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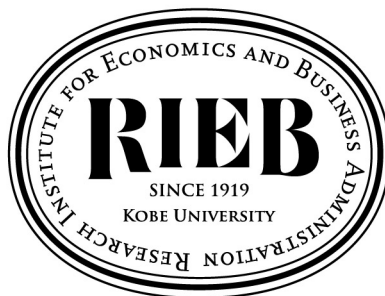
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**Tradition and Craft Organising:
A Review of the Context of Japanese
Sake Master Brewer***

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Tradition and craft organising : A review of the context of Japanese sake master brewer

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Abstract

This early-stage study explores how traditional expert craft occupations, continuing through the pre-modern age, can maintain and transfer expert knowledge today. A literature review was conducted on Toji (Japanese sake master brewer), revealing (1) its organising with craft unions (an organizational form for craft expert occupations) after the Meiji restoration and (2) drastic changes with decreasing Toji population in the last five decades. The analysis identifies three factors that potentially contribute to the sustainability of expert craft occupation's knowledge maintenance and transfer: (a) hybrid organising integrated with the corporate and government sector, (b) formation of open communities of innovation-oriented craft workers and (c) new technologies substituting tacit human knowledge.

Keywords

Craft union, Traditional craft, Occupation, Sake, Toji

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1. Introduction

In recent years, craft has attracted increasing scholarly attention as an alternative mode of working, producing and organising in modern society (Kroezen et al., 2020). The craft scholarship perceives craft as "distancing and differentiating products from mass-manufactured, globalised, mechanised processes of industrial production" (Bell et al., 2019: 3). An exemplary case of such a field of craft is the traditional cultural product industry continuing from the pre-modern age, such as sake brewing, traditional confectionary, paper products and lacquerware in the context of Japan (Sasaki, Ravasi, & Micelotta, 2019).

One important question surrounding the traditional cultural product industry is how the expertise of traditional craft can be transferred across generations. In those industrial fields, expert craft occupations with occupational guilds and apprenticeship training played an essential role in organising labour and maintaining expert knowledge (Hori, Hoshino, & Shimizu, 2020). However, economic and societal changes since the 19th century have nearly extinct those occupations in Japan (Kihara, 2002; Nakai, 1995). The sustainability of traditional approaches to knowledge transfer has been seriously questioned even in large industries such as sake brewing (Kamata, 1992; Sato, 1992). How can those traditional craft expert occupations, continuing through the pre-modern age, maintain and transfer expert knowledge today?

In organising of traditional craft expert occupations, craft unions have played a key role. Craft unions (Hannan & Freeman, 1987) are the unions organised by craft workers that

follow an occupational logic (Yu, 2013), emerged after the dissolution of medieval guilds and in the modernisation of craft work, originated in Europe in the 19th century and also observed in other industrialised societies through the 20th century (e.g., Baron et al., 1988). Studies of traditional craft have highlighted the critical role of craft unions in their work control and skill development in the transition period toward modern production (Hoogenboom et al., 2018).

Although most craft unions have been dissolved and replaced by other organisations, there remain exceptions, particularly in non-western countries where production modernisation took place in relatively recent decades, and traditional industries continuing from the pre-modern age still survive. Sake master brewers (Toji) in the sake industry in Japan are one such rare example. The Toji craft unions established since modernisation still survive but face significant environmental changes. With the decreasing labour supply and shrinking domestic market, many Toji craft unions have vanished, and the rest have significantly shrunk.

The objective of this study is to explore the potential uniqueness of organising of those expert craft occupations in their continuation through the ages. Specifically, focusing on the case of Toji, I explored how the knowledge maintenance and transfer of such a craft occupation can continue today. Among various sectors, sake brewing is an excellent case for studying an expert craft occupation because of its long history, rich historical records, and active renovation observed in the last several decades. Further, sake has recently attracted considerable attention as a cultural product among global audiences (Matsumoto & Tremblay, 2022) and as an

economic growth opportunity for the country (Cabinet Office of Japan, 2012).

In this study, I conducted a literature review of academic journal articles and books published and available in Japan, using the CiNii Research database with the keyword "Toji" (358 articles and 447 books as of 1 March 2023). After screening them by relevance and carefully reading the data, I developed a chronological case of the Toji occupation. I identified trends in how the organising of Toji has changed, particularly after the country's modernisation after the Meiji restoration. This study intends to construct the foundation of the contextual understanding for future field studies.

This discussion paper proceeds as follows. First, the theoretical and contextual backgrounds of the Toji occupation in the pre-modern age is explained. Next, recent changes in its organising since the country's modernisation are reviewed. Finally, the implications of the review are discussed.

2. Theoretical and contextual backgrounds

Craft unions

Recent developments in the theorisation of organising around craft work have revealed various configurations of craft work (Kroezen et al., 2020). Among them, the most foundational type of craft that has been studied long is "traditional craft" (p. 511). Traditional craft originates from medieval guilds, which are characterised as functions of religious brotherhood, political and military roles, legal jurisdictional functions, social security and economic regulations, as well

as symbolic value of honour, myths and rituals (Kieser, 1989). Medieval guilds were dissolved in modernisation in most Western countries by the 19th century, and the organising of craft work shifted toward new forms of organisations under the increasing influences of modern production and bureaucratic firms.

Some traditional craft workers organised themselves with craft unions after industrialisation (Kroezen et al., 2020). Craft unions are unionised organisations that follow an "occupational logic" by seeking "work control, often monopolising the supply of labor... [and] enforcing craft standards as gate-keeping mechanisms" (Yu, 2013: 109) ". In studying the patterns of the transformation of old craft guilds into their nineteenth-century successors in three European countries, Hoogenboom et al. (2018) revealed that craft unions played essential roles in some ex-guild occupational groups' continued influence over access to labour via skill formation.

Specifically, Hoogenboom et al. (2018) identified six scenarios of post-guild organising of craft work. Among these, craft unions can be observed as a form of organising to represent craft workers' interests in two cases: "Industrialised artisanism" and "Liberalised artisanism" (p. 262). The former is the case in which guild-like organisations continuing through the pre-modern age remained effective and a certain degree of mechanisation and industrialisation was possible (e.g., printing trade in Germany, Welskopp, 2010). Where guild-like social groups were maintained while industrialisation could not occur, craft work remained

largely unorganised (“Old artisanism”, Hoogenboom et al., 2018, p. 261, e.g., butchers in London, Brantz, 2003). The latter is where guild-like organisations were dismantled, but mechanisation and industrialisation also failed (e.g., building trade in the Netherlands and the UK, Powell, 1996). When guild-like organisations were dismantled, and industrialisation was easy, as typically assumed in our knowledge of craft work after the industrialisation, artisans were subsumed into modern enterprises (“Destroyed artisanism”, Hoogenboom et al., 2018, p. 266, e.g., the textile industry in the Netherlands).

When particular skills were indispensable even in the mechanisation of production processes, craft workers could have certain controlling stakes over employers and engaged in developing and controlling craft skills to sustain their position (Herrigel, 1996). The unionisation led to organising resembling medieval guilds, corroborating social ties and mutual support (Hoogenboom et al., 2018). These unions later transformed into modern labour unions when an increasing number of apprentices were hired with poor training and had few opportunities to become masters, in most Western economies. Meanwhile, some craft unions established by guild-like social groups in the modernisation age continue operating today, which has rarely been studied. One such eminent case is the Sake Master brewers’ unions (Toji Kumiai) in the Japanese sake industry (Kobayashi, 2023), on which this study focuses.

Organising craft work in the Japanese sake industry: Toji until the 1860s

Sake is a fermented alcoholic beverage made from rice unique to Japan. It has a long history in

the country, dating back to the eighth century in official national records (Hori et al., 2020). Sake production began in earnest in Nara during the middle of the Muromachi period (between the 14th and 16th centuries). During the Edo period (the Tokugawa Shogunate, between the 17th and the 19th century), the expertise for sake production developed considerably (Suzuki, 2015). The systematisation of this expertise led to the formation of regional expert groups of sake brewing across the country, and its manufacturing methods primarily evolved into those used today. Those master brewers were called Toji (Yunoki, 2018). Toji was a pre-modern expert occupation in which farmers engaged during the winter off-season.

Under the leadership of Toji, a distinct work organisational structure with a strict hierarchy and role allocation was formed in Toji groups. Though their names varied by region, typical Toji groups assigned roles with particular names such as Toji (leader), Kashira (sub-leader), Emon (in charge of malted rice), Motomawari (in charge of yeast), Kamaya (in charge of steaming), Jo-bito (senior support staff), Chu-bito (middle support staff), Shita-bito (junior support staff), and Meshitaki (cooking and cleaning) (Yunoki, 2018). Toji developed deep knowledge of the complex brewing process specific to sake (i.e., multiple parallel fermentation) (Horie, 2020). They handed down the tacit knowledge of sake brewing through apprenticeship within the group (Hori et al., 2020). Toji groups were guild-like occupational communities present in various regions around the country. They included famous large groups, such as Tanba Toji in Hyogo, Noto Toji in Ishikawa, and Nanbu Toji in Iwate (Fujiwara, 1999).

Although the arrangements between sake brewers and Toji were managed by intermediaries (called Kuchiire-ya, or Yado) in regions where dominant Toji groups were absent (e.g., Kanto), major Toji groups monopolistically assigned staff to each sake brewer (Shinoda, 1957). In the mid-to-late Edo period, Toji established its occupational institution in the sake industry, thus almost monopolising the sake brewing process.

3. Findings

3.1 Organising of Toji as a quasi-modern expert occupation

During the national modernisation following the Meiji restoration (1868), modern scientific knowledge was introduced to the industry to improve the quality and productivity of sake brewing (Fujiwara, 1999). To address this change, since the end of the century, local Toji groups formed occupational associations registered as unions that established the membership of sake brewing workers, their code of ethics, seasonal training, and local sake competitions to commend high-quality products. Those educational seminars provided knowledge on modern science and training opportunities for brewing practices that integrated the latest scientific knowledge and traditional tacit sake brewing knowledge (Suzuki, 2015). The government also launched the National Research Institute of Brewing (NRIB) in 1904 to diffuse scientific knowledge and provide education to Toji and their subordinate brewing staff.

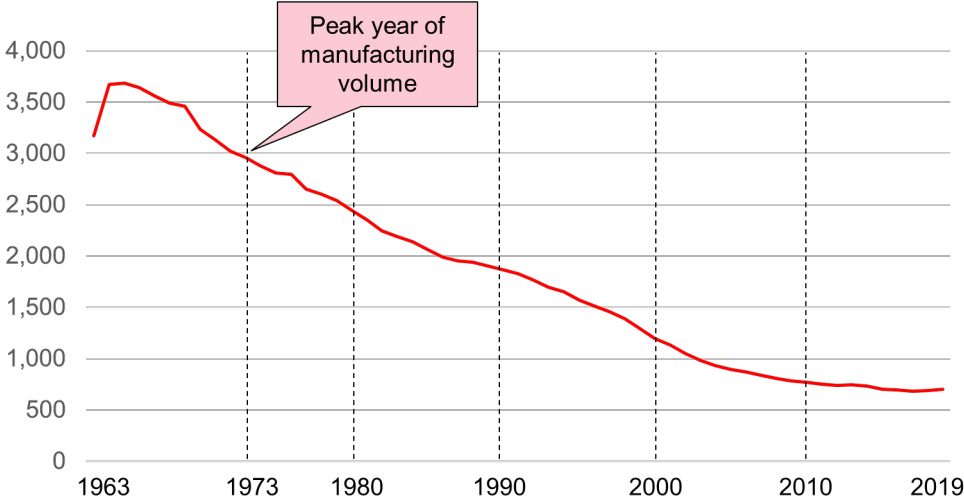
Thanks to these arrangements, Toji managed new sake brewing practices that gradually incorporated modern oenology (e.g., yeast selection) and manufacturing equipment

(e.g., rice milling machines) and continued to control sake brewing through their quasi-monopolisation of knowledge and work arrangements until the mid-twentieth century (Fujiwara, 1999). Meanwhile, they maintained the apprenticeship backed by their pre-modern culture and work style.

3.2 Deterioration of the Toji ecosystem

The Toji occupational institution faced significant environmental changes since the 1960s that shook its prosperity. The nation's drastic economic growth and urbanisation resulted in a significant decrease in the agricultural population and the supply of migrant seasonal workers (Kondo, 1967; Matsuda, 1999; Yano, 2004). Further, the traditional work environment of sake brewing under the Toji institution—in particular, its arduous work, precarious employment, non-transparent wage system, group life without privacy, and strict pre-modern class system that required absolute obedience to the senior—rendered a bottleneck to recruit younger generations (Kondo, 1967). Even worse, sake consumption began to decrease after its peak in 1973. As a result, from the 1960s to the 2010s, the Toji population significantly dropped. The Japan Toji Guild Association (Nittoren) membership went from 3,683 in 1965 to 703 in 2015 (Figure 1). The average age of Toji rose from approximately 50 in 1975 to 70 in 2010 (Kobayashi, 2011).

Figure 1. The Japan Toji Guild Association (Nittoren) membership (1963-2019)



Source: Nittoren

During this period, many Toji associations shrunk in size or were disbanded. As of March 2024, only 18 Toji associations remain Nittoren members (Figure 2). The Toji occupation showed a constant downward trend, getting closer to extinction. However, interestingly, there have been three new trends changing the occupation and reversing this trend.

Figure 2. List of Toji associations (white: active, shaded: non-active)

Eastern Japan	Kinki	Chugoku	Shikoku/Kyushu
北海道酒造杜氏会	大野酒造杜氏組合	備中杜氏組合(24)	西宇和郡杜氏協同組合(伊方杜氏)
津輕酒造杜氏組合/青森県杜氏組合	越前糠酒造杜氏組合	成羽杜氏	香西杜氏
山内杜氏組合(33)	宇津尾杜氏	浜杜氏	豊浜杜氏
一般社団法人南部杜氏協会(206)	棗杜氏	日野杜氏	仁尾杜氏
庄内杜氏	伊勢杜氏	三朝杜氏	引田杜氏
羽黒杜氏	員弁杜氏	出雲杜氏組合(14)	小豆島杜氏
会津杜氏会(6)	大和杜氏会(3)	秋鹿杜氏	越智郡杜氏組合
下野杜氏会(16)	丹後杜氏組合	石見杜氏組合(8)	高知県杜氏組合(17)
新潟酒造技術研究会(121)	丹波杜氏組合(45)	長浜杜氏	右山杜氏
長野県醸友会(58)	播州杜氏	広島杜氏組合(36)	出口杜氏
富山県杜氏会(93)	生瀬杜氏	赤名杜氏	日章杜氏
魚津杜氏	母子杜氏組合	沼隈杜氏	安芸杜氏
能登杜氏組合(72)	但馬杜氏組合(27)	大津杜氏組合(16)	九州酒造杜氏組合(28)
加賀杜氏	城崎郡杜氏組合	山口杜氏組合	
志太杜氏組合	南但杜氏組合	大島杜氏	
知多杜氏	淡路杜氏		
蒲郡杜氏	新庄杜氏		
不破杜氏			

Note: Unions mentioned in Shinoda (1957) are listed, including those already non-active in the 1950s. Green indicates member unions of Nittoren (as of March 2024). Numbers indicate the number of member Toji (as of May 2023).

3.3 Corporate stakeholders substituting occupational associations

First, corporate stakeholders (sake brewing firms and their industrial associations) have taken over essential functions of Toji craft union, particularly in the following three dimensions.

The first is the internalisation of traditional Toji and support workers (Kurabito) since the mid-20th century; sake brewing firms gradually began to hire Toji (and sometimes Kurabito) as full-time employees, who often also remained Toji craft union members (Kihara, 2002; Kobayashi, 2011; Ohashi, 2003). The replacement of seasonal migrant worker Tojis with employee Tojis have been debated since the 1980s in the literature. According to a Nittoren survey, as of 1997, 27% of Toji and Kurabito had become full-time employees. The share of the “employee Toji” among all Tojis increased to 48.7%, while “Toji system (migrant seasonal worker Toji)” was only 10.2% in the sample, in the National Tax Agency survey published in 2023 (https://www.nta.go.jp/taxes/sake/shiori-gaikyo/seizo_oroshiuri/r05/pdf/all.pdf, accessed on 12 March, 2024). This enabled sake brewing firms, particularly large ones, to acquire sake brewing tacit knowledge as a corporate asset, and to continue develop next-generation sake brewing experts internally.

The second is the launch of systematised training programs by industrial associations for young workers aspiring to become Toji. Specifically, the Japan Sake and Shochu Maker Association launched new programs to train young employees across firms (Hata, 1992). This initiative began with seminars targeting the firm management in the 1970s; it then expanded to

employees focusing on businesses (e.g., sales and logistics) and sake brewing in the 1980s. The similar scheme has spread widely to local sake brewing firm associations since the 1980s (Ohira, 2022). One eminent success case is the Niigata Sake School, “an educational institution created by the Niigata Sake Brewers Association in 1984 in anticipation of the shortage of successors to sake brewers such Toji and other sake brewing technicians” (Niigata Sake Brewers Association website, <https://www.niigata-sake.or.jp/en/activity/school/>, Accessed on 12 March, 2024). The three-year course consists of more than 100 hours of classes each year, incorporating 12-20 students in each intake. The school has more than 500 graduates who have become expert employees of sake brewing firms in the prefecture. This systematic training substitutes the traditional apprenticeship-style skill development; the control of skills can be taken over by business firms without relying on craft unions. Assuming the decreasing population of seasonal migrant worker Toji, business firms have long considered this approach a strategically important move to sustain their manufacturing capability.

The third is new Toji accreditations, organised by some local sake brewing firm associations and corresponding local government agencies since the 2010s (Ohira, 2022). These accreditations are through formal annual examinations, open to a broad range of candidates with experiences in sake brewing firms. On the one hand, some Toji accreditations at traditional Toji craft unions have become open to new comers from outside the region (e.g., Nanbu Toji). On the other hand, there have been new Toji craft unions established with their

new accreditation system (e.g., Hitachi Toji in Ibaraki, Shimotsuke Toji in Tochigi). For example, Shimotsuke Toji is an accreditation for sake brewers at local sake brewing firms in Tochigi prefecture; “After passing through a rigorous curriculum and exams imposed by the Tochigi Prefectural Industrial Technology Center, including practical exams, sake tasting exams, written exams, and teaching at various study sessions, the candidate can be certified as ‘Shimotsuke Toji’” (<http://sasara.lib.net/news.html>, Accessed on 12 March 2024). These new accreditations, focusing on and managed by local sake brewing firms, exemplify the increasing dominance of business firms in the control of sake brewing knowledge and skills.

Overall, these initiatives by corporate stakeholders suggest the rise of hybrid organising between the organisational and occupational fields.

3.4 Owner-brewers forming open innovation communities

Second, an increasing number of owner family members of small sake brewing firms, who had been traditionally out of touch with sake brewing, became Toji themselves and/or developed innovative products and new ways of marketing them (Aramasa Shuzo, 2021; Kobayashi, 2011).

In various regions, these young owner family members have actively engaged in collective marketing, highlighting them as creative disruptors of the sake brewing tradition (e.g., ‘Next 5’ in Akita, ‘Sagan 5’ in Saga), with innovative products using untraditional designs and rare (extremely new or already extinct authentic) manufacturing methods (Sando, 2014).

One particular feature of these young brewers is that most of them share a common

educational/training background at the same university (Tokyo University of Agriculture) and/or research institution (NRIB), and they leverage their network through extensive knowledge sharing and collaborative initiatives (Sando, 2014). Many books on these young owner brewers have been published. These literature highlights the challenges these owner Tojis faced in reinventing the tradition, as well as mutual support and collaborative efforts among them. One popular example is Aramasa Shuzo (although the owner is not Toji himself), a well-known old sake brewing firm in Akita, which is now famous for its stylish product design, excellent taste and return to traditional brewing techniques with innovative twists. The firm attracts young aspiring sake brewers, and those young employees and other owner Tojis in the region form a community that enhances idea exchanges on sake brewing and collaborative marketing with community members.

In other words, there is a growing population of owner-brewers in small breweries, hybridising management and craftsmanship, who form communities of innovation-oriented like-minded young brewers to exchange and create knowledge.

3.5 Digital technology taking over human expertise

Third, new digital and machine technologies that partially substitute Toji's expertise have begun to be applied to sake brewing processes. In the 1980s, NRIB and advanced sake brewing firms began to test various innovations for sake brewing, such as automation of the mash process using fuzzy control and online control of continuous sake fermentation using a

bioreactor (Kawamura, 1995; National Tax Agency, 1994; Tsuchiya, 1990). These technologies can perform some tasks without Toji's expert knowledge, reducing operating costs.

Further, the recent development of artificial intelligence can provide more opportunities to automate sake brewing and replace the humans' role of transferring traditional knowledge. In this regard, prominent examples include projects in some advanced sake brewers and manufacturing equipment manufacturers. In particular, Asahi Shuzo (a sake brewer known for its brand "Dassai") announced a joint demonstration experiment to brew sake using an AI prediction model developed by Fujitsu Laboratories that supports sake brewing (<https://pr.fujitsu.com/jp/news/2018/04/19.html>, Accessed on 12 March, 2024). As another example, Fujiwara Techno Art (a Koji-making equipment manufacturer) developed a software solution that used deep learning to optimise the manufacturing process of Koji-making in varied conditions (<https://www.fujiwara-jp.com/labo/project>, Accessed on 12 March, 2024). One intention of this project is reported to be the maintenance and transfer of tacit knowledge of experienced Tojis which can be lost in the near future due to their retirement. In a sense, some expect that machines are not a threat to human experts, but can be a significant support to enhance humans' capacity and maintain traditional wisdom, although in a non-traditional format. Although the literature suggests that the AI projects are at their early-stage, these examples suggest the potentially significant role of new technologies in maintaining and transferring knowledge of traditional craft occupations, replacing human experts.

4. Discussion

Over its long history, Toji has developed a unique culture and has become an essential institution for transmitting sake brewing knowledge to the present day. However, in recent years, the social structure that supported this system has changed, and its continuity as a system is at risk. In response to these changes, stakeholders surrounding sake brewing are proceeding with various new initiatives. By reviewing the literature on Toji, this discussion paper identified the potential uniqueness of organising of Toji as an expert craft occupation in maintaining and transferring expert knowledge in the following three ways.

First, this review suggests that today's expert craft occupations can organise their knowledge maintenance and transfer through the support of corporate stakeholders, which implies the increasing hybridisation of the organisational and occupational fields. Studies on expert occupations and professions have stressed the contrast between occupations and bureaucratic firms as the axis of organising in modern society (Freidson, 2001). However, this study implies that hybridity can be an inevitable path for expert craft occupations to sustain their relevance, just as it is for modern professions today (cf. Kirkpatrick & Noordegraaf, 2015). Considering the local governments' support of those sake brewing firms' interventions observed in many cases, one could argue that the hybridity also includes the state logic that prioritizes increasing community good by maintaining historical assets of the society (Thornton, Ocasio, & Lounsbury, 2012).

Second, this study shows that the core of expert craft occupations today can shift from closed craft unions to open communities of innovation-oriented craft workers. Organisation studies have assumed that modern occupations form closed social groups that institutionalise education, training and accreditation to establish, expand and protect professional jurisdictions (Abbott, 1988). The case of Toji suggests that traditional expert craft occupations can also follow the same path in modernisation to a certain extent. However, due to their inherent pre-modern characteristics (e.g., outdated work arrangements and culture), they need a transformation to survive the recent economic and societal change. In this regard, the paths taken by craft unions in the 19th and 20th centuries in Western contexts can provide a fruitful room for a comparative perspective (Hoogenboom et al., 2018). The findings show the relevancy of craft unions as a way to organise expert craft knowledge in broader contexts, including non-western settings, and suggest the potential diversity of organising of those craft unions that explains the coexistence of prosperous unions (e.g., Nanbu Toji and some other unions) and diminishing or disbanded ones in a single context.

Third, this review suggests that new digital technologies can play an essential role in knowledge maintenance and transfer of pre-modern expert knowledge of traditional craft occupations. Just as other expert occupations experience a significant shift in how skills are developed and knowledge is transferred (e.g., Anthony, 2021), the case of Toji suggests the changing nature of expertise against technologies in long-standing expert craft occupations.

Actually, in the context of sake brewing, Toji has continuously incorporated new technologies since the pre-modern age (e.g., Kimoto in the Edo era, brewing science in the Meiji era and machines in the Showa era). In a sense, incorporating new technology is inherent in the tradition of sake brewing (Yunoki, 2018). Meanwhile, the concept of craft can sometimes reject new technologies due to their commitment to traditional and/or manual work (cf. Bell et al., 2019). Thus, Toji's positive-ness toward new technology, in contrast to their commitment to craftsmanship, can provide an interesting area of studying how technology and craft can continue coevolving.

With these implications, this study contributes to the literature on craft and expert craft occupations by suggesting factors that potentially explain those occupations' knowledge maintenance and transfer today. This study also presented the summary contextual background of Toji and the sake brewing industry. Further beyond sake brewing, the contexts of other traditional cultural product industries in Japan can also provide rich data and fresh insights to the rising interest in craft and traditions in organization studies. This discussion paper intends to contribute to the foundation for future studies in those respects.

References

- Abbott, A. (1988). *The system of professions: An essay on the division of expert labor*. The University of Chicago Press.
- Anthony, C. (2021). When knowledge work and analytical technologies collide: The practices and consequences of black boxing algorithmic technologies. *Administrative Science Quarterly*, 66(4), 1173-1212,
- Aramasa Shuzo. (2021). *The world of Aramasa*. Sansai Books.
- Baron, J. N., Jennings, P. D., & Dobbin, F. R. (1988). Mission control? The development of personnel systems in US industry. *American Sociological Review*, 53(4), 497–514.
- Bell, E., Toraldo, M., L., Taylor, S., & Mangia, G. (2019). Introduction. In E. Bell, G. Mangia, S. Taylor, & M. L. Toraldo (eds.) *The organisation of craft work: Identities, meanings, and materiality* (pp. 1–19). Routledge.
- Brantz, D. (2003). *Slaughter in the city: The establishment of public abattoirs in Paris and Berlin, 1780–1914*. Dissertation (University of Chicago).
- Cabinet Office of Japan. (2012). Export promotion program for sake and other national liquors. https://www.cas.go.jp/jp/seisaku/npu/policy04/pdf/20120904/20120904_kokushu.pdf
Accessed on 11 March 2024.
- Freidson, E. (2001). *Professionalism: The third logic*. Polity Press.
- Fujiwara, T. (1999). *History of modern sake brewing* (「近代日本酒造業史」). Minerva Shobo.
- Hannan, M. T., & Freeman, J. (1987). The Ecology of organisational founding: American labor unions, 1836-1985. *American Journal of Sociology*, 92(4), 910–943.
- Hata, F. (1992). Overview of the human resource development program by the Japan Sake and Shochu Maker Association. *Journal of the Brewing Society of Japan*, 87(11), 764–768.
- Herrigel, G. (1996). *Industrial constructions: The sources of German industrial power*. Cambridge University Press.
- Hoogenboom, M., Kissane, C., Prak, M., Wallis, P., & Minns, C. (2018). Guilds in the transition to modernity: The cases of Germany, United Kingdom, and the Netherlands. *Theory & Society*, 47, 255-291.
- Hori, K., Hoshino, Y., & Shimizu, H. (2020). Apprenticeship and product quality: Empirical analysis on the sake brewing industry. *Management & Organizational History*, 15(1), 40–64.
- Horie, S. (2020). Japanese sake manufacturing technology (「日本酒の製造技術 Q&A」). Imai Printing.
- Kamata, K. (1992). The future of sake-making system depending on the experts. *Journal of the Brewing Society of Japan*, 87(2), 82–85.

- Kawamura, D. (1995). Development of koji-making equipment using robots. *Journal of the Brewing Society of Japan*, 90(11), 816–822.
- Kieser, A. (1989). Organisational, institutional, and societal evolution: Medieval craft guilds and the genesis of formal organisations. *Administrative Science Quarterly*, 34(4), 540–564.
- Kihara, K. (2002). Changing of employment system and the efficiency of production in the sake-brewing industry: A survey of wages of sake-brewing workers in the Kanto-KoShinetsu area. *Journal of Agricultural Science*, 47(3), 231–242.
- Kirkpatrick, I. M., & Noordegraaf, M. (2015). Organisations and occupations: Towards hybrid professionalism in professional service firms? In L. Empson, D. Muzio, J. P. Broschak, & B. Hinings (eds.) *The Oxford handbook of professional service firms* (pp. 92-112) Oxford University Press.
- Kobayashi, T. (2011). *Historical study on 'Hizen Toji': The group of sake masters in Saga prefecture* (「佐賀「肥前杜氏」史研究－出稼ぎ蔵男たちの足跡」). Norin Tokei Shuppan.
- Kobayashi, T. (2023). *Development of the Sake Brewing industry and activities of the Sake Master's groups in Kyushu at modern and contemporary period* (「九州の酒造業と杜氏集団」) Tokyo: Norintokei shuppan.
- Kondo, Y. (Ed.). (1967). *The economic structure of the brewing industry* (「酒造業の経済構造」). University of Tokyo Press.
- Kroezen, J., Ravasi, D., Sasaki, I., Zebrowska, M., & Suddaby, R. (2020). Configurations of craft: Alternative model for organizing work. *Academy of Management Annals*, 15(2), 502-536.
- Matsuda, M. (1999). *The transformation of sake brewery migrant workers in postwar Japan* (「戦後日本における酒造出稼ぎの変貌」). Kokon Shoin.
- Matsumoto, N., & Tremblay, M. (2022). *Exploring the world of Japanese craft sake: Rice, water, earth*. Tuttle Publishing.
- Nakai, Y. (1995). Toji Kokeisha ikusei ni tsuite (on Toji successor training). *Journal of the Brewing Society of Japan*, 90, 498.
- National Tax Agency. (1994). On the new brewing system. *Journal of the Brewing Society of Japan*, 89(7), 513–523.
- Ohashi, M. (2003). An approach to sake brewing with annual employment. *Journal of the*

- Brewing Society of Japan*, 98(1), 2–10.
- Ohira, T. (2022). Activities and transition of the Sake Brewers Association. In Sakeology Center, Niigata University (Ed.), *Sakeology lecture* (「日本酒学講義」) (pp. 100–116).
- Powell, C. (1996). *The British building industry since 1800. An economic history*. E. & F. N. Spon.
- Sando, A. (2014). *Masters of sake* (「めざせ！日本酒の達人－新時代の味と出会う」). Chikuma Shobo.
- Sasaki, I., Ravasi, D., & Micelotta, E. (2019). Family firms as institutions: Cultural reproduction and status maintenance among multi-centenary shinise in Kyoto. *Organization Studies*, 40(6), 793-831.
- Shinoda, O. (1957). The craft system and traditional techniques in sake brewing, especially brew-master organisations in Western Japan (Social survey report of the Research Institute of Human Sciences, No. 15). The Research Institute of Humanistic Science, Kyoto University.
- Suzuki, Y. (2015). *The modern history of sake: The birth of sake brewing areas* (「日本酒の近現代史－酒造地の誕生」). Yoshikawa Kobunkan.
- Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *The institutional logics perspective: A new approach to culture, structure, and process*. Oxford University Press.
- Tsuchiya, Y. (1990). Fuzzy control of the sake moromi process. *Journal of the Brewing Society of Japan*, 85(5), 300–308.
- Yano, S. (2004). Sociology of rural society and migrant labor (「村落社会と『出稼ぎ労働』の社会学」). Ochanomizu Shobo.
- Yu, K.-H. (2013). Institutionalisation in the context of institutional pluralism: Politics as a generative process. *Organization Studies*, 34(1), 105–131.
- Yunoki, M. (2018). *History of sake brewing* (「酒造りの歴史」). Yuzankaku.
- Welskopp, T. (2010). The vision(s) of work in the nineteenth-century German labour movement. In Kocka (ed.), *Work in a modern society: The German experience in comparative perspective* (pp. 55–72). Berghahn.