Craft Brewery Sustainability Analysis:
Measuring Sustainability of Craft Breweries Through the Lens of ISO 26000

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Abstract

This research and analysis focuses on the craft brewing industry in America. Companies around the world are taking steps to become more sustainable. There are a lot of factors to consider when evaluating sustainability. These include the environmental, social, economic, and manufacturing aspects. Through the collection of definitions, implications, and initiatives; I will analyze the craft brewery industry on its environmental, social, economic, and manufacturing sustainability implications and initiatives. Additionally, I will evaluate the sustainability of craft breweries using ISO 26000 framework metrics. This analysis enabled the development of recommendations on the necessary first steps craft breweries should take towards sustainability.

Introduction

Sustainability is a difficult term to truly define. While it is noted that sustainability lies upon three pillars, there are so many different factors that can play a role. The three pillars which include the environment, social factors, and economic factors have many divisions underneath each of them. Sustainability is noted to be "both a *word*, often used as an adjective to describe behaviors and conditions, as well as a *concept* that implies a set of principles for how the economy, environment, and society interface *should* function" (Krueger, Mössner, Freytag, 2019, p.7) Sustainability scholar Julian Agyeman has argued "a truly sustainable society is one where wider questions of social needs and welfare, and economic opportunity, are integrally connected to environmental concerns" (Krueger, Mössner, Freytag, 2019, p.10) To determine if something can be sustainable, all of the factors that contribute to these three pillars need to be evaluated. In addition to these three pillars, sustainable manufacturing impacts and initiatives need to be considered.

According to The Report of the World Commission on Environment and Development: Our Common Future, it is stated that sustainable development "does imply limits - not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human

activities." (United Nations, n.d.) People today have the ability to make changes that can help push back the limits that exist. Attempts to achieve sustainability can develop and implement more innovative practices within businesses that better the world. Through research into the definitions of sustainability, craft breweries current impacts, and what initiatives breweries are taking to be sustainable, this report will develop a deeper understanding of whether or not craft breweries are sustainable.

Background

Environmental Pillar

The environmental pillar focuses on the impact that something has on the natural environment around us. This includes the atmosphere, ground, resources, and much more. Environmental sustainability in businesses "involves making decisions and taking action that are in the interest of protecting the natural world". (Failte Ireland, n.d.) There is a common misconception in which considering something to be "green" also implies that is it sustainable. This however, is not always the case. (Krueger, Mössner, Freytag, 2019, p.10)

The practices that businesses today are adopting will have an effect on people's lives and the natural environment down the line. No matter what practices are chosen, there will be some sort of impact. Whether this impact is positive or negative will depend on what policies businesses implement and how seriously businesses implement new policies. Environmental sustainability is not only about developing alternative practices to be more environmentally friendly, but it is also about developing practices that can be maintained for many years to come. People today are realizing the roles that businesses play on their impact of the environment. To focus on becoming environmentally sustainable, businesses need to look further than the short term and towards the long term impact of their business practices. Developing and implementing these practices will be the first step toward total future environmental sustainability in businesses.

Social Pillar

The social pillar is about "identifying and managing business impacts, both positive and negative, on people". (United Nations, n.d.) Companies can directly or indirectly affect the lives of the employees, customers, and local communities. Businesses that do not provide social development efforts including combating poverty and inequality, can affect a business's right to operate.

Companies hold the responsibility to care for their employees. It used to be that companies did not have to care so much about their employees, but as peoples' health and work conditions began to decline, so did people's' willingness to work as well as their quality of work. Companies are obligated to care about their employee's health as well as other social aspects of their lives. Businesses want to ensure that they are providing high quality products not only to continue to be successful, but to also make sure they are mitigating risks that could occur. (Rice, 2013) Businesses do not want to be held liable for poor quality products or lawsuits from employees or customers. Businesses also now need to be sure that they are equal employment opportunity companies that do not discriminate against people in order to avoid lawsuits. If they fail to do this they could be facing a lot of legal trouble in the future and risk the business as a whole. Making sure employees and customers are happy and healthy ensure that they can operate more successfully and that customers will continue to invest.

Economic Pillar

The economic pillar refers to "practices that support long-term economic growth without negatively impacting social, environmental, and cultural aspects of the community". (University of Mary Washington, 2018) A common misconception when considering economic sustainability is the idea that economic sustainability includes any economic growth no matter the rate. This includes the idea that rapid economic growth would be considered environmentally sustainable. (Twink.org, 2014) This, however, is not entirely the case. The most important aspect of the economic pillar of sustainability is to support long-term growth, rather than just immediate rapid-growth. A steady state of economic improvement is the overall goal, even though there is no correct measurement for what a steady increase would be.

Businesses are constantly striving to be financially successful and as profitable as possible. Companies need to secure financial stability to continue to operate. They also need to develop a stable sense of profitability to make sure that they are constantly making money. This added revenue will allow business to continue to grow and expand, as well as continue to make updates to their current situation. This is how many businesses also stay ahead of their competitors. Without a solid source of revenue that will allow a business to have financial security, businesses would be less likely to be able to compete with other companies and eventually end up out of business.

The revenue businesses bring in goes to paying bills, buying materials to continue to produce products, and to provide sources of income for their employees. This shows that the economic success and stability of a constant stream of revenue can be used to determine a lot of other factors such as the number of employees, employee compensation, and expansion or contraction of the operations. Without this pillar of economic sustainability, companies would not be able to provide a lot of the key components that come along with the social and environmental sustainability pillars.

Sustainable Manufacturing

Sustainable manufacturing is defined by the Environmental Protection Agency (EPA) as "the creation of manufactured products through economically-sound processes that minimize negative environmental impacts while conserving energy and natural resources". (Environmental Protection Agency, 2017) Businesses are coming to the realization that implementing sustainable practices can benefit them financially and environmentally. These practices have also been noted to improve employee, community, and product safety.

Sustainable manufacturing includes multiple elements that need to be considered. These elements include supply chain, production process, and a products life cycle. The supply chain contains aspects that involve the materials necessary to develop the product, the development and warehouse where the inventory will be kept, the distribution of the developed products, and

finally any repairs or returns. This process of manufacturing involves multiple elements that could greatly impact the sustainability of manufacturing such as the procurement of materials, how they are stored as inventory, and the distribution. The production process involves taking the materials necessary to build the products and then creating the finalized product. The lifecycle of products also known as the concept of considering products from "cradle to grave". This emphasizes the consideration for manufacturing the products as well as considering what happens to the products after the disposal. The disposal could include any waste, or the products performance after it is in the world.

ISO 26000 Framework

Delegates from 25 countries met in 1946 to develop an international organization to "facilitate the international coordination and unification of industrial standards". (International Organization for Standardization, 2018) ISO is a shortened form of the name 'International Organization for Standardization' due to the fact this name would have had different acronyms in different languages. It is also derived from the Greek 'isos' which means equal, as a symbolic measure to show that no matter the country or language, we are always equal. The ISO 26000 is the most advanced sustainability metrics for businesses today.

The framework is meant to provide guidance rather than requirements in order to ensure businesses and organizations have a positive relationship to society and the environment in which they operate. It was launched in 2010 and aims to help businesses regardless of their activity, sizes, or locations. This framework will be used to evaluate craft breweries through the analysis of craft breweries cooperating with the metrics developed from this standard.

Methodology

To determine the sustainability of craft breweries, it is necessary to review all pillars of sustainability as well as sustainable manufacturing. Through researching different elements of craft breweries, it is possible to analyze if craft breweries are sustainable. The best way to do this

was to begin by reviewing the history of craft breweries and how they gained the popularity we see today. Using each of the three pillars, it was necessary to review the implications that the microbreweries had on each division of sustainability. Looking into the future of craft breweries and how they could potentially grow will affect the current implications that breweries have on the pillars of sustainability. Finally, looking into any current or future sustainability initiatives will aid in determining craft breweries overall level of sustainability.

The History of Craft Breweries

The brewing industry in America has been changing ever since the 1970's. (Brewers Association, 2019) Imported beer sales were decreasing and large American breweries were increasing. This resulted in more light beers and lagers being found on shelves rather than imported beers. From this culture change emerged a more "grassroots and homemade" style of brewing by people as hobbies. This enabled them to be able to get the traditional style of beers they weren't able to easily access anymore. This homegrown style was the foundation of the craft brewing industry. Another common name for craft breweries is microbreweries. According to the Brewers Association who are a trade group for American craft brewers, a microbrewery is defined as "any local and independent brewer that sells fewer than 15,000 barrels of beer per year and sells at least 75% through other bars, restaurants, and liquor stores." (Priceonomics Data Studio, 2017)

The quality of beers that emerged from these smaller breweries were not always high quality. As the quality of the beers improved, they began to gain popularity and increased distribution. The 1980's marked the decade of craft breweries. Before the 1980's, beer in America was only considered to be a mass-produced commodity with little or no character, tradition or culture. The new local craft breweries that emerged provided their communities with the tastes and traditions of European brews.

The pathway to the success of craft breweries was made difficult by the tough market conditions they faced. Once the 1990's hit, momentum began to pick up for the microbrewing phenomenon, with annual volume growth increasing from "35 percent in 1991, to a high of 58 percent in 1995.

Craft breweries volume growth slowed to between 1 and 5 percent annually between 1997 and 2003". (Brewers Association, 2019) According to the Brewers Association, "2004 saw an acceleration of craft brewer sales with annual growth percentages for the craft segment of between six and 12 percent each year from 2004 through 2008, as beer drinkers increasingly connected with small, independent local breweries".

Current day craft breweries across America have succeeded in establishing high levels of quality, consistency and innovation. While craft brewers only had four percent of the U.S. beer sales in 2008, the number of craft brewers has gone from "eight in 1980, to 537 in 1994, to over 6,000 in 2018". (Brewers Association, 2019) The number of breweries that are starting up across America have dramatically increased. Today, beers can be found in international, domestic, and local markets.

Environmental Implications

Breweries can be the cause of a variety of environmental problems. Though there have been substantial improvements, there are still some unavoidable hurdles that Breweries have not been able to overcome. Most of these problems are related to water consumption and wastewater disposal. The brewing process is "extremely energy intensive, and uses substantial volumes of water." (Hygienic Pigging Systems, 2018)

A brewery's energy consumption is directly proportional to their carbon emissions. As water scarcity intensifies throughout the world, stable water supplies for businesses —such as breweries— decrease. This is extremely problematic due to the fact barley farming and beer production are the largest consumers of water. Beer making relies heavily on agriculture since its' main ingredients are hops, barley, and yeast. These key ingredients are sensitive to subtle changes in temperature, which can limit the ability to deliver products that are of consistent quality and quantities.

The causes of environmental problems can be organized into three broad divisions: upstream, operations, and downstream. (Craft Beer and Brewing, n.d.) Upstream environmental impacts focus on the production and transportation of raw materials that will turn into beer and beer

packaging. Operational environmental impacts are related to the resource consumption that can be tied directly to the brewery and the process of making beer. Finally, downstream environmental impacts include the transportation and refrigeration of beer after it leaves the brewery.

Upstream impacts are comprised primarily of glass manufacturing, barley production, and malting. According to Craft Beer and Brewing, these three aspects alone make up over three quarters of the upstream environmental impacts for beer production. (Craft Beer and Brewing, n.d.) Glass that is created with a high percentage of recycled content uses a lot less energy than glass produced with a very minimal percentage of recycled content. Countries that have supported national bottle recycling or reusable bottle mandates have been noted to show a lower environmental impact for their glass bottles. Reducing glass production for bottle containers significantly reduces brewery's environmental impact on the planet. One method that is commonly used to limit glass production is the use of aluminum cans. While aluminum cans actually require more energy to create, the overall weight to transport cans is less than glass bottles. Other methods such as kegs have the smallest environmental impact. Stainless steel kegs are designed to be reusable, which reduces the need to purchase additional bottles and cans for storage and transportation.

Barley production traditionally requires repeated tilling of the land and application of fertilizer and pesticides. Tilling along with the application of these chemicals have a large environmental impact on the land. Alternative growing methods involving low or no-tilling could decrease this impact. Brewers tend to prefer a barley kernel that requires irrigation even though barley can be grown as a dry land crop. Once the barley is grown, it is then steeped, germinated, dried and sometimes roasted in the production of malt for brewing. Drying and roasting are the two most energy intensive parts of this process as they use both electrical and heat energy. Beers that use more hops such as IPSs have a larger environmental footprint because of the increased amount of agricultural ingredients required.

Operational factors such as beer production at the brewery itself, tend to be the smallest contributors of a brewery's environmental impact. Generally accepted practices for brewing

include heat exchange for cooling wort, and attention to energy and water consumption and conservation. If these practices are adopted, then a brewery's operations may account for less than 20% of the overall environmental impact. (Craft Beer and Brewing, n.d.) Electrical energy usage is one of the larger contributing factors under operational impacts. With the assistance of high-quality renewable energy programs, there can be a significant decrease in overall carbon consumption and emissions. Breweries that are committed to supporting the environment can have carbon emissions that "hover around 5% of the beer's total carbon impact". (Craft Beer and Brewing, n.d.) The final operational impact focuses on the water required to make beer. Breweries use a lot of water to make beer, especially due to the rigorous and constant cleaning that is necessary during almost every part of the brewing process. A generally accepted industry standard of finished water to beer ratio is: four and a half barrels of water, to one barrel of beer. This amount of water used shows that any effort toward water reduction would be fruitful. A ratio of 3.25 to 1 is considered excellent throughout the world. Many international breweries have already begun setting aggressive targets on their water usage in an attempt to decrease their impact.

Downstream impacts include the transportation of the beer, how it is stored, and where it is produced. Beer is quite heavy which causes transportation by truck to have a large environmental cost. Beer is also the best when it is kept at cold, consistent temperatures, which requires the need for beers to be kept refrigerated. The refrigeration at retail locations weighs in at "more than 25% of the total carbon footprint". (Craft Beer and Brewing, n.d.) Brewers face two competing goals which are trying to maintain beer quality for the purchaser no matter the retail location, and increasing their efforts to decrease their environmental impacts. This conflict will challenge the future of breweries all over the globe as smaller breweries and craft beers continue to increase in demand.

Looking at all some of the most popular selling options, beer that is brewed on site has been shown to have a significantly lower carbon and material footprint. Taking out the environmental cost of transportation and materials will lower brewery's overall environmental impact. The next best practice is local draught beer due to the fact it is transported in reusable kegs. Kegs could also sometimes be the best option to minimize environmental impacts if all other aspects in the

brewery also follow high quality environmental practices. After beers brewed on site and the use of kegs for storage, the next best option is local beer sold in either cans or bottles. Finally, the least optimal options are canned or bottled beers from further away locations.

Social Implications

Beer is highly connected to social environments. The idea of drinking beer is inherently involved in a number of activities such as watching sporting events, going to concerts or festivals, or just hanging out with a group of friends. The social impacts of breweries have changed over time. Today, people underage could be allowed inside to go on tours of breweries and their establishments. This creates a new, more welcoming environment not only for millennials to hang out in, but for families to take trips to.

Beer has an undeniable ability to bring people together. One example is that most restaurants, pubs, or bars offer a happy hour to specifically cater to working adults. This specific time functions as a gathering place for drinks after work. An interesting quote from All About Beer states "you're not just there for the beer, but you are there because of the beer". (Lyke, 2010) This quote sheds light on the fact that while beer may not be the driving force to go somewhere, it is an initial reason to go. Often when people are considered to be drinking beers, it is usually for some sort of gathering or event. When people are found to be drinking alone, it is commonly connected as a social queue that this person could be depressed, sad, lonely, or be suffering from alcoholism. Breweries are able to help people and communities by also giving back to the community. Some craft breweries have donated money back to many different community functions like the arts, education, environment, or health.

Social drinking and the craft beer market has been on the rise for a few years and it has been viewed as "unique and appealing". (Terpstra, 2014) The millennial generation find these new craft beers as something new to try. The vast majority of the craft beer drinkers fall between the age ranges of 25 to 34. Craft beers at local breweries offer more than just what you get from purchasing regular domestic beers. Craft beers are providing drinkers with a whole new experience. This experience they provide involves going to the breweries themselves, tasting new flavors, and finding new favorite kinds of beer. Now more than ever, going to local craft

breweries to get flights of beers with some friends has been seen as a fun activity to do on a weekend or free afternoon. This sense of adventure feeds millennials drive to try something new.

Even larger breweries can draw crowds to go see them as popular tourist sites in some areas. For example, if someone mentioned they were traveling to Amsterdam, Netherlands, a common recommendation is to go on the Heineken tour. The same goes for Dublin, Ireland where if someone was to travel there, the first recommendation is to go tour the Guinness Factory. These two places are top tourist attractions in this area which brings in thousands of people every year. While America's breweries may not be some of the top tourist attractions in the nation, they still offer exciting tours and hold events. One of the most highly recommended events around the Boston area is Harpoonfest which is sponsored by the Harpoon Brewery. This is a two-day event that offers music from live music from bands, food from food trucks, and local beers on tap all held right at the breweries site.

Breweries have begun incorporating more family friendly aspects to accommodate people with kids. Alcohol establishments were previously only reserved for adults. Now, most breweries offer tours and have other activities that kids or adults could take part in. Some of these other activities include having some sort of food or snack, a gift shop, or games like corn hole. These games continue to connect the idea of craft breweries being neighborhood sites to go visit and bring together the community.

Economic Implications

The economic implications of breweries surround the expansion of the craft beer industry, the price of the necessary materials for production, and the cost of production. While monopolies are becoming more prominent in every economic sector such as books, television, and groceries, there has also been a lot of motivation and incentives to shop locally and to support local businesses. (Thompson, 2018) Some of the economic driving factors as noted by Bart Watson, the chief economist at the Brewers Association, are the fuller flavor, greater variety, and more intense support for local businesses. (Thompson, 2018) The main economic implications revolve around the employment rates for craft breweries, the cost of materials and process, and finally the possible profits.

The total employment at breweries between the years of 2002 and 2007 declined even though the US was in a state of economic expansion. However; within the last decade between 2008 and 2016, the number of brewery establishments increased by a factor of six, while the number of brewery workers grew by 120%. (Thompson, 2018) This was found to be very shocking due to conflicting information that showed U.S. beer consumption was declining at the same time. The reasoning behind the increase of breweries as well as workers was due solely to the expansion of the craft beer industry. People wanted the higher quality beer and experience that these craft breweries provided, even if the beers came at a higher price. This development and economic expansion for craft breweries was seen across the nation. The most prominent region was the West, in cities like Portland, Denver, San Diego, Seattle, and Los Angeles. Illinois and Idaho in particular have seen an increased spike in their brewing jobs by a factor of 10 between 2006 and 2016 according to the Bureau of Labor Statistics. (Thompson, 2018)

The availability of materials, cost of materials, and cost of process are very important factors on the craft breweries economic impacts. Brooklyn Brewery's General Manager, Eric Ottaway stated "The availability and cost of raw materials are our biggest concerns going forward. Ten years ago, we [Brooklyn Brewery] never thought about ingredients- we just came up with a beer recipe and called the supplier for the required malt and hops. Those days are long gone. If you don't have contracts for your malts and hops, chances are you won't be able to get them. That makes new beer development pretty tricky- you can't assume that you will be able to get the ingredients you need. Often you can't." (Godard, 2018) He continued by saying "If the corn crop gets wiped out by drought in the US (like last year), the price of barley goes up. If Russia has a heat wave that kills their wheat crop, the price of barley goes up. If the US government mandates more ethanol in our gas supply, the price of barley goes up." (Godard, 2018) The price of materials are going to impact how breweries are created and are able to sustain themselves. Higher priced goods will make it extremely difficult for smaller breweries to start-up and remain in business. If breweries also have inefficient equipment, the brewery will have to pay more for the cost of energy and repairs on machines. All of these costs can have major implications on a craft breweries success.

Along with the costs that are associated with the brewing process, there are the current and predicted sales values of craft beers that impact economic sustainability. Figure 1 which shows data from California in 2013. The information shows the amount of craft breweries they had, the economic impact of their craft brewery industry, their total production, and the number of breweries they had between 2011 to 2013. All of their data was showing that their craft brewery industry was increasing and growing larger. Figure 2 shows more recent data from 2017, which shows that the craft beer industry was nationally continuing the trend that was seen in the data from California in 2013. This is promising information towards the future of the craft beer industry, and the success of local brewery businesses. (Brewers Association, n.d.)
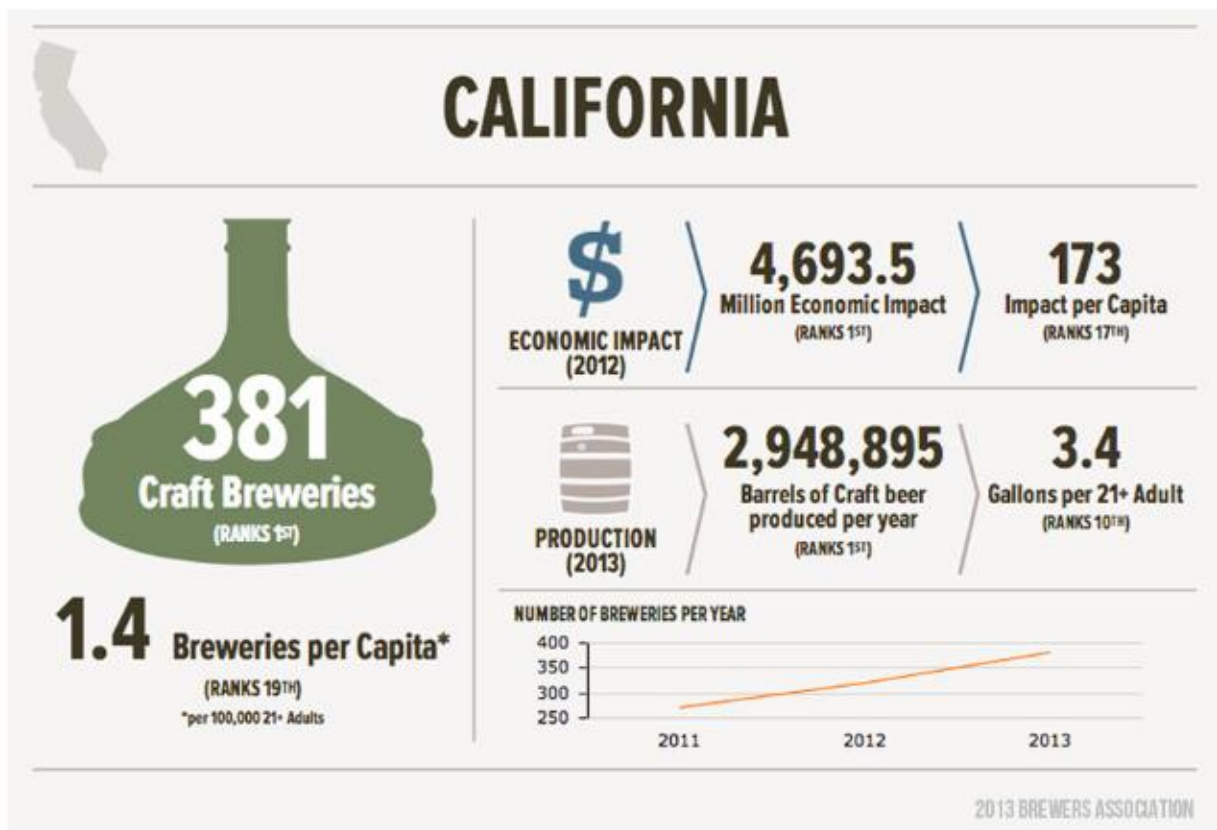

Figure 1: California Craft Brewery Data (Brewers Association)

Figure 2: U.S. Beer Sales Data (Brewers Association)

The prices that are associated with the cost of craft brews have not appeared to have made an impact on craft sales in general. The current sale price of craft beer six pack can range between $10 to $15. This is about the same price as a twelve pack of nationally produced beers. (Satran, 2017) The difference between the sale price of these beers can be explained through how much more materials and work goes into producing craft beers. Figure 3 shows the summary of how much work and materials goes into a craft beer. People who purchase craft beers might not necessarily consider all of the work and materials that go into creating craft beers. However, craft beers already have developed the notion that they are pricier than normal beers. The experience that comes from craft breweries drives the cost of these beers higher, but also attracts people who are willing to pay this price for a more luxury beer. (Satran, 2017)

Why Craft Beer Costs So Much

Good craft beer regularly costs as much as $12 a six-pack -- twice as much as beers from brands like Bud or Coors. But a HuffPost Taste investigation of the economics of craft beer revealed that a lot of work and materials go into each bottle. On the chart below, you can see just how much of the final cost of a six-pack goes to each stage of the process.

Malt: 5%
Hops: 4%
Yeast: 1%
Packaging: 13%
Labor: 1%
Brewer's Margin: 8%
Shipping: 6%
Federal Tax: 1%
State Tax: 1%
Loss: 2%
Distributor's Margin: 21%
Retailer's Margin: 31%
Sales Tax: 7%
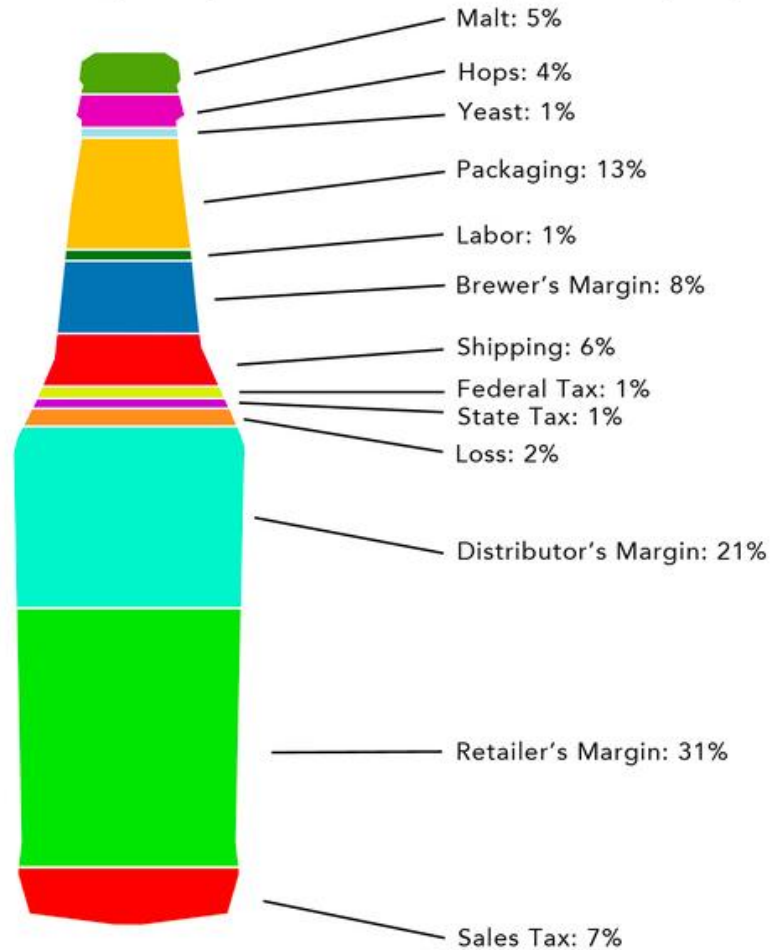
Figure 3: Why Craft Beer Costs So Much Breakdown (HuffPost)

The History of ISO 26000

ISO has developed multiple standards for topics such as medical devices, language codes, currency codes, risk management, social responsibility, and many more. A number of previously defined standards helped influence the development of ISO 26000. These are ISO 7000, and ISO 14001. ISO 7000 is the Graphical symbols for use on equipment. It is reviewed every five years with additional updates on each new edition. ISO 14001 is Environmental management and it

provides companies and organizations of all kinds a framework to "protect the environment and respond to changing environmental conditions in balance with socio-economic needs." (International Organization for Standardization, 2015) This standard, like ISO 7000, has had revisions and is constantly being updated over the years. These standards along with many of the other ISO standards have led to the development of ISO 26000 for businesses and organizations. This framework is being used as a guide to help businesses and organizations towards sustainability.

The Future of Craft Beers

The craft beer industry has a promising future. However, as the popularity of these breweries increase, there is a tough question many of these breweries are facing; how are these breweries supposed to increase in size and grow without going bankrupt? Smaller breweries are still confined to particular markets. Most of these markets only have limited and local distributions usually contained to the state or metro area that the brewery is located in. Figures 4 and 5 organize the number of breweries per state in order to show where breweries have a strong popularity. (Priceonomics Data Studio, 2017)

Top States for Breweries

Number of Breweries by Each State

Rank	State	Breweries	Rank	State	Breweries
1	California	687	27	New Mexico	57
2	Colorado	348	28	New Hampshire	56
3	Washington	337	29	Connecticut	54
4	New York	303	30	South Carolina	54
5	Oregon	244	31	Idaho	54
6	Michigan	229	32	Vermont	50
7	Pennsylvania	221	33	Nebraska	42
8	Texas	217	34	Nevada	41
9	Florida	212	35	Kentucky	38
10	North Carolina	205	36	Alaska	33
11	Illinois	196	37	Kansas	32
12	Ohio	190	38	Utah	31
13	Virginia	171	39	Alabama	30
14	Wisconsin	161	40	Arkansas	29
15	Indiana	128	41	Louisiana	28
16	Minnesota	126	42	Oklahoma	25
17	Massachusetts	125	43	West Virginia	23
18	Arizona	91	44	Wyoming	23
19	New Jersey	86	45	Delaware	20
20	Missouri	84	46	Rhode Island	17
21	Maine	81	47	South Dakota	15
22	Maryland	73	48	Hawaii	15
23	Iowa	72	49	Washington D.C.	14
24	Montana	69	50	Mississippi	11
25	Tennessee	69	51	North Dakota	10
26	Georgia	64			

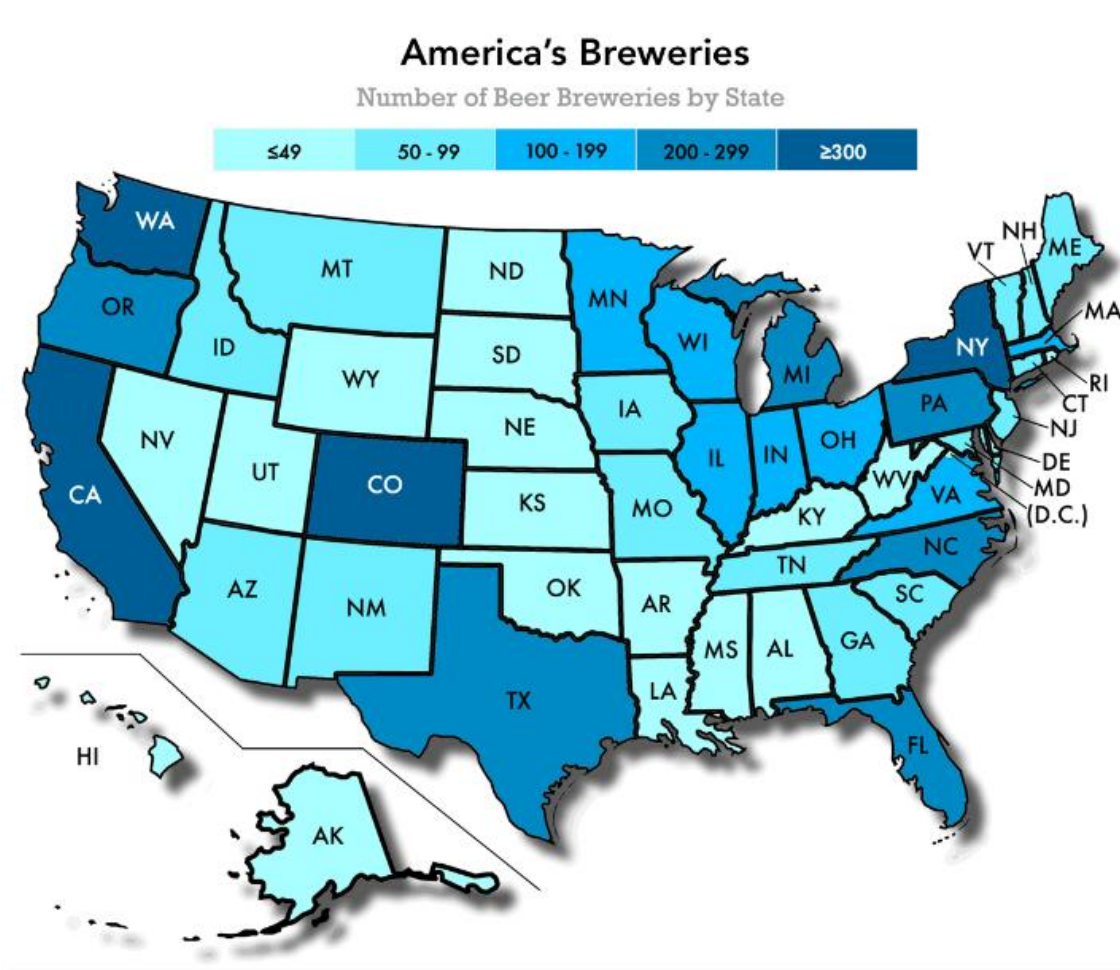*Figure 4: Top States for Breweries (Priceonomics)*

Figure 5: Number of Beer Breweries by State (Priceonomics)

The craft beer industry is expected to continue to grow against three main obstacles: craft retail value, consumers age, and the legalization of cannabis. Craft beers are still a billion dollar industry, bringing in sales of $2.55 billion within the first 40 weeks of 2018 according to IIRI Group scan data. (Brewers Association, 2018) This is a decent increase from a similar set of craft brands that had sales of $1.99 billion during another 40 week period in 2015. This shows that there has been a sales increase of $450 million within the past three years. Though there has been an increase in sales, the growth rates of this industry have begun to slow down. Even with this slowing growth rate, this independent industry still accounted for 20% of the total beer dollar sales growth YTD. (Brewers Association, 2018)

The younger generation of millennials have sparked some fear in the beer industry due to internet fads such as "Sober September" or other months where people have advertised going sober on social media for a month to benefit their health and wellness. However, most craft breweries are also becoming the hip, new hang out spot for a lot of these of-age millennials. Figure 6 shows that there has been an increase in the amount of people who are over 21 years of age, drinking craft beers. Researchers do not think this trend will shift due to the face there has been no evidence to prove that as people age, they will consume less craft beverages. (Watson, 2018)

Percentage of Craft Beer Drinkers (Several Times A Year Or More Often) Among 21+ Pop

2015	2016	2017	2018
35%	37%	38%	40%

Source: Percentages are based on several waves of data from surveys fielded online by The Harris Poll between 2015 and 2018

Figure 6: Percentage of Craft Beer Drinkers (Several Times A Year or More Often) Among 21+ Population (Brewers Association)

The legalization of cannabis could have an impact in the states where it has been legalized compared to the states where it is still illegal. Figure 7 shows the data that compares state beer trends where cannabis is illegal, medical, or recreational, taking into consideration the control factor of the population change for people over 21. This data shows that there isn't a strong change or correlation between the legality of cannabis and the trends of beer sales. In theory, if the current trend were to continue then the addition of legalized cannabis would not have an effect on beer sales. (Brewers Association, 2018)

States	Beer Trends YTD	Control for 21+ Pop Changes
Illegal	-1.11%	-2.30%
Medical	-1.08%	-1.77%
Recreational	-0.32%	-1.52%

Figure 7: Beer Trends YTD in States where Cannabis is Illegal, Medical, or Recreational

(Brewers Association)

Sustainability Initiatives

Initiatives

The Brewers Association notes that "Environmental stewardship is a top priority for both craft brewers and craft beer enthusiasts." They also noted that "Maintaining a healthy balance between stewardship, social enrichment, and economic vitality is important to the future success of craft brewing." (Brewers Association, 2019) Noting the importance of the environment and the ability to measure, they continued to offer different benchmarking to measure the success of a craft breweries sustainability efforts. They have multiple sustainability manuals for: energy, solid waste, water & wastewater, wastewater management, and sustainable design and build strategies. Along with these benchmarking techniques, they have a sustainability mentor and a sustainability subcommittee.

The best ways for breweries to get involved in becoming more sustainable are to begin by communicating with other breweries. Reaching out to other breweries about their sustainability programs motivates breweries to continue to try to improve and bonds the breweries together in a closer community. Two of the larger US breweries that dominate the sustainability conversation are Sierra Nevada and New Belgium. These larger breweries have helped others. They have been very open about their practices and how they have impacted them from a financial perspective. Their recommendations include renewable energy sources like solar and wind power, and sustainable production technologies like advanced waste-water treatment protocols, and energy

efficient brew-house systems. (Crouch, 2018) Collaborations with these larger breweries can be beneficial for all breweries as well as the farmers working on the agricultural side.

Global warming and human influenced climate change affects temperatures and shifts in climates. The atmosphere also impacts the production of the agricultural materials necessary for the beer brewing process. As the rage over the environment grew, a divide formed separating the pro-environmental radical people and the anti-environmental business people. Chari Chastain, the sustainability manager of the Sierra Nevada Brewing Co, agrees that sustainability was synonymous with "tree hugging hippies" (Crouch, 2018) and that there was a kind of stigma attached to this term. John Stier who was formerly the director of corporate environmental affairs for Anheuser-Bush agreed and stated that "Many in the Brewing Industry have been slow to embrace sustainability practices" due to the fact " there are a lot of people out there that didn't understand it and didn't see the opportunity."(Crouch, 2018) People who are skeptical about sustainability initiatives suggest that sustainability business efforts are just a part of a public relation and marketing ploy called "greenwashing". One argument from Chris Lohring, founder of Notch Brewing Co. in Massachusetts, states that a lot of sustainability efforts are not only good for the environment, but also for the business's profits. He says "Much of the public relations surrounding environmental and sustainable practices are simply good business practices from a cost perspective and sometimes a quality perspective. We don't give spent grain to farmers because we feel good about it, but because we don't want to pay for its removal. We don't reuse water because we want to be 'green,' but because we save money. There are dozens of these types of examples in every brewery. Wrapping these stories in a feel-good PR message is fine, as it is good practice, but it's not the primary motivator for doing so." (Crouch, 2018) This message is extremely important to note in the current climate-shifting state. These companies are realizing that they need to put forth their best efforts in order to make sure the environment is healthy and so that they are able to continue to get all the agricultural products they need to brew. Connecting businesses future profits and economic stability to their environmental impacts have shown brewers the importance of implementing initiatives to support not only their company in the long run, but also the environment.

The first steps craft breweries have started taking are to try to minimize their impact on the environment. The brewing process takes a lot of energy, water, as well as other resources. Smaller craft breweries face the struggle of trying to implement the sustainability measures that larger companies have started to use, without having the purchasing power of these large scaled breweries. Larger breweries have been able to perform such sustainability measures like water footprinting, which is where they test and determine whether some of their sites are in regions that are water-scarce or stressed. This allows them to determine the quality and stability of the water sources they would be using. Smaller breweries on the other hand do not have the ability to perform these types of practices as easily due to funding. Smaller breweries could follow in the footsteps of larger companies by continuing to update their resources and machinery as new, efficient models are created to minimize their energy usage and decrease their overall energy cost. Some examples of these agricultural updates include: retrofitting inefficient nozzles on farm water guns, lowering water guns to avoid as much evaporation as possible, using solar panels to generate electricity for the agricultural resources as well as other parts of the brewing process.

Beyond the agricultural environmental initiatives, there have been initiatives that have taken place within the brewery itself. Some of these initiatives include becoming "zero-waste". These zero-waste sites are dedicated to reducing, reusing, and recycling waste. This often includes the packaging materials that are used. One such example would be eliminating the cardboard that is used in packaging as dividers. (Sprengeler, 2016)

While the environmental impacts are the most prominent, breweries are still adding social and economic sustainability practices. Some of these include the additions of charging stations at brewery locations. SweetWater Brewing Co. in Atlanta, Georgia created a community fundraiser to support waterkeeper communities in cities where SweetWater beer is distributed to give back to the community. (Sprengeler, 2016) There have also been programs called Sustainable Brewing Program which is the nation's first higher education program in sustainable brewing.

Sustainable Manufacturing Initiatives

There is an increasing number of companies that are using the term "sustainability" in their company core values. Ideally, the addition of this term has led to increased growth and competition. Companies of all sizes are following this trend to implement sustainable practices. Some of the top reasons that companies are pursuing sustainability according to the EPA are to: increase operational efficiency by reducing costs and waste; respond to or reach new customers and increase competitive advantage; protect and strengthen brand and reputation and build public trust; build long-term business viability and success; and to respond to regulatory constraints and opportunities. Some of the specific ways that are stated to continue to progress towards sustainability according to the EPA are: Address sustainability in a coordinated, integrated and formal manner, rather than in an ad hoc, unconnected and informal manner; focus on increased competitiveness and revenues rather than primarily focusing on cost-cutting, risk reduction and improved efficiency; use innovation, scenario planning and strategic analysis to go beyond compliance; integrate sustainability across business functions; focus more on the long term; work collaboratively with external stakeholders. (Environmental Protection Agency, 2017)

ISO 26000 Framework Metrics Analysis

Appendix 1 consists of the metrics that the ISO 26000 framework follows. There are seven core subjects which include: organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development. Organizational governance does not include any specific issues that need to be addressed unlike the other core subjects. Each of the core subjects includes anywhere between four to eight issues that could be faced. To analyze craft breweries, the craft brewery industry is compared against the ISO 26000 metrics.

As shown in the image in Appendix 3, there is an additional column to examine if craft breweries are making an effort towards addressing the issues involved in each core subject. The first core subject is Human Rights which includes eight issues. The craft brewery industry follows rules and regulations the United States has put in place to protect human rights. This is the reason why

the issues that are addressed within the human rights section is accompanied by multiple 'yes' markers as a symbol to note that the craft industry is combating these issues.

Core subject: Human rights	
Issue 1: Due diligence	Yes
Issue 2: Human rights risk situations	Yes
Issue 3: Avoidance of complicity	Yes
Issue 4: Resolving grievances	Yes
Issue 5: Discrimination and vulnerable groups	Yes
Issue 6: Civil and political rights	Yes
Issue 7: Economic, social and cultural rights	Yes
Issue 8: Fundamental principles and rights at work	Yes

Figure 8: ISO 26000 Human Rights Issues Analysis

Craft brewery labor practices are also obligated to follow federal and state regulations that help benefit not only the employees, but also the employers. Most craft brewery businesses are working to make their work environment very welcoming as most of the time the workers are also very involved with customers. The conditions they set in place to assist employees and make sure working conditions are good are the reason why those sections also earned all 'yes' markers. Most people also do not come from a background in creating beers or working in craft breweries, which means that most breweries have to train and teach others how to work in that type of environment. The practices are usually taught by the more experienced employees who have been working in the company for longer than the newer hires. This method of onboarding new employees explains the 'yes' marker it was given.

Core subject: Labour practices	
Issue 1: Employment and employment relationships	Yes
Issue 2: Conditions of work and social protection	Yes
Issue 3: Social dialogue	Yes
Issue 4: Health and safety at work	Yes
Issue 5: Human development and training in the workplace	Yes

Environmental issues are the most difficult to truly determine if the craft brewery industry is actively making strides to reduce some of the issues that they could be facing. Each brewery has their own financial budget which impacts their ability to reduce their amount of pollution. There are some craft breweries that are doing all they can to reduce the pollution they emit by using more sustainable manufacturing methods as well as resources. Each brewery is also using different resources depending on their budgets as well as the resources' accessibility and availability. Some craft breweries may be able to combat issue number one and two; however, there may be craft breweries who are unable to really combat these issues at this time. This is the reason why these categories received 'some' markers. Climate change mitigation and adoption are not seen as much in the craft brewery industry due to the sheer scale of craft breweries. The budget required to invest in resources to mitigate climate change are usually only found in large, national breweries rather than in craft breweries. Finally, some craft breweries spend more time considering their environmental impact compared to others. This section completely depends on each breweries motivations and goals. This category earned 'some' rather than a 'yes' or 'no', because it is impossible to universally state that all craft breweries are dedicated to the protection of the environment, biodiversity, and restoration of natural habitats at this time.

Core subject: The environment	
Issue 1: Prevention of pollution	Some
Issue 2: Sustainable resource use	Some
Issue 3: Climate change mitigation and adaptation	No
Issue 4: Protection of the environment, biodiversity and restoration of natural habitats	Some

Figure 10: ISO 26000 The Environment Issues Analysis

Like the core subjects of human rights and labor practices, the issues stated in the fair operating practices core subjects are mostly now regulated federally across the United States. As craft breweries usually follow and comply with these regulations, each issue is marked with a 'yes'.

Core subject: Fair operating practices	
Issue 1: Anti-corruption	Yes
Issue 2: Responsible political involvement	Yes
Issue 3: Fair competition	Yes
Issue 4: Promoting social responsibility in the value chain	Yes
Issue 5: Respect for property rights	Yes

Figure 11: ISO 26000 Fair Operating Practices Issues Analysis

Consumer issues are not all regulated by the government and could vary brewery to brewery. Issues one, two, and five are mostly regulated by outside forces which results in 'yes' markers. Other issues such "sustainable consumption" and "consumer service, support, and complaint and dispute resolution" are entirely based on each brewery and their business practices. These issues still earned 'yes' marks due to the fact craft breweries have to find their own resources and therefore know what is available which allows them to make sure that they are sustainably using the available materials. Craft breweries are also very consumer centered which allows for a lot of human interaction. This enables craft breweries to be able to actively make strides towards eliminating that issue. Consumer data protection and privacy and access to essential services are both not applicable to craft breweries as they do not take in any consumer data or have a need to access essential services. Finally, craft breweries are also working towards education and awareness.

Core subject: Consumer issues	
Issue 1: Fair marketing, factual and unbiased information and fair contractual practices	Yes
Issue 2: Protecting consumers' health and safety	Yes
Issue 3: Sustainable consumption	Yes
Issue 4: Consumer service, support, and complaint and dispute resolution	Yes
Issue 5: Consumer data protection and privacy	N/A
Issue 6: Access to essential services	N/A

Issue 7: Education and awareness	Yes

Figure 12: ISO 26000 Consumer Issues Analysis

Community involvement and development core subject also varies between craft breweries. Craft breweries always have a "local" feel to them and are constantly integrated and involved in the community around them. Some craft breweries provide education such as brewery tours or have a common area where people could socialize. However, there are some craft breweries that do not offer these amenities. Employment creation and skills development, along with wealth and income creation are all being addressed by the fact craft breweries hire, train, and pay their employees. Craft breweries may use updated technologies, but they are not developing or providing any new technologies to the community. They also do not add any additional benefits to the physical health to the community through the creation of alcoholic beverages. Finally, some craft breweries give back to the community through donations or by other methods which results in a 'some' mark for combatting the social investment issue.

Core subject: Community involvement and development	
Issue 1: Community involvement	Yes
Issue 2: Education and culture	Some
Issue 3: Employment creation and skills development	Yes
Issue 4: Technology development and access	No
Issue 5: Wealth and income creation	Yes
Issue 6: Health	No
Issue 7: Social investment	Some

Figure 13: ISO 26000 Community Involvement and Development Analysis

Results

After taking into consideration the current implicating factors along with future sustainability initiatives, it is possible to determine whether or not craft breweries are sustainable. Each pillar of sustainability that is affected is weighed against one another, along with any initiatives and

plans for the future. Finally, craft breweries are compared against the sustainable manufacturing initiatives.

Pillars of Sustainability

The current environment impacts that craft breweries have on the planet are extremely high. Figures 14 and 15 highlight the impact of the implications that the brewing process has on the environment. (Olajire, 2012)
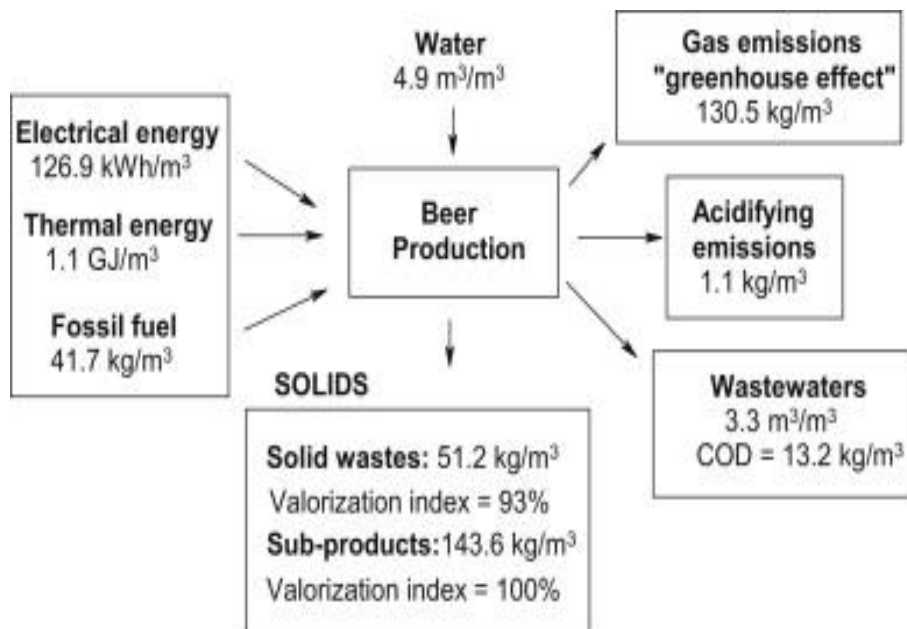

Figure 14: Materials and Resources Required and Produced by Beer Production (ScienceDirect)
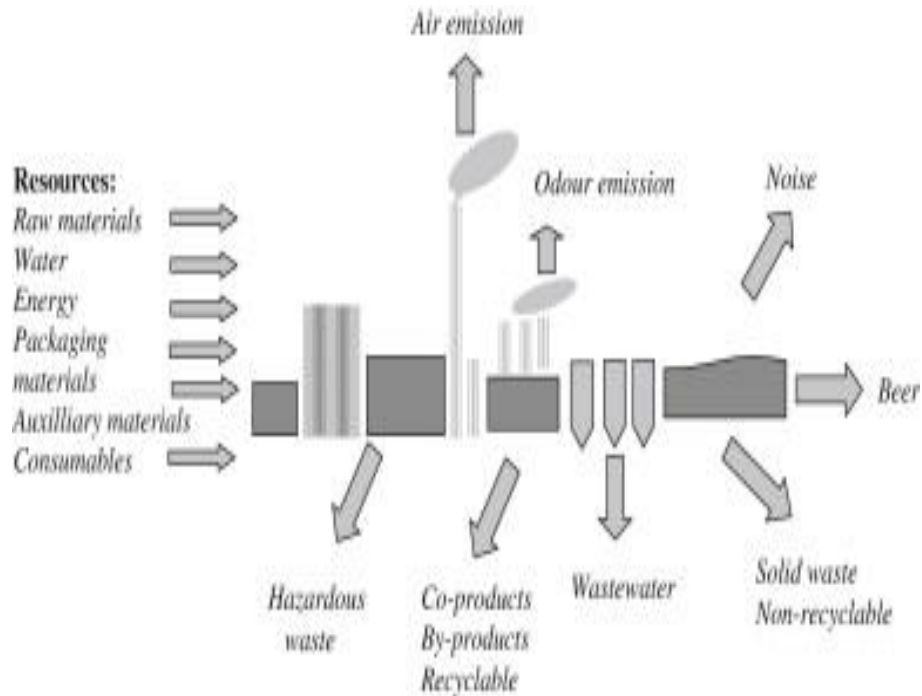
Figure 15: Resources Inputs and Resulting Outputs of Beer Production Process (ScienceDirect)

The environmental effects from craft breweries definitely have the largest negative impact towards sustainability. However; this is also where most of their sustainability initiatives lie. The majority of craft breweries initiatives and sustainability plans are composed of updates to improve the efficiency and decrease the energy usage of the machinery. Between the agricultural process and manufacturing process, any reduction in the energy usage and waste would be able to make the brewing process as a whole more sustainable. Even though they lack initiatives towards the transportation of their materials, a lot of craft breweries are also known to only distribute to a few local locations, if any other locations at all. This reduces the need for initiatives towards the transportation of their beers. If they do distribute to locations that are further away, then the more sustainable materials that craft breweries use will also have a resulting effect on the environmental costs of transportation.

Social factor implications drift more towards the promising side of sustainability. Craft breweries are usually designed for local use. The recent boom of social media has also continued to drive people to these locations to gather and promote their space for a community hang-out spot. Additionally, marketing through social media provides a marketing platform for millennials to

discover new craft breweries to go visit. As this marketing trend continues to rise, so will the increased popularity of these sites for the communities. As these breweries begin to then gain popularity and a community forms, it also motivates breweries to give back to the local people. The initiatives breweries take to help the community around them improve promotes the success and social pillar of sustainability.

The economic pillar of sustainability for craft breweries is also as promising as the social pillar. The current economic growth of the craft beer industry, along with new marketing social media strategies to target millennials, and the current sale price of these beers allow the craft beer market to continue to flourish. The major conflicts that this industry could face economically are an increase cost in materials, lack of available materials, and a sudden decrease in the demand or sales of craft beer. The increased cost of materials and availability of materials can change depending on the environment as well as the number of competitors in the industry. When these factors change, it will impact the economic sustainability. Even though the current trends do not predict the craft beer market growth to crash or decrease, this information is also a prediction based on previous data that assumes people will continue in the same, current trend.

Sustainable Manufacturing

The specific measures that were provided above that promote sustainable manufacturing in companies according to EPA included: Address sustainability in a coordinated, integrated and formal manner, rather than in an ad hoc, unconnected and informal manner; focus on increased competitiveness and revenues rather than primarily focusing on cost-cutting, risk reduction and improved efficiency; use innovation, scenario planning and strategic analysis to go beyond compliance; integrate sustainability across business functions; focus more on the long term; work collaboratively with external stakeholders. (Environmental Protection Agency, 2017)

Craft breweries vary on the amount of these measures that they have implemented. The first measure on how to address sustainability with the company is the first step to show that they are taking sustainability seriously. This information is usually only found on company websites and is one of the simplest measures to take. A lot of larger companies have this information on their

websites; however, it is also lacking from a majority of craft breweries which shows that they might not be actively promoting any sustainability practices they are following, if they are following any at all.

It is hard to know whether or not a company is focused more towards competitiveness and revenues rather than cost-cutting, risk reduction, and improved efficiency it hard due to the fact that most company's mentalities are equally spread across all of these aspects. It is almost impossible to find any type of company that is not focused on improving efficiency as equally as their competitiveness due to the fact the two appear to go hand-in-hand with each other. Every type of company is always looking to improve all of these aspects depending on how each is effecting the company. Craft breweries are no different, and they will be more focused on reducing and improving what is costing them the most.

A lot of smaller craft breweries do not have the ability to use new innovative measures to go beyond compliance measures due to the amount of money and resources they have. Larger breweries are able to do this a lot easier because they generate larger amounts of revenue that allows them to experiment and research to develop innovative practices. This is why a lot of these practices are not seen as often within craft breweries.

As craft breweries are usually always small with minimal employees, it is usually very easy to integrate sustainability practices across all business functions. Most craft breweries are able to integrate their plans across their whole business operation due to the sheer size of these types of businesses.

Craft breweries are focused on the long term. Their industry is continuing to grow even though there is research showing that nationally sold beer sales are decreasing. This shows that craft breweries need to be constantly considering their future as their demand could change at any moment. However, while they are still on the rise, their success is usually based on their ability to become a common fixture in their community. This can take some time to accomplish.

This connection to the community emphasizes the last way that craft breweries continue to move towards sustainability. Craft Breweries come with a connection to the local area they live in. A lot of breweries give back to their communities, hold events, and even sponsor events.

Rapscallion Brewery in Sturbridge, MA is an example of a craft brewery that gives back to the community. (Rapscallion, n.d.) This business has a strong connection to the local region and provides a lengthy list on their website for all the places they have given back to.

ISO 26000

Results from the analysis section above and the table found in Appendix 3 conclude that craft breweries are actively combating issues involving human rights, labor practices, fair operating practices, and consumer issues. Core subjects that craft breweries still need to address and actively work towards combating are the environment and community involvement and development. Both of the issues within these categories can be addressed by craft breweries with additions and updates to business plans and practices.

Conclusion

While there is conflicting information to prove whether or not craft breweries are sustainable, through weighing all of the implications on each pillar and reviewing the initiatives to try to combat the impacts, it shows that craft breweries can be sustainable. The environmental impacts are the most prominent issues, but it also has the most initiatives towards improving this pillar of sustainability to make craft breweries more sustainable. The social implications of craft breweries are not as negative as the environmental impacts. There are still social initiatives for craft breweries to give back to their communities that have helped each brewery succeed and grow. Finally, the economic impact of breweries show that if the cost of materials increases or the availability decreases, it may be hard for smaller craft breweries to grow or even stay in business. However, with the current increasing trend of craft beer popularity, there is still a demand for craft breweries which allows them to continue to start up across the nation. The initiatives noted outweigh the current problems and implications in their current state. The ultimate sustainability of craft breweries will be impacted by changes in each of the three pillars. An impactful change in any of them could have either a beneficial or negative impact to the sustainability of the craft brewery industry.

Recommendations

There are a few ways that craft breweries can move forwards towards sustainability. Based on the small scaled size of most craft breweries and the resources that they have available, I recommend that craft breweries should initially implement the following three methods to achieve sustainability:

- o Make sustainability a core value of the company.
- o Make sure that equipment is updated and as energy efficient as possible.
- o Spend time considering the longevity of policies and initiatives.

The first recommendation is to make sure all sustainability measures in a company are known and taken seriously in order for them to have any true impact. Some companies either do not advertise, or do not have any policies and practices set in place. This essentially proves that the company is not taking sustainability seriously and would not be able to take any further steps. By making sure it is a core value of the company, it allows for any steps that have been taken, or steps that will be taken to improve sustainability known to the employees or the local community. These steps could include any goals or initiatives or green operating practices. The image below is a very simple example that any company could implement into their business plan.

Figure 16: Sustainability Framework Structure Example

It essentially shows one goal the company is trying to reach, two objectives that the company could have in order to achieve the goal, tasks that are needed in order to accomplish their objective, and finally the status to express if they have completed or not completed their tasks. This is one of many examples of a system that could be used in order to set out creating a sustainability plan for a company. This will make the companies sustainability values easily understandable and accessible for everyone in the company.

The second recommendation is to make sure that all equipment is updated, energy efficient, and as sustainable as possible. Over time, this will help minimize costs and help the environment. Updated technologies will also help the business operate more efficiently and remain competitive which is beneficial for the company's overall success. These fixes could be reducing the use of plastic, using recycled materials, energy star certified products, or use of solar electricity depending on funds.

Finally, the third recommendation is making sure that all implemented measures and practices focus on the long term rather than the short term. Sustainability practices should be long term steps and processes that will need to be updated to continue to improve the business over time. These measures shouldn't be short term ideas that would become irrelevant to the company within a year. Implemented practices are steps that continue to move a business forward and towards sustainability for future generations. Breweries should consider giving back to help the local community, to ensure that the people continue to support the brewery as well.

Appendix

Appendix 1

Core subjects and issues of social responsibility
Core subjects and issues
Core subject: Organizational governance
Core subject: Human rights
Issue 1: Due diligence
Issue 2: Human rights risk situations
Issue 3: Avoidance of complicity
Issue 4: Resolving grievances
Issue 5: Discrimination and vulnerable groups
Issue 6: Civil and political rights
Issue 7: Economic, social and cultural rights
Issue 8: Fundamental principles and rights at work
Core subject: Labour practices
Issue 1: Employment and employment relationships
Issue 2: Conditions of work and social protection
Issue 3: Social dialogue
Issue 4: Health and safety at work
Issue 5: Human development and training in the workplace
Core subject: The environment
Issue 1: Prevention of pollution
Issue 2: Sustainable resource use
Issue 3: Climate change mitigation and adaptation
Issue 4: Protection of the environment, biodiversity and restoration of natural habitats
Core subject: Fair operating practices
Issue 1: Anti-corruption
Issue 2: Responsible political involvement
Issue 3: Fair competition
Issue 4: Promoting social responsibility in the value chain
Issue 5: Respect for property rights
Core subject: Consumer issues
Issue 1: Fair marketing, factual and unbiased information and fair contractual practices
Issue 2: Protecting consumers' health and safety
Issue 3: Sustainable consumption
Issue 4: Consumer service, support, and complaint and dispute resolution
Issue 5: Consumer data protection and privacy
Issue 6: Access to essential services

Issue 7: Education and awareness
Core subject: Community involvement and development
Issue 1: Community involvement
Issue 2: Education and culture
Issue 3: Employment creation and skills development
Issue 4: Technology development and access
Issue 5: Wealth and income creation
Issue 6: Health
Issue 7: Social investment

Table of ISO 26000 Framework Metrics including Core Subjects and Issues of Social Responsibility.
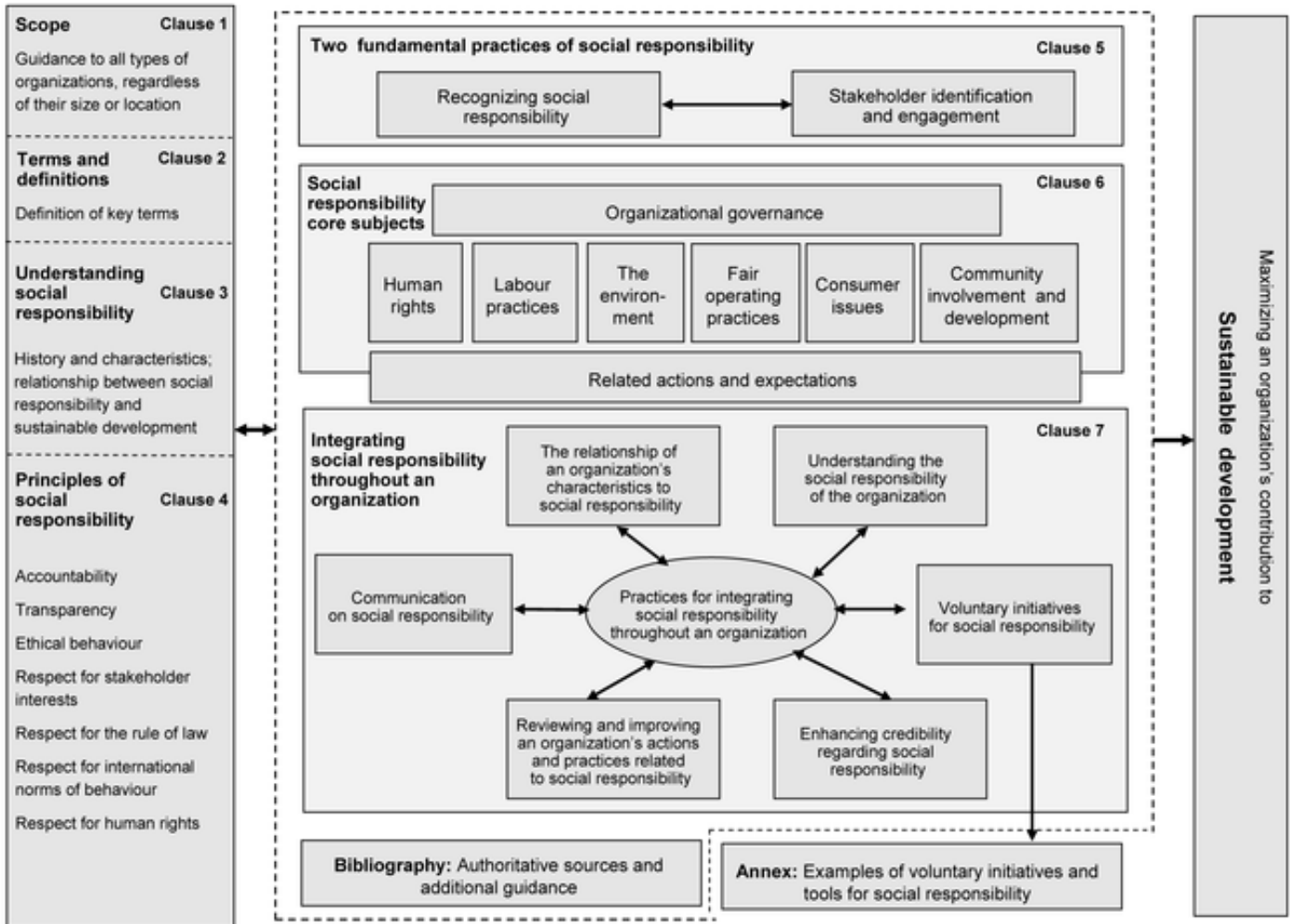
Appendix 2

Figure of Schematic Overview of ISO 26000.

Appendix 3

Core subjects and issues of social responsibility	Are Craft Breweries Making an Effort Towards Addressing Issue
Core subjects and issues	
Core subject: Organizational governance	
Core subject: Human rights	
Issue 1: Due diligence	Yes
Issue 2: Human rights risk situations	Yes
Issue 3: Avoidance of complicity	Yes
Issue 4: Resolving grievances	Yes
Issue 5: Discrimination and vulnerable groups	Yes
Issue 6: Civil and political rights	Yes
Issue 7: Economic, social and cultural rights	Yes
Issue 8: Fundamental principles and rights at work	Yes
Core subject: Labour practices	
Issue 1: Employment and employment relationships	Yes
Issue 2: Conditions of work and social protection	Yes
Issue 3: Social dialogue	Yes
Issue 4: Health and safety at work	Yes
Issue 5: Human development and training in the workplace	Yes
Core subject: The environment	
Issue 1: Prevention of pollution	Some
Issue 2: Sustainable resource use	Some
Issue 3: Climate change mitigation and adaptation	No
Issue 4: Protection of the environment, biodiversity and restoration of natural habitats	Some
Core subject: Fair operating practices	
Issue 1: Anti-corruption	Yes
Issue 2: Responsible political involvement	Yes
Issue 3: Fair competition	Yes
Issue 4: Promoting social responsibility in the value chain	Yes
Issue 5: Respect for property rights	Yes
Core subject: Consumer issues	
Issue 1: Fair marketing, factual and unbiased information and fair contractual practices	Yes
Issue 2: Protecting consumers' health and safety	Yes
Issue 3: Sustainable consumption	Yes
Issue 4: Consumer service, support, and complaint and dispute resolution	Yes
Issue 5: Consumer data protection and privacy	N/A
Issue 6: Access to essential services	N/A
Issue 7: Education and awareness	Yes
Core subject: Community involvement and development	
Issue 1: Community involvement	Yes
Issue 2: Education and culture	Some
Issue 3: Employment creation and skills development	Yes
Issue 4: Technology development and access	No
Issue 5: Wealth and income creation	Yes
Issue 6: Health	No
Issue 7: Social investment	Some

Table of ISO 26000 Core Subjects and Issues of Social Responsibility Compared with Craft Breweries.

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