Mobile Beer Canning: Background and Analysis

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Abstract

Since the 1990s, the number of craft breweries in New York has steadily increased. That number has grown at an accelerated rate since 2010. The number of New York State breweries grew from 95 in 2012 to 320 in 2016. Research has been conducted to determine who the customers of craft breweries are and what they value. However, additional research needs to be done to determine how the craft breweries should market and distribute their product as the brewery grows in terms of production and customer base. The main purpose of this research is to assess the distribution capabilities and needs of smaller craft breweries and to assess the ability of a mobile canning system to be a viable business by meeting these needs.
**Introduction**

There are unique factors involved with assessing the craft beer industry and how it is different from breweries such as Anheuser-Busch InBev and MillerCoors. The number of breweries in the United States and New York have been increasing. What impact does the number of breweries have on the overall needs of the region? Beyond this, it is necessary to understand what is distinct about the licenses available in New York. These licenses allow different methods of distribution. Additionally, there are different methods of packaging to consider. It is always necessary to understand who your customer is and what they value, so we will also define the craft beer consumer. After a brewery has made a decision about packaging, they need to develop a plan to implement that strategy. First, we will examine what defines craft beer.

**Industry Background**

To understand the unique nature of craft breweries, some distinctions must be made. Craft breweries are different from traditional (sometimes called macro) breweries in terms of product, customer base, and overall business strategy. What defines a “craft brewery” is generally determined on the basis of size, ownership and product. Large macro-breweries generally produce very limited styles of beer (American Adjunct Lager or Light Lager) and use a strategy of low cost. The result is a fairly homogenous product. They also rely heavily on advertising to market their product. In contrast, craft breweries generally offer many styles of beer. For example, the Brewers Association recognizes over 150 different styles of beer, including 5 different Pilsners (Brewers Association 2018). Generally, a craft brewery will use a strategy of product differentiation based on quality of the product, unique ingredients, or a unique location (often all three).

According to the Brewers association, the craft beer industry can be divided into four segments: regional craft breweries, contract craft breweries, brewpubs and microbreweries. A regional craft
brewery with an annual beer production of between 15,000 and 6,000,000 barrels (a barrel of beer is 31 U.S. gallons). A contract brewery is defined as business that hires another brewery to produce its beer (Brewers Association 2018). This distinction can be confusing as both the brewery that is producing the beer and the company they are contracting with can be colloquially referred to as a contract brewery. Additionally, the beer may be made by a brewery for sale at a restaurant or bar. For instance, Dinosaur Smoked Porter and Dinosaur Ape Hanger beers are brewed for Dinosaur Barbeque by Middle Ages Brewing Company of Syracuse, New York. This is sometimes called a private label. A brewpub is a restaurant-brewery that sells 25 percent or more of its beer on site. A microbrewery produces less than 15,000 barrels (roughly 464,942 gallons) of beer per year with 75 percent or more of its beer sold off-site (Brewers Association 2018).

**New York Craft Beer**

In 2012 a new law allowed New York state to begin issuing a new kind of brewery license: a “farm brewery” license could be issued to a brewer who pledged to use New York-grown ingredients, including hops. This allows the beer to be marketed as a “New York State labeled beer.” It allows craft brewers to expand their operations by opening restaurants or second locations. It allows them to sell their products at events like farmers markets without any red tape. It also exempts breweries that produce small batches of beer from paying annual fees to the State Liquor Authority. Importantly, it allows the sale of beer by the glass on premises. The law gives requirements for the sourcing of ingredients for a beer brewed under a farm license. Until the end of 2018, at least 20% of the hops and 20% of all other ingredients must be grown in New York State. This increases to 60% of the hops and 60% of all other ingredients after January 1, 2019 until December 31, 2023. After January 1, 2024 the ingredient requirement increases to 90% of the hops and 90% of all other ingredients must be grown in New York State. New York state and the Finger Lakes region have seen a boom in new farm breweries
since the law passed. The Finger Lakes region production of hops has grown with it. Within the past five years the acres of planted hops have increased from 15 acres to over 150.

On-farm breweries were the focus of the article by Slocum (2016). The breweries offered unique beers which were made from ingredients sourced from the farm or nearby. This lends itself to viewing on-site craft beer consumption as a form of tourism. Murray and O’Neil (2012) found that the craft beer enthusiast desired extensive beer lists when selecting restaurants and planned trips and vacations around the activity of craft beer. This suggestion was supported by Kraftchick, Byrd, Canziani and Gladwell (2014), whose study found that 38% of people visiting local North Carolina breweries were not from the area. Murray and Kline (2015) tied this interest in visiting the local craft breweries while on vacation to a larger neo-localism movement. Carroll and Swaminathan (2000) suggest that consumers be using these local, specialty products as a means of status generation. A craft beer drinker can appear to be an expert simply by knowing about a particular style of beer, or where the ingredients come from. This “expert knowledge” is easily obtained and public displays of this knowledge may confer status. Rating and describing beer to be seen as an expert may be what drive beer rating social websites such as BeerAdvocate and RateBeer.com. The experience of seeing where a craft product is made can be another way for obtaining knowledge and status.

As Fletchall (2016) noted “the local nature of craft breweries and tourists’ desire for authenticity have proven to be a genuine attraction.” The fact that these breweries, as part of the license, use local hops allows the breweries to have a “Sense of Place” (SoP). Hede and Watne (2013) investigated the idea that a SoP was an important element for the popularity in craft beer. This SoP could be created by various means: utilizing real or imagined heroes, folklores, or myths. Many breweries will be named after local landmarks, people, or their founders. Cooperstown brewery is named after the town, and many of the names of the beers are associated with baseball (Cooperstown is the home of the Baseball Hall of fame). Big Ditch Brewing Company of Buffalo and Erie Canal Brewing Company of Canastota New
York are named to draw connection to the Erie Canal, which ran through both cities. Willow Rock Brewing Company’s name comes from the names of the two owners: Rockney Roberts and Kevin Williams. The company is located in Syracuse, New York, and named Jim Brown ale after Syracuse football legend Jim Brown. When visiting a small brewery, a patron is often served by the owner or brewery which also helps to humanize the brand. The stories of the owners are often featured prominently on websites and brewery walls. These stories emphasize the home-brewing roots of the brewers. Smith, S., Farrish, J., McCarroll, M., & Huseman, E. (2017) suggest that beyond the distinct beers themselves, the local nature of craft breweries and the craft beer consumers’ desire for authenticity create a real attraction.

Beyond attracting craft beer consumers and tourists, breweries will also put on events aimed at bringing in people who might not otherwise visit the brewery. Brewery Ommegang of Cooperstown, New York uses the picturesque field behind its production facility as a concert venue. Empire Brewing Company offers yoga classes on its Farm Brewery floor in Cazenovia, surrounded by production equipment. Many breweries have started holding beer, food, and cheese pairings in an effort to link craft beer, luxury gourmet, and experiential tourism. Examining this link was suggested by Murray and O’Neill (2012). So far, we have defined craft beer and the craft beer consumer to establish what differentiates them from the “mainstream” producers and consumers. Here I want to examine what choices are available for the producer and consumer for packaging.

**Distribution and Packaging**

Breweries can sell beer by the glass, but there are additional decisions to be made for distribution outside the walls of the brewery. One decision would be determining if the brewery want to distribute at all. The lowest level of distribution in terms of capital investment would be filling growlers. In essence, a growler is any jug that holds beer. They can be made of glass, ceramic, steel, or plastic. They can also be different sizes: 64-ounces (the most common), 32-ounces, 2 liters, and or 1 liter.
Customers may already own the growler, or they may buy it from the brewery. If purchased from the brewery the growler usually will be branded with the brewery name or logo. This method does not require much modification beyond the draft line necessary to sell beer by the glass. It may also be supplemented with a crowler station. This is essentially a large can that is filled for the customer. While bottling or filling portable glass containers (growlers, grumblers, etc.) may be an adequate solution for some breweries, the nature of the tourism may not favor them. Tourists often do not bring a growler with them, and a gallon-size, breakable glass jug may be a tough sell. Many tourists come on busses and may be reluctant to carry breakable glass containers.

The next level of product packaging is manually sealed bottles or cans. Compared to filling growlers or crowlers as demanded, this is a significant investment of time and labor. Beyond this, mechanical packaging processes are available in the form of mobile canning or bottling lines. Breweries may also decide to invest in their own canning or bottling production equipment. Each of these choices have many considerations in terms of time, economics, and overall feasibility.

There are also decisions to be made whether the primary containers used to package beer for distribution are bottles or cans. While brown glass containers block most ultra violet light penetration, cans eliminated it entirely. This light can be a significant consideration. When using cans, “You don’t have to worry about what type of lights they have in their cooler, because there’s no way light can get in there and “skunk” an IPA (or any beer, as there are hops in everything). Brown bottles do a great job, but they’re not perfect at keeping UV light out” (K. Williams, personal communication, April 13, 2018). A beer in considered to have been “skunked” when ultraviolet light causes a reaction of ingredients in the beer that alters the taste, making light mitigation a quality control concern.

Aluminum cans also have advantages for the environment. According to the Aluminum Association, consumers recycle aluminum cans at a rate of 49.4%. The rate of recycling by consumers for glass bottles was 39.5%. Aluminum cans contained 70% recycled contents, while glass bottles contained
only 23%. Glass bottles are also 17 times heavier for each ounce of beverage contained (The Aluminum Can Advantage, 2018). This extra weight increases fuel consumption every time the container is transported. Glass bottles can shatter when being collected with other recyclable items. In single stream recycling programs this broken glass can become imbedded in other recyclables, which in turn renders the items non-recyclable.

Beaches, parks, pools and campgrounds often prohibit glass containers. Aluminum cans cool down more quickly than glass bottles, due to the greater thermal conduction. This may be why Founders brewery of Michigan began selling it’s “All Day IPA”, a beer that is particularly popular in the summer, in cans. Cans may serve as a ready substitute for growlers: As Evans (2013) noted, “A four-pack of 16-ounce cans is the same volume as a 64-ounce growler.”

**Perception**

Perception concerns should be considered when choosing cans or bottles as the primary packaging vessel. “One of the biggest issues with original canned products was that there was no lining, so the longer it sat there, it tasted like metal: it was disgusting” (R. Roberts, personal communication, April 13, 2018). Barnett, Velasco & Spence (2016) conducted research on the idea that “People often say that beer tastes better from a bottle than from a can.” The conclusion of the research was that the perception of the package can indeed influence the perception of taste. The consumers in the study rated the same beer differently when they were aware of the different containers. When the consumer was not aware of the different containers, the beers were rated similarly. It may be that the perception is still that aluminum cans are inferior. Barnett, Velasco & Spence (2016) also concede that material was not the only difference between the containers and that those differences may be factors. Krishna and Morrin (2008) argue that our feelings about the packaging sometimes appear to be transferred to our perception of the contents of that packaging. However, brewers and breweries may feel this perception is changing.
“I think that more and more the consumer is actually becoming aware that cans can actually be a superior package in terms of quality when done right. I think that has been spearheaded by the craft IPA movement. You get Alchemist, Treehouse, and Trillium in a can. When you pop it: it’s fresh, it’s bright, whether you’re drinking it a day after the day it was brewed and package, a month after it was packaged, or whatever” (R. Roberts, personal communication, April 13, 2018).

Alchemist, Treehouse, and Trillium breweries are generally perceived as high-quality producers. These producers are willing to bet that consumers are aware that cans are an equal, if not better, vessel for beer packaging. Alchemist, Treehouse and Trillium breweries collectively product 16 of the top 50 beers determined by the users of BeerAdvocate.com (a beer ranking website). Reid, N., McLaughlin, R. B., & Moore, M. S. (2014) found that millennials are five times more likely to be influence by word-of-mouth than advertising. This suggests that Macro breweries, with their heavy reliance on advertising, are less able to influence younger consumers.

Now we have defined the craft beer industry and the craft beer consumer. We have also examined the overall options for packaging and distributing beer. The questions that need to be answered at this point are: what the packaging needs of the breweries of the Finger Lakes region are, and if they be met by a mobile canning operation. To assess this, I interviewed the owners of a local brewery, Willow Rock Brewing Company. Willow Rock operates under both a market brewery license and a farm brewery license. This decision was made at the time the brewery opened. At the time of opening, recipes had already been established and there is little benefit in altering a recipe to make it able to be brewed under a farm brewery license. The owners of Willow Rock view this as an opportunity, “there’s so many different ingredients and so many different ways that you can make a beer that it’s nice to even have the option to bring something new to the table that isn’t just a reformulation of something we’ve already had, and people have already enjoyed” (K. Williams, personal communication,
April 13, 2018). Willow Rock uses growler and crowler fills as a means of distribution with some limited bottling for special releases. The owners have also evaluated using mobile canning services as well as the possibility of purchasing a canning line. This allows the brewery to serve as a good model of a growing brewery in the region in terms of production capacity, as well as current and future packaging needs. Many of these small breweries do not have the capital, nor the production capacity, to warrant a full-scale bottling or canning production line. This may lead them to examine mobile canning as an option.

A mobile canning operation is a smaller scale version of a canning line that has been designed to fit in a box truck or trailer. A variety of manufacturers now make them, often as a way to sell more of their canning supplies. Mobile canning operations serve as a means to allow small breweries to have access to can production lines when they need them. Whereas large breweries may have a full time canning operation, small breweries may only need them once every two weeks, Evans (2013). Some may need the production line with less frequency than that.

Now, with a better understanding of the industry and the factors involved in New York State, we can examine mobile canning. The following is an evaluation of the strengths, weaknesses, opportunities and threats involved in a mobile canning operation.

**Strengths**

The purchase of any type of production equipment can be a substantial investment. Using a mobile canning service allows a brewery test if they will be able to sell that beer in cans without having to buy any additional equipment. This can be done to test how well the breweries beer will sell in that form, or how any one beer may sell in that vessel. Evans (2013) noted that Founders Brewery of Michigan released their “All Day IPA” in cans. The strategy may be intended to allow Founders to capitalize on the customer appeal of cans and IPAs during the summer month, but it can also serve to estimate the viability of cans for their other beers.
The release of a beer in cans can also serve as a marketing technique intended to create excitement about the availability of the beer in a new way. The release itself can be an event, as was the case for Prison City Brewery’s “Mass Riot” in 4-packs of 16oz cans. This is the same volume of beer as a growler, but it allows the beer to be sold in a vessel better suited to many customers. There is a different mentality when buying a growler or a pack of cans (R. Roberts, personal communication, April 13, 2018). Growlers tend to be consumed in a short period of time after opening, while cans tend to be an individual serving size.

If a brewery was to purchase their own canning line, there is a significant amount of space that needs to be permanently used by that canning line. The brewery will also need to devote space for the storage of palletized aluminum cans to be filled. Space also needs to be allocated to the filled cans. The brewery does need to have sufficient floor space for the mobile canning operation to come in and package the product, but that space only needs to be available temporarily. Floor space can be at a premium in the small buildings that many regional breweries operate in.

Using a mobile canning service provides predictability of cost for the brewery. The brewer does not need to worry about packaging equipment, which is a concern if the brewery purchases its own canning line. “If something malfunctions on your end on the equipment, you might be paying somebody 16 hours of maintenance fees to try and figure it out” (K. Williams, personal communication, April 13, 2018).

A mobile canning service can provide a way to avoid a large capital cost while still providing a means of distribution, but there are concerns that many brewers would have when weighing options.

**Weaknesses**

The biggest weakness in the use of a mobile canning operation is that the brewery loses control over some parts of its production schedule. The packaging process needs to be scheduled ahead of time. There are many ways the production of beer can go awry: there can be quality control issues for any
batch. If for any reason the product is not ready during the scheduled time, it can cause problems for packaging beer “You have them next Tuesday and on Monday, your product isn’t ready. Maybe they can push it to Wednesday, maybe they can’t.” (R. Roberts, personal communication, April 13, 2018). This would in turn affect the production of other beers, as the product which was going to be canned is still full.

While mobile canning requires no up-front capital to be invested for the brewery, it will cost more per unit overall. It may not be used as a long-term production solution by any one brewery. This introduces risk and uncertainty as to how long breweries will be at a production level that favors the use of mobile canning lines. The “sweet spot” for mobile canning is a brewery with a production capacity between 15-30 barrels (R. Roberts, personal communication, April 13, 2018). As there is a relatively narrow band of production where a brewery would be likely to utilize mobile canning as a primary packaging method, there would need to be many breweries operating at this production level. While the number of craft breweries have been growing, 1999 was the first year in which more craft breweries closed than opened (Reid et al., 2014).

**Opportunities**

A mobile canning company would serve many breweries, not just one. It is important to consider the larger industry picture. Many of the breweries in the Finger Lakes and central New York reason are relatively small. This can be both good and bad for a company looking to operate a mobile canning operation. While smaller breweries are unlikely to purchase their own canning line, they can also lack the production capacity to make it cost effective to use mobile canning. There is a certain amount of beer that will be wasted in the process of priming the canning equipment and at the end of the process. This waste is the same amount regardless of the total amount of beer being packages. As such, this waste will be a higher proportion of the total batch when the volume is less. This isn’t to say
that mobile canning won’t be done at lower volumes, but a brewery is unlikely to use this method as a consistent means of distribution. Breweries below a 15-barrel production capacity would likely only use mobile canning for special “one-off” events. Another barrier to a small brewery purchasing a canning line is that a canning line also requires refrigerated storage (R. Roberts, personal communication, April 13, 2018), which is an additional cost.

Breweries who choose to package their beer for retail are able to take advantage of New York State’s self-distribution laws. Breweries that operate under a farm brewery license are able to work with nearby farm breweries, wineries and cideries to have their product available for purchase at those locations. In turn, the breweries can expand their offerings to include products from those farm wineries and cideries. This can allow breweries to have some distribution while not needing to use a traditional beverage distributor company as an intermediary.

**Threats**

While mobile canning can provide a good option for breweries of a certain production capacity, breweries that aspire to grow further may decide to invest in their own canning lines. If a brewery has the space and production capacity to justify having a canning line, the return on investment would likely lead that brewery to purchase their own means of packaging (R. Roberts, personal communication, April 13, 2018). The main hurdles are the physical space available to allow for the equipment and the ability to obtain the financing necessary.

Breweries below a certain production capacity are also unlikely to consistently use mobile canning. These breweries may choose not to use any packaging, other than growers, or to use manually operated canning equipment. This method is more time consuming and labor intensive, but it allows the brewers to retain full control of the production process. It also provides many of the same benefits as mobile canning: the ability to have product available in cans and create excitement and an event surrounding their release.
Feasibility

The production capacity of the regional breweries tends to be less than the window where mobile canning is most efficient. Canning beer for sale on site or at nearby farm licensed establishments is likely to remain as a “one-off” solution for packaging special batches, or limited runs. The owners of Willow Rock brewery need to run a double batch to produce 7 barrels of beer. This reduces the control they have over their production schedule while still producing less than half of what they estimated would be the low end of a reasonable production level to use mobile canning (15-30 barrels). Many breweries in Central New York have a similar production capacity. Some regional breweries (such as Empire Brewing Company and Middle Ages Brewing Company) have significantly more production capacity but have already invested in bottling lines. Other breweries have opted to have their product contract brewed and packaged at facilities such as Custom BrewCrafters (CB) of Honeoye Falls, New York. Breweries with long-term production grown in mind are would most likely invest in their own means of packaging beer. A mobile canning company would likely need a much larger base of operation than Central New York to sustain the business.

Conclusion

New York State’s farm brewery licenses provides the state’s breweries with the means of attracting craft beer consumers. These consumers are seeking a unique experience and a local product. The local ingredient requirements ensure the neo-localism preferences of craft beer consumers are satisfied. Growing breweries face decisions about how to weigh distribution goals with production levels. For a small window of production, mobile canning can provide a solution for a growing brewery. Mobile canning is likely to be used in only select cases in Central New York.
References


Roberts, Rockney. & Williams, Kevin. Personal Interview. 13 April 2108.
