Sake of Distribution Problems in Out of Japan -Hong Kong Case-

Natsuki Watanabe

***Abstract*—**This thesis aims to create specific and reliable Sake marketing in Hong Kong. The purpose of this article is to makes clear that problems hiding behind in a Sake (Rice wine, made in Japan). Sake boom in Hong Kong depend on the sales management expense. Hong Kong has rare sake handling in the world. Hong Kong is the world's second county (in 2014) for Sake importing value from Japan. 1.829 billion JPY (15.9% in the world), 1613KL (9.9% in the world).[i] Moreover, anyone can purchase from the convenience store or supermarket even for local store not only from a foreign-affiliated supermarket. There are approximately 1,000 Japanese restaurants in Hong Kong. About 40% traffic of the sake increased on the basis of entry compare to five years ago[ii] (2007 to 2011). Based on a field research, three points of following problems arises.

1. Inappropriateness of the temperature management. (The problem is excessive cooling of Sake products)
2. Method of offering Sake at restaurant or bar. (Affinity of the glass)
3. The preservation period of the restaurant. (Desirable to offer much sake within three to six months after doing a bottle.) Especially, retail store (including supermarket) and low quality restaurants could handle high-quality food or public (low-price) food. However, the problems mentioned above were remarkable seen in these places.

Therefore, appropriate management of sake in the retail stores and low quality restaurant is highly recommended to provide good quality of sake like in imported country.

In other words, the stores should pay more attention to the management expense in order to avoid above mentioned problems.

***Keywords*—** Economics, Hong Kong, Japanese rice wine, Marketing, Sake.

I. About the Sake

THE first description of the sake brewing using malted rice mold is "Harima country topographical record" (713), clearest description of the liquor, recorded in "Engi Shiki"[iii] (900) the current manufacturing method established. According to Akiyama (1999), the rice becoming the raw materials came to Japan over Korea from China. Nishi (1996) suggests the East Asia area is a malted rice (Koji) cultural sphere. However, "distilled liquor" spreads in China, but not in Japan. In China, mainly raw powder and knead wheat flour stiffly into a dumpling form and wait for leaving approximately one month, and Rhizopus nigricans growing it naturally, made "malted rice". By contrast in Japan, inoculate steaming rice with "aspergillus flavus" inoculum and make "malted rice" in approximately two days. Is appropriate by difference between raw or steaming of main materials it that perform saccharification fermentation with bacteria each. December 2013, Japanese food was registered with UNESCO Intangible Cultural Heritage titled "Japanese traditional food culture". [iv] Japanese mind, which is the Japanese food assumed respect for nature the basis was suggested as a "consuetude" about the meals that embodied. Sake is included as Japanese traditional food culture. Sake is brewed raw materials rice. [v] Classification of the brewage contained Beer and Wine, alcohol frequency is low, and fermentation methods are difference. Sake is a brew made with "parallel double fermentation" by the method that is rare in the world. The parallelism return fermentation ferments with "saccharification" at the same time[vi].

TABLE I

TYPE OF FARMENTATION[vii]

		Fragrance, taste and characteristic of the color	Other characteristics
Single fermen t-ation	Wine	Gorgeous fragrance (aroma,bouquet) Astringency by acid and the Tannin(Red wine) Abundant color	Kind of raw materials, climate, influence of the enviroment (Vintage), Variety of the quality of liquor (貴腐 Noble rot, sherry, champagne, port)
multipl e fermen t-ation	Beer	Fragrance and bitterness of the hop	Character of refreshing drinks Mass productivity
Parallel multipl e fermen t-ation	Sake	Fresh fragrance and Ginjyo (Fruity) fragrance 吟醸香 Mellow flavor and ripening flavor Umami and pure strong taste こく	Fineness and variety of the brewing technology (Ginjo 吟醸,Kihoshu 貴醸酒)

Natsuki Watanabe, Graduate School of Agricultural and Life Sciences, The University of Tokyo

TABLE 2−1
CLASSIFICATION OF THE LIQUOR[viii]

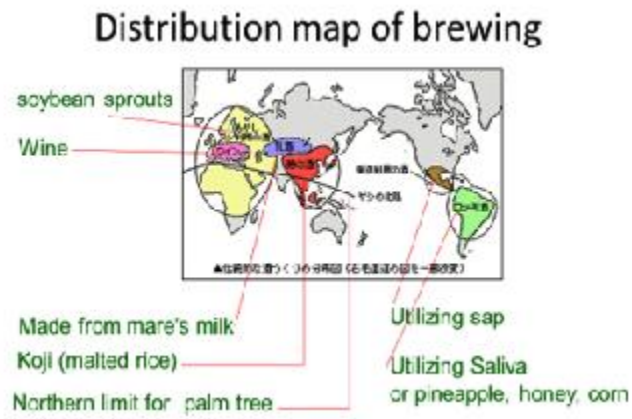


TABLE 2−2
COMPOSITION OF SAKE, BEER AND WINE COMPARED

	Sake	Beer	White wine
Alcohol (%)	13 −17	4 − 6	10 − 13
Extract (g/100ml)	3 − 6	3 − 4	2 − 8
Glucose (g/100ml)	0.5 − 4.2	0.03 − 0.1	0.1 − 3
Nitrogen (mg/l)	700 − 1900	250 − 1000	100 − 900
Glutamic acid (mg/l)	100 − 250	10 − 15	10 − 90
Titratable acidity (g/100ml)	0.1 − 0.2	0.15 − 0.2	0.5 − 0.9
pH	4.2 − 4.7	4.1 − 4.4	3.0 − 4.1
Succinic acid (mg/l)	200 − 500	40 − 100	500 − 1500
Malic acid (mg/l)	100 − 400	50 − 120	250 − 5000
Tartaric acid (mg/l)	0	0	1500 − 4000
SO2 (total) (mg/l)	0	− 20	− 250

© 2013 Japan Sake and Shochu Makers Association.
http://www.japansake.or.jp/sake/english/pdf/no_1.pdf

According to the study of Musha (2015),[ix] mentioned Sake brew process. 1, Polished rice becoming the raw materials. 2, Make malted rice. Increase bacteria necessary for saccharification. 3, Make "Shubo" (yeast mash) becoming the starter of thefermentation. 4, Brewed "Shubo" (yeast mash) addition to malted rice, steaming water and clean water. Usually sake brews divides into three times and performs, and rice gradually ferment by through accumulation and become the sake。 Sake structure needs high brewing technology. As a result, taste with the depth unlike other liquor of the world is completed. The taste expression of the sake is classified in four kinds. Sweet, Hot, Tanrei, Nojun. Tanrei (淡麗) refers to crispy and dry. Nojun (濃醇) is rich and heavy taste. The rice, raw materials performs work to remove protein and nature unlike edible rice. The water to use is classified in six kinds and removes a harmful ingredient. The quality of the water standard of the brewing water is established more strictly than tap water.

TABLE III
MAKING SAKE[x]

TABLE IV
DIFFERENCES IN FERMENTING METHODS FOR SAKE, BEER AND WINE[xi]

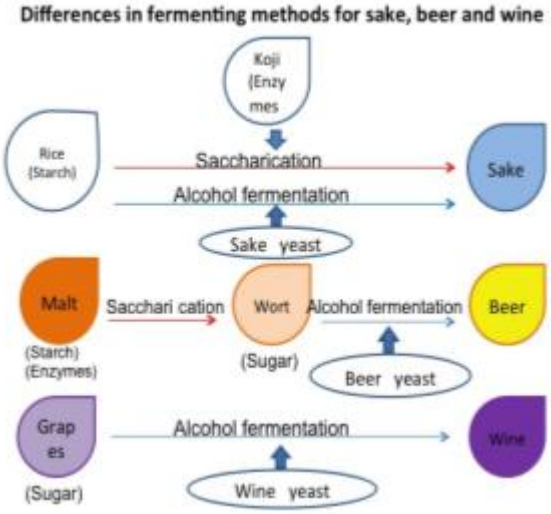
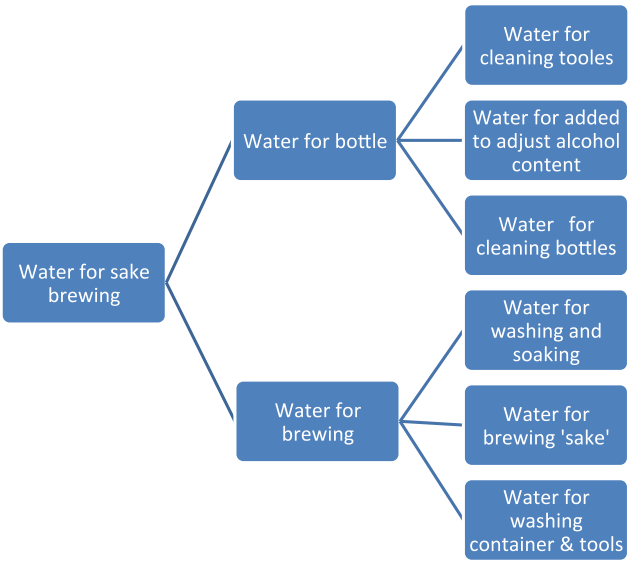


TABLE V
WATER FOR SAKE MAKING[xii]



II. Summary Of Hong Kong

Population: Approximately 7,170,000 (February, 2013).
Main industry: finance business, immovable industry, tourism, trade business. GDP per parson: 285,146 Hong Kong dollars (36,765 US dollars).

TABLE VI
ALCOHOL DATA OF HONG KONG AND EXPORT OF SAKE FROM JAPAN[xiii]

Data in Hong Kong			Export to Hong Kong from Japan			
	Alcohol Consumption Per Capita	GDP HK$ million	Price JPY million	share in the total amount of exports(%)	Quantity(KL)	share in the total amount of exports(%)
2004	2.57	1,316,949	554	No Data	101	No Data
2005	2.53	1,412,125	569	No Data	918	No Data
2006	2.54	1,503,351	578	No Data	855	No Data
2007	2.64	1,650,756	706	No Data	1006	No Data
2008	2.79	1,707,487	939	No Data	1213	No Data
2009	2.6	1,659,245	1024	No Data	1308	No Data
2010	2.62	1,776,332	1259	No Data	1436	No Data
2011	2.75	1,934,430	1529	No Data	1660	No Data
2012	2.87	2,037,059	1495	16.7	1492	10.6
2013	2.81	2,131,804	1712	16.3	1716	10.6
2014	No Data	No Data	1829	15.9	1613	9.9

General condition of Hong Kong by Ministry of Foreign Affairs of Japan (2013) Ministry of Foreign Affairs were the following: [xiv](1) The taxation system (16.5% of corporation taxes, personal income tax best tax rate 15%, capital gain, interest tax exemption) of the low rate is the characteristic of the Hong Kong economy, and build the position as the base of international finance and the distribution in transparent legal system and frugality of the common law (Britain and the United States method system) based on such an institutional social infrastructure.
(2) In the manufacturing industry base, progress, a ratio of manufacturing industry among the GDP are approximately 6% move to Mainland China by the early 1990s. Service industries such as trade, finance, real estate, sightseeing, circulation account for more than 90% of GDP.
(3) The real GDP growth rate remained in 2.5% under the influence of an international finance crisis in 2008. With the favorable recovery of the China's economy, the Hong Kong economy gradually turned in a real GDP growth rate plus afterwards in the fourth-quarter in upswing, 2009.
(4) Affected by a crisis in Europe, slump of the economy of the United States, the decline of the China's economy from 2011, and, as for the real GDP growth rate of 2012, it became 1.4%.

According to the investigation into Japan External Trade Organization (JETRO)(2011), the total sales was 5.1% of growth compared with the previous year for 83,960 million Hong Kong dollars (at approximately 881,500 million yen, at February, 2011, I convert it for 1 Hong Kong dollar 10.5 yen) for 2,010 years of the Hong Kong food service industry. The restaurant of approximately 11,000 stores (at January, 2011, the in best Hong Kong investigation) is in Hong Kong, and approximately 60% is a Chinese restaurant, and the Japanese restaurant did not reach 700 stores (at January, 2011, the JETRO Hong Kong investigation), but the Japanese restaurants increase to approximately 1,000 by the report of 2013[xv].

III. Filed Research

April 2015, Visited two Japanese Supermarket and Local Supermarket for the filed survey in New Territories and Kowloon district, Hong Kong SAR China. thanks to cooperation by 真澄酒窖亞洲有限公司 (Cella MASUMI Asia Limited) company. Find three problems at the Supermarket. .
1. Inappropriateness of the temperature management. (The problem is excessive cooling of Sake products)
2. Method of the offer. (Affinity with the glass)
3. Preservation period of the restaurant. (Desirable to offer much sake within three to six months after doing a bottle.)

① Local store has such a low turnover of sake merchandise than that of above middle class stores, which old goods of sake remain on the shelf. (Before opening, drink within about ten months to one year of the production date is better)[xvi]

② Effects of ultraviolet rays (fluorescent light in the supermarket) spoil the quality of sake.[xvii]

IV. Survey Result

1. Inappropriateness of the temperature management. (The problem is excessive cooling of Sake products)

According to the hearing survey, Restaurants serving Sake in Hong Kong, ***several*** restaurants are chilling Sake much. The Restaurants not provided at appropriate temperature. Some owner or chief with knowledge of the take care of Sake for keep quality and an offer at the suitable temperature in the high quality Japanese restaurant, high quality restaurant at the Hotels.[xviii] However, some restaurants exist which do not know well about the keep quality for Sake. Residents in Hong Kong people, enjoy the drink for the sake likes white wine, but the taste of sake can be easily degraded even a small change of the temperature.

At the sake section in Sogo, City Super (Japanese Department and Supermarket), exhibit explanations and catalogues in these store. However, there is **little** guidance at the local restaurant and it is entrusted to a guide of the provider side.

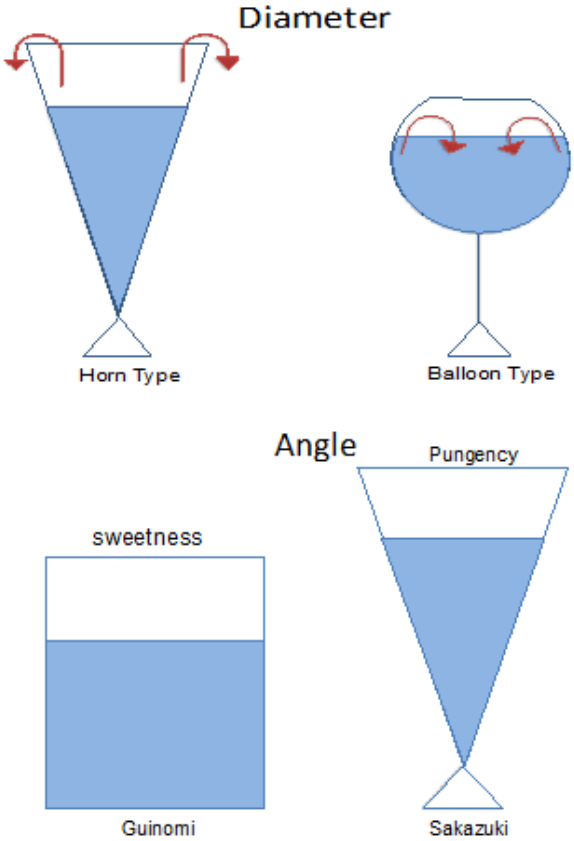
The type of “Ginjyo” suitable serving temperature is chilled (about 10-15℃) Acidity becomes sharp. The “Futsu-shu” (typical or ordinary sake) becomes easy to profit tastes “Umami” than brewing alcohol of rice by raising temperature (about 45-50℃). Not only said that merely temperature is different, but also difference emerges in a fragrance and taste by the temperature. This is caused by the little temperature changes that a name is attached to drinking temperature by 5 degree celsius, aroma, fragrance and taste will change. However, this list of information is only advisory.[xix] The sense of the tongue of the person is multifarious. Consequently, personal liking for the taste. Therefore it is not the thing called "the absolute" in writing **Table 8.**

TABLE VIII
SERVING TEMPERATURE OF SAKE.

Temperature	Term	Characteristic
5°C (41°F)	Yuki-bie "snow chill"	Fragrance is very light and a dry taste becomes prominent.
10°C (50°F)	Hana-bie"flower chill"	Fragrance is subtle and the acidity becomes more distinct.
15°C (59°F)	Ryo-bie "refreshing chill"	Taste and fragrance are well-balanced.
20°C (68°F)	Room Temperature	Natural sense of flavor and taste inherent in sake can be enjoyed; total effect is mild.
35°C (95°F)	Body Temperature	Fragrance increases with increase in temperature. Taste feels comparatively sweet.
45°C (113°F)	Moderately Warmed	Fragrance becomes more prominent. Balance of sweetness, acidity and bitterness improve in certain kinds of sakes; flavor becomes stronger.
50°C (122°F)	Atsukan "warmed"	Strength of fragrance increases; smell of alcohol becomes strong and sweetness disappears; feeling of stimulation is heightened.

Gekkeikan Sake Company, Ltd.
http://www.gekkeikan.co.jp/english/products/enjoying/temperatures.html

TABLE IX
EFFECT OF SAKE CUP FORMS[xx]



2.The method of the offer. (Affinity with the glass)

Musha (2015) presented as the glass of Sake. Sake becomes factor to have an influence on the flavor by bottle and cup. For example, material and diameter of cup, change the sense of taste. As for the wide cup of the surface area, fragrance is easy to get wide. When I drink fresh liquor, we show an effect. As the wine glasses which got narrow of the taste can thoroughly enjoy fragrances well to be filled with a fragrance in a container. At time, the hot sake uses thermal ceramics, and NOT warmed sake may change material by drinking temperature. Furthermore, the flow to the inside of mouths changes by the shape of the bottle and cup. The fragrance and the taste delicately change too. There is the pleasure to change the form of the container by a type of the liquor to drink.

3. The preservation period of the restaurant. (Desirable to offer much sake within three to six months after doing a bottle.)

①According to the hearing survey, sake distributor recommended that less than six months from products date is desirable selling at the supermarket. However, two stores at the field survey, products date of sake passed one year from the products date in the supermarket at Sha-tin and Yuen-Long, New territory district. Usually, most of refined sake does not have duty of the expiration date indication other than a special product. These answer by Japan External Trade Organization (2011) [xxi]were as follows.

"The expiration date labeling prescribed by the Food Sanitation Act can be omitted for liquor products, but liquor products requiring preservation precautions to be observed must be labeled with the expiration date and preservation precautions in accordance with the sake manufacturing method quality labeling standards and the code of fair competition. The Food Sanitation Act and Liquor Business Association Act do not require labeling of date of manufacture but require appropriate labeling of the type of alcohol for sake products to ensure smooth liquor trade and consumer benefits. These laws thus have labeling standards for manufacturing method and quality for sake products and require the labeling of the date of manufacture".

② According to Sakai brewing Co. Ltd., If sake assumes light (ultraviolet rays) and temperature (high temperature) a natural enemy, sake is exposed to light doing the coloration (yellowish-brown) by the action of ultraviolet rays relatively within a short time. More over, the fluorescent lamp emits ultraviolet rays, and, as for the Sake lighted up for a long time by the fluorescent lamp, quality may deteriorate. Takatsuka (1979) reported that Sake product of the paper pack, suggested that the interception characteristics of the light are superior to a glass bottle[xxii].

However, the paper pack of Sake products are usually low price, and bottle sales are major for the sake with the high added value. The sake produces a bad smell and flavor due to the sunlight when exposed to light and deteriorates quality. Especially, problem is temperature affects. Increase the risk for being exposed to high temperatures at the distribution process. Depends on quality of the Sake, (expect

unpasteurized sake) product life cycle (quality maintenance period) is around eight months by the management that but is less than 25 degrees Celsius in the sake except the pure alcoholic drink. When temperature is less than 20 degrees Celsius, stability of the sake quality is anticipated for approximately one year. Preservation at the place beyond 30 degrees Celsius, Sake quality maintenance period will only for 2-3 months. Product life extremely shortens.[xxiii] It should provide the product, deteriorated if exposed to sunlight and high temperature, even high-quality Sake with good brewing process and very good materials,

V. CONCLUSION

This paper wrote based on the results are field survey from 2014 to 2015. Sample data were little at this time. Only few publish data of the statistics about alcoholic beverages. Very few attempts have been made at such study. Many high-quality restaurants and high-quality supermarket have been proved and know well about how to management of the sake. However, local Japanese restaurants (No Japanese owner and worker) and local supermarket are more insufficient quality control of the sake. Further work is needed to explore these problems. However, more work is needed to confirm this finding.

1, Research into tendency of the consumer at Wine shops and Supermarket.

2, Analyze for difference of purchase tendency by area (Hong Kong Island, Kowloon, New Territories).

3, Analyze for correlation with the wine consumption.

REFERENCES

[1] Gekkeikan Sake Co.,Ltd (n.d.). Retrived May 15, 2015 from http://www.gekkeikan.co.jp/enjoy/enjoy/handle/handle01.html

[2] Yoshida, K. (2013).Do Good Times Make People Sick? Empirical Evidence on Business Cycles and Alcohol Sales in Japan.St. Andrew's University issues 39(1), (pp. 1-9).

[3] Kohiyama, S. (2008). Meanings and Possibilities of Non-Japanese Market for Sake Brewers (Ⅲ). Journal of the Brewing Society of Japan,Vol.103 No.6 (pp. 406-410 http://dx.doi.org/10.6013/jbrewsocjapan1988.103.310

[4] Gokyo-sake Co. (n.d). Retrived May 15,2015 from http://www.gokyo-sake.co.jp/tayori/21.html

[5] Ninomiya, M.,& Bouzdine-C,T,(2012). Distribution System in Bordeaux: Separation of Production and Sales. Fukuoka University Central Research Institute 56(4), (pp. 377-396)

[6] Akiyama, H. (1999).From Some Historical Viewpoints of Ginjo-sakes and their Competitions. Brewing Society of Japan, 94(7), (pp. 542-547) http://dx.doi.org/10.6013/jbrewsocjapan1988.94.628

[7] Nishi, T. (1979).Change and Special Character of Sake: Sake Brewing and History in Okayama. Journal of the Brewing Society of Japan, Vol. 94 No. 7 (pp. 542-547).

[8] Watson's wine (n.d.). Retrived May 15, 2015 from http://www.watsonswine.com/WebShop/ContentSelectFrame.do?content=AboutUs,20

[9] Health Foods and Dietary Supplements (2011). Guidebook for Export to Japan (Food Articles) 2011. (pp.6). Retrived May 15, 2015 from http://www.jetro.go.jp/ext_images/en/reports/market/pdf/guidebook_food_health_foods_dietary_supplem.pdf#search='Guidebook+for+Export+to+Japan+%28Food+Articles%29+2011'

[10] Ishige,N. (1998) Sake to Inshu no bumka (in Japanese). Culture of essays liquor and the drinking. Heibon sha pp.217

[i] "Sake no Shiori" National Tax Age ncy Japan, Retrived May 25, 2015 from https://www.nta.go.jp/shiraberu/senmonjoho/sake/shiori-gaikyo/shiori/2015/pdf/018.pdf#page=2

[ii] Sake hand book in Hong Kong (2013), pp3, Retrived May 15, 2015 from http://www.jetro.go.jp/jfile/report/07001520/sake_hk2.pdf

[iii] The Engi Shiki (Regulations and Laws of the Engi Era) is a 50-volume work compiled between in 907 and 927. The first 10 volumes are Imperial Shinto regulations (jingi) and the last 40 are codifications of criminal (ritsu) and administrative (ryô) law. Contemporary chronicles have linked post-645 Great Reforms to the institution of Chinese-style criminal and administrative law, causing historians to refer to these years as the ritsuryo period. But subsequent studies indicate that many other areas of life were fundamentally transformed by the drastic steps taken by the Imperial court to bolster Imperial control in the face of a possible invasion of Japan by the great T'ang empire of China. Chinese forms of Buddhism were introduced and supported by the Imperial Court in order to sanctify Imperial control, and belief in one particular Kami (Amaterasu, the divine ancestress of the Imperial line) was used to develop a powerful religious system referred to as Imperial Shinto.University of California at Berkeley.The Japanese Historical Text Initiative (JHTI). Retrived May 15, 2015 from http://sunsite.berkeley.edu/jhti/Engi%20shiki.html

[iv] Ministry of Agriculture, Forestry and Fisheries (n.d.).“Washoku”Traditional Dietary of Cultures the Japanese.

[v] Oshima, T. (2010) Nada shu no sijyo keisei to seisan system (in Japanese) The market formation and production system of the Nada sake. *The University of Tokyo*. UT51-2010-N804.

[vi] Japan Sake and Shochu Makers Association. (2013). A Comprehensive Guide to Japanese Sake. Retrived May 15, 2015 from http://www.japansake.or.jp/sake/english/pdf/no_2.pdf

[vii] Ishige,N. (1998) *Sake to Inshu no bumka (in Japanese). Culture of essays liquor and the drinking*. Heibon sha pp.217

[viii] Gekkeikan Sake Co.,Ltd (n.d.). Retrived May 15, 2015 from http://www.gekkeikan.co.jp/enjoy/industry/world/world01.html

[ix] Musha, E. (Eds.). (2015) *Nihonshu Kanzen Bible* (1st ed.). (pp. 24-25) Natsume Co.

[x] E Sake. (n.d.). Retrived May 15, 2015 from http://www.esake.com/j/aboutUS/aboutus.html

[xi] Musha, E. (Eds.). (2015) *Nihonshu Kanzen Bible* (1st ed.). (pp. 29) Natsume Co.

[xii] Musha, E. (Eds.). (2015) *Nihonshu Kanzen Bible* (1st ed.). (pp. 36) Natsume Co.

[xiii] The Department of Health, the Government of the Hong Kong Special Administrative Region. (n.d.). Trade Statsistics of Japan (Japanese sake code: 2206.00 200) Retrived May 15, 2015 from http://www.change4health.gov.hk/en/alcohol_aware/figures/alcohol_consumption/index.html

[xiv] Ministry of Foreign Affairs of Japan (n.d.). Retrived May 15, 2015 from http://www.mofa.go.jp/mofaj/area/hongkong/data.html

[xv] Sake hand book in Hong Kong (2013). Retrived May 15, 2015 from http://www.jetro.go.jp/jfile/report/07001520/sake_hk2.pdf

[xvi] http://blog.gaijinpot.com/sake-expiration-date/

[xvii] Japan Sake and Shochu Makers Association Retrived May 15, 2015 from http://www.japansake.or.jp/sake/english/pdf/no_5.pdf#search='ultraviolet+rays+sake'

[xviii] thanks to cooperation by 真澄酒窖亞洲有限公司 (Cella MASUMI Asia Limited) company.

[xix] http://www.rikishi.co.jp/other/tsushin/ondo.html

[xx] Ishige,N. (1998) *Sake to Inshu no bumka (in Japanese). Culture of essays liquor and the drinking*. Heibon sha pp.1

[xxi] Health Foods and Dietary Supplements (2011). Guidebook for Export to Japan (Food Articles) 2011. (pp6)

[xxii] Takazuka, K. Nihonshu no Kami pack (in Japanese). Paper drink box for Sake. *Brewing Society of Japan* .Vol. 74 No. 6. (pp.361-364)