

The Information Worlds of Craft Breweries in the United States: An Exploratory Study of the Social Norms and Information Behaviors of Craft Brewers*

미국 수제 양조장의 정보 세계: 수제 양조사의 사회규범과 정보행동에 관한 탐색적 연구

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ABSTRACT

Craft breweries around the world are striving to create a higher quality and diversity of beer in markets dominated by mass market or big beer. While the information needs and behaviors of craft brewers are understudied in library and information science, research in other disciplines has described the phenomenon of 'cooperation' in the craft brewing industry, in which craft brewers collaborate with competing craft brewers for their mutual benefit. This study employs the theory of information worlds to explore the social contexts of craft brewers' information behaviors using semi-structured interviews with a purposive sample of craft brewers in the United States, one of the most developed craft brewing markets. The findings of this study indicate that craft brewers promote and enforce social norms related to safety, professionalism and self-control, a 'rising tide raises all ships' philosophy, and kindness that motivate craft brewers to share information and resources with other craft brewers, even competitors, and foster 'a shared community identity' that further unifies against the shared enemy of mass market beer. However, collaboration is not guaranteed. Factors that impact potential collaborations, as well as emergent themes, such as quality, sustainability, innovation, accessibility, and inclusion, are identified and discussed. Theoretical implications for library and information science research, as well as practical applications for craft brewers and librarians, are discussed.

초 록

전 세계의 수제 양조장들은 대중 시장이나 대형 맥주가 지배하는 시장에서 더 높은 품질과 다양한 맥주를 만들기 위해 노력하고 있다. 문헌정보학에서는 수제 양조사들의 정보 요구와 정보 행동에 대한 연구가 부족한 반면, 경영학 등 다른 분야 연구에서는 수제 양조 산업에서 상호 이익을 위해 경쟁하는 수제 양조사들의 '협력적 경쟁 현상'을 설명하고 있다. 이 연구는 정보 세계 이론을 활용하여 가장 발달된 수제 양조 시장 중 하나인 미국의 수제 양조장을 대상으로 목적표집을 통해 추출된 수제 양조사들과의 반구조화된 인터뷰를 통해 수제 양조사들의 정보 행동과 그 사회적 맥락을 탐구한다. 이 연구의 결과는 수제 양조사들이 안전, 전문성 및 자기 통제와 관련된 양조사 세계의 사회적 규범과 "떠오르는 파도가 모든 선박을 끌어올린다"는 철학, 그리고 수제 양조사들이 다른 양조사들, 심지어 경쟁자들과도 정보와 자원을 공유하도록 동기를 부여하는 '친절함'을 장려하고 강화하며, 대중 시장 맥주의 공동 적에 맞서 더욱 통합되는 '공유된 공동체 정체성'을 조성한다는 것을 보여준다. 그러나 협력이 보장되는 것은 아니며 수제 양조사 간의 잠재적 협력에 영향을 미치는 요인들 뿐만 아니라 정보 세계 이론의 주요 개념 이외에 품질, 지속 가능성, 혁신, 접근성, 포용성 같은 새롭게 분석된 주제들에 대해 논의함으로써, 이 연구가 제시하는 분석 결과가 가지는 문헌정보학에 대한 이론적 함의와 수제 양조사와 사서들을 위한 실질적인 적용방안에 대해서도 논의한다.

Keywords: craft beer, brewers, theory of information worlds, social information behavior, interviews
수제 맥주, 양조사, 정보 세계 이론, 사회적 정보 행동, 인터뷰

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1. Introduction

To explore different flavors, new styles, and better quality, many consumers are turning to craft beer instead of mass-market beer. In the United States, the craft brewing industry added nearly \$72.5 million to the economy and supported over 440,000 jobs in 2024 (Brewers Association, 2025c). Craft breweries contribute to the community by revitalizing the region, promoting beer tourism, supporting a growing preference for locally produced products, and utilizing or respecting local or regional history (Reid, 2018; Reid & Gatrell, 2017; Slocum et al., 2018). In South Korea, craft beer is known as *sujae maekju* (수제 맥주, or handmade beer, literally translated, or sometimes stylized as *크래프트 맥주*, craft beer in Konglish Hangeul). Tudor's 2012 article in *The Economist* sparked national ire for perceived criticisms of South Korea's mass-market beer being bland and tasting worse than North Korea's Taedonggang Beer. Since then, breweries have sought to establish a beer culture in Korea that appreciates higher-quality, better-tasting beer (Min & Yoon, 2022; Tudor, 2012).

Libraries have a long history of providing access to valuable information resources and services to their communities. Public libraries, both urban and small rural ones, as well as academic libraries provide access and support through resources, services, and programs for local small businesses and entrepreneurs as well as library partnerships with small

businesses and small business development centers (Bishop et al., 2016; Cohen & McDonough, 2007; Feldmann, 2015; Manjarrez et al., 2007; Mehra et al., 2017; Pryor, 2014; Weiss et al., 2011). Libraries also partner with local craft breweries to provide adult programming (Grisanti, 2017; Newmark, 2025). There are also special library collections and archives that focus on beer and brewing, such as the National Brewing Library¹⁾ at Oxford Brookes University in the United Kingdom or the Oregon Hops and Brewing Archives²⁾ at Oregon State University in the US (Molsberry, 2021). However, research on the information needs and behaviors of craft brewers appears to be limited within library and information science (LIS) scholarly literature (Hollister & Hollister, 2015). Previous preliminary work (Hollister & Hollister, 2015) and background literature searching for the current study confirmed one study from Nwagwu and Segilola (2013) on the information needs and behaviors in a brewery context. Nwagwu and Segilola (2013)'s survey sampled engineers, not brewers, working at major beer breweries in Nigeria. However, previous research in other disciplines has detailed how the craft brewing industry fosters collaboration and cooperation between breweries (Alonso et al., 2018; Flanagan et al., 2018; Mathias et al., 2018; Ramjaun et al., 2024). Due to the social aspects of craft brewing, this study uses Burnett and Jaeger's (2008; Jaeger & Burnett, 2010) theory of information worlds (TIW) as an

1) <https://www.brookes.ac.uk/library/collections/special-collections/food-and-drink/the-national-brewing-library>

2) <https://scarc.library.oregonstate.edu/ohba.html>

analytical framework to interpret and describe the social information behaviors of craft brewers. As such, the guiding research question for this exploratory study is:

- RQ1: What characterizes the information worlds of craft brewers in the United States?

This study will help address gaps in the research literature and expand the use of TIW by exploring the information behaviors of craft brewers in the United States. Additionally, it will provide insights for libraries and librarians to provide more targeted support for craft brewing businesses in their communities. Additionally, the results of this study will inform the design of a follow-up comparative study that will explore similarities and differences between the information worlds of craft brewers in the US and South Korea.

2. Literature Review

This brief literature review will provide background context for the study, explore previous research related to the information behaviors of craft brewers, and provide a short introduction to the theory of information worlds (Burnett & Jaeger, 2008; Jaeger & Burnett, 2010).

2.1 Craft Brewing Context

This study is positioned to explore the social in-

formation behaviors of craft brewers in a developed market, the United States, and the results will be used to inform a follow-up comparative study with craft brewers in a developing market, South Korea. As such, additional background context for craft brewing in each country is briefly discussed.

As noted in the introduction, craft beer brewing in the US is well-established and serves the economy through sales, taxes, and employment across 9,922 craft breweries (Brewers Association, 2025a). According to the Brewers Association (2025b), craft breweries in the United States meet three criteria: (1) small-scale production of less than 6 million barrels per year; (2) independent, with less than 25% of a craft brewery being owned or managed by major alcohol industry members, (3) have a Brewer's Notice from the Alcohol & Tobacco Tax & Trade Bureau (TTB) or hold intellectual property rights for a craft beer brewed and sold in the US. Based on national data from the Brewers Association (2025d), craft beer retail sales account for 24.7% or 28.8 billion USD of the US beer market in 2024, a 1% increase over 2023 (Brewers Association, 2025d). Modern craft brewing in the US originated in the mid-1960s, with the revitalization of Anchor Steam Beer Company under its owner, Fritz Maytag (Elzinga et al., 2015).

In contrast, the Korean craft brewing industry is younger and smaller. Initial growth in the Korean craft brewing industry was enabled by relatively recent tax and regulatory changes in 2011, when the South Korean government relaxed its minimum production to 150,000 liters per year to obtain a beer production license and allowed breweries to sell their beer directly

to other businesses (Fennell, 2015; Kohlhaas, 2015). According to data from the Korea Craft & Beer Association, Kwak (2020) notes that the sales of craft beer reached 63.3 billion KRW (or approximately 54 million USD) in 2018, with craft beer accounting for just 1.4% of the South Korean beer market. More recently, reporting on data from the Korean Fair Trade Commission (FTC), Ko (2025) found that relaxed business regulations have allowed for an increase from 33 domestic craft brewers in 2019 to 81 in 2024. Chun (2025, p. 3) notes that beer is still the most popular alcoholic beverage in Korea and that demand for “diverse, quality beer, particularly among young professionals and affluent seniors” is likely to drive demand and establishment of more craft breweries in South Korea. Chun (2025) notes that opinion leaders in South Korea see US craft breweries as frontrunners in creating high-quality craft beer.

2.2 Craft Brewing Research: Collaboration, Coopetition, & Knowledge Sharing

Previous preliminary research on the information behaviors of craft brewers appears to be limited in LIS scholarship (Hollister & Hollister, 2015). While not specifically focused on brewers, Nwagwu and Segilola (2013) found that engineers working in Nigerian breweries often seek information from internet sources, journals (if accessible), and from colleagues to help perform work tasks. While focused on breweries, Nwagwu and Segilola (2013)’s study surveyed engineers at four major beer brew-

eries in Nigeria, not brewers at small craft breweries. While there are gaps in LIS research relating to breweries and brewers, other academic and professional disciplines, such as business, management, and hospitality, have explored their behaviors and practices.

In reviewing US craft brewing scholarship, Smith et al. (2017) found that research at the time primarily focused on the economic aspects and tourism, as well as some limited research on sensory experiences of craft beer consumers. More recently, through a systematic review of literature in economic and business-related fields, Nave et al. (2022) found that research on craft beer often focuses on understanding the craft beer industry and market, on issues such as product diversity and regulations; consumer behavior, on topics such as style and purchasing preferences; marketing and branding, on issues such as marketing strategy, distribution challenges, and brand differentiation; and sustainability, on topics related to energy efficient production of beer, renewing urban spaces, and sourcing local ingredients.

Collaborations between craft brewers and breweries are common and offer various benefits, including publicity and sales, as well as opportunities for information and knowledge sharing. By examining three craft breweries in Brazil, Prim et al. (2023) found that information is often shared within and across different departments of a craft brewery (i.e., production, marketing, quality assurance, etc.), with other organizations (customers, suppliers, etc.), and knowledge is exchanged with other craft brewers, suppliers, consumers and through informal discussions, work-

shops and professional networks. Prim et al. (2023) argue that collaboration and the sharing of information and knowledge help improve the quality of beer as well as the associated processes despite resource limitations. Through a survey of craft brewers in Australia, Duarte Alonso et al. (2018) found that collaboration between craft brewers led to higher-quality beer as well as exposure to new beer recipes and styles, and opportunities to share and access strategic knowledge and information helpful for success in the industry. Through a survey of 21 craft brewers in Baja California, Mexico, Cabrera-Flores et al. (2019) found that collaborations enabled creativity and innovation through networking and knowledge sharing between other brewers, often those working at competing breweries. The perceived benefits of these collaborations were opportunities to improve products and capacity, help other brewers, network, help companies outside brewing, learn business management, among others. Cardoni et al.'s (2019) case study on a successful Italian craft brewery, Birra Flea, found that brewery owners can play a significant role in knowledge transfer, particularly in areas related to business planning, product knowledge (e.g., types of beer and production), and knowledge of the beer market. Costa and Franco (2024) found that cooperative networks of producers, sellers, consumers, and disseminators in the Portuguese craft brewing industry provide multiple channels and opportunities to share knowledge, socialize, and market products and events in ways that build community and promote business development.

Coopetition, or collaboration with direct com-

petitors, may seem counterintuitive from a capitalistic economic perspective, but it appears to be a common strategy in craft brewing industries around the world. Flanagan et al. (2017) found that competing craft breweries in the Midwest US shared knowledge related to brewing processes and technology, supply chain and logistics, and marketing, which included an unintuitive yet common practice of promoting their competitors' beer to their own customers. As noted by Wiltshire (2024), Swedish craft breweries also collaborate by promoting their competitors' beer, among other ways, such as making group purchases and trying to address issues as a group rather than individually. Wiltshire (2024) also describes how craft breweries engage their communities through events and working with customers and community organizations. Similar to Korea's market, Drakopoulou Dodd et al. (2018) report that while craft brewing is a relatively new industry in Ireland, it also exhibits or embraces coopetition, with the sharing of knowledge and resources among competitors. Kraus et al. (2019) identified mutual benefit, trust, commitment, and sympathy as important factors to enable coopetition amongst craft brewers in Germany, and that it promotes innovation, expands markets, improves logistics, and allows for mutual marketing. Lotfi et al. (2022) explain that horizontal collaborations in Welsh craft breweries are facilitated by sharing knowledge and resources, building trust and social capital among brewers, and working together to sustain those relationships.

Similarly, Said (2019), through interviews with members in the Seattle craft brewing industry, found that craft brewers follow a motto of "a rising tide

lifts all boats” and that cooperation seems to flourish in new markets, especially those with a shared enemy, mass market beer and breweries in this case. Said (2019) also identified three norms and a meta norm that guide craft brewers. The first is not to speak ill of other brewers or breweries in public; the second is to share knowledge and resources; and the third norm is to resolve intellectual property disputes outside of the legal system. Said (2019) described a meta norm related to guarding or policing group boundaries. In essence, if you are the enemy or associated with the enemy (mass market beer), then violating brewers or breweries can no longer benefit from the norms of those in the independent craft brewing scene. Cunningham and Barclay (2020) also note that craft brewing is a form of artisan resistance against mainstream, mass-market beer. Despite norms against litigation amongst craft brewers over trademark disputes, Thornley (2017) notes that the number of lawsuits between craft brewers in the US has increased over time due to the rapid expansion of the market, changing demographics of newer breweries, and changes in intellectual property law. Relationships between larger craft breweries and smaller craft breweries may also face challenges, though they can be successful. Cunningham and Barclay (2020) explored the success of a Scottish brewery, BrewDog, and its relationships with and support for other, smaller craft breweries in Scotland. They found that successful collaboration should be community-based and feature a shared commitment to strengthening the craft beer market rather than imitation or sales.

2.3 Theory of Information Worlds

Burnett and Jaeger’s (2008; Jaeger & Burnett, 2010) theory of information worlds (TIW) provides a scalable framework for understanding information behaviors within social contexts regardless of research methodology. TIW consists of five core concepts: (1) social types, the socially defined roles of members of an information world; (2) social norms, rules that determine acceptable observable behaviors; (3) normative information behaviors, all potential types of information behaviors within an information world; (4) information value, an information world’s hierarchy of relative importance of different types of information; and (5) boundaries, areas where information may or may not be transferred between information worlds (Jaeger & Burnett, 2010). While the theory of information worlds is relatively new within the field of Library and Information Science, it has been applied in various research contexts with different sample populations and with different methodologies, as noted in a systematic literature review and content analysis of the use of TIW conducted by Park et al. (2022) and Hollister et al. (2025). Burnett (2015) integrated TIW into a larger theoretical framework known as information domains to better account for cognitive and affective factors of individuals as well as focus on the tools and technologies that facilitate information and its use. However, TIW is functional on its own and is still being applied without the larger framework (Hollister et al., 2025; Park et al., 2022). Given the social elements of craft brewing identified in prior research

above, using core TIW is appropriate.

As intended by Jaeger and Burnett (2010), TIW is amethodological, allowing it to be applied with any qualitative or quantitative research methodologies, or any combination thereof. That said, previous work found that TIW is most often used with qualitative or mixed methods (Hollister et al., 2025; Park et al., 2022). TIW has been applied to study the information behaviors of other professional groups. Burnett et al. (2009) applied TIW alongside Bowker and Star's (1999) iteration of boundary objects to examine the impact of gender on the careers of Latina IT professionals, finding that success they had and challenges they endured could be described with TIW. Welch (2019) conducted a mixed methods e-Delphi study with community advocates and library, archives, and museum (LAM) professionals in Detroit on the impact of public institutions on gentrification, finding that information values can vary widely amongst stakeholders in overlapping information worlds. Ndumbaro and Ochieng (2021) studied access to family planning information from the perspectives of married women and maternal healthcare workers in Tanzania, finding that married women have an easier time accessing and understanding family planning information from health care providers or people they know and face boundaries in the form of intellectual access, due to not being able to access or understand health information, or discouragement from their male partners.

3. Methods

This exploratory study uses a purposive sample of craft brewers based in the United States. Semi-structured interviews were used to collect qualitative data from participants in a way that provides them opportunities to explain and describe their experiences and actions using their own terms as well as allow for researchers to explore relevant emergent themes that may arise during data collection (Kazmer & Xie, 2008; Mishler, 1991; Murray & Sixsmith, 1998). The theory of information worlds (TIW) (Jaeger & Burnett, 2010) was used to design the semi-structured interview protocol³⁾ as well as for the directed content analysis of the interview data (Hsieh & Shannon, 2005). Directed content analysis codes data using existing theoretical or analytical frameworks (Hsieh & Shannon, 2005). Coding was facilitated manually using Google Docs and Sheets to track and compare codes.

A general TIW codebook previously developed by the authors was adapted and used to analyze the interview data (Burnett et al., 2014; Hollister et al., 2023). The general codebook for TIW contains five major codes associated with the five core concepts, each with four-to-eight lower-level codes and additional subcodes. The major and lower-level codes, including various subcodes of the general TIW codebook are meant to act as a priori guidelines or suggestions that are customizable to the specific research context through data collection and analysis.⁴⁾ For example, the TIW general codebook's lower-level

3) The interview protocol is available upon request.

codes for the major level code of social types includes explicit statuses or titles, which refers to the achieved status or appointed position names and responsibilities of individuals within an information world; hierarchy, which refers to the power dynamic or structure among social types within an information world; and team or community roles, which refer to a social types roles in a community, system, or information world; and among other codes. The focal or primary social type in this study, craft brewer, was identified with different job titles despite nearly all of them performing similar roles and responsibilities regarding the production of beer as well as a wide variety of non-brewing other tasks, such as maintenance work and training. Hierarchy between social types can be seen in the dynamic between craft brewers and the owners of the brewery, where while craft brewers have the most direct control of and impact on beer production and brewery operation, they usually require final approval from owners on financial or business decisions, such as making purchases or changing their beer portfolios, as noted in the description of this social type in Section 4.1.2. While not the primary social type of this information world, homebrewers play a supportive community role as a source of information and innovation for craft brewers, and craft brewers are often homebrewers themselves or members of regional homebrewing guilds.

Additionally, recurring emergent concepts, topics, or themes that appeared during data collection or analysis that did not precisely align with the TIW

general codebook were explored and analyzed as needed. Five final emergent themes were consolidated from seven recurring themes. While these emergent themes had connections with the existing codes, they were distinct enough to warrant their own categories, as discussed in Section 5.4.

Potential participants meeting the criteria for the purposive sample of this study were identified through the Brewers Association and various craft brewery websites, and were then contacted using website contact forms, email, or phone to share information about the study. Additional participants were identified via snowball sampling based on recommendations from participants. Participants were provided with a small, pro-rated monetary incentive in the form of a digital gift card for sharing their time and experiences for the project. The research plan, instruments, and informed consent process were approved by the Institutional Review Board at Pusan National University (PNU IRB/2024_77_HR) in May of 2024.

Following completion of an informed consent process, interviews were scheduled and conducted either face-to-face on-site at breweries or virtually using information and communication technology (such as phone, email, text chat, video, or VOIP calls) to ensure the comfort and convenience of the participants. Allowing participants to choose the interview venue encourages participation and helps them feel more comfortable (Kazmer & Xie, 2008). As discussed in more detail below, a final sample

4) Development of the general TIW codebook with examples is described in Hollister et al. (2023). The general codebook (Burnett et al., 2014) is available upon request but omitted here due to space considerations.

size of 9 participants ($n=9$) was determined for this qualitative study by reaching a saturation point. Following each interview, the researcher would consult their notes and analyze the transcripts for any substantial new findings or emergent themes. Differences in codes started to level off between the seventh and eighth interviews, and no new codes were identified in the ninth interview, signaling that a saturation point had been reached.

Within the sample, four participants selected Zoom interviews, three requested face-to-face interviews, one requested a phone interview, and one completed their interview by email. The participants appeared to appreciate having format options. Live interviews ranged from 35 minutes to nearly two hours. All three face-to-face interviews were conducted on-site at the breweries where the participants worked. These three interviewees also provided short tours of their breweries and offices. With the participants' permission following the informed consent process, face-to-face and phone interviews were recorded using the Voice Memos app on an Apple iPad Air, and Zoom interviews were likewise recorded through the platform. The audio transcripts were automatically transcribed using the transcription tools of each respective platform. To ensure accuracy of the transcriptions, the researcher compared them with the recordings and made revisions as needed.

Due to the small sample size, purposive and snowball sampling, and other limitations common to all qualitative studies, the findings of this study are not generalizable. However, the findings of this study may be transferable to similar research contexts, such

as craft brewers and breweries in other countries or regions of the world. To ensure the consistency and trustworthiness of the qualitative data analysis, interview data were collected until a saturation point was reached during preliminary data analysis, as noted above, and inter-coder reliability testing was conducted between the authors on a portion of the interview data. Inter-coder reliability testing yielded 81.82% percentage agreement, which is more than acceptable in qualitative social science research (Lombard et al., 2002). While Thomas (2017) notes that member checking might not be useful for qualitative research focused on theory generalization or development, and noting that this study did not have a participatory design, the researcher did attempt member checking with two participants who expressed willingness for follow-up contact to review and provide feedback on the summarized preliminary findings, similar to Creswell's (2000) approach. One of these participants affirmed the researcher's interpretations without any critiques or modifications, and the other participant did not respond.

4. Findings

The age of participants ($n=9$) ranged from 20 to 43, with an average age of 33.22 years ($SD=6.67$). Seven of the participants identified as men, and the remaining two identified as women. In regard to race and ethnicity, eight of the participants identified as white, and one identified as East Asian. For their highest attained education level, two partic-

ipants hold master's degrees, four participants earned a bachelor's degree, and three earned an associate's degree. Additionally, three of the participants noted being accredited as Cicerones. The years of brewing experience among the sample ranged from two to eleven years, with an average of seven. All the participants have homebrewing experience. Eight of the participants currently work as brewers in craft breweries, and one of the participants, while not currently working at a craft brewery, is a faculty member at a community college offering a program on craft beer production that has partnerships with multiple regional craft breweries. Six of the participants currently working at craft breweries work at brewpubs, small breweries that produce and sell beer as well as food at the same site. Two of the interviewed craft brewers operate brewery taprooms, where beer is made and served on-site, but without food prepared in-house.

As this study is framed using Burnett and Jaeger's (2008; Jaeger & Burnett, 2010) theory of information worlds, the findings are presented using the five core concepts of social types, social norms, normative information behaviors, information values, and boundaries, and the subsections represent the results of the coding.

4.1 Social Types

Social types are the socially defined member roles of an information world (Jaeger & Burnett, 2010). In the information worlds of craft brewers, there are six key social types: craft brewers, brewery own-

ers, brewery staff, customers, homebrewers, and vendors. Given the purposive sampling of craft brewers, the information world of craft brewing discussed herein is presented through their perspectives, as interpreted by the researcher. However, while the remaining social types were not directly interviewed for this study, their roles and importance within the information worlds of craft breweries were explained by several of the participants.

4.1.1 Craft Brewers

Craft brewers are at the core of the information worlds of craft breweries as their primary responsibilities include the development and production of beer, which entails creating recipes, sourcing ingredients, brewing, packaging, managing brewery staff, and quality assurance, among other tasks. However, to support this work, brewers learn and apply various knowledge and skills, from areas such as electrical, engineering, plumbing, biology, and chemistry, while troubleshooting challenges faced while brewing, such as equipment failures or dealing with unwanted off flavors in a beer. For example, multiple participants learned a lot about plumbing and electrical work by mounting pumps, running hardline pipes, and rewiring thermostats.

Craft brewers' responsibilities often extend to other important areas of work to support the brewery's operations, such as "front-house" business, including serving beer, training and managing front-house staff, or doing community outreach by attending beer festivals or local events. Several participants explained that while they primarily focus on brewing, they

assist in training front-house staff on food safety and safe serving training, how to identify intoxicated people and know when to stop serving, and basics such as how to properly pour beers. While specific job titles of the participants varied from head brewer to brew house operations lead to cellar manager across breweries, participants consistently remarked on being involved in work beyond beer production. As a participant (P4) explained:

“It’s very lax here. The titles. Like I do everything back here. Manage the back, manage the tap, like basically what’s on tap and everything, with the owner’s discretion [...] Like we need other class 3 people on it, but from brewing to packaging, it’s all me.”

They (P4) also worked with distribution: “My assistant brewer and I would go out and make deliveries and do tastings.” Another participant (P5) noted this as well, “Mostly, like, in the small brewery, like we don’t have the exact name for each one person, you know?”

As another participant (P2) remarked, “We wear many, many, many hats. We’re plumbers, electricians, we’re trainers [...] Yeah, we do a lot.” In addition to training staff, three of the participants have teaching experience as instructors in regional community college programs that offer degrees or certificates related to beer production. Brewers may begin their careers in craft brewing in different ways, either leveraging homebrewing experience, attending a brewing program, or starting off in another position at a brewery,

or some combination thereof. Additionally, breweries with enough funding often operate with multiple brewers, with newer brewers starting in an assistant brewer role and moving up over time and with more experience. Head brewers mentor and teach assistant brewers in a way similar to an apprenticeship similar to the journeyman apprenticeship common to the trade skills, such as electricians and carpenters.

4.1.2 Brewery Owners

Brewery owners have a major financial stake in the brewery and its success and are often involved in decision-making regarding the business or economic aspects of the brewery, such as approving purchases and guiding beer offerings, as noted in the quote above. Owners often take primary responsibility for understanding legal issues and regulations that impact beer production and distribution and pass on relevant information to their brewers. One participant (P4) explains that the brewery owner deals with taxes and regulations:

“I mean, that’s still over my head. [Owner’s name], the owner takes care of most of that stuff. I just make sure I got how many kegs I kegged, how much product, and how much a month on my logs here.”

Brewery owners sometimes share brewing information or knowledge, such as ideas for new recipes or brewing best practices, with their brewers and staff. For example, one participant (P4) explains that their owner was inspired to try a new way of hopping

their beers after attending a conference: “This was Craft Brewers conference down in Nashville a couple years ago, the owner went, and he came back with some better insight on his mind of more efficient ways to hop beers.”

In some cases, often in smaller microbreweries, brewery owners are also the head brewers or contribute to brewing in other ways. Two of this study’s participants were owners of their own breweries. As one participant (P9) explains their roles as: “Owner and business administrator, head brewer, taproom manager, social media manager.” They go on to explain that the lack of resources means picking up more responsibilities: “Of those roles, the first two are the only ones I hoped to be doing, but I ended up doing all of them because I can’t afford to hire or pay for the other work to be done.”

4.1.3 Brewery Staff

Brewery staff, aside from the brewers, assist with procurement, production, packaging, quality assurance, and distribution, as well as marketing, outreach, and other front-of-house work, as noted previously. Well-trained staff help maintain safe workspaces as well as safe and high-quality products. Brewers regularly communicate with staff, sharing information on day-to-day operations and sharing their expertise to explain best brewing practices and a safe workplace culture.

4.1.4 Consumers

Consumers or customers play an indirect role in the craft brewing information world through their

style preferences or consumption behaviors, as well as the feedback they provide on the products they consume and their experiences interacting with the brewers, staff, and the spaces at craft breweries, such as brewpubs, and events, such as tastings and beer festivals. As one participant (P4) notes:

“So when it comes down to it, when you get a good product out there, people will tell you, you’ve got a bad product, people will tell you, and you need to listen to that. Feedback matters.”

However, as discussed later as well, not all types or sources of consumer feedback are considered useful by craft brewers. For example, some of the participants list their beer on a beer-rating social media app called Untappd so users can find and rate them but sometimes find the reviews and ratings inconsistent or unhelpful, as a participant (P4) explains, “We put up all our stuff on there. I very seldom read through it because I will get lost and get angry for no reason.”

4.1.5 Homebrewers

Another important social type associated with the information worlds of craft breweries is homebrewers. Homebrewers are hobbyist brewers who make their own beer at home. As noted above, many craft brewers have experience in homebrewing before starting their professional careers in craft brewing, and some continue to homebrew or participate in local homebrew clubs as well. Of course, any of the other social types may also be homebrewers, leveraging their

personal brewing experience in the commercial craft brewing space in different ways. For example, one participant (P1), an assistant brewer at the time, explains discussing recipe ideas with their head brewer or the owner: “[...] or even the owner. He doesn’t do a lot in the brewing world, but he was a big home brewer before opening this brewery; he knows quite a bit about beer.”

4.1.6 Vendors

Another social type important to craft brewers is vendors or suppliers. Vendors or suppliers sell ingredients, materials, and equipment to breweries as well as offer repairs and guidance on how to use their products or services. For example, one participant (P2) explains the value of vendors: “And vendors are great resource hubs. You know, absolute great resource hub. If you think about one thing that connects to more brewers than just about anything else, it’s the suppliers.” They go on to share some examples of questions for a yeast vendor that they’ve received help with: “I notice my yeast isn’t flocculating, do you have any recommendations? [...] Or, hey, I’m trying to get this flavor profile from, for this kind of product type, what yeast in your portfolio will help me fulfill my desired goals, or do you guys have a number of options?”

Another brewer said that vendors are their first choice of information source when troubleshooting issues encountered when brewing. The participant (P3) shared an example of when they were trying to fix a specific problem with their canning equipment

and reached out to the vendor for help:

“[...] every part that can be serviced or adjusted, they make a video for on their website. So it’s like, ‘Oh, you’re having an issue with the left side of the seamer instead of the right side? Here’s a video on the left side: tear down, check the bearings, grease, and adjust.’”

While this type of information is useful for brewers, it is also beneficial for the vendors. Using a maltster⁵) as an example, the brewer (P3) explains:

“They know everything like the back of their hand. They could break down the taste and the aroma and the profile of any grain you ask them. And that’s their job. And they’re very, very eager to get back with you and get your business, let alone just answer any questions you have.”

4.1.7 Other Social Types

Brewers’ association or guild members are another social type. However, this is a meta-social type or group, as any of the other craft brewing social types may also be members of local, regional, state, or national brewery associations. Brewers’ associations and guilds provide sources and forums for collaboration and information sharing, as detailed more fully in the sections on information behavior and information value below. Additionally, sales representatives and distributors were also mentioned for their roles in selling, marketing, and distributing craft

5) Maltsters make and sell malts, a primary ingredient for brewing, from grain.

beer to consumers via various channels. However, these roles are tertiary and will be discussed later in relation to boundaries. Some of the participants noted that they previously held other roles in the craft brewing industry, such as brewery staff in packaging or quality control, or working in sales or distribution, before becoming a brewer.

4.2 Social Norms

Social norms include the spoken or unspoken rules for determining acceptable forms of behavior within an information world (Jaeger & Burnett, 2010). Within the information worlds of craft brewers, there are four main interrelated social norms: safety; professionalism and self-control; a rising tide raises all ships; and being kind, taking the high road, and not burning bridges.

4.2.1 Safety

Craft brewers stressed the importance of beer and workplace safety, clean production and packaging practices, seeing them as critical for the production of shelf-stable, high-quality beer. One key aspect of safety is cleanliness, as even slightly dirty equipment, plumbing, or tap systems can lead to bad-tasting beers or even exploding cans or bottles. One participant (P4) lamented, “When it comes down to it, it’s all cleaning, clean, clean.” Due to the importance of cleanliness and its potential impact on product quality, information related to clean production prac-

tices is often shared and the rules are in place to ensure clean brewing processes and practices. Rules on cleanliness were a major part of safe workplace requirements and cultures that were encouraged, if not enforced in the brewery space. Another participant (P2) explains that a safe workplace culture benefits consumers and staff alike, suggesting that craft brewers need to regularly question their workplace culture and practices: “Does my workplace provide a safe place or a safe product, you know, for consumers, as well as the people working there?” In addition to encouraging a safe workplace environment and culture.

Craft brewers note that safety concerns also vary depending on their business type or model. For breweries that package and distribute their products, safety extends beyond the brewery or brewpub, as craft brewers want to ensure that their products are free from contamination and are shelf-stable so that consumers have a good experience with the products. For breweries that primarily serve in-house over the bar, brewers who work the taps are also concerned with consumer safety and often required to complete training and certifications, such as ServSafe Alcohol⁶⁾, to learn how to identify intoxicated customers and not overserve them, in addition to general safety concerns related to sanitary brewing equipment and facilities and safe workplaces.

4.2.2 Professionalism & Self-Control

Another social norm interrelated with safety is

6) ServSafe (<https://www.servsafe.com/>) offers a variety of trainings and certifications to promote food and beverage safety

professionalism or self-control. Craft brewers acknowledged that while their positions provide them with access to beer and having some beer during brewery-related business, such as interviews, collaborations, or tastings, is not uncommon, it is generally not okay to get drunk on the job because it can lead to safety, quality, production, and social issues. Brewers or other brewery staff who are unable to exhibit professionalism or self-control are at risk of losing their jobs and may face difficulties in finding other work in the industry, as one participant (P8) explains:

“You see a lot of that, of once people kind of burn themselves in a community, then it’s really hard for them to get another job. You know, because people hear the reputation or what they’re like at work, or they’ve seen them drunk at beer festivals, and they’re like I don’t want that to represent my brewery. And so then people like that tend to end up leaving the industry or leaving [the area], because their reputation precedes them.”

This participant is also affiliated with a regional beer production program and noted that they try to prepare future beer professionals to exhibit self-control and respond to cues and situations appropriately. Different breweries have different work cultures and employee policies on beer consumption, with some completely banning it. Breweries with lax policies may develop negative reputations or lose business as a cascading result of a lack of professionalism,

self-control, or appropriate employee guidelines.

4.2.3 A Rising Tide Raises All Ships

A frequently recurring rule mentioned by craft brewers was an emphasis on being kind and supportive to other brewers and breweries. A motto that was mentioned by several of the participants was “a rising tide lifts all ships.” In this context, this means that sharing information and resources and promoting other breweries and their products is beneficial to them all. A participant (P8) affiliated with the regional brewing program said that this thinking is imparted on their students, too. Another participant (P7) said, “I’ve told all my staff this as well, to truly embrace and hope for wins at other breweries.”

The above participant (P7) shared a story of a collaboration in which the collaborator was taking detailed notes and the other brewery ended up copying their recipe. “[...] I know that they were taking notes and going to copy it. I don’t care, you know, like we all need to be successful.” They (P7) go on to explain that a negative experience with one brewery impacts others and perceptions on the larger craft beer scene:

“They go to a craft brewery and they have a bad experience because the beer tastes like crap or the service isn’t good or whatever, they’re gonna lump us all into one and they’re just not gonna go to craft breweries anymore. So if you can help the others [craft breweries/brewers] do great things we can all survive.”

Another participant (P9) reported a similar trend, explaining: “Within the greater craft beer industry, openness and sharing of ideas and knowledge is the standard. Most brewers are willing to give away [sic] their brewing “secrets” if asked directly, at least to a degree.” Another participant (P1) notes that while direct copies of other beers without acknowledgment or credit may be frowned upon, being inspired by another brewer’s beer and making your own version or a variation on it is common and acceptable. P1 explains that “If you were inspired by a recipe and that brewer heard about it, they would be glad they were able to inspire you or inspire a recipe that you created [...] that would be something you’d like to hear and be happy about.”

4.2.4 Being Kind, Taking the High Road, and Not Burning Bridges

Overall, the craft brewing community emphasizes kindness and friendliness amongst brewers, their consumers, and communities. As one participant (P9) explains simply, “Be nice, be cool, have fun’ are the unspoken rules of what is encouraged.” The rising tide rules is related, if not dependent on, the kindness and friendliness of the community.

While friendliness, resource sharing, and collaboration are encouraged, disagreements or conflicts do arise. In those situations, taking the “high road” by not escalating matters or saying negative things about other breweries or their products is encouraged, as a participant (P7) explains:

“You wanna be cautious on how much you help

your peers, because indirectly, they are competition. But I feel like taking the high road on most things in the industry. I don’t want to use karma as a term but I think it’s the right way and people will see that people talk.”

Another participant (P9) explains that “Most brewers are careful to avoid spreading negative opinions of other brewers, so long as the owners and employees are nice, well-meaning people.” The participant above (P7) described this approach as “playing Switzerland.”

Relatedly, not burning bridges is important due to the interconnectedness of the community in addition to being in the spirit of the community’ values of kindness and lifting all ships. As one participant (P6) explains:

“Just be cognizant of the bridges you’ve made. You don’t want to burn your bridges. You never know when you’re gonna need help in some way, shape or fashion, or you’re going to come across a point in your career where you’re gonna have to work with them. And if you’ve burnt that bridge, then it’s kind of just difficult to even have any sort of success in that situation, right? We’re all humans. We’re not expected to like everybody. But it just kind of goes back to the being kind.”

People working in the craft beer industry often work in different roles, sometimes at different breweries, vendor companies, or distributors, during their careers, so running into people again is not uncommon.

4.3 Normative Information Behaviors

Normative information behavior includes the information behaviors common to an information world (Jaeger & Burnett, 2010). Information-seeking behaviors often originate from needs associated with making beer, such as developing recipes and selecting ingredients or learning how to brew a new style, as well as troubleshooting various issues, such as equipment failures, as they occur. Craft brewers often turn directly to other brewers or vendors for this information as well as indirectly through other information sources, such as books, journals, websites, and social media. Information exchange and sharing behaviors can be seen in collaborations between brewers and are facilitated through other channels such as brewing education programs, conventions, conferences, or beer festivals as well as homebrewing clubs and social media. Information archiving can be seen in craft brewers organizing data and information and publishing resources to improve the production or business aspects of brewing. Craft brewers actively share and passively gain information through a variety of activities and sources.

4.3.1 Craft Brewers as Information Seekers and Sharers

Craft brewers often seek out information from other craft brewers, whether at their own brewery or at another, as well as homebrewers. As one participant (P9) notes, “I get at least 50% of my advice

and new information from a combination of personal advice from brewers I know, and opinions and experiences shared in online forums.” Another participant (P4) shared a story about when their brewery was making an English brown ale with English malts for the first time and asking another brewer for advice. Their brewer friend cautioned them to mind the efficiency gains and the slightly larger size of malt bag⁷). “So keeping that into account, [I] dialed the grain bill back and still got more extract than I was expecting. So just hearing little things from other people’s experiences goes a long way.”

This participant (P4) shared another story asking for advice from one of their classmates from a regional brewing program who now works as an assistant brewer at a different brewery about how to stabilize the haze in a hazy IPA. They explained the assistant brewer learned how to do it through observing their head brewer:

“This is the one thing he was completely quiet about because he [the head brewer] walked into the cooler and he walks out with a 5-gallon jug. It just says fruit pectin on the side, pours a glass, dumps it in a tank, puts it away. And [assistant brewer] goes up to him and says, ‘So, what was that about?’ He goes, ‘Oh, that goes in our New English IPA. Holds the haze.’ I looked at him in, like, awe. He goes, ‘Yeah.’ So everybody finds something a little different and it is always a blend of products in the end.”

7) They also noted that European bags of malt are typically 55 pounds, while American bags of malt are 50 pounds.

This example also demonstrates how assistant brewers gain information through their apprenticeships under head brewers as well as the value of peer networks of craft brewers. Relatedly, craft brewers see homebrewers as valuable sources of information, especially as sources of inspiration and innovation. As one participant (P2) explains:

“You know, if you want, like, some of the most cutting-edge, craft beer, stuff, trends, fads, or whatever. Talk to the homebrewing market. The homebrewers are doing it all. They’re the ones who did it first. They’re the ones who are gonna do it first. You know, they don’t care about cost. They’re just like, ‘Can I simply make this product and make it well?’ And they will, most of the time, if you can, you know? If they have the means, that somebody out there has done that, you know? That’s where all the cutting-edge stuff happens.”

Craft brewers often have homebrewing experience and may still participate in local homebrewing clubs. Some of the breweries host events or meetings of their local homebrewing clubs as well as collaborating with them. As one participant (P8) notes, “I was a member of both our area’s local homebrew clubs and we frequently host their meetings.” One participant (P3) also encouraged introspection and reflection to access information: “Long nights seething over a pint of beer, thinking. A lot of information comes that way.”

4.3.2 National & Regional Brewers’ Associations or Guilds

National and regional brewers’ associations or guilds provide locally relevant information on laws, regulations, taxes, labor issues, etc. as well as regularly hold conferences and meetings to report on these topics as well as best practices and trends. At the national level, the two most important associations are the Brewers Association (BA) and the Masters Brewer Association of the Americas (MBAA). The BA (2025) focuses on supporting and advocating for small independent breweries, while the MBAA (2025) focuses on supporting individual brewers through technical production knowledge and best practices. Both associations produce data, reports, training, and publications that are highly regarded and trusted by brewers but may have a broader, more national scope. Both associations also regularly host conventions or conferences, where brewers can network with other brewers, vendors, distributors, and more. As one participant (P2) explains:

“And they pull in speakers, top of the field, and from all over the nation, or even sometimes out of the country. Get people to talk about what they’re doing in the industry, what’s going on, get experts in all sorts of fields. You also get to really talk to, you know, the people in the brewery, in the, in different types of facilities and see what’s going on there.”

State, area, or city-level brewers associations or brewing guilds are also valuable sources of information.

Their information is more focused on their local constituencies and, as such, is especially useful for learning about local laws, regulations, taxes, and other issues that impact the production, distribution, and sales of beer in their geographical areas of interest. One of the participants (P8), a member of both a city-based brewers guild and a state-level brewers guild explains that the city-level guild primarily does events and tries to promote their city's craft beer scene. On the state level, the participant (P8) explained:

“When it comes to like information about different things that are happening in [their state] and how it's going to impact breweries. That would be, we turn to typically the [state] brewers guild. They're really good at staying up to date with what's happening in the legal world or, like, in legislation. For example, like last night, I just got an email that a certain law actually passed and they've been watching and updating on it for the last, I think, like 2 years, and it will dramatically impact small businesses. So they do a lot of how is this gonna impact you type of thing and then once a year, they do like a big convention where they have speakers come and different stuff. So that's one place for like local information. Or how is that gonna actually impact your your business?”

Local brewers guilds provide resources for and promote local breweries as well as help organize or host beer festivals.

4.3.3 Beer Festivals

Beer festivals primarily serve as events that breweries use to introduce their products to consumers as well as gain feedback directly from consumers. However, craft brewers note that beer festivals are also opportunities to meet other brewers, which may lead to future collaborations, be inspired by new beers, or interact with vendors. One of the participants (P8) affiliated with a regional brewing program said they promote their programs, recruit prospective students, and engage with alumni at beer festivals.

4.3.4 Books, Journals, & Libraries

A few of the craft brewers mentioned books from reputable sources as sources of information they regularly consult. One of the participants (P3) describes themselves as a “huge book guy” explaining that:

“The access to brewing publications now is growing. There are new books being written. There are old books that are being resurfaced. I've got a colleague and actually alumni from the program who did a study on hop creep, which is a phenomenon [...] within a packaged beer where beer begins to re-ferment. And my friend [name] and his research team found that the answer was actually in a 1700s brewing book and they identified this phenomenon as being part of the hops. It was hops. They caused things to re-ferment, whether it's microbe-based or enzyme-based. And so books really are an excellent tool. They come in different shapes and sizes, so to speak. Um, for brewers that are looking

for that heady dive, and people that are just looking for practical information, the MBAA, Brewers Association have great practical resources, or you can dive into something like Wolfgang Kunze from Germany and dive into about 800 pages of technical brewing with a thousand years of background.”

This participant (P3) is also an instructor at a regional brewing program and has been building a library of brewing resources for themselves and their students:

*“So this has been kind of one of my own personal projects as I’ve been trying to build a library, just resources for myself or students. [Interviewer: Are you saying this just for me? *both laugh*] I really I really am, and I’m not even kidding you. It’s been a home project of mine for since I started at the school because I do think that access to information is part of being an excellent brewer and really, you know, it jumps across any field is if you have access to information, you have answers. And they might not always be the right answers, but you have answers and you have things to turn to.”*

On that theme, this participant (P3) continued to say, “We don’t want the siloing of information, you know, to be able to share and talk some amongst ourselves and the tap room is a beautiful place for

those conversations to happen.

Craft brewers and breweries also have connections with libraries. The book-loving participant (P3) above pointed out a public library in their area, the Kalamazoo Public Library, that used to offer a program series called Overdue Brew⁸⁾ on local brewing culture in collaboration with craft brewers and homebrewers in the area. which regularly offers a program series called Overdue Brew. Another one of the participants (P2) stated their craft brewing career by borrowing a book from their college library: “So I went down to a library at school and picked out a book and started brewing at home.” Books were present on site during face-to-face interviews. Two of the participants permitted photos of some of the books around their offices and breweries, as seen in Figure 1.

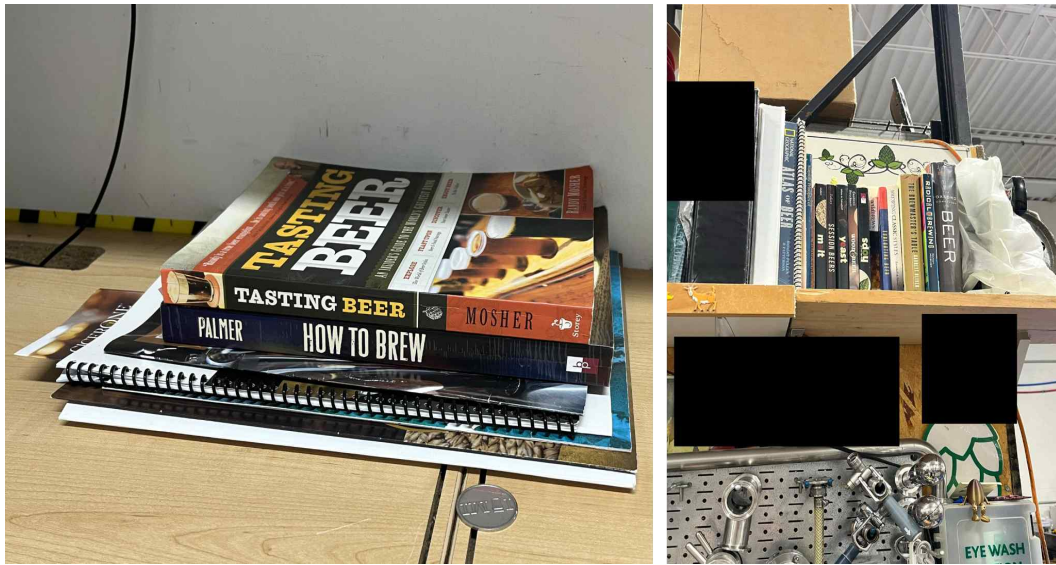
Craft brewers also consult academic and professional journals as well as brewing-related websites and applications. Table 1 includes journals, websites, and apps recommended or used by participants in this study.

Table 2 includes all books and publishers recommended or used by participants in this study. As noted, many of them are published by the publishing imprint of the Brewers Association, Brewers Publications.

4.3.5 Vendors

As noted in Section 4.1, vendors or suppliers are valuable sources of information because they are usually knowledgeable about their products or services and are able and eager to answer questions from

8) The program series seems to have ended, but there are still videos from some of the events up on their website: <https://www.kpl.gov/videos/tag/overdue-brew/>



<Figure 1> Books in the Brewery

<Table 1> Journals, Websites, & Apps Recommended or Used by Participating Craft Brewers

Journals	Scope	Link
Journal of the Institute of Brewing	Peer-reviewed research papers and reviews on brewing science and technology	https://www.cibd.org.uk/resources/ibd-publications/journal-of-the-institute-of-brewing/
Master Brewers Association Technical Quarterly	Peer-reviewed and non-peer-reviewed papers on the technical aspects of brewing	https://www.mbaa.com/publications/tq/
Journal of the American Society of Brewing Chemists	Peer-reviewed research on brewing, distilling, and winemaking	https://www.asbcnet.org/publications/journal/pages/default.aspx
Websites		
Beer Advocate	Beer discussion forms and ratings	https://www.beeradvocate.com/
Brewers Association	Craft brewery advocacy and education	https://www.brewersassociation.org/
Brewer's Friend	Homebrewing recipes and community	https://www.brewersfriend.com/
Beer Judge Certification Program	Beer style guidelines	https://www.bjcp.org/
Chartered Institute of Brewers and Distillers	Brewing and distilling technical standards	https://www.cibd.org.uk/
Master Brewers Association of the Americas	Brewing science, technology, and operations	https://www.mbaa.com/
Apps		
Untappd	Beer-rating social network	https://untappd.com/

〈Table 2〉 Books & Publishers Recommended or Used by Participating Craft Brewers

Books		
Bamforth, C. W., & American Society of Brewing Chemists. (2023). Scientific principles of malting and brewing (Second edition). American Society of Brewing Chemists, Brewers Publications (Firm). (1993). Evaluating beer. Brewers Publications.	978-1881696506	
Buelmann, F. (2019). A rising tide - Series from the Michigan Brewers Guild (Vol. 1). Michigan Brewers Guild.		https://www.mibeer.com/book
Cantwell, D., & Bouckaert, P. (2016). Wood & beer: A brewer's guide. Brewers Publications.	978-1938469213	
Garshol, L. M. (2020). Historical brewing techniques: The lost art of farmhouse brewing. Brewers Publications.	978-1938469558	
Hieronimus, S. (2012). For the love of hops: the practical guide to aroma, bitterness, and the culture of hops. Brewers Publications	978-1938469015	
Heilshorn, B. (2017). Against all hops: Techniques and philosophy for creating extraordinary botanical beers. Page Street Publishing Co.	978-1624143793	
Hoalst-Pullen, N., Patterson, M., Oliver, G., & National Geographic Society (U.S.). (2017). National Geographic atlas of beer: A globe-trotting journey through the world of beer. National Geographic.	978-1426218330	
Janish, S., & Hieronymus, S. (2019). The new IPA: Scientific guide to hop aroma and flavor. ScottJanish.com.	978-0578477862	
Kunze, W., & Manger, H.-J. (2019). Technology brewing and malting (O. Hendel, Ed.; Milengo (Firm), Trans.; 6th revised English edition). VLB.	978-3921690871	
Mallett, J. (2014). Malt: A practical guide from field to brewhouse. Brewers Publications.	978-1938469121	
Mosher, R. (2004). Radical brewing: Recipes, tales, and world-altering meditations in a glass. Brewers Publications.	978-0937381830	
Oliver, G. (2012). The Oxford companion to beer. Oxford University Press.	978-0195367133	
Oliver, G. (2005). The brewmaster's table: Discovering the pleasures of real beer with real food. Ecco	978-0060005719	
Nicholas, G. (2023). Craft brewing culture: A human resources guide for small breweries. Brewers Publications.	978-1938469800	
Palmer, J. J. (2017). How to brew. Everything you need to know to brew great beer every time (4th ed.). Brewers Publications.	978-1938469350	
Talley, J. (2017). Session beers: brewing for flavor and balance. Brewers Publications, a Division of the Brewers Association.	978-1938469411	
Tonsmeire, M. (2014). American sour beers: Innovative techniques for mixed fermentations. Brewers Publications.	978-1938469114	
White, C., & Zainasheff, J. (2010). Yeast: The practical guide to beer fermentation. Brewers Publications.	978-0937381960	
Wise, J. (2022). Wild brews: The craft of home brewing, from sour and fruit beers to farmhouse ales. Kyle Books.	978-0857837813	
Zainasheff, J., & Palmer, J. J. (2007). Brewing classic styles: 80 winning recipes anyone can brew. Brewers Publications.	978-0937381922	
Publishers		
Brewers Publications	Brewing related books	https://www.brewerspublications.com/

brewers. Another participant (P6) provided a detailed example of vendors providing requested information:

“So I do most of the maintenance here at the brewery, and pumps would go down and I would wanna figure out how to fix it. So, the company who makes the pump. I think I only had one time where they didn’t really want to help me out, but if you just call them and ask, ‘Hey, how do I fix this? Or this is what’s happening.’ I had one company give me, like, they took a pump apart themselves and took photos of each step and sent it to me. They’re more than willing to help you figure out how to fix it. Most of the time they even have their own channel on YouTube.”

4.3.6 Brewing Educational Programs

Some universities, colleges, and community colleges are offering degree or certificate programs in beer production and packaging. Three of the participants were or currently serve as instructors in those programs and several of the participants had master’s or associate degrees related to brewing. Formal programs provide a relatively newer pathway into the craft brewing industry as previous generations of craft brewers got into the industry with their homebrewing experience, often without any formal training. These programs are often holistic in nature, meaning that they cover not just brewing or production, but also the business and legal aspects of the craft brewing industry. The programs also collaborate with breweries local to them by providing tours or samples

as well as supplying guest lectures and, of course, the primary lecturers themselves.

Craft brewers seem to see these brewing programs in a positive light because they provide opportunities for experienced craft brewers to share what they know with new brewers, which helps them, and well as opportunities for them to learn new techniques and processes from new graduates. As one participant (P4) explains:

“So, I would say there has been a shift in the last 6 to 10 years of the baseline brewers that are coming into the industry are legitimately educated by, like, through schooling rather than experience. So, when they’re working with these people that have brewed for 25, 30 years, just because this is the way I do it, it works great. You get their hands-on experience of how and why they do it this way, these guys going, what if we did this, it could tweak it, be a little better. And it really fosters a lot of growth.”

4.3.7 Social Media

Some craft brewers use social media to keep up with trends and to see what breweries, home brewers, and craft beer enthusiasts are talking about. Two of the participants (P2, P4) mentioned using Untappd as a way to look at data and trends. One of the participants (P2) also mentioned using the Beer Advocate⁹⁾ forums to keep up on trends. As one participant (P5) explains, “For beer trends, I’ll definitely go into social media like Facebook or Instagram.” They explain that

9) <https://www.beeradvocate.com/>

they follow other breweries that they think are doing interesting or cool things. Sometimes they are inspired by tasting beers or meeting craft brewers at beer festivals and following them on social media. This particular participant also uses YouTube¹⁰⁾ to learn more about the brewing equipment he sees on other social media platforms or print trade publications to see how they are operated and reviewed. As noted above, vendors often have product tutorials and troubleshooting videos on their YouTube to help brewers. Another participant (P9) uses Facebook groups to gain useful information:

“Professional brewer Facebook pages have become very good resources for people to ask specific questions and get lots of feedback and advice for free from a wide audience of brewers with different backgrounds and levels of experience. Generally speaking, the advice is positive and there is some joking around, but rarely ridicule.”

Additionally, a few of the participants have staff dedicated to social media marketing, to promote their breweries. As one participant (P2) notes, “if you’re not doing that, you’re really leaving money on the table.”

4.3.8 Generative AI

Two of the participants mentioned using generative AI tools to find and organize information. One mentioned using ChatGPT to access Nielsen¹¹⁾ data and

other consumer marketing data that is difficult to access due to paywalls. The other participant explained that they had been experimenting with ChatGPT, mostly using it to organize and build spreadsheets they use for work as well as to collect information despite initial hesitance, as the participant (P3) explains, “The conversation internally for myself has gone from instead of beware but welcoming. [...] ChatGPT, AI is like having a personal secretary and it is amazing. And it is only getting better.”

4.4 Information Values

Information values can be understood as the hierarchical structure of an information world regarding the relative importance of different types or sources of information (Jaeger & Burnett, 2010). Of the available sources, information from other brewers (craft or homebrewers), vendors, and national or regional brewers’ associations or guilds are seen to be highly valuable. There are two main types of information: brewing-related information and brewery business-related information. Brewing-related information includes all information needed for brewing production, from ingredients, equipment, techniques, troubleshooting, packaging, safety, cleaning, and more. Brewing business-related information includes information that impacts the fiscal success or sustainability of the brewery, including all information related to the managerial, financial, and legal aspects of craft brewing as well as professionalism and work-

10) <https://www.youtube.com/>

11) <https://www.nielsen.com/>

place culture.

The information value hierarchy for craft brewers regarding brewing-related information, from highest to lowest, is as follows: other craft brewers, homebrewers, vendors, and brewers associations and guilds. The experience of other brewers is highly valued and trusted, so craft brewers often turn to their peers for information. As noted above, vendors are valuable sources of information when equipment needs fixing or when ingredients need to be selected for a new beer. Regional and national brewers associations and guilds are highly trusted sources as well because these groups consist largely of other brewers.

The information value hierarchy for craft brewers for brewing business-related information, from highest to lowest, is as follows: brewery owners, brewers guilds, and consumers. Brewery owners often provide the final say on the direction and purchases made by the brewery as well as collecting and sharing important information related to the financial and legal status of the brewery. Brewers guilds or associations often provide information on trends and regulations that impact brewing businesses. Information from consumers is sometimes seen as valuable, but only in certain cases or forms.

For example, one participant (P2) cautioned discussing prices with consumers: “It hits coming from the consumer. Yeah, I mean, you really shouldn’t talk price with consumers [...] Like, the price is what the price is.” They go on to explain that “Either the consumer’s gonna find your product worth the price, or you probably shouldn’t be in that market because you can’t be competitive [...] if you’re worried about hitting

your costing structure.” Sellers and distributors may also provide some information, though they seem to interact more with brewery owners than brewers directly. As noted in Section 4.5, though, brewers are concerned about getting fair distribution and making sure the beer they ship is shelf stable.

4.5 Boundaries

Boundaries are areas where information may or may not be transmitted between information worlds (Jaeger & Burnett, 2010). In the information worlds of craft brewers, there are four main potential boundaries that impact information sharing, access, or use: identity, collaboration, community, and financial and legal boundaries. Events such as beer festivals, guild meetings, and association conferences provide opportunities for the information worlds of craft brewers to overlap with each other as well as with other social types and their larger communities.

4.5.1 Identity Boundaries

Despite increasing competition in the craft beer market, craft brewers and breweries value collaboration and work together against their primary shared enemy of mass market beer. Craft brewers are proud and protective about what craft beer is and what it means to be a part of the craft brewing community. As noted in Section 4.2, people who do not abide by the social norms of the community are essentially escorted out. As a participant (P3) notes, “I think, uh I mentioned how [my region] has a really healthy community amongst his brewers. I think with some

of the information is maybe other brewers out there looking less as the industry from a competition standpoint and more of a collaboration standpoint. [My region] does a pretty good job of weeding those people out, I think, from natural selection.”

The identity boundary of craft brewers is also being challenged by trends in the industry, especially with the growth of beer adjacent products like seltzers. However, while some craft brewers expressed hesitation about making these products, they are already experimenting in those areas, if not already producing and selling them. Craft brewers each have their own priorities and preferences when it comes to beer, though most appear to remain focused on putting beer first. This is in line with the emergent theme on the importance of continuous innovation and creativity. There are limits to that creativity, though, as a participant (P3) said, “Do not put glitter in your beer.”

4.5.2 Collaboration Boundaries

Collaborations are opportunities for sharing information and resources between craft brewers, with the potential to cross-market and improve sales. Craft brewers often collaborate by working together, sharing resources, and brewing a beer at each of the collaborators’ breweries. For example, one participant (P6) explains a collaboration with a brewery in another state: “They came here, and we brewed a beer, and we went there to brew a beer. So we got to do two different styles, which was also a really interesting way to just see how everyone’s setup is different and things that they find important compared to what we find important.” Another participant (P9) explains

a successful collaboration with a brewery in a neighboring city:

“We combined our brewing styles and their brewer lent us specific advice about how to best use new strains of brewers yeast that they are familiar with. We both contributed different ingredients to the batches (one brewed at each brewery and sold on-premise respectively) without exchanging any payment or having to go through a complicated approval process or business agreement.”

Despite their value, collaborations are not always a given because craft brewers consider a variety of factors before working with other brewers. For instance, craft brewers look to collaborate with other brewers or breweries that share their ideals or personalities. As a participant (P6) explains they look for, “common courtesy, kindness, willing to work well together” as well as “breweries that we can have fun with and make a good beer and experiment with.”

Another participant (P3) stresses the importance of aiming for a “tangible” goal, meaning it needs to be feasible, possible, or planned. Differences in equipment, facilities, and style of beer pose potential hurdles. Another participant (P1) explained that they are hoping to collaborate with another brewer in their region but are still in the planning phases because the other brewery has a niche specialization on sours beers and wild fermentation beers: “So we might be able to go and make a beer with them but it would be a lot harder for them to come to us and help us and collaborate on a beer with us just cause they’re

so different than we are.” Other participants mentioned considerations such as style specializations and beer quality as well as size or popularity of the brewery. One participant (P5) explains that their brewery’s owner stipulates that with potential collaborations:

“[...] you have to be at least in the same level of making beer, like if we’re making this much good beer, your company has to make this much good beer, too. Or if we have something that, you know, I can learn something from you and you can learn something from us. So it should be, like, advantageous for both places. And or another thing will be if they’re not making good enough beer then, like us, at least they have to be really popular breweries.”

Collaborations are opportunities for information exchange but are not guaranteed.

4.5.3 Community Engagement Boundaries

Craft breweries primarily engage with their local communities for sustainability and philanthropic purposes, with an added benefit of publicity or brand awareness. An emergent theme of sustainability, described in more depth in Section 4.6.2, requires connections with local communities to source local ingredients and employees. Engaging with their communities also provides opportunities for breweries to showcase their company’s values, support their communities, and connect with consumers and potential consumers. Craft brewers in this study mentioned ways they connect with the communities. One of

the participants (P7) explained that their interest in and value of sustainability are embedded in the outreach and collaborations they do with local organizations: “We collaborate with [their city’s] nature center and the zoo and the great parks [county-level public parks system].” They go on, “I mean, the zoo is planting product for us to potentially use in our beers. We, our chef, jumps on with a lot of local farms.” Another participant (P4) described that they host a yearly competition with local homebrewing clubs, with the winner getting to brew a beer at the brewery. As noted in 4.6.5., some events are focused on raising awareness and supporting less-represented populations in the community or field.

4.5.4 Financial and Legal Boundaries

As craft breweries are mostly money-making ventures, there are a variety of business, financial, and legal factors that craft brewers need to be aware of. As noted in Section 4.1, craft brewery owners typically hold ultimate decision-making power and are responsible for ensuring that their businesses are financially buoyant and adhering to relevant laws that impact safety, taxes, sales, production volume, processes, and distribution. However, craft brewers need to be aware of these issues as it may impact their planning, production, and, of course, livelihood. As noted above, brewery owners as well as brewery guilds and brewers associations circulate information and resources on these topics to help keep brewers and breweries informed.

One particular pain point in this area was

distribution. Many states in the US follow a three-tiered distribution regulatory system¹²⁾ that does not allow breweries to distribute their products on their own. Brewers and breweries in states that require the three-tiered system or those that choose to distribute with an external company or by themselves (in states that permit direct distribution) have to invest heavily into distribution as well as consider quality concerns such as shelf-stability as well as business concerns related to marketing, brand awareness and reputation, fairness in distribution, securing adequate shelf or cooler space at relevant retailers, etc.

4.5.5 Boundary Spaces and Events

A variety of spaces and events provide opportunities for the information world of craft brewers to overlap with those of other brewers as well as with those of other social types and stakeholders adjacent to the craft brewing industry. Breweries that serve their beer in a taproom or brewpub have daily opportunities for information worlds to overlap. Beer festivals allow brewers to interact with consumers as well as other brewers and sometimes vendors. Brewers guilds and associations, from local to national levels, host meetings, conventions, and conferences that serve as opportunities to share information, knowledge, and best practices amongst brewers, brewery owners, and vendors. Brewing programs are emerging as a new avenue to gain information

on brewing as existing brewers contribute their experience to the curriculum as instructors or guest lecturers and graduates to share new knowledge as apprentices or assistant brewers.

4.6 Emergent Themes

During the analysis, emergent themes related to quality, sustainability, continuous innovation and learning, accessibility, and diversity and inclusion were identified. The themes were categorized as an emergent theme because.

4.6.1 Quality

An important goal amongst the craft brewers is quality because craft beer is often positioned as a flavorful, high-quality alternative to mass market beer. However, the focus on quality is more nuanced than that. One of the participants (P8) explained that some craft beer consumers are more knowledgeable about potential quality issues, such as off flavors¹³⁾:

“I think a lot of our focus is on quality because you do have an educated consumer, whereas in the beginning of craft beer, you could put out anything, right? And people didn’t know styles. They didn’t know flavor profiles. Didn’t know off flavors. Now you can have someone walk into your tap room and know what diacetyl is, and taste it in your beer, or tell that you have an

12) <https://www.nabca.org/three-tier-system>

13) The off flavor mentioned in the quote is diacetyl, is a fermentation byproduct that can cause unwanted buttery off flavors or an oily mouthfeel. For more information:
<https://homebrewersassociation.org/how-to-brew/the-beer-off-flavor-series-diacetyl-in-house/>

infection in your draft line. And those aren't your average consumer, but you definitely have those consumers."

Another participant (P6) urges honesty on quality issues, despite potential financial losses. For example, they stress not putting out a beer that went wrong or to try to hide or cover it up with other ingredients:

"I've definitely tasted some beers where something had a little bit of an off flavor, and they added something, and it just didn't taste great. But once you put that out there, that is a notch, I guess a figurative notch for your brand. There could be the person that's trying your brand or your beer for the very first time, and that's the beer that they're gonna try. And then you've lost a customer forever. And then they're gonna tell someone, 'Oh, well, I tried this and it taste like this' and then it just kind of domino effects."

Two of the participants operating brewpubs stress that quality extends to their food offerings as well. In addition to making craft beer, they shifted to preparing food from scratch, which helped them save money and bring in new customers or keep existing ones. One of these participants (P4) noted that once they hired a chef, they were able to shift away from pre-packaged food, make more food, save money, and improve quality. Improvements to food are a boon for their breweries despite a shift in focus from their beer. As one participant (P7) explains:

"We bought a good chef. He's great. And that's what we focus on is, you know, people. And it kind of hurts a little bit. But people are like 'man, [Brewer's name]'s food is great!' and they pause and I'm waiting, right? And it doesn't come sometimes. And I'm like, 'but what about the beer?' They're like, 'oh, the beer's great too.' But like, they focus on the food, which I'm okay with because that is a differentiating factor. [...] Yes, they like our beer. If our beer sucked and our food was great, they probably wouldn't come, right? [...] We're in a day where you can't just have mediocre either."

4.6.2 Sustainability

Another theme closely related to quality was sustainability. Craft brewers pursued and promoted sustainable business and brewing practices. Craft brewers often try to source ingredients locally when possible and if economically viable. One brewer mentioned that going fully farm-to-table or sourcing all of their ingredients locally is not economically viable in their area. Instead, they are more selective about the local ingredients that make sense to source from local farms or businesses, and feature or highlight their use in food and beverages. This approach allows the brewery to show its efforts in terms of sustainable ingredient sourcing while remaining economically viable with other ingredients sourced from outside their area.

Sustainability can also be seen in finding ways to make brewing processes more efficient and less wasteful. One participant (P4) provided an example of optimizing their brewery's equipment shortly after

being hired, “Okay, instead of running all of our water from our cooling cycle down the drain, we can reclaim that into our hot liquor tank, which is just hot water storage, save on water bill. Also, the water that’s coming out of there is about 160 degrees. So, you’re saving energy on both heat and water. So little things like that go a long way.” Sustainability also relates to the brewery workforce. One of the participants (P7) who is also an owner, stresses that encouraging work-life balance, offering vacation, insurance, and other benefits to employees improves morale and employee retention: “Sustainability, obviously for us, goes farther than that. Sustainability is also employee sustainability. Not just retention but also making sure that they can sustain life.”

4.6.3 Continuous Innovation & Learning

Craft brewers explained the need to keep experimenting with new beers or styles, as well as making improvements to existing products and brewing processes. Even small innovations are important. One of the participants (P4) explains how the changes in their hopping approach led to improvements to a beer that they regularly make: “So it’s like you can’t just stagnate out once you hit a recipe. You have to follow with the scene and try to create it better, make it cleaner, take chances. [...] And it changed the beer, but it improved it ever so slightly.” Another participant (P5) stressed the importance of continued learning: “[E]ven though you become a brewer, you have to keep studying and you have to be eager to learn about the new process or equipment coming out every single year.”

4.6.4 Accessibility

Craft brewers want to make their products and locations accessible in multiple ways to remove potential barriers. For craft breweries operating brewpubs or taprooms, over the bar and food sales are critical for their survival and success. As one of the participants (P7) explains, “My biggest challenge is ‘butts in seats’”. They went on to explain several strategies to make their brewery more accessible and convenient for their consumers, including focusing on high-quality full-service dining, ample parking, flexible seating, space to accommodate large parties without reservations, and activities for families and children, such as board games and free-to-play arcades. This participant (P7) explains that “We’re not just attracting craft beer drinkers anymore. We’re restaurants that make our own beer. And we do really well at that. We need to remember that the people that are coming are now broader and they’re not just, you know, 1998 craft beer nerds that want barrel-aged Scottish ales.”

As discussed on the theme of quality, better food quality helps draw in more consumers as well as provide a diverse variety of foods, with options that are friendly for kids, vegetarians, and vegans. Additionally, brewers want to provide a diverse beverage portfolio for consumers that simply do not like beer, or for those who cannot have alcohol, gluten, or carbonated beverages. At several of the participants’ breweries, they are already offering or making their own craft beer varieties, such as non-alcoholic beers, hop water, or gluten-free beers, or beer adjacent products, such as distilled liquors, wine, hard seltzers, etc. Two of the breweries

are also roasting their own coffee beans and selling coffee as well as using it with some of the brewing.

4.6.5 Diversity & Inclusion

A few of the participants commented on issues related to diversity and inclusion in the craft brewing industry. One of the participants (P3) noted that the industry needs to be more inclusive in terms of brewers and consumers:

“Don’t pigeon hole yourself into what a lot of the industry has been for a long time, and that has been run by people that look like me: Bearded white men. Make an industry that is accepting for everybody, any gender, any ethnic background and race, all of that stuff is important.”

They continue that breweries and taprooms should be welcoming to all walks:

“One of the most important things is that the taproom and brewery should be a place where ideas are shared, emotions are shared. Laugh, you cry, you giggle, you talk politics, you get mad. And that should be a place that everybody’s welcome at.”

One of the women interviewed noted that they encountered sexism when they were entering the job market because some brewers and breweries were resistant, if not vocally against, the idea of women

being brewers, but were able to find a welcoming and inclusive brewery where they are now happy and finding success. The two women interviewed in the study noted outreach events that their breweries do to support women in their communities. One has a community brewing event for Pink Boots¹⁴⁾ Celebration Brew Day. The other holds regular events on International Women’s Day, actively collaborates with other breweries run by women and funds scholarships for women in educational brewing programs.

5. Discussion

5.1 Brief Summary of the Findings

Craft brewers are the central social type within the information worlds of craft breweries, though their responsibilities often go beyond the production of beer. Craft brewers as a community prioritize rules related to product and workplace safety, professionalism and self-control, supporting other breweries and brewers (including competitors), and being kind and taking the high road while not burning bridges in their career relationships. Craft brewers seek both brewing and business-related information. Brewing-related information is often sought by directly asking peers, other craft brewers or home-brewers, or indirectly through resources published by trusted and experienced brewers. Business-related information is sourced from brewery owners, local,

14) Pink Boots Society is an organization that supports women and non-binary persons in brewing:
<https://www.pinkbootssociety.org/>

regional, and national brewers guilds and associations as well as brewing educational programs. Craft brewers trust the experience of their peers above all, but also highly value information from vendors and suppliers who are knowledgeable about their products and brewing as well as eager to earn their business. Boundaries exist related to the identity of craft brewing, collaborations with other brewers, community engagement, and financial and legal issues.

In addition to the core findings related to TIW (Jaeger & Burnett, 2010) above, five interrelated themes emerged during data analysis: quality, sustainability, continuous innovation and learning, accessibility, and diversity and inclusion. These themes may manifest as goals or ideals for the craft brewing communities but may serve as antecedents for information needs or information seeking or sharing behaviors, suggesting a new category of information value type, professional value, as discussed in Section 5.4 below.

5.2 Connections to Prior Research

While previous research on craft brewing in LIS is limited, the results of this study show that craft brewers in the US also seek out information from the internet, journals, and their colleagues, as Nwagwu and Segilola found of Nigerian brewery engineers. The overall findings align closely with existing research from other disciplines as well. In particular, the social norms, information behaviors, information values, and emergent themes overlap with previous work on the topic or trend of cooperation

in craft brewing industries in countries around the world, such as Australia (Duarte Alonso et al., 2018), Brazil (Prim et al., 2023), Ireland (Drakopoulou Dodd et al., 2018), Mexico (Cabrera-Flores et al., 2019), Portugal (Costa & Franco, 2024), among others, as well as with other studies set in the United States, such as Flannagan et al. (2017) and Said (2019).

This research also partially addresses some of the craft beer research agenda areas proposed by Nave et al. (2022) relating to topics such as the impact of homebrewing and collaborations with other sectors. As noted in the findings, homebrewers are valuable sources of information and innovation with which craft brewers and breweries actively engage with. Like Cardoni et al. (2019), this study found similar roles and importance of brewery owners as a source and facilitator of knowledge transfer.

The findings related to social norms and collaboration boundaries have some alignment with O'Hare (2022)'s findings from interviews with craft brewers in New Zealand, which found that geographic proximity alone did not enable collaboration and knowledge-sharing between brewers, though these were strengthened when craft brewers shared trusting social relationships (social proximity) and had similar levels of knowledge (cognitive proximity). The findings of this study suggest that brewers may consider other factors, such as fun, personality traits, brewing styles, learning opportunities, or popularity. Wiltshire (2024) also noted that craft brewers see the social, collaborative aspects as a draw to the profession as well as beneficial for their individual breweries and the market overall.

As described in the findings, craft brewers align themselves against mass market beer and enforce social norms that foster a shared identity and promote information and resource sharing with peers. O'Hare (2022) also argues that adversarial proximity, where actors work against a shared enemy, can also promote collaboration and sharing. Findings from Said (2019) and Cunningham and Barclay (2020) also emphasize the unifying power of craft brewers' shared enemy. The social norms and boundaries identified in this study also align with the norms identified in the Seattle craft brewing scene by Said (2019), such as the rising tide mantra and norms related speaking no evil publicly, knowledge and resource sharing, and policing craft brewing boundaries around their community identity.

5.3 Theoretical Implications

This study appears to be the first application of Jaeger and Burnett's (2010) theory of information worlds to study craft brewers and the craft brewing industry in the US. TIW's application was useful in that the interactions between the core concepts helped provide context and understanding of the social information behaviors within the information worlds of craft breweries. This study's findings align with previous work applying TIW in other research contexts studying professional and as it relates to the interactions between interactions between core concepts (Hollister et al., 2025; Park et al., 2022).

While the social aspects of collaboration and cooperation of craft brewers are well established, TIW pro-

vides theoretical contribution to the research literature through insights on how information behaviors and values are closely interrelated or moderated by social norms. The social norms relating to ensuring safety and professionalism and self-control may promote and prioritize value in information related to making high quality beer that is safe to consume and made in a safe and responsible workplace environment or culture. Safety and cleanliness issues can directly impact product quality, so information on these topics is shared among brewers and taught in brewing education programs. Unprofessional behavior and lack of self-control around alcoholic beverages can lead to safety and quality issues as well as damage the reputation of brewers and their breweries.

The social norms of the "a rising tide raises all ships" and "being kind, taking the high road, and not burning bridges" encourage information and knowledge sharing among craft brewers while promoting kindness and looking over minor disputes that can help maintain community identity and unity. Crafter brewers that violate these social norms risk losing opportunities for information and resource sharing, collaborations, as well as facing potential expulsion from their local or regional craft brewing community. Craft brewers also place high value on experience and information shared from craft brewers and homebrewers, so these social norms facilitate access to high quality, trusted information. Craft brewers promote and enforce these social norms to create an ethos of information and resource sharing and a unified identity in opposition to mass market beer.

Of the boundaries identified in this study, the most important are those of identity and collaboration. As noted, craft brewers pride themselves on providing a high-quality product and often position themselves opposite of mass market beer makers and sometimes the makers of beer-adjacent products. The identity boundary is reinforced by the community's social types and norms. Craft brewers do not typically want to associate or share information or resources with major breweries or their brewers. The adversarial aspect of these boundaries against a shared enemy seems to be unique in the professional context, but some similarities might be seen in boundaries between social types in contexts such as Twitter (Lee, 2019) and Reddit (Brattland, 2017), where discourse may be socially or politically charged.

However, collaboration and the sharing of information and resources with other craft brewers are highly encouraged despite craft brewers often being competitors within their own regional markets or nationally depending on their distribution footprint. As noted in Sections 2.2 and 5.2, the cooperation and collaboration between competitors, cooperation, has been widely reported in previous research on craft brewers around the world. TIW has provided some context into the unique aspects of the craft brewing community, specifically its social norms, information value systems, and boundaries, that facilitate or enable cooperation. As noted by Jaeger and Burnett (2010), boundaries are areas where information may or may not be exchanged, and this study provides examples of how boundaries, social norms, and information values can limit or promote information flow, even

if it may seem counterintuitive to outsiders or those coming from a capitalistic or profit-driven business perspective.

However, this study's perspective on this information world is limited to the experiences of primarily one social type: craft brewers. While craft brewers may fulfill multiple social types or roles, future research from the perspectives of other social types and stakeholders may provide a more holistic understanding of the information worlds of craft brewers. Future work could also explore the individual cognitive or affective factors and tools and technologies that impact the information behaviors of craft brewers using Burnett (2015)'s information domains framework. While this study identified various information sources, tools, and technologies used by craft brewers, future research using the information domains framework could focus more closely on these areas through observational or field research methods as well as address emotional aspects of craft brewing that may impact craft brewers' sense of identity and community or other professional values.

Additionally, future work could explore craft beer festivals as potential information grounds (Fisher, 2005). The findings of this study suggest that while the primary focus of beer festivals is to showcase beer to consumers, these temporary events also provide opportunities for informal information sharing between craft brewers and vendors. As such, beer festivals may operate in accordance with Fisher (2005)'s information grounds theory because of their temporality, spatiality, and primary focus not being information exchange.

5.4 Implications of the Emergent Themes

The emergent themes identified in this study have implications for information worlds of craft brewers as well as for TIW as a theoretical or analytical framework. The five emergent themes described in Section 4.6 (quality, sustainability, continuous innovation and learning, accessibility, and diversity and inclusion) represent additions to the TIW general codebook used for this study (Burnett et al., 2014). These emergent themes were derived largely from conversations with craft brewers on the dos and don'ts of craft brewing. However, they do not function as rules or social norms, but more like professional values that craft brewers can aspire to achieve or incorporate into their brewery's values or operational goals. As such, these themes more closely align with the concept of information values. Of the information value type subcodes related to the emergent themes, the most relevant subcodes were economic value, value due to perceived profitability; cultural value, value assigned due to its importance to or interest from many members of an information world; and aesthetic value, or value due to the craft, beauty, or artistry involved in its creation. However, each of the emergent themes does not fall cleanly into any one of these existing categories and they all have potential interactions with the other codes and core concepts of TIW.

For example, the emergent theme of quality has connections to social types, information behaviors, information values, and boundaries. Craft brewers

aim to improve the quality of their beer and may seek information from other brewers, vendors, or other sources on how to improve their recipes or brewing processes to make better beer. Quality is also a marker used to differentiate craft beer from mass market beer, which is seen as poorly made and lower in quality. Quality is also important economically, if a craft beer contains off-flavor or not shelf-stable, it may impact sales and the reputation of that craft brewery as well as others by association. As such, the professional value of quality is important for the identity, business, and information seeking of craft brewers.

Sustainability operates similarly. Sustainable production and sourcing can potentially reduce costs and waste, have a positive impact on the local environment, and provide opportunities for craft brewers to socially and economically engage with their communities. The professional value of sustainability may encourage craft brewers to reassess their production processes or ingredient sources and to seek and use information to make their processes and products more environmentally responsible and efficient.

The professional value of continuous innovation and learning encourages brewers to stay up to date on beer trends and brewing practices, on topics such as new safety standards, regulations or how to improve quality or sustainability. Learning from other craft brewers and homebrewers also allows for innovation and experimentation, leading to new styles of beer or improvements to existing recipes. The need to innovate and learn encourages craft brewers to continue to learn and share information, which

allows craft brewers to hone skills, develop new knowledge, and create new styles of beer that can capture potential new consumers, offer new options to existing ones, as well as help differentiate themselves in the market.

The professional values of accessibility and diversity and inclusion are also seen as important for the success and longevity of the profession and business of craft brewing. Reducing barriers to entry by making breweries more accessible, providing a wider variety of high-quality beverage and food options that cater to different dietary restrictions or preferences, space for families and group gatherings helps to grow the business and improve its sustainability. Some of the craft brewers recognize the need to extend notions of accessibility to become more diverse and inclusive in terms of both brewers and consumers. As noted in the findings, more support is needed to welcome and support women and people of color in the craft brewing industry and some craft brewers are actively engaged in promoting diversity and inclusion in the profession. Craft brewers also see their products and establishments as a common space where everyone from all walks of life can come together over a pint or two. For craft brewers and breweries wanting to be more inclusive, they may seek out market and demographic data for their local areas and seek information and advice on how to better understand, support, and engage with the diversity in their communities and in the workplace.

As such, this study identifies professional value as an information value type subcodes that could be explored in other professional settings and poten-

tially added to the general codebook. This professional value can be defined as a set of guiding or aspirational values that are perceived as ideal, required, or exemplary for a profession or practice because they provide benefits for their business or operational goals. Craft breweries and brewers that share these professional values and adhere to social norms may find more opportunities for collaboration and information sharing. The importance of and interactions between craft brewing professional values has been noted in previous research as well. In a study of six breweries located in the Northern New England region of the US, Erhardt et al. (2022) found that seemingly conflicting social and economic values coexist and may reinforce each other in ways that facilitate cooperation and that craft breweries are value-driven organizations that work to balance their internal values with those of their local communities and other external stakeholders. Erhardt et al. (2022) identified social values related to responsible innovation, authenticity, and independence, as well as economic values related to growth, geographical expansion, and business partnerships. These values connect with the emergent themes of quality, sustainability, and continuous innovation and learning as well as boundaries related to identity, community, and collaborations.

Relatedly, this study also contributes to LIS scholarship on workplace information practices by focusing on craft brewers. Widén et al. (2014), in proposing their own framework to effectively study workplace information practices, argue that research on professional contexts should be holistic and multi-level-

eled, considering the needs and abilities of involved actors, work processes, information requirements, the technologies or tools being used, and expected outcomes. This study and others applying TIW may work to establish TIW as a useful framework for studying workplace information practices, especially in social and collaborative industries.

5.5 Practical Applications

This study yields practical applications for craft brewers. Specifically, the findings suggest that craft brewers should be aware of and adhere to the social norms shared and enforced by the craft brewing community. By doing so, craft brewers may have more opportunities for collaboration as well as information and resource sharing. Craft brewers are comfortable sharing and asking for information from their peers, even if they are competitors. Bain et al. (2025) created a guide for craft brewery employees on how to learn to collaborate with competitors, by developing a common goal and identity, among other strategies. More practical applications arise from the values or topics identified in the emergent themes. Craft brewers' pursuit of quality, sustainability, innovation and learning, accessibility, diversity and inclusion may allow them to find success, to better support their peers and communities, and to make craft brewing a more welcoming industry.

The craft brewers interviewed for this study were also resourceful, also seeking information from vendors, traditional sources, like books and journals, and even social media. Several of the participants

in this study leveraged social media to help their brewing and breweries. Relatedly, Foster et al. (2017) found that social media can provide opportunities for sharing knowledge between brewers as well as opportunities for brewers to market and build community with their consumers and receive useful feedback from them.

This study also provides some practical applications for librarians and information professionals. As noted in the findings, craft brewers are not averse to books or learning. As such, librarians may want to consider including books and other resources relevant to the craft brewing industry in their collections; the lists in Tables 1 and 2 could be good places to start for adding to library collections. Libraries and librarians could consider expanding existing business information services to support entrepreneurs and small businesses like craft breweries. Library programs or workshops could be developed to help craft brewers enhance information and data literacy skills needed to access, evaluate, and use information that is important for both beer production and business processes, such as market data or regulatory information. Relatedly, librarians should consider collaborating with craft brewers and breweries to provide interesting adult programs or host brewing events such as regional brewers guilds or homebrewing club meetings. Newmark (2025) and Grisanti (2017) provide insights into library programs and partnerships with local craft breweries. Molsberry (2021) identified several libraries specializing in beer and brewing that may provide useful resources or serve as potential collaborators.

5.6 Limitations and Other Areas of Future Research

This study's exploration of the information worlds of craft breweries is framed through the perspectives of craft brewers, with a limited purposive and non-representative sample of craft brewers in the United States. While craft brewers' roles are central, future research could more actively incorporate the perspectives of other social types and stakeholders in the information worlds of craft breweries to provide a more holistic, nuanced viewpoint. While the results of this study are not generalizable, the findings and themes may be transferable to similar contexts, such as craft brewers and breweries in other countries. As noted in the introduction, the results of this study will inform the design of a follow-up comparative study with craft brewers in South Korea. Relatedly, this study relied on qualitative interview data and not observational data of brewers brewing. Future research could include more observational fieldwork, via a multi-site case study design, or utilize survey methodologies with a larger, more representative sample to address limitations inherent in qualitative research. Other areas of future research could include explorations of the information needs and behaviors of producers of beer-adjacent products, such as wine, liquor, etc.

6. Conclusion

This study applied Jaeger and Burnett's (2010) theory of information worlds to explore the social

information behaviors of craft brewers in the US. The core findings of this study can be seen as the importance of social norms and their impact on information behavior and information value. Social norms related to safety, professionalism and self-control, a "rising tide raises all ships" philosophy, and kindness motivate craft brewers to share information and resources with other craft brewers, even competitors, and foster a shared community identity that further unifies them in their mission to brew high quality beer for everyone. Craft brewers that do not adhere to these norms may face difficulties when seeking collaborations or even maintaining their careers. The findings of this study may be useful for craft brewers in other regions of the world. Emulating or fostering a social and sharing craft brewing scene may help brewers survive and succeed in new or competitive markets.

LIS scholars may find the social information behaviors of craft brewers to be an interesting area of research, particularly in relation to collaborative information sharing between competitors as it may be a rare, if not unique, phenomenon. Libraries and librarians may also have a role in supporting craft breweries and similar small businesses in their communities by including trusted resources about craft brewing in their collections or programs for small businesses and entrepreneurs. Libraries and craft brewers may mutually benefit through partnerships such as library brewing programs, tasting events, or hosting local brewing guilds. The next great craft beer, brewer, or brewery may get their start with a book loan from their local library.

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