable places are correlated with a myriad of societal benefits but perhaps the most relevant to our research here is walkability’s positive impact on a community’s vibrancy, social cohesion, support towards economic development, and overall urban quality (Litman, 2003; Ram & Hall, 2017). As observed by Kickert (2021, 159), “healthy, resilient and sociable urban environments rely on street-level shops, bars, restaurants and personal services, as they provide citizens with destinations to walk to, places to meet friends and strangers, and strengthen a sense of community”.

Walkability is not just applicable to the residents of the neighborhood – it also attracts visitors and tourists (Samarasekara et al., 2011; Ram & Hall, 2017). In a study of walkers who were unfamiliar with an area, two major factors that predicted walking decisions were activity potential and environmental appearance (Samarasekara et al., 2011). The tendency for brewpubs to geographically cluster into brewery districts takes advantage of localization economies by creating this perception of activity potential. If there are several possible experiences in one geographic area, this increases the attractiveness of an area (Ujang & Muslim, 2015). People will be drawn to these neighborhoods; another form of sensorialization. Similarly, walkability increases the opportunity for place attachment, a functional bond that develops between people and place (Ujang & Muslim, 2015).



**Fig. 3.** Number of breweries in California, 1990–2020

Source: Data provided by Bart Watson, Chief Economist of the brewers association.



**Fig. 4.** Number of Brewery Employees in California, 2001-2020

Source: U.S Bureau of Labor Statistics (<https://www.bls.gov/data/>). Data are from the Quarterly Census of Employment and Wages, extracted on 11/29/21.

Note: the reduction of employees in 2020 is likely attributed to the pandemic and many breweries scaling back operations.

### 3. California's craft brewing industry

For this case study, we use brewpubs in the state of California. We chose California because it ranks first in the country in terms of number of craft breweries, barrels of craft beer produced per year, and economic impact of the industry (Brewers Association, 2021b; 2021c). California, therefore, provides a large number of brewpubs to include in our analysis. Before describing the data used in our analysis, we provide a description of the emergence and growth of the craft brewing industry in California.

To many craft beer drinkers and industry experts California is considered the birthplace of the modern (post-Prohibition) craft brewery movement (Acitelli, 2013; Elzinga et al., 2015; Ortega, 2017). In 1965, when Fritz Maytag purchased a controlling interest in San Francisco's Anchor Steam Brewery, that was considered the first craft brewery in the United States since Prohibition. While the definition of "craft brewery" has evolved over the years, Anchor fit the definition of independently owned, brewing a small amount of beer, and brewing beer styles not commonly brewed in the marketplace at that time. The next two craft breweries, New Albion (1977) and Sierra Nevada (1980) were built from the ground up and also located in northern California. In 1982, California became the second state in the country to legalize "brewpubs" where the tied-house laws were amended to allow on premise sales of craft beer. The California Craft Brewers Association, established in 1989, was the first craft beer related industry association in the nation. Currently, there are six regional guilds across the state.

From humble beginnings, the craft brewing industry has experienced impressive growth. In 2019, the state was home to 1,041 craft breweries, which equaled approximately 3.3 establishments for every 100,000 adults 21 years of age or older (Fig. 3). In 2020, craft breweries contributed \$9.66 billion to the state's economy and supported more than 65,000 jobs across the state, paying an average annual wage of over \$56,000 (California Craft Brewers Association, 2021). Of the 65,000+ jobs supported by the industry, over 12,000 in 2019 were employed directly in breweries (Figs. 3 and 4). In terms of total number of craft breweries and economic impact, California has led the rest of the nation. Five years earlier, in 2014, California had 523 craft breweries, whose economic impact was estimated at \$5.5 billion. Ninety-five percent of Californians of legal drinking age live within 10 miles of a craft brewery (California Craft Brewers Association, 2021).

The emergence of craft breweries varied geographically across the state. While the original breweries started in the San Francisco Bay area, by the early 2000s, of the state's three largest metropolitan areas, San Diego County had the most breweries per capita. The Los Angeles region lagged behind and only became a craft brewery destination since 2015. In 2013, California had five of the top 15 metropolitan statistical areas for craft breweries across the country (Reid & Gatrell, 2015). Additionally, many smaller towns across California are known for their craft breweries. For example, the city Auburn, with a population of under 14,000 people has five craft breweries.

State and local laws and regulations have changed to not only accommodate but also attract craft breweries. From large cities like San Diego to smaller locales like Vista, community and economic development departments have adjusted zoning regulations to make available new locations for breweries to establish themselves. These range from allowing breweries "by right" (versus going through a conditional use permit) to including craft brewing as a part of "small manufacturing."

#### 4. Data and study area

To qualify as craft, a brewery cannot produce more than 6 million barrels of beer annually (Brewers Association, 2021b).<sup>2</sup> The Brewers Association distinguishes between Regional Breweries, Microbreweries, Brewpubs, and Taprooms. Regional Breweries produce between 15,000 and 6 million barrels of beer annually, while both Microbreweries, Brewpubs, and Taprooms produce less than 15,000 barrels. A brewery qualifies as a microbrewery if 75 percent or more of its beer is sold off-site (i.e., it is distributed and sold in bars, restaurants, grocery stores, etc.). In contrast, both brewpubs and taprooms sell 25 percent or more of their beer on-site. In addition to brewing and selling beer, brewpubs have a kitchen so that patrons can enjoy a meal with their locally crafted ale or lager. Taprooms, on the other hand, do not have a kitchen. Our focus in this paper is brewpubs. As a proxy for performance, we use production data from the Brewers Association between 2015 and 2019. Production data are collected by an annual survey administered by the Brewers Association,<sup>3</sup> with approximately 80 percent of breweries reporting production volumes. Production volumes reflect sales and are a good indicator of brewpub success. Of the different types of craft brewery, brewpubs are the most dependent upon on-site sales. The beer is kegged on-site and sold in the taproom. Small volumes may be canned and sold as to-go sales to taproom patrons, while some kegs may be distributed to local bars and restaurants by brewery staff. Unlike regional breweries and microbreweries, brewpubs do not have significant packaging and distribution costs. Estimates suggest that the average revenue for a keg of beer (1/2 barrel) sold on-site is ~\$600, compared with ~\$150 on a barrel that is distributed via distributor to an off-site vendor such as a bar or restaurant (Beer-CPA.com, 2018).

The raw data consists of 786 brewpub-year observations distributed across 197 brewpubs. After cleaning the dataset from records with missing data, we have an unbalanced panel of 654 brewpub-year observations distributed over 165 brewpubs. The locations of the brewpubs are shown in Fig. 5. From Fig. 5 we can see that we have brewpubs located in both highly urbanized cities such as Los Angeles, San Francisco, San Diego, etc. as well as brewpubs located in less dense and more rural areas.

To account for neighborhood/site characteristics, we use socioeconomic, demographic and housing data at the block group level from the American Community Survey's (ACS) 5-year estimates. Each year represents a rolling average of the characteristics in the past five years. We also include a walkability index at the block group level to capture built environment characteristics. The index used in our analysis is the National Walkability Index compiled by the United States EPA. This measure uses a combination variables from the EPA's Smart Location Database including mix of employment type, occupied housing, street intersection density, and the predicted commute mode split. The mix of employment type and occupied housing serves as a land use mix measure, accounting for the variety of uses in a neighborhood. A higher degree of mixing indicates more walk trips. Intersection density is used as a measure of physical mobility for pedestrians, as smaller blocks have more connections for walk trips. Lastly, a commute mode share split can help to predict the number of walk trips as well. Finally, we include information about the business environment at the site by including the number of establishments in select industries within a quarter-mile radius of the brewpub. These data were collected from Data Axle's Reference USA business database. Due to the licensing agreement between the researchers' institutions and Data Axle, we could only download data for 2019 and hence treat this as a time-invariant characteristic. Descriptive statistics for the data used in this study are provided in Table 1.

On average, the brewpubs in this sample tend to locate in majority White neighborhoods; however, in some instances they are found in neighborhoods with a sizable Hispanic population. Buildings in the neighborhood tend to be older than the median in their respective metropolitan or micropolitan areas (Table 1). In many places, brewpubs are surrounded by many restaurants and a few other related establishments such as other alcoholic drinking places and retail stores selling alcoholic beverages. However, note the magnitude of the standard deviation for all variables. In most cases it is similar to or greater than the mean suggesting great variation in neighborhood characteristics across brewpubs.

#### 5. Methodology

We estimate the effect of neighborhood demographic, socioeconomic and built environment characteristics on production levels using the following fixed effects model:

$$P_{it} = \beta N_{it} + \beta' X_{it} + \beta'' Z_i + \eta UA_i + \delta Age_{it} + \alpha_i + \gamma_t + u_{it} \quad (1)$$

where  $i$  indexes the brewpub and  $t$  the year.  $N_{it}$  is a vector of time-variant neighborhood (block group) socioeconomic and demographic characteristics associated with the market profile of the typical craft brewery patron. Market analysis suggests that the average craft beer consumer tends to be White and of higher socioeconomic status in terms of income and educational attainment. However, the market segment most likely to consume craft beer is diversifying, especially with the growing number of Hispanic customers (Watson, 2014; Herz, 2016). Hence, we use the following neighborhood characteristics in our model: population, median household income, median home value, percent of labor force employed in creative class occupations (comprised of the arts, entertainment, and recreation industries), percent White and Hispanic population, percent of population over 25 years with a bachelor's degree or higher, and percent in the Millennial cohort (20–34 years). We do not include population density or land-use mix as they are included in and highly correlated

<sup>2</sup> A barrel of beer equals 31 US gallons.

<sup>3</sup> The Brewers Association is a not-for-profit trade association that represents the interests of commercial craft breweries, home brewers, and allied trades.



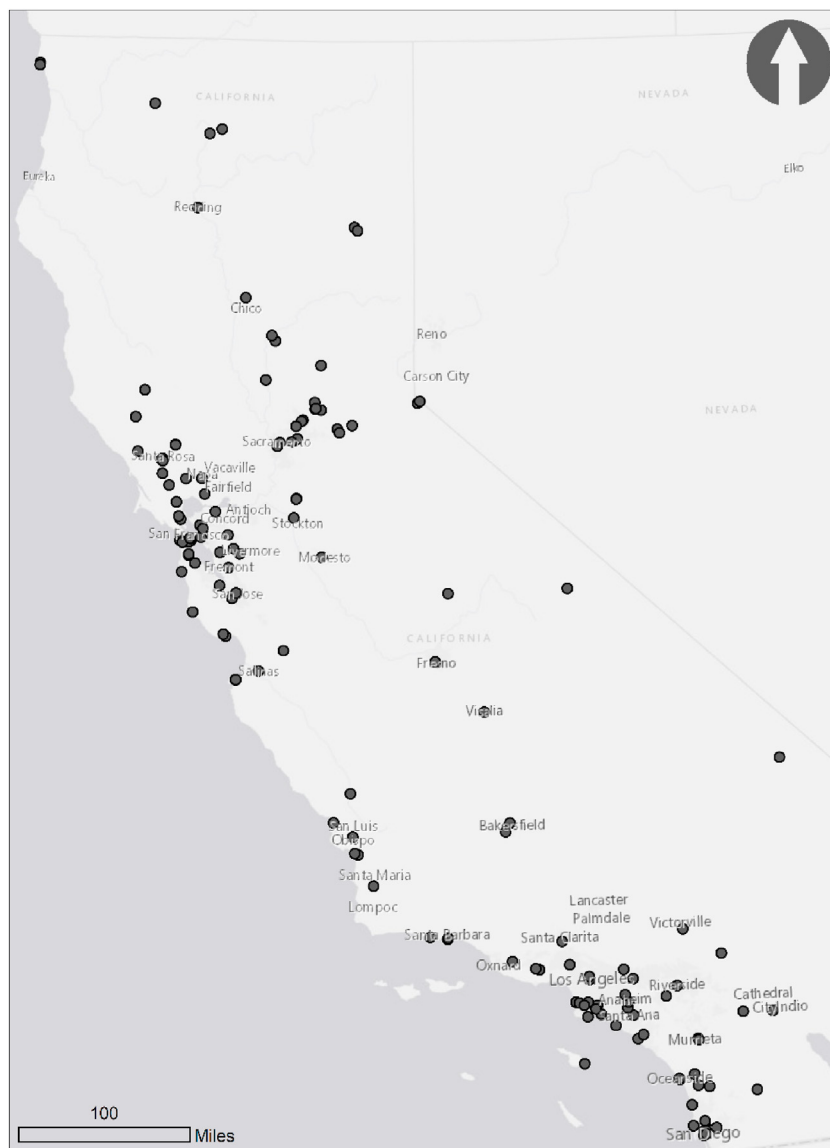


Fig. 5. Map of brewpubs included in the analysis.

with the walkability index.  $X_{it}$  is a vector of built environment characteristics including the time-invariant walkability index<sup>4</sup> and a variable of the difference in median year built of buildings in the metro/micropolitan building year and the block group median year built (time-variant). We hypothesize that brewpubs in more walkable and dense environments will experience more foot traffic and hence higher sales (and therefore production) (Apardian & Reid, 2020). Craft breweries also tends to locate in post-industrial neighborhoods as they seek affordable properties for their operations (Nilsson et al., 2018; Reid, 2018). We hypothesize that brewpubs in neighborhoods with older housing stock have higher production as they may have located there because of relatively affordable production space, with the intention of larger production volumes.  $Z_i$  is a time-invariant vector describing the business environment around the brewery. More specifically, it includes the number of restaurants, alcoholic drinking places, spectator sports and performing arts venues as well as beer, wine, and liquor stores within a quarter mile of brewery  $i$  in 2019. Establishments in these industries can be seen as either complementary and hence generate more foot traffic to the brewpubs (i.e., agglomeration effects), or as competing establishments for consumers' entertainment and/or alcoholic beverage budgets. The reason for leaving this variable time-invariant is mainly due to data availability but given the relatively short period it is also reasonable to assume that the surrounding business landscape has not changed significantly. While unable to account for many brewpubs specific characteristics, we include the

<sup>4</sup> The walkability index is based on characteristics (employment mix, occupied housing, street intersection density, and commute mode split) that are reasonable to assume stays fairly constant over time, particularly given the relatively short time period of our study.

**Table 1**  
Descriptive statistics.

	Mean	Sd
Production (barrels)	589.42	912.13
Age	8.55	8.45
Population density (per square mile)	6289.68	8213.19
Median household income (\$)	65710.10	35637.24
Median home value (\$)	579178.4	347341.2
Creative class (%)	2.88	3.52
White (%)	73.48	18.78
Hispanic (%)	27.74	23.66
Bachelor's degree or higher (%)	25.18	15.80
Millennials (%)	25.01	12.48
Walkability Index (2014)	13.71	4.21
Difference in median year built (metro/micro – block group)	69.12	318.86
Restaurants (NAICS 7225) within ¼ mile	22.30	23.19
Drinking places (alcoholic beverages) (NAICS 7224) within ¼ mile	1.55	2.25
Spectator sports (NAICS 7112) within ¼ mile	0.15	0.51
Performing arts (NAICS 7111) within ¼ mile	1.08	1.72
Beer, wine, and liquor stores (NAICS 4453) within ¼ mile	1.50	2.37
In an urbanized area (1 if yes)	0.75	0.43
<i>N</i>	654	

age of the brewpub ( $Age_{it}$ ) as we expect production and sales volumes to be lower in the early years of operation and grow over time as well as brewpub ( $\alpha_i$ ) and year ( $\gamma_t$ ) fixed effects to control for temporal and brewpub-specific unobservables. However, such brewpub-specific effects may pick up unobservables at the neighborhood level as well. We do not have enough degrees of freedom to include both. Finally, we hypothesize that the relationship between neighborhood characteristics and production volumes may differ between brewpubs located in cities versus those located in more remote areas. For this reason, we control for whether the brewery is in an urbanized area as defined by the United States Census Bureau. The spatial structure of cities across California is such that there is close proximity between many major cities (e.g., San Francisco, San Jose, and Oakland). Because these cities likely have shared markets, we include a dummy variable for whether the brewery is in an urbanized area (coded 1) or not (coded 0) rather than the size of individual cities as this may correlate with population density at the block group level. The model in Equation (1) is then run separately for brewpubs in urbanized areas and non-urban areas which may take care of some of the great variation in locational attributes shown in Table 1.

## 6. Results

The results from estimating the model in Equation (1) are presented in Table 2 for brewpubs in urbanized versus non-urban areas.

**Table 2**  
Estimation results.

	Coefficient (SE)	
	Urbanized areas	Non-urbanized areas
Population	0.104 (0.074)	0.064 (0.114)
Median household income (\$1,000)	−1.210 (1.300)	0.207 (1.541)
Median home value (\$1,000)	−1.203*** (0.392)	−1.048*** (0.363)
Creative class (%)	−1.378 (8.561)	−16.526** (8.353)
White (%)	1.138 (2.139)	−3.795 (3.709)
Hispanic (%)	0.715 (2.167)	1.635 (3.708)
Bachelor's degree or higher (%)	4.005 (3.145)	−1.994 (4.053)
Millennials (%)	−0.066 (3.751)	−6.579 (4.682)
Walkability Index	−25.372 (39.013)	107.646*** (23.657)
Difference in median year built (metro/micro - block group)	14.515*** (4.586)	−7.023 (5.083)
Restaurants (NAICS 7225) within ¼ mile	−35.967*** (4.497)	89.051*** (23.386)
Drinking places (alcoholic beverages) (NAICS 7224) within ¼ mile	152.100*** (42.854)	961.180*** (136.310)
Spectator sports (NAICS 7112) within ¼ mile	−1079.569*** (67.577)	811.252*** (260.127)
Performing arts (NAICS 7111) within ¼ mile	93.7009*** (35.102)	−1063.876*** (92.577)
Beer, wine, and liquor stores (NAICS 4453) within ¼ mile	−173.119 (26.672)	−353.699*** (30.737)
Age of the brewpub	183.461*** (6.441)	50.313*** (7.069)
Year fixed effects	Yes	Yes
Brewpub fixed effects	Yes	Yes
<i>N</i>	491	163
<i>R</i> <sup>2</sup>	0.92	0.93
Adjusted <i>R</i> <sup>2</sup>	0.89	0.90

Statistically significant at the \*\*\* 1%, \*\* 5% or \* 10% significance level.

Brewpubs in these two different environments show some similarities in what factors are associated with production volumes. First, median home values are negatively associated with higher production volumes regardless of whether the brewpub is located in an urban or non-urban area. Secondly, age of the brewpub is significant and positive as expected, suggesting lower production volumes in early years of operation and increasing over time. Finally, craft breweries tend to cluster for several reasons including agglomeration effects (Nilsson et al. 2018, 2019) which ought to have a positive effect on production and sales volumes. However, being able to locate in close proximity to other drinking establishments such as regular pubs and bars also generate foot traffic and allows customers to barhop between them, which may explain the positive and significant effect of the drinking places variable for brewpubs in both urban and non-urban settings. Being located close to beer, wine, and liquor stores on the other hand is associated with lower production volumes.

There are also differences between what locational factors matters for brewpub production volumes in urban vs. non-urban areas. While the walkability index is positive and significant for brewpub production volumes in non-urban areas, it is insignificant for brewpubs in urban settings. One explanation for this could be that walkability is generally high for most dense, urban environments and so there is not enough variation in this variable to generate significant results in the urban area model while there may be more differences in walkability for brewpubs located in different non-urban settings. The positive and significant coefficient of building age in the urban regression may speak to the type of urban environment in which brewpubs and, more generally, clusters of craft breweries tend to locate in, i.e., in older post-industrial districts with an older housing stock. This could be related to the negative and significant effect of the median home value variable. Brewers in high-cost areas may have to rethink the size of their establishment to keep costs down. Brewpubs in neighborhoods with older buildings, on the other hand, are likely faced with relatively lower property values allowing larger production spaces and hence volumes. The building age variable is not significant in the non-urban regression which may indicate more availability of affordable production spaces in markets with less demand for housing. When it comes to the other variables describing the commercial landscape around brewpubs, we find further differences between the urban and non-urban brewpubs. While production volumes are higher for urban brewpubs located near performing arts establishments, non-urban brewpubs surrounded by restaurants and near spectator sports establishments tend to have higher production volumes.

To get a sense of how much of the variation in production volumes that can be attributed to the observed neighborhood and built environment characteristics included in the models, we estimated the models without brewpub fixed effects. The adjusted  $R^2$  for that model is around 15–20%. While we anticipate internal operations and management of companies to explain a majority of the variation in performance across companies such as brewpubs, we may be missing important location specific attributes that are being picked up by the brewery-specific fixed effects. For example internal brewpub characteristics that might attract more patrons include the quality of the beer, whether an establishment is child and dog friendly or not, the availability of activities such as board games or quiz nights, whether an establishment has a license to sell other alcoholic beverages such as wine and liquor, and the overall business plan and financial management of the company.

## 7. Discussion and conclusion

We evaluated the impact of neighborhood characteristics on the performance of brewpubs, a specific type of experiential establishment. Brewpubs served as a good firm type for this study due to the growth of the craft brewing industry and their participation in the experience economy. We hypothesized that the relationship between neighborhood characteristics and production volumes, which we use as a proxy for sales and hence performance, may differ between brewpubs located in urban versus those located in non-urban areas. Indeed, brewpubs in these two different environments show both similarities and differences in what factors are associated with production volumes.

Two neighborhood variables in our model showed significance in explaining brewpub production volume regardless of urban or non-urban location: median home values and nearby clustering of other drinking establishments. When comparing the effect of neighborhood variables between urban results and non-urban results, we find several differences. Our results suggest that urban brewpubs with higher production volumes tend to locate in neighborhoods with an older housing stock and relatively lower property values. Conversely, the building age variable is not significant in non-urban areas. Taken together, these variables may be indicative of increased availability of affordable production spaces in non-urban markets which may experience less demand for housing. We argue that urban brewpubs that plan to produce higher volumes need more space and may hence look for locations with relatively affordable real estate such as post-industrial districts.

The walkability index was found to have no significant effect on brewpub performance in urban areas but was positive and significant for brewpub performance in non-urban areas. This could suggest since that walkability is generally high for most dense, urban environments and there is not enough variation in this variable to generate significant results in the urban area model. In non-urban settings, however, there may be a high degree of variation in walkability and geographic differences, leading to highly walkable areas being significant for non-urban production. Surrounding uses also vary in impact on performance depending on urban and non-urban location. Production volumes are higher for urban brewpubs located near performing arts establishments whereas non-urban brewpubs surrounded by restaurants and near spectator sports establishments tend to have higher production volumes. Hence, allowing brewpubs to locate in areas zoned for commercial activities may be beneficial for their success. Finally, for brewpubs located in both urban and non-urban areas, age of the brewpub is significant and positive as expected, suggesting lower production volumes in early years of operation that increase over time. It is possible that internal firm characteristics are likely to influence brewpub production and sales volumes, as indicated by the large variation explained by the brewery-specific fixed effects included in the model.

We recognize that our model does have some limitations. For example, a number of our variables, such as the number of establishments in select industries within a quarter-mile radius of the brewpub are time-invariant. However, given the relatively short period that our study covers, it is also reasonable to assume that the surrounding business landscape did not change significantly. We also

understand that the findings are not generalizable beyond California and suggest that similar studies in other states could be insightful. Differences in the geography and urban form may generate different results, and therefore provide additional insights, in other settings. It is also worth noting that growth of craft breweries is not a uniquely American phenomenon. Craft breweries are an increasingly common feature of the landscape in other countries, particularly in Europe (Garavaglia and Swinnen 2018) where they have contributed to urban redevelopment projects and the co-construction of new urban spaces in cities such as Plovdiv, Bulgaria (Stoilova, 2020) and Berlin, Germany (Schroeder, 2020). Additional studies that examine the extent to which craft breweries function as a part of the experience economy and their relationship with local neighborhoods in various international contexts would be valuable.

Future research that explores the role of internal brewpub characteristics in explaining variations in brewpub production levels could provide new and interesting insights. Such characteristics could include the quality of beer, whether a brewpub sells other types of alcohol (e.g., wine and liquor) or not, policies towards children and dogs, and the availability of on-site activities (e.g., board games, etc.). However, data on internal operations of private establishments are difficult to obtain for researchers. There is no database for much of this information, so it would be time-consuming data to collect. While such a study would likely have to be a cross sectional case study, it may provide another piece of the puzzle in understanding the craft brewing industry and the broader experience economy. Finally, this study pre-dates the COVID-19 pandemic. As a business that depends upon patrons being on-site to consume their product, brewpubs were impacted by COVID-19 (Tuck & Bennett, 2021). Many brewpubs were forced to pivot their business model. This meant canning their beer and making it available for curbside pick-up by customers (Rathke, 2020). Understanding how neighborhood characteristics impacted the ability of brewpubs to navigate and weather the challenges of COVID-19 would be an interesting line of future inquiry.

## References

- Acitelli, T. (2013). *The audacity of hops: The history of America's craft beer revolution*. Chicago: Chicago View Press.
- Adkins, A., Dill, J., Lühr, G., & Neal, M. (2012). Unpacking walkability: Testing the influence of urban design features on perceptions of walking environment attractiveness. *Journal of Urban Design*, 17(4), 499–510. <https://doi.org/10.1080/13574809.2012.706365>
- Alexander, D. (2013). Beer entrepreneurs fuel comeback of struggling Cleveland neighborhood. *Forbes*, 26. November <https://www.forbes.com/sites/danalexander/2013/11/26/beer-entrepreneurs-fuel-comeback-of-struggling-cleveland-neighborhood/>.
- Allard, S. (2014). Board of zoning appeals rules in favor of Ohio City, denies permit to McDonalds. *ClevelandScene.com*. January 21 <http://www.ohiocity.org/press-release/board-zoning-appeals-rules-favor-ohio-city-denies-permit-mcdonalds>.
- Andrews, G. J., Hall, E., Evans, B., & Colls, R. (2012). Moving beyond walkability: On the potential of health geography. *Social Science & Medicine*, 75(11), 1925–1932. <https://doi.org/10.1016/j.socscimed.2012.08.013>
- Apardian, R. E., & Reid, N. (2020). Going out for a pint: Exploring the relationship between craft brewery locations and neighborhood walkability. *Papers in Applied Geography*, 6(3), 240–255. <https://doi.org/10.1080/23754931.2019.1699151>
- BeerCPA.com. (2018). The economics of a taproom vs. Distribution for craft breweries. *BeerCPA.com*, 23 January <https://www.beercpa.com/the-economics-of-a-taproom-vs-distribution-for-craft-breweries/>.
- Brewers Association. (2021a). Craft beer industry market segments. <https://www.brewersassociation.org/statistics-and-data/craft-beer-industry-market-segments/>.
- Brewers Association. (2021b). Economic impact. <https://www.brewersassociation.org/statistics-and-data/economic-impact-data/>.
- Brewers Association. (2021c). State craft beer sales & production statistics, 2020 <https://www.brewersassociation.org/statistics-and-data/state-craft-beer-stats/>.
- Brewers Association. (2022). National beer sales & production data. <https://www.brewersassociation.org/statistics-and-data/national-beer-stats/>.
- Bullen, P. A., & Love, E. D. P. (2011). Adaptive reuse of heritage buildings. *Structural Survey*, 29(5), 411–421.
- California Craft Brewers Association. (2021). Craft beer statistics. <https://californiacraftbeer.com/ca-craft-beer/craft-beer-statistics/>.
- Carr, A., Shin, Y. H., Severt, K., & Lewis, M. (2017). A qualitative approach to understanding the underlying beliefs of microbrewery consumers. *International Journal of Hospitality Beverage Management*, 1(1), 1–27. <https://doi.org/10.34051/j/2019.4>
- Colliers International. (2015). *Craft beer pours into commercial real estate*. New York: Colliers International. <https://www.dropbox.com/s/zqfnqf2kxx00r91/Brewery-Report-2015-10-28-optimized%20%281%29%20%281%29.pdf?dl=0>.
- CRBE. (2016). In *Ohio craft beer*. Boston: CBRE. taking flight <https://cbreemail.com/cv/4d16a7f80cabe5342d7379bee8fb517b0332dc72>.
- D'Arcy, L. (2020). *The only limit in the experience economy is your imagination*. *Marketingweek.com*. March 4 <https://www.marketingweek.com/the-only-limit-in-the-experience-economy-is-your-imagination/>.
- Elzinga, K. G., Tremblay, C. H., & Tremblay, V. J. (2015). Craft beer in the United States: History, numbers, and geography. *Journal of Wine Economics*, 10(3), 242–274. <https://doi.org/10.1017/jwe.2015.22>
- Eventbrite. (2014). Millennials: Fueling the experience economy. Eventbrite.com <https://www.eventbrite.com/blog/academy/millennials-fueling-experience-economy/>.
- Feeney, A. E. (2017). Cultural heritage, sustainable development, and the impacts of craft breweries in Pennsylvania. *City, Culture and Society*, 9, 21–30. <https://doi.org/10.1016/j.ccs.2017.03.001>
- Garavaglia, C., & Swinnen, J. (Eds.). (2018). *Economic perspectives on craft beer: A revolution in the global beer industry*. Cham, Switzerland: Palgrave MacMillan.
- Goldman, D., Marchessou, S., & Teichner, W. (2017). Cashing in on the US experience economy. *McKinsey.com*, 17. December <https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/cashing-in-on-the-us-experience-economy#>.
- Hall, C. M., & Ram, Y. (2019). Measuring the relationship between tourism and walkability? Walk score and English tourist attractions. *Journal of Sustainable Tourism*, 27(2), 223–240. <https://doi.org/10.1080/09669582.2017.1404607>
- Herz, J. (2016). *Today's craft beer lovers: Millennials, women and Hispanics* (Vol. 15). Brewers Association. <https://www.brewersassociation.org/brewing-industry-updates/understanding-todays-craft-beer-lovers-millennials-women-hispanics/>.
- Iddings, J. (2018). *City council approves downtown distilleries, breweries and winemaking* (Vol. 19). Paso Robles Daily News. <https://pasoroblesdailynews.com/city-council-approves-downtown-distilleries-breweries-winemaking/79008/>.
- Jolly, C., Quisto, S., & Greenhaw, L. (2011). Community stakeholders' perspectives of craft breweries in their communities in Oklahoma. *Journal of Applied Communications*, 105(4). <https://doi.org/10.4148/1051-0834.2383>
- Kerick, F. (2019). The growth of ecommerce. Medium.com. August 13 <https://medium.com/swlh/the-growth-of-ecommerce-2220cf2851f3>.
- Kickert, C. (2021). What's in store: Prospects and challenges for American street-level commerce. *Journal of Urban Design*, 26(2), 159–177. <https://doi.org/10.1080/13574809.2019.1686352>
- Kraftchick, J. F., Byrd, E. T., Canziani, B., & Gladwell, N. J. (2014). Understanding beer tourist motivation. *Tourism Management Perspectives*, 12, 41–47. <https://doi.org/10.1016/j.tmp.2014.07.001>
- Lahart, J. (2020). The department store of the future will look a lot like the past. *Wall Street Journal*, 17. <https://www.wsj.com/articles/the-department-store-of-the-future-will-look-a-lot-like-the-past-11579257002>.

- Lehnert, M., Nilsson, I., & Reid, N. (2020). Navigating the regulatory environment in American urban areas: The case of craft breweries. In E. S. Madsen, J. Gammelgaard, & B. Hobdari (Eds.), *New developments in the brewing industry: The role of institutions and ownership* (pp. 47–71). Oxford: Oxford University Press. <https://doi.org/10.1093/oso/9780198854609.001.0001>.
- Litman, T. A. (2003). Economic value of walkability. *Transportation Research Record*, 1828(1), 3–11. <https://doi.org/10.3141/1828-01>
- Moore, M. S., Reid, N., & McLaughlin, R. B. (2016). The locational determinants of microbreweries and brewpubs in the United States. In I. Cabras, D. Higgins, & D. P. Beer (Eds.), *Brewing and pubs: A global perspective* (pp. 182–204). Basingstoke: Palgrave MacMillan.
- Morgan, M., Elbe, J., & de Esteban Curiel, J. (2009). Has the experience economy arrived? The views of destination managers in three visitor-dependent areas. *International Journal of Tourism Research*, 11(2), 201–216. <https://doi.org/10.1002/jtr.719>
- Morrison, J. (2017). Are craft breweries the next coffeehouses? *Smithsonian Magazine*. September 7 <https://www.smithsonianmag.com/arts-culture/are-craft-breweries-next-coffeehouses-180964739/>.
- Nilsson, I., & Reid, N. (2019). The value of a craft brewery: On the relationship between craft breweries and property values. *Growth and Change*, 50(2), 689–704. <https://doi.org/10.1111/grow.12292>
- Nilsson, I., Reid, N., & Lehnert, M. (2018). Geographic patterns of craft breweries at the intraurban scale. *The Professional Geographer*, 70(1), 114–125. <https://doi.org/10.1080/00330124.2017.1338590>
- Nilsson, I., Smirnov, O., Reid, N., & Lehnert, M. (2019). To cluster or not to cluster? Spatial determinants of closures in the American craft brewing industry. *Papers in Regional Science*, 98(4), 1759–1778. <https://doi.org/10.1111/pirs.12434>
- Ortega, E. (2017). The golden state of brewing: California's economic and cultural influence in the American brewing industry, part II. *The Journal for the Brewery History Society*, 172, 9–39. <http://breweryhistory.com/journal/archive/172/California2.pdf>.
- Pine, B. J., II, & Gilmore, J. H. (1998). Welcome to the experience economy. *Harvard Business Review*. July–August <https://hbr.org/1998/07/welcome-to-the-experience-economy>.
- Pine, B. J., II, & Gilmore, J. H. (2011). *The experience economy*. Boston: Harvard Business School Press.
- Ram, Y., & Hall, C. M. (2017). Walkable places for visitors: Assessing and designing for walkability. In C. M. Hall, Y. Ram, & N. Shoval (Eds.), *The Routledge international handbook for walking* (pp. 311–329). Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781315638461-30/walkable-places-visitors-yael-ram-michael-hall>.
- Rathke, L. (2020). Craft brewers upended by COVID-19 closure of tap rooms, bars. *ABCNews*. May 14 <https://abcnews.go.com/Business/wireStory/craft-brewers-upended-covid-19-closure-tap-rooms-70677492>.
- Reid, N. (2018). Craft breweries, adaptive reuse, and neighborhood revitalization. *Urban Development Issues*, 57(1), 5–14. <https://doi.org/10.2478/udi-2018-0013>
- Reid, N., & Gatrell, J. D. (2015). Brewing growth: Regional craft breweries and emerging economic development opportunities. *Economic Development Journal*, 14(4), 4–12. [https://www.iedonline.org/clientuploads/Economic%20Development%20Journal/EDJ\\_15\\_Fall\\_Reid-Gatrell.pdf](https://www.iedonline.org/clientuploads/Economic%20Development%20Journal/EDJ_15_Fall_Reid-Gatrell.pdf).
- Reid, N., & Gatrell, J. D. (2017). Craft breweries and economic development: Local geographies of beer. *Polymath: An Interdisciplinary Arts and Sciences Journal*, 7(2), 90–110. <https://ojs.siu.edu/ojs/index.php/polymath/article/view/3229>.
- Reid, N., Gripshover, M. M., & Bell, T. L. (2019). Craft Breweries and adaptive reuse in the USA: The use and reuse of space and language. In S. D. Brunn, & R. Kehrein (Eds.), *Handbook of the changing world language map* (pp. 1–19). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-319-73400-2\\_76-2](https://doi.org/10.1007/978-3-319-73400-2_76-2).
- Samarasekara, G. N., Fukahori, K., & Kubota, Y. (2011). Environmental correlates that provide walkability cues for tourists: An analysis based on walking decision narrations. *Environment and Behavior*, 43(4), 501–524. <https://doi.org/10.1177/0013916510379350>
- Schroeder, S. (2020). Crafting new lifestyles and urban places: The craft beer scene of Berlin. *Papers in Applied Geography*, 6(3), 204–222. <https://doi.org/10.1080/23754931.2020.1776149>
- Slocum, S. L. (2018). Developing social capital in craft beer tourism markets. In S. L. Slocum, C. Kline, & C. T. Cavaliere (Eds.), *Craft beverages and tourism* (pp. 100–283). Cham, Switzerland: Palgrave MacMillan.
- Stoilova, E. (2020). Craft beer culture and creative industries in Plovdiv, Bulgaria. *Papers in Applied Geography*, 6(3), 222–239. <https://doi.org/10.1080/23754931.2020.1785533>
- Strohacker, K., Fitzhugh, E. C., Wozencroft, A., Ferrara, P.-M. M., & Beaumont, C. T. (2021). Promotion of leisure-time physical activity by craft breweries in Knoxville, Tennessee. *Leisure Studies*, 40(6), 854–871.
- Sundbo, J., & Darmer, P. (2008). *Creating experiences in the experience economy*. Cheltenham: Edward Elgar Publishing.
- Trotter, G. (2016). Zoning trouble brewing? Beer-makers, distillers fear review may push them out. *Chicago Tribune*, 3 June <https://www.chicagotribune.com/business/ct-breweries-chicago-pmd-0605-biz-20160603-story.html>.
- Tuck, B., & Bennett, J. (2021). *Economic contribution of Minnesota's craft brewing industry and the impact of COVID-19*. University of Minnesota Extension. <https://conservancy.umn.edu/handle/11299/220393>.
- Ujang, N., & Muslim, Z. (2015). Walkability and attachment to tourism places in the city of Kuala Lumpur, Malaysia. *Athens Journal of Tourism*, 2(1), 55–67. <https://doi.org/10.30958/ajt.2-1-4>
- Walker, S., & Miller, C. F. (2019). Have craft breweries followed or led gentrification in Portland, Oregon? An investigation of retail and neighbourhood change. *Geografiska Annaler - Series B: Human Geography*, 101(2), 102–117. <https://doi.org/10.1080/04353684.2018.1504223>
- Watson, B. (2014). In *Demographics of craft beer lovers*. Brewers Association. <https://www.brewersassociation.org/wp-content/uploads/2014/10/Demographics-of-craft-beer.pdf>.
- Weiler, S. (2000). Pioneers and settlers in Lo-Do Denver: Private risk and public benefits in urban redevelopment. *Urban Studies*, 37(1), 167–179. <https://doi.org/10.1080/0042098002348>
- Wennberg, K., & Lindqvist, G. (2010). The effect of clusters on the survival and performance of new firms. *Small Business Economics*, 34(3), 221–241. <https://doi.org/10.1007/s11187-008-9123-0>
- Zepeda, L., & Nie, C. (2012). What are the odds of being an organic or local food shopper? Multivariate analysis of US food shopper lifestyle segments. *Agriculture and Human Values*, 29(4), 467–480. <https://doi.org/10.1007/s10460-012-9364-z>