

A Study on the Effectiveness of the
Environmental Performance Certification System in
the Japanese Fishery Industry



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I would like to dedicate this dissertation to Noboru, Toyomi, and Kanae Kimoto of Kagoshima. Thank you for all the unconditional love, guidance, and support that you have given me, helping me to succeed and instilling in me the confidence that I am capable of doing anything I put my mind to. You opened your home and your heart to my family, and for that I will be forever grateful.

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~

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~

Finally to my wife Isabella, my hero. Without you my life is meaningless.

“A vivid sense of delight takes [a] hold of one, when for the first time [they] penetrate the surface.

After thousands of years of fear and effort, Man has at last succeeded in getting beneath the top layer of the sea, winning a long battle against asphyxia and terror.

A palace untouched by human hand, with its gardens of rock and water where living creatures play the part of flowers, is the goal of all our striving.”

— Philippe Diolé
The Undersea Adventure
1953

DECLARATION

This dissertation is the result of my own works and research with the collaboration of faculty and staff at Kagoshima University, as well as interviews performed at points of data gathering throughout Japan between 2015 and 2019. This dissertation has not been previously submitted, in part or whole, to any university or institution for any degree, diploma, or other qualification.

This paper is of 29,270 words, 23 figures, and 4 tables.

Signed: 

Date: March 1st, 2019

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SUMMARY / ABSTRACT

TITLE: A STUDY ON THE EFFECTIVENESS OF THE ENVIRONMENTAL PERFORMANCE CERTIFICATION SYSTEM IN THE JAPANESE FISHERY INDUSTRY

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The consumption of marine products among Japanese citizens has been decreasing over the last few years. Related industries are being negatively affected, as the consumption of domestic sea products is critical not only for their economic survival, but the self-sufficiency of the country as a whole. For a nation known worldwide for its culinary seafood culture, this might come as a shock to many. According to previous studies however, seafood consumption is growing globally among a group collectively known as the “Millennial Generation”; or those born between the early 1980s up to around the year 2000. This group will soon make up the majority of Japan's labor force, in a country which has a shrinking population. Interestingly enough, traits among this cohort demonstrates a propensity for environmental performance certified products, i.e. ecolabels.

Among ecolabels, the Marine Stewardship Council (MSC) is the most prestigious seafood certification organization, with roughly 10% of the world's wild-catch being certified. In Japan however, as of 2018 there are only three fisheries that have obtained MSC certification. Why is it that environmental performance certification systems are having difficulty establishing themselves in Japan? If this was easier, could these certification systems be used as a tool for restoring Japanese Millennial consumption of marine products?

Therefore, this research seeks to (1) clarify seafood variable preferences for Japanese Millennial, (2) conduct analysis on the circumstances and operations surrounding nationally certified MSC fisheries, and (3) based on these results, clarify the significance and issues involved with the certification system in Japan.

Regarding (1), we conducted a mass questionnaire among citizens using multiple techniques, and as for (2), a case study was performed at the MSC certified fisheries Kyoto Danish Seine Fishery Federation, and Meiho Fishery. Interviews at the MSC Japan Secretariat were conducted, as well as with the WWF Japan office, which oversaw the introduction of the MSC in Japan, and at the Japan Fisheries Association headquarters,

which manages a national ecolabel system catered towards local fisheries. Through the investigation, the following was deduced: (1) Millennials do prefer eco-certified products, but in reality (2) the cost of acquiring certification for local fisheries is unclear and/or too large, as well as finding out that (3) only audited suppliers (those holding the Chain of Custody certification) can distribute MSC products, of which they have consistently demonstrated an inability to pay premium for covering certification costs, thus (4) making the merited pricing unobtainable for consumers. Therefore, (5) only large fisheries with international resources management methods, and who have enough production volume to cover the expensive auditing costs, can maintain certification. In other words, it is impossible for the atypical Japanese small fishery, who rely on local community based resource management, to justify this certification.

In conclusion, the prospect of utilization of ecolabels for consumers is that the majority of Japanese fisheries and distributors cannot carry the cost burden of certification. Should this remain the same, fisheries will be unable to take advantage of the Millennial's preference for ecolabels. Things must change.

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LIST OF ABBREVIATIONS AND ACRONYMS

ASC – Aquaculture Stewardship Council

CofC – Chain of Custody

FAO – Food and Agriculture Organization of the United Nations

FCA – Fisheries Cooperative Association

HQ - Headquarter

ISS – International Space Station

JPY – Japanese Yen (Currency)

KDSFF – Kyoto Danish Seine Fishery Federation

KTS – Kagoshima Television Station

MSC – Marine Stewardship Council

QR – Quick Response Code

USA – United States of America

USD – United States Dollar (Currency)

WWF – World Wide Fund for Nature

LINE – Line is an instant communication software stylized as LINE.

AEON – The name ÆON is a transliteration from the koine Greek word ὁ αἰών (ho aion), from the archaic αἰφών (aiwon). It is stylized as AEON.

I. Introduction and Methodology

Summary

This is the introduction chapter to the dissertation. Here we focus on presenting the background issues related to the topic, and how this will lead into our research proposal. The two main portions of this dissertation will be composed of dissecting the Japanese Millennial consumer, as well as relating their preference to the development of environmental ecolabels in fishery products.

Also presented here are the problem statements and objectives. This will set the pace for the rest of our dissertation as it explains what our goals are. By listing these, we also develop the methodology for acquiring data. These are divided in two main sections as one as collecting numerical data, while the other is about specific case studies from locations throughout Japan. Finally a conceptual framework of the research is developed and any remaining points of interest are discussed that will give you, the reader, a comprehensive overview for our plan of research.

1. Background

Japanese cuisine is lauded worldwide for being a high quality diet, with heavy seafood components that have helped contribute to longer lifespans among its citizens. (Sekikawa, 2008) In 2008, the per-capita consumption of seafood in Japan was 61.5 kg (the second largest in the world only behind Iceland), with the average citizen eating roughly 43.9 g in fisheries products. Monetary wise, the average household spent roughly ¥88,593 (\$722 USD) yearly on seafood items, of which 59% comprised fresh fish. On an international scale, Japanese collectively consumed 12% of the world's wild caught and farmed fish, yet just accounted for 2% of the total global population. (Takada, 2015)

Recently however, younger Japanese citizens are turning away from traditional meals commonly consumed by their ancestors. According to United Nations Food & Agriculture Organization (FAO), the per-capita consumption of fish products in March 2014 had declined to just 27 kg a year, and in the last ten years meat consumption has exceeded that of fish. Japan has also now become the world's largest pork importer in order to sustain this development. Because fish eating has now been steadily

declining, there is a legitimate concern that the traditional seafood consumption culture, and therefore the seafood industry, is entering a potential state of crisis.

According to studies, the latest employed generation (those born between the early 1980s to the early 2000s, and from here on referenced as Millennials) are the most likely to shun seafood products. These Millennials currently make up 17% of the general population of Japan, and it is estimated that by 2025, 75% of the global workforce will be composed of Millennials. (EY, Global Generations: A Global Study on Work-Life Challenges Across Generations, 2015) This will exacerbate the current issue as the shrinking workforce will have a more difficult time allocating where and in what way to spend their earned income.

There seems to be a potential solution however. Studies on Millennials have portrayed them as being particularly conscience to ecolabels, as well as willing to pay more, for these certified products. (Gowers, 2017) Therefore, could the use of ecolabels be a feasible factor when attempting to improve sales?

Currently, there are dozens of ecolabels available for fisheries to register and consumers to use. Of these, the most popular for marine products is the Marine Stewardship Council (from here on referenced as the MSC), an international, nonprofit, organization founded 1996 in London, United Kingdom under the partnership between the multinational corporation Unilever and the World Wild Fund for Nature (WWF). The role of the MSC is to set a standard in sustainable fisheries, and provide such fisheries the opportunity to demonstrate that they are well-managed and sustainable through their certification program. Therefore, the mission of the MSC is to use its ecolabel, for which [they] receive royalties for licensing it to products, and fishery certification program to contribute to the health of the world's oceans by recognizing and rewarding sustain able fishing practices, influencing the choices people make when buying seafood, and working with partners to transform the seafood market to a sustainable basis.

The MSC has grown tremendously since its inception, having certified its first fisheries (the Western Australia Rock Lobster, and the Thames Herring) in March 2000, just four years after its inception, and having expanded into Asia by 2008 with the certification of the Kyoto

Danish Seine Fishery Federation's (KDSFF) flathead flounder in Maizuru, Japan. As of 2018, the MSC has regional offices in the United Kingdom, the United States, Australia, Japan, Netherlands, Germany, and South Africa; as well as operations in over 75 countries worldwide. There are over 20,000 seafood products available with the MSC ecolabel, sold in around 100 countries around the world, as well as over 280 fisheries that have been independently certified as meeting the MSC's environmental standard for sustainable fishing and over 90 that are currently undergoing assessment. Also of importance, around 3,300 companies operating in 34,500 sites have met the MSC Chain of Custody standard for seafood traceability. It is now appraised that the MSC has a consumer facing retail value of US\$4.8bn, with an estimated 10% of total global wild-catch being from certified fisheries.

There is no denying that the MSC is a true workhorse when it comes to eco-certifications in the marine food industry. By choosing seafood with the blue MSC label, shoppers are told that they are helping to protect oceans, livelihoods, and fish for the future. It would seem that because this label is so important and found worldwide, they (the MSC) would have an ease of operations when it comes to certifying these fisheries. However,

of these 280+ MSC certified fisheries in over 100 countries, only three fisheries in whole country that is Japan were certified by the time of this research. These are:

1. Kyoto Danish Seine Fishery Federation (KDSFF), *Hippoglossoides dubius*, Kyoto
2. The Hokkaido Federation of Fisheries Cooperative Association, *Patinopecten yessoensis* Hokkaido
3. Meiho Fishery, *Katsuwonus pelamis* and *Thunnus alalunga*, Miyagi

At one point the Tosakatsuo Suisan Skipjack Tuna fishery in Sendai was also certified (2009), but operations ceased shortly after the 2011 Tōhoku Earthquake. There are however two more fisheries currently undergoing assessment for the certification. These are:

1. Ishihara Marine Products, *Katsuwonus pelamis* and *Thunnus alalunga*, Shizuoka
2. Usufuku Honten, *Thunnus thynnus*, Miyagi

Given the above background, the questions that need to be answered are: Why is the MSC working so well in other countries, expanding at great rates, while Japan remains stagnant? Is this is a problem of ecolabel

acceptance in Japan, or is it an issue of compatibility between the MSC on Japanese fisheries? It seems that should a fishery want to prepare for an impending difficult economic scenario, the industry must find a way to rekindle their sales. In other words, the industry needs to find a way to sell to Millennials and hence, future generations. Is then the ecolabel a fitting option for this?

At the conclusion of this dissertation the KDSFF is no longer certified, meaning that there are only two certified MSC fisheries in Japan by the time of this publishing.

2. Problem Statement

Whether the MSC ecolabel is the solution to the decreasing demand for seafood products in Japan is still up for debate. However, we can build a strong defense for either the approval or rejection of the Marine Stewardship Council certification usage in Japanese fisheries based on two main perspectives. These are the perspective of the consumer, and the perspective of the producer. *In other words, is it worthwhile for a fishery to produce MSC certified products for Japanese consumers?* In line with this, there are several specific questions that have to be answered:

- a.) Which variables do Japanese Millennials look for when choosing seafood products?
- b.) Is there a demand for ecolabel products among seafood in Japan?
- c.) What is the history and role of the MSC in Japan?
- d.) What is the reasoning for
 - a. a small fishery like the KDSFF to pursue MSC certification in Japan?
 - b. a large fishery such as Meiho to pursue MSC certification in Japan?
- e.) What is the certification process like?

- f.) Knowing the advantages and disadvantages of the MSC in these case studies, what should the fisheries consider when continuing certification?
- g.) Is there a future for the MSC in Japan?

3. Objectives

The main objective of this dissertation is to explain if there is a future for the largest sustainable seafood ecolabel in the world, the MSC, in Japan. Basically, is the ecolabel deemed worth pursuing, and if so, does the MSC have attainable standards in Japan of which both parties can benefit? In order to do so we must understand the demand of seafood products in Japan, the role and history of the MSC, and investigate the current situation of MSC certified fisheries from both the perspective of a traditional Japanese small fishery, and a larger more modernized fishery that falls more in line with its Western counterparts. The detailed objectives therefore are:

- a.) To survey and analyze a group of Japanese citizens on seafood preferences specifically to determine the importance of the ecolabel as a factor.
- b.) To analyze the history and role of the MSC in Japan.
- c.) To analyze the certification process for the MSC.
- d.) To analyze the reasoning behind fisheries to obtain the MSC certification in Japan.

- e.) To analyze the advantages and disadvantages of the MSC certification on the KDSFF fishery (as a small fishery) and the Meiho fishery (as a large fishery) in Japan.
- f.) To state the best modus operandi of fisheries that benefit from the MSC in Japan.

In other words we could view the objective of the dissertation as the development of appreciation for the ecolabel from both the perspectives

1. **The Consumer Side** – meaning what preference variables do Japanese consumers consider when purchasing ecolabeled seafood products.
2. **The Producer Side** – what are the positives and negatives for Japanese fisheries currently certified as they attempt to provide this variable in their products.

4. The Significance of this Research

Japan is famous for bringing its national cuisine, especially sushi and sashimi, to the international stage. However on the home front, younger consumers are turning down seafood in preference of fried chicken and sweet curries. Japan's fisheries ministry has even gone as far as hiring Sanrio, the company responsible for the development of the world-famous Hello Kitty brand to create "Kirimichan", a character with the head shape of a salmon fillet, in an attempt to try to encourage children to choose seafood products over others.

The decline in seafood consumption is not just singled out to children however. The slightly older generation composed of young adults and those into their thirties are simply not eating as much seafood as before. This is of particular peculiarity because in other developed countries seafood consumption is growing in importance (i.e quantity), especially in the European Union and the United States, which are strongly promoting the health benefits of marine products, as well as encouraging the choosing of local catch when available. Why is it then that, an island nation like Japan which has a rich history of seafood

consumption and the economic status of these other world powers, is going in the opposite direction?

In present day, when searching how seafood marketing and promotion is being handled, ethical consumerism seems to be a major driving force behind the seafood sector's growth in these developed countries. Note that this sustainability message is of particular importance as over 60% of new seafood products entering the market now carry at least one sustainability claim (Mintel, 2018). This alone is twice the average of other foods in the United States (Mintel, 2015). We can also see this not only in seafood products, but in thousands of other types of consumer goods globally, edible or not.

So as stated, if seafood consumption is increasing globally, and of this growth ecolabels and general sustainability plays an important role in pushing this movement, is it possible that Japanese consumers either have no interest or awareness in seafood ecolabels in comparison to their Western counterparts, or is it that these ecolabel acquisition schemes are not feasible for Japanese fisheries? Therefore, the significance of this research is divided between two pillars. First, asserting how sustainability and environment are driving trends in Japanese consumerism among

younger generations, and secondly, breaking down the acquisition benefits and hindrances of the MSC ecolabel (being the world's most popular marine ecolabel) on both large and small scale Japanese fisheries. In other words, is the current MSC certification process and identity the right ecolabel to use in Japan?

5. Methodology

As mentioned, there are two main parts to this dissertation. The first of these focuses exclusively on defining and creating the typical Japanese Millennial consumer. Afterwards, we will then proceed to dissect the MSC operating method in Japan. Using the data gathered we can then analyze if these ecolabels are a justifiable means to promoting seafood consumption while being beneficial to all parties involved.

5.1 Methodology on Survey for General Food Preferences and Consumption Trends amongst Japanese Millennials

This research will breakdown the food consumption data gathered from a surveyed group of Japanese citizens ranged 18 years old and up on their preferences in food choices (how and why they choose what to eat), as well as their opinions on current trends, by using an online survey generated using a Google Forms template (see figure 1). The majority of the Millennial respondents are undergraduates from the Kagoshima University Fisheries department, so it should be noted that the results could potentially be slightly biased, as they are students in the field of fisheries

meaning that the majority of those surveyed do have a leaning preference and higher awareness towards seafood choices in comparison to similar aged students from different backgrounds. Because the Millennial Generation is currently includes people under the age of 18, we added the cutoff year 2000 in the survey to filter legal adult respondents from teenagers.

The reason for using an electronic survey over a physical survey was the augmented ease in distribution, as well as data collection. Also, by having the survey in electronic format we were able to increase its appeal to younger generations, and to distribute this survey through various methods [mentioned later in this report], as well as having the ability to collect data results instantly. For ease in user interface, the survey could be filled using either personal computers or mobile devices.

Data was gathered by sending out an electronic form accessible by QR code (figure 2), or by inputting the form's direct website address in a browser. The data was categorized into groups that could be broken down and reviewed specifically. These main categories are gender, age, and region. We also had subgroups included that we could view individually. These included the respondent's employment status, food preferences, and

frequency of outings/dining out. Cross topics of seafood importance included freshness, price, brand, packaging, location (food origin), and of course eco-certification.

Circulation of the survey was accomplished through electronic distribution methods, as well as by physical flyers which included the survey's website address, as well as a QR code that could be read on smart device thus linking the user directly to the survey. After the data was gathered, multiple tables were created by cross referencing the results. These are explained in the results section of this report. Because of the language barrier, all questions were in Japanese and in English. Answers were numerical, allowing for a statistical approach.

5.2 Methodology on Case Studies of MSC Ecolabel Acquisition and Operations at the Kyoto Danish Seine Fishery Federation and the Meiho Fishery

Information on the history and operation of the MSC in Japan for this dissertation was collected through visits to the MSC Japan headquarter office located in Tokyo, and the World Wide Fund for Nature

(WWF) in August of 2017. Information for the KDSFF operations case study was gathered in Maizuru, Kyoto in September of 2017. Information on the Meiho Fishery operations case study was collected in Shiogama, Miyagi in June of 2018.

Main points of contacted (in interview chronological order):

- a. SUZUKI Makoto, MSC, Fisheries Manager Japan
- b. ITO Fumiko, MSC, Communications Officer Japan
- c. MAEKAWA Satoshi, WWF, Officer (Oceans and Seafood Group Conservation Division)
- d. Dr. YAMAUCHI Aiko, WWF, Leader (Oceans and Seafood Group Conservation Division)
- e. KAWAGOE Tetsuro, Japan Fisheries Association, General Manager
- f. NISHIMURA Masashi, Japan Fisheries Association, Chief of Resource Management
- g. NAGAOKA Hidenori, Marine Ecolabel Japan Council, Director
- h. HAMANAKA Takashi, Kyoto Prefecture FCA, Deputy Chief
- i. MUKAI Kazai, Kyoto Prefecture FCA, Admin Manager
- j. MATSUNAGA Kenji, Meiho Fishery, President

All visits to the sites were either accompanied with by Dr. KUGA Mizuho and/or Dr. SANO Masaaki of Kagoshima University, Fisheries Department. Both of them were instrumental in helping gather data from interview sessions as well as site visits. The information for this has thus been presented here as a first person account as an interviewer during these visits.

5.3 Conceptual Framework for this Research

The first step of this research is to clarify current seafood consumption trends among Japanese Millennials, and how the fisheries industry can create product and demand based off our findings. This was conducted by creating a survey answered by over 400 Japanese citizens, in which they were questioned about their seafood inclinations and purchasing preferences. This allowed us to build an average consumer model for both Millennials and also for older generation members. Should the survey have demonstrated that the Japanese Millennials do show a strong affinity for ecolabels, more so than their counterparts, and thus

similar to Western Millennials, then fisheries are right in pursuing certifications.

Now knowing the attraction towards ecolabels, the second goal is to develop an understanding of the Marine Stewardship Council ecolabel in Japan, as this is the largest and fastest growing seafood ecolabel in the world. However, domestically the MSC has only managed to certify four fisheries in Japan. To collect this information we performed data gathering visits to the MSC headquarters office in Japan, as well as the WWF offices being that they helped organize the initial steps for MSC certification in the first fishery (KDSFF) that Japan qualified for.

After this, research trips were taken to two different fishery sites. The KDSFF was selected as the oldest MSC certified fishery and more in line with typical Japanese fisheries. Meiho Fishery was the other MSC certified fishery selected as it is the largest of all certified operations, and provides the closest counterpart to Western style fisheries in the sense that they not only harvest their own material, but package and produce a final product.

The following is a conceptual framework of the research performed for this dissertation

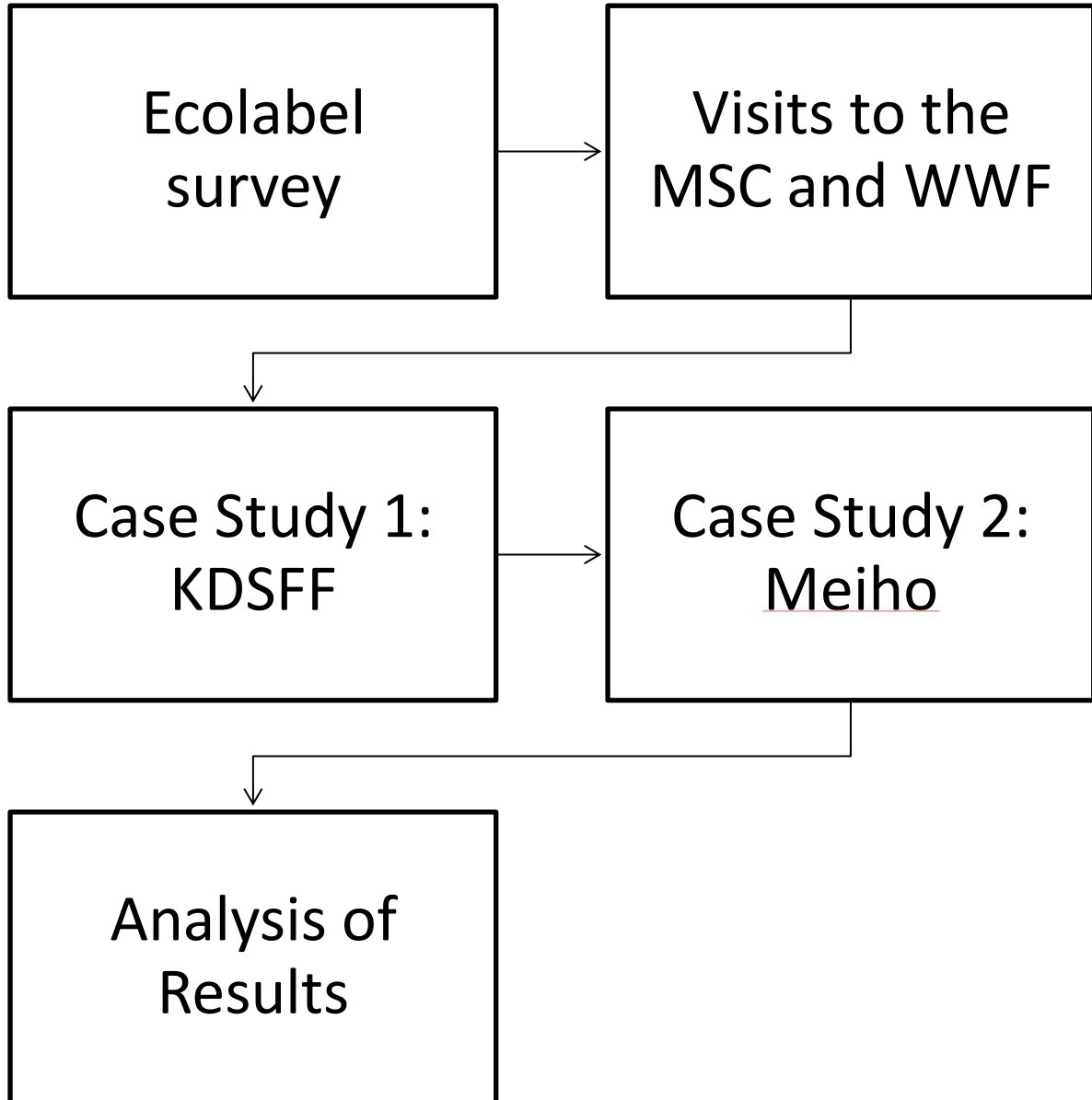


Figure 1 – Conceptual Framework of the Research

5.4 Research Locations

All research was conducted in Japan between 2015 and 2018. For the first portion of the research, that of which is the survey, distribution was accomplished through electronic methods (online), as well as by physical flyers which included the survey's website address, in addition to a QR code that could be read on smart media devices thus linking the user directly to the survey. This meant that the survey could easily spread via http link, or through exchanging of the flyer.

Of these, the easiest method to distribute was electronically. The link to the survey was placed on the website Reddit.com – a social news aggregation, web content rating, and discussion website. As of February 2018, Reddit had 542 million monthly visitors (234 million unique users), ranking it as the number six most visited site in the world according to Alexa Internet. On this site, registered community members can submit content, such as text posts or direct links. This survey was distributed on the “subreddit” page named Newsokur, which has 22,000 active subscribers and deals mainly with Japanese news and current topics. This subreddit is monitored by set administrators, and topics of tourism, pop

culture, or expatriates questions are discouraged. The survey was also forwarded using LINE – a proprietary application for instant communications on electronic devices such as smartphones, tablet computers, and personal computers. Kagoshima University students were asked to complete the survey, and then forward the link to any of their peers that could be helpful in filling it out.

The second method used was the distribution of a flyer by hand which included the website address as well as a QR code. This flyer, although it included all the information needed to access the survey, required the potential surveyor to have access to a smart phone device (or other type of QR reader), as well as having the knowledge on how to use the reader or input directly the address to the mobile browser. This flyer was then distributed through a number of local businesses throughout Kagoshima City. Also in September 2016, during a Kagoshima Television Station (鹿児島テレビ放送) event, over 200 flyers were distributed to attendees in ques by various Kagoshima University student volunteers who requested their participation in the survey.

After having completed the survey, information on the MSC background and operations had to be gathered. This was done by traveling

to Tokyo to visit with the MSC and WWF Japan headquarters in August 2017. Also on this trip, a visit with key members of the Japan Fisheries Association to discuss the future of ecolabels in Japan was also had in their office. This was the bases for developing an understanding of MSC operations in Japan.

For the KDSFF analysis, Maizuru in Kyoto prefecture was visited the following month. Maizuru is located on the north side of Honshu in Kansai, on the coast of Maizuru Bay, of which itself is in the Sea of Japan. The KDSFF fishery is composed of two landing ports, and the headquarter offices. Operations for KDSFF are carried along the coast.

As for the Meiho Fishery analysis, data gathering was conducted at their Shiogama offices. Shiogama is located in Miyagi prefecture, in the Tōhoku region. This city although affected by a tsunami caused by the 2011 Tōhoku earthquake, has managed to recover quite impressively. Since then, Meiho Fishery has become one of the shining stars in local fishery operations, and has opened various buildings in the area, including a massive freezer storage area, and a processing factory line.

Operations for this fishery happen offshore, in locations as far away as the Northwest Pacific, and South Pacific.

5.5 Research Method

This dissertation uses two main research methods. For the survey we use quantitative research, which is based on numeric figures. For this survey we gathered information by asking volunteers to select on a scale the importance of different variables according to themselves. In social sciences, quantitative research refers to the systematic empirical investigation of quantitative properties and phenomena and their relationships.

The majority of the survey asked volunteers to rate their responses on a scale of 1 to 6. Although surveyors gave their personal opinions, they were fixed into a predetermined construction that also forced applicants to give a leaning opinion. What this means is that there was no direct neutral answer, i.g. 4 on a scale of 1 to 7. This also helped us build an average Millennial consumer, and statistics to build our research around. It is

perceived that Japanese people tend towards neutral answers due to cultural phenomena and we wanted to avoid this.

The case studies that supplement the dissertation are built around qualitative research. Our interviews and personal observations helped us observe how the fisheries and those involved in the operation actually felt about the MSC in general and why. This too creates a topic to be explored, mainly the difference between MSC operations in a small fishery in comparison to a larger one. Also, quantitative research branches our topic further by gathering the opinions and thoughts of key members in a manner that is easy to quantify and build cross comparisons. Table 1 shows the research methods and techniques used in data collection.

Point of Collection	Technique	Topic	Method
Japanese Seafood Consumer	Online Survey	Purchasing variable preferences	Quantitative
MSC Japan HQ	Interview / Questionnaire	Historical background, business structure of the MSC in Japan	Qualitative
WWF Japan HQ	Interview / Questionnaire	Historical background of operations between the MSC and KDSFF	Qualitative
KDSFF	Interview / Questionnaire	Historical background of operations and personal perception of the MSC influence.	Qualitative
Meiho Fishery	Interview / Questionnaire	Historical background of operations and personal perception of the MSC influence.	Qualitative

Table 1 - Research Method

6. Dissertation Structure

This dissertation is divided into six major chapters. The following chapter (II), will delve into how the survey was conducted, the results obtained, and an analysis into creating the typical Japanese seafood consumer. Chapter III will go over the historical aspects of the introduction as well as current operations of the MSC in Japan. This will come from interviews with key members in the MSC office in Tokyo, as well as with sea resource environmentalists from the WWF office in Japan. Chapter IV and Chapter V will describe the data gathered from site visits to KDSFF and Meiho Fishery operations respectively. Each will have their own chapter dedicated.

The final chapter, (VI), will be composed of the conclusion of the dissertation, including recommendations for analyzed operations as well current updates at the point of printing. It should be noted once more that this dissertation focuses completely on a Japanese market, and this is what makes it unique. Finally, as these are ongoing business, it is important to keep in mind that these observations are from 2015 to 2018,

and that a business is ever evolving – this is the same for both the MSC and Japan.

II. The Seafood Consumer in Japan

Summary

Chapter II is dedicated to analyzing the data acquired from our survey conducted in August and September, 2016. The first objective we had was to understand the typical consumer in Japan and abroad by research consumption numbers provided by various different sources. Also important was to see what specific trends are developing when it comes to seafood consumption.

Once we had an idea of what a typical Millennial looks like, we performed this survey to see if the variables hold true to Japanese Millennials as well. At the same time, we also gathered information on other Japanese consumers to see what the trends are like between different generations. Basically, we are building the typical consumer of tomorrow.

In the end we noticed that the Japanese Millennial is similar to Millennials elsewhere when it comes to choosing variables in the purchasing of seafood. However, it was interesting to note that it is true that the Japanese Millennial no longer holds seafood at the same level of prestige they once did. This leads us into investigating the role of ecolabels.

1. Background:

Seafood plays a crucial role in the health of meat consuming individuals. Fish, being high-protein and low in fat, provides a multitude of health benefits. Of these, white fish is known for its low fat count, while oily fish are consistently sought for high omega-3 fatty acids. These benefits include cardiovascular health, cardiac muscle wellbeing, neurological development, and other advantages, but it is this combination which is known to promote longer lifespans – so it's no surprise that the Japanese citizens enjoy some of the longest lives in the world. In fact, Japan leads global rankings with the largest amount of currently living centenarians per capita compared to any other country (Santrock, 2015).

1.1 Current Consumption Trends:

The Japanese Health, Labor, and Welfare Ministry have been tracking seafood consumption since 1998. In just 15 years, we can notice a drop of up to 50% total consumption per age group, especially with the younger aged citizens. What's even more impressive is that this trend

continues, even as they age. This has many of those involved in the seafood industry worried.

Note that previously, the older a Japanese citizen became, the more seafood they would eat. However, at present day, consumption peaks out at about 14 to 20 years of age, and remains that way for the foreseeable future. This means that Japanese citizens are fulfilling their protein needs with other foods. Imports have demonstrated a demand for pork and chicken, meaning that Japanese consumers are now leaning towards a more Westernized style diet. Yet, when we look at seafood consumption among other similarly developed nations we notice the complete opposite trend. More and more Millennials are choosing to eat local, sustainable products (Notini, 2017). In fact, there has been a 30% increase in seafood consumption by Millennials in the United States just in the past year, with 70% of them having changed their diets to eat even healthier. Technomic, a food management company based out of Chicago, USA, performed a survey in which it showed that 71% of Millennials said they are more interested in where their foods come from and how it is grown or produced. Also worth noting is how strong the use of social media and digital marketing among this generation is. According to the Foodable Lab data,

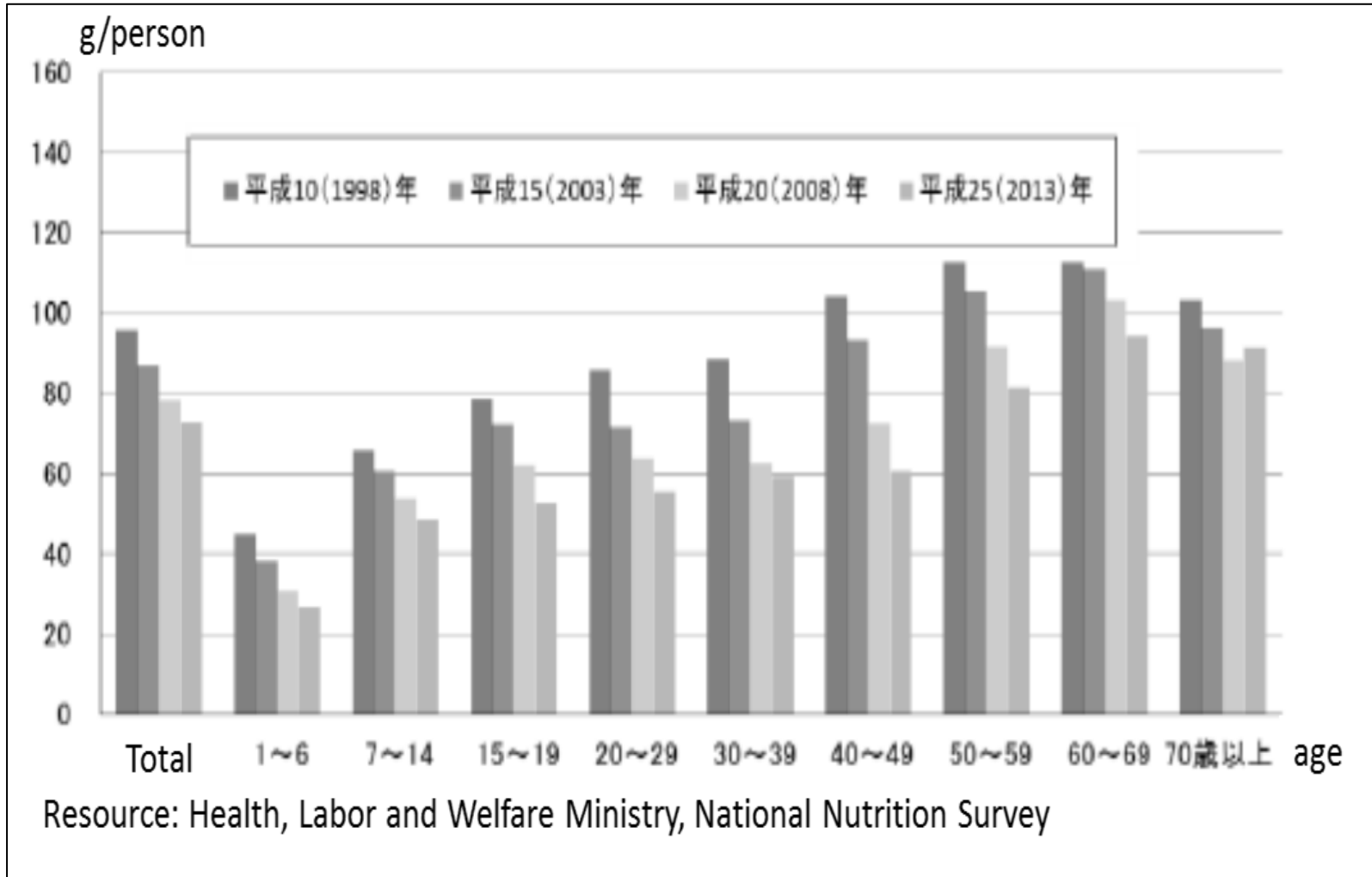


Figure 2 – Ingestion Trends in Seafood Consumption Per Day, 1998-2013

social mentions by brand advocates on seafood menu items are up by 18.4% since July 2017, and overall seafood sentiment is up 2.4 points in just the time that it took to research for this dissertation. In the U.S., the National Oceanic and Atmospheric Administration (see figure 5) has noted an increase in seafood consumption among all generations, of which soon is to reach levels of consumption set previously over a decade ago. Seafood is therefore becoming popular again, and is driven by the new working class.

1.2 Importance of the Younger Generations:

Even though the decline in consumption is being measured within all age groups of Japan, of particular notice is the drastic drop amongst the younger generations (those aged less than 30 years old), as well as how these trends maintain as they continue to age. What this demonstrates is that the trends currently being measured are coming from the younger generations, and that should these continue, seafood consumption will continue to decrease into all-time lows throughout the foreseeable future. In other words, the younger the consumer is, the less seafood they will

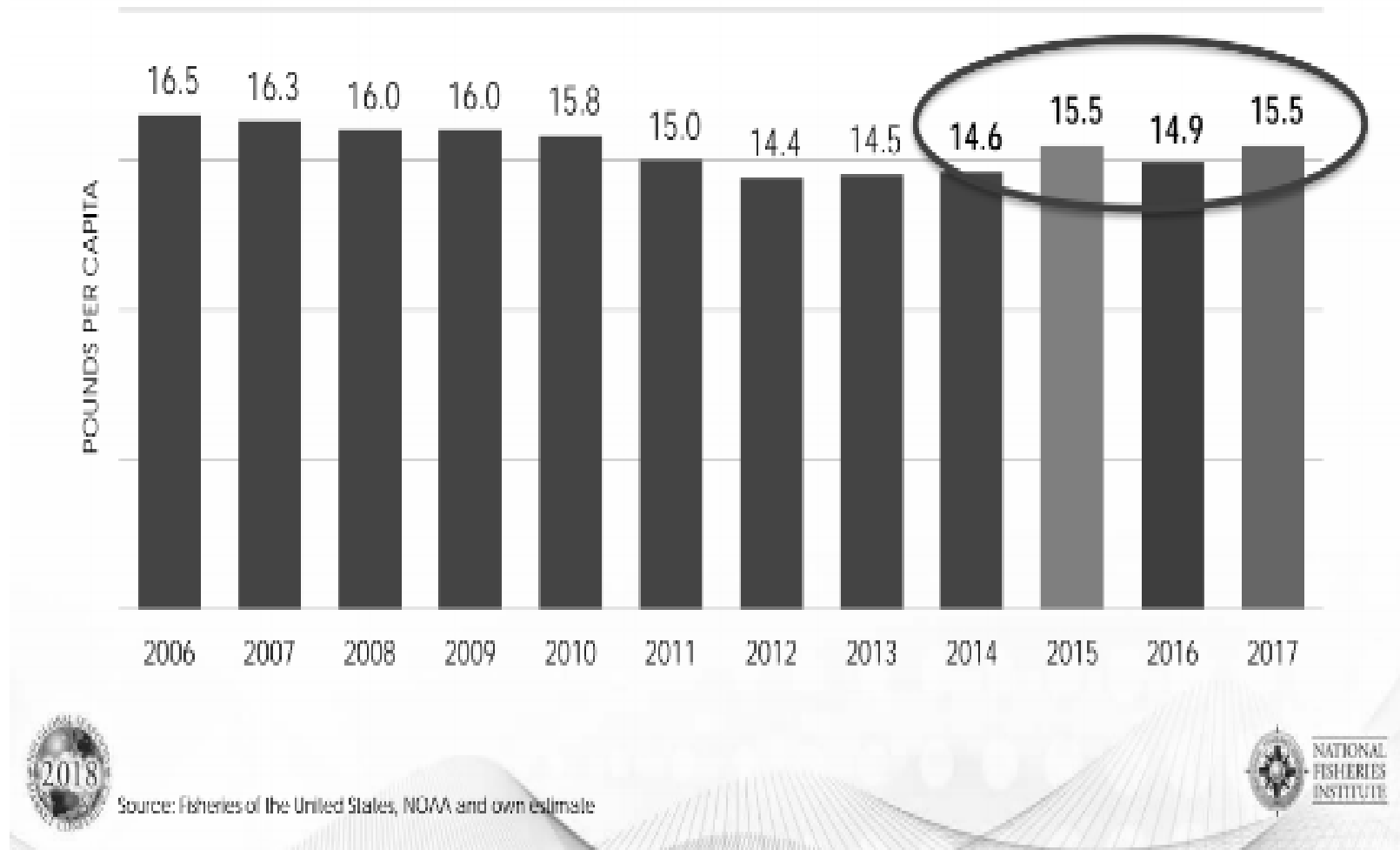


Figure 3 - Seafood Consumption in the United States, 2006-2017

purchase as they age in comparison to those born earlier. Just for example as demonstrated in figure 4., the average 20-29 year old consumed roughly 85 grams of seafood product per day in 1998, compared to just 55 grams in 2014. Children aged 1 through 6 are consuming roughly only half the amount they did so just fifteen years ago.

1.3 Research Question and Objectives of the Survey:

For the sake of analyzation of the survey and for the purpose of this dissertation, it should be noted that the latest complete generation (one that clearly has a start date in the early/mid 1980s, and end date in the late 90s/early 2000s) of Japanese citizens, which has been referred to in this report as Millennials, are those most likely to shun seafood products in comparison to their older counterparts. [The youngest generation, named *Generation Z*, is the newest and current generation and since it has not established an ending year has for the purpose of this report been omitted from the study]. Knowing that the recovery of the Japanese seafood industry consumption trends is tied to this young generation, we have to develop a sense of identity for this group.

Millennials are therefore causing concern in the seafood industry in Japan, as well as with those who wish to protect (*nee promote*) the national food culture, mainly because there is no clear prognostic into whether or not the local demand for seafood will rebound for this, and/or future generations. These Millennials make up 17% of the general population of Japan, compared to the world average of 25%. It is estimated that by 2025, 75% of the global workforce will be composed of Millennials. This can cause another problem as the shrinking workforce, and general population, of Japan will have higher priorities when it comes to where to spend their income, i.e. rent, health, transportation, etc. over meals, i.e. choosing easier or cheaper alternatives.

Therefore, it cannot be emphasized enough the importance of understanding the needs and wants of the Millennial; and of what the fisheries industries can do to increase their sales, while at the same time improving seafood product consumption. Should this industry fail to do so, and the same goes for practically any food industry, their future economic sustainability will continue to be jeopardized.

Knowing the severity of the situation, the core point of this investigation is to understand what is it that younger generations want in seafood, and what the fisheries industries can do to appeal to future buyers, so – our objectives for this survey are twofold:

1. To clarify specific current trends amongst Japanese citizens, in particular those 29 years old and younger, and
2. How can the fisheries industries tailor their products to create demand and promote sales?

2. Understanding Millennials:

A key term used throughout this dissertation and the main subject of observation into the future is referenced as a *Millennial*. A Millennial is a person born between the early 1980s and early 2000s. Millennial is a title used to describe someone from this generation. To better understand this, one should also know the accepted description of a generation.

A generation is a group of people born and living at about the same time as defined by sociologists. Strauss and Howe define a social generation as *the aggregate of all people born over a span of roughly twenty years or about the length of one phase of life: childhood, young adulthood, midlife, and old age.*

Generations are thus identified primarily by first birth-year to last, and then by looking for cohort groups of this length that share similar criteria. For example, members of a generation share what is called an age location in history: that they encounter key historical events and social trends while occupying the same phase of life (age). In this view, members of a generation are shaped in lasting ways by the eras they encounter as children and young adults and they share certain common beliefs and

behaviors. Examples of this for example is the landing on the moon or the terrorist attacks of September 11th. Aware of the experiences and traits that they share with their peers, members of a generation would also share a sense of common perceived membership in that generation. What is interesting about Millennials is that they are shaped by global events and instant communication. They are the first globalized generation.

Millennials are also the most ethnically and racially diverse generation to have lived so far, as well as being on pace to be the most educated. By 2008, 39.6% of U.S. Millennials between the ages of 18–24 were enrolled in college, setting an American record. Along with being educated, Millennials are also very upbeat, with most Millennials feeling as though they have enough money or that they will reach their long-term financial goals even during tough economic times, and they are more optimistic about the future of the world. Additionally, Millennials are also more open to changes than older generations. According to the Pew Research Center that did a survey in 2008, Millennials are the most likely of any generation to self-identify as liberals and are also more supportive of progressive domestic social agenda than other generations. Finally, Millennials are less overtly religious than the older generations. About one

in four Millennials are unaffiliated with any religion, which is much more than the older generations when they were at a similar age of current Millennials.

Social reports have studied that the lifestyle choices made by the Millennial generation are strongly influenced by mass communication and the more open exchange of information. Millennials can thus be easily described as the first and only generation to “grow up with the Internet,” and have had ability to exchange information and ideals almost instantaneously in the life; obviously quicker than anyone before them. As this affects Millennials worldwide, it can be proposed that the issue in Japan is not Westernization per say, but rather that of globalization.

Being globalized means taking positive aspects of the world. In order to begin to develop a platform to rectify the seafood industry selling trends in Japan, the results from this survey can be used to generate data on the acceptance rate of Millennials using modernized techniques, and therefore market seafood products to the Japanese Millennials successfully, and therefore hopefully increasing sales. As the past observations mentioned above demonstrate a trend for environmentalism among Millennials, fisheries can benefit from this information to better their operations.

2.1 Hypothesize:

The decrease in consumption of seafood is being spearheaded by the growing Millennial generation, in conjunction with the lack of qualities in the seafood products that they are looking for. According to American marketing author, consultant, professor; and current the S. C. Johnson Distinguished Professor of International Marketing at the Kellogg School of Management at Northwestern University Philip Kotler, a product is composed of three layers: the core, the actual product, and the augmented product. As mentioned earlier, the characteristics of Millennials demonstrate that this generation prefers actual and augmented product over core product. In other words, Millennials will show their trend of placing higher importance on seafood product attributes and qualities such as ecolabel certification (augment), while being packaged appealingly (actual) and easy to prepare, more so than older generations. This is the current status, and if the trends continue, future generations will consume even less. This is a drastic change from past generations.

Therefore, to prepare themselves for the eventual turn in the economy, the seafood industry must find a way to rekindle their sales. In

other words, the seafood industry needs to find a way to sell to Millennials and future generations. In order to accomplish this, a market analysis has to be performed to understand the targeted clientele, and a selling platform designed and tailored to their perceived needs.

3. Materials and Methods:

This report will dissect the food consumption data gathered from surveyed Japanese citizens ranged 18 years old and up on their preferences in food choices, and their opinions on current trends such as eco-certification and e-commerce, using an online survey generated in Kagoshima University, Faculty of Fisheries using a Google Forms template (see figure 4).

The reason for using an electronic survey over a physical survey was the increased ease in distribution, as well as data collection. Also, by having the survey in electronic format we were able to increase its appeal to younger generations, distribute this survey through various methods mentioned later, as well as collect results instantly.

Data was gathered by sending out an electronic survey accessible by QR code or Internet address, and later analyzed to give a proper idea of the current stance of the food industry amongst Japanese citizen. Category groups to be broken down are gender, age, region; main subgroups include employment status, food preferences, and frequency of outings.

Section 2 of 8

あなたのことについて伺います。このアンケート結果は研究目的以外には使用いたしませんのでご安心ください。

Describe yourself. This survey is anonymous, please answer truthfully

あなたの性別は？ - Select your gender. *

男性 - Man

女性 - Woman

どの地方のご出身ですか？ - If you are not Japanese, please select "other" and write your home country.

北海道 - Hokkaidō

東北 - Tōhoku

関東 - Kantō

中部 - Chūbu

関西 - Kansai (Kinki)

中国地方 - Chūgoku

四国 - Shikoku

九州 - Kyūshū

沖縄 - Okinawa

Other...

Section 8 of 8

最後に、スーパーなどで水産物を買う時に留意していることについてお伺いします。

Evaluate the importance of the following

1 : 全く重要ではない - Not important
2 : あまり重要ではない
3 : どちらかといえば重要ではない
4 : どちらかといえば重要である
5 : かなり重要である
6 : 最も重要である - Very important

価格 - Price *

1 2 3 4 5 6

Not important Very important

鮮度 - Freshness *

1 2 3 4 5 6

Not important Very important

産地 - Where the seafood was caught *

1 2 3 4 5 6

Not important Very important

パッケージング - Packaging (design or presentation of seafood) *

1 2 3 4 5 6

Not important Very important

企業名やブランド - Company / Brand of Seafood *

1 2 3 4 5 6

Figure 4 – Sample Sections from Survey

Cross topics of seafood importance include freshness, price, brand, packaging, location (food origin), and eco-certification.

Distribution of the survey was accomplished through electronic distribution methods, as well as by physical flyers which included the survey's website address, as well as a QR code that could be read on smart phones thus linking the user directly to the survey.

One of the methods in distribution used was via electronic devices. The link to the survey was distributed through the website Reddit.com – a social news aggregation and media content sharing website. This survey was distributed on the “subreddit” page Newsokur which has 22,000 active subscribers, mainly of Japanese citizenship and located throughout the country. The survey was also forwarded using LINE – a proprietary application for instant communications on electronic devices such as smartphones, tablet computers and personal computers. Kagoshima University students were asked to complete the survey, and then forward the link to any of their contacts that could be helpful in filling it out.

The second method used was the distribution of a flyer by hand which included the website address as well as a QR code. This flyer,

although it included all the information needed to access the survey, required the potential surveyor to have access to a smart phone device (or other QR reader), as well as have the knowledge on how to use the reader or input the address to the mobile browser. This flyer was then distributed in a number of businesses in Kagoshima City including commercial areas, schools, local stores, and restaurants. Also in September 2016, during a Kagoshima Television Station (鹿児島テレビ放送) event, over 200 flyers were handed out to attendees by various Kagoshima University students requesting the attendees to please participate in the survey. Finally, students of Kagoshima University were asked to complete and share the survey by professors in their classes.

Of these, most of the results came in from students in the university, and from surveys answered that were distributed online. Of the 200 flyers issued during the Kagoshima Television Studio event, only 20 were filled out and the rest discarded. The business throughout the city provided roughly a further 30 answers. This basically put physical survey data collection at 12% of total surveys collected. Online distribution was the easiest and provided the most results [these include the data gathered from students at the university].



The flyer is a rectangular document with a dark header and a white body. The header contains the logo of Kagochima University Faculty of Fisheries on the left and the university's name in Japanese and English on the right. The body contains four paragraphs of Japanese text, a QR code, and a smaller circular logo. The text is in a clean, sans-serif font.

国立大学法人
鹿児島大学 水産学部 大学院水産学研究科
Kagochima University Faculty of Fisheries

私はハビエル・チェウニダです。鹿児島大学水産学部の博士課程留学生でパナマから来ました。

私は日本の魚食習慣について、佐野教授の指導の下で研究しています。

つきましては、以下のアンケートにご回答いただきますようお願いいたします。アンケートの所要時間は3分程度です。

スマートフォンのバーコードリーダーアプリで下記の2次元バーコードを読み取るか、インターネットで <http://tiny.cc/fisheco> にアクセスしてアンケートにお答え下さい。



このアンケートは匿名で行い、個人情報を問うものではありません。アンケートにつきまして何かご質問がありましたら、k8786505@kadai.jp までご連絡ください。

Figure 5 –Flyer Distributed for Collecting Data

After the data was gathered, multiple tables were created by cross referencing the results. These are explained in the results section of this report. Because of the language barrier, all questions were in Japanese and in English. Answers were numerical, allowing for a statistical approach.

4. Amount of Survey Results:

The main goal of this survey was to help chart the preference in food choices amongst Japanese, as well as to provide a further analysis of what seafood perks Japanese Millennials look for in seafood, compared to their older generational cohorts. Because of this, selected data was used to be able to compare specific traits. This section will focus on the numerical data gathered

In total there were 446 unique survey answers. Of these, 24 answers were removed as the surveyor was not Japanese and therefore should not pertain to our research. To list a few of the countries where some of results came from besides Japan includes Russia, the United States, China, Vietnam, Panama, and New Zealand. As we are only looking for traits amongst Japanese citizens, these answers were omitted leaving us with a grand total of 422 unique answers to work with.

Of these 422 total useable results, 303 of the surveyors were between the ages of 18 and 30, our millennial target group. This means that of the total amount surveyed, 71.8% were Millennials, and 28.2% were older (figure 6).

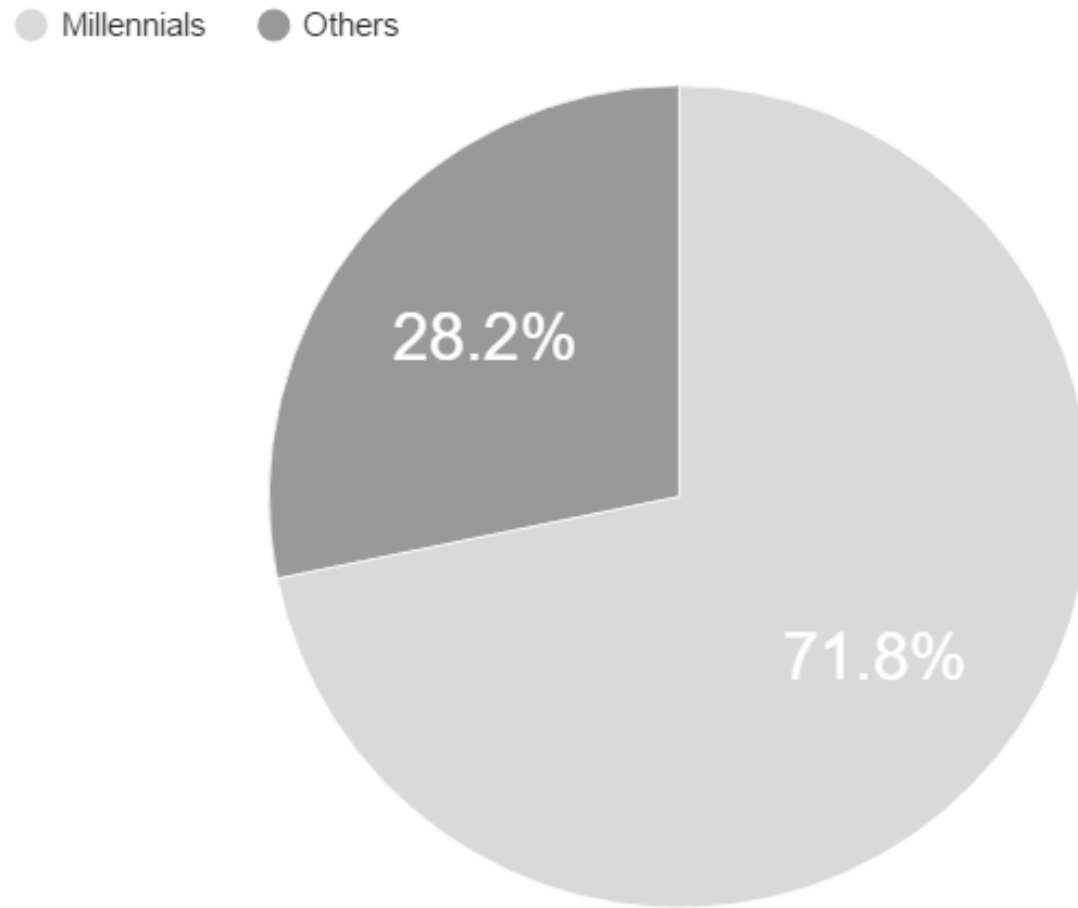


Figure 6 – Percentage of Millennials and Other Generations Surveyed

5. Food Type Preference Rates:

When given the option of choice in food, about a quarter percent of Millennials chose seafood, roughly the same rate for choosing beef. Chicken was the highest as can be seen below (figure 7 and 8). This demonstrates that it is not that there is a general trend in dislike because of taste preferences, but because of other factors leading to the decrease in seafood consumption. We know that seafood consumption is decreasing, but this shows that given the opportunity, all things aside, many Millennials will choose seafood as their meat of choice. At the same time, this can also show that even though pork imports are rising in Japan, the average consumer does not choose pork because for the taste. This was a very interesting find because Japan is the world's largest importer of pork, but Japanese citizens are choosing to eat pork because of other factors, not taste. These could be economical or social, but not taste wise. One would think that pork preference would be higher in comparison to the amount being imported being that in 2008, meat alone worth ¥879 billion was imported, with a total import of 2.3 million tonnes in just pork

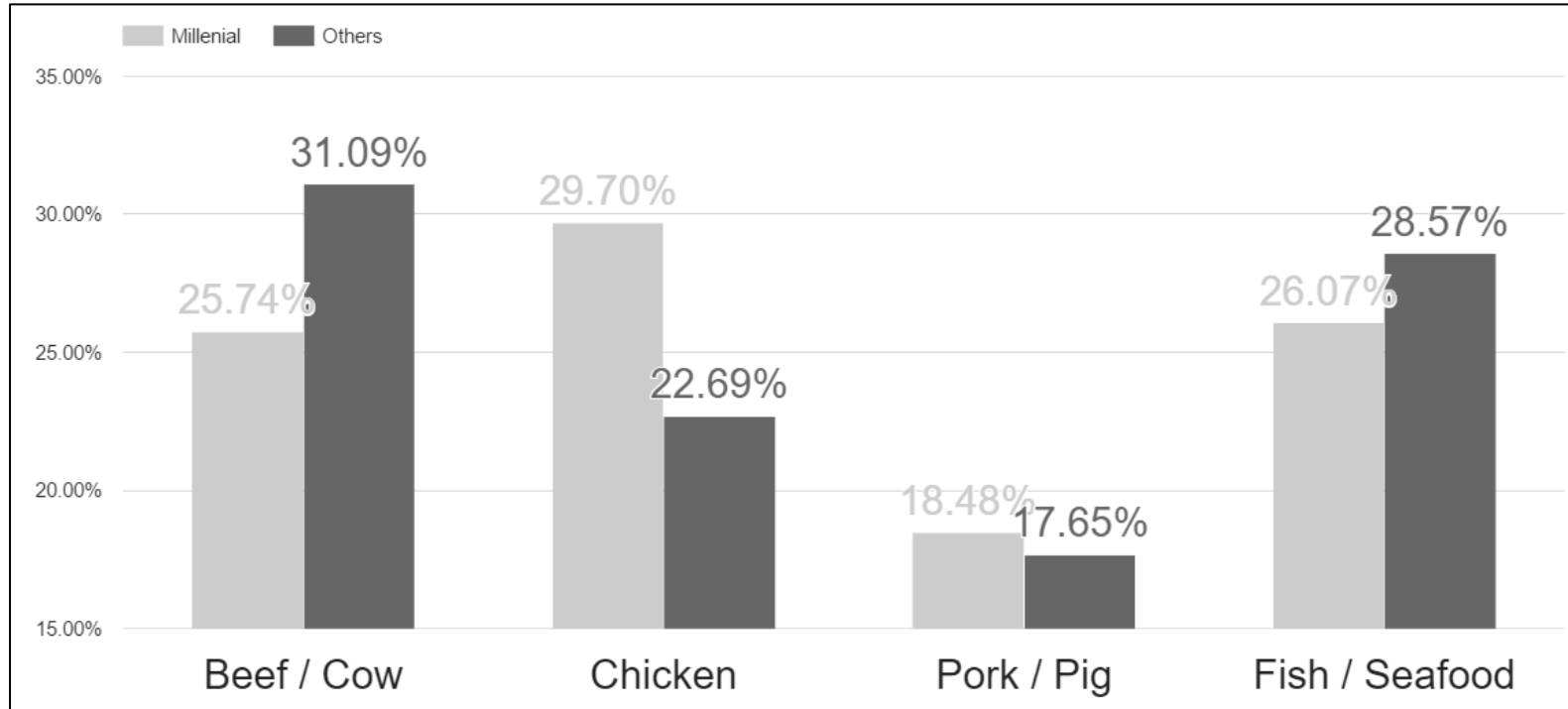


Figure 7 – Meat Preference among Millennials and Other Generations

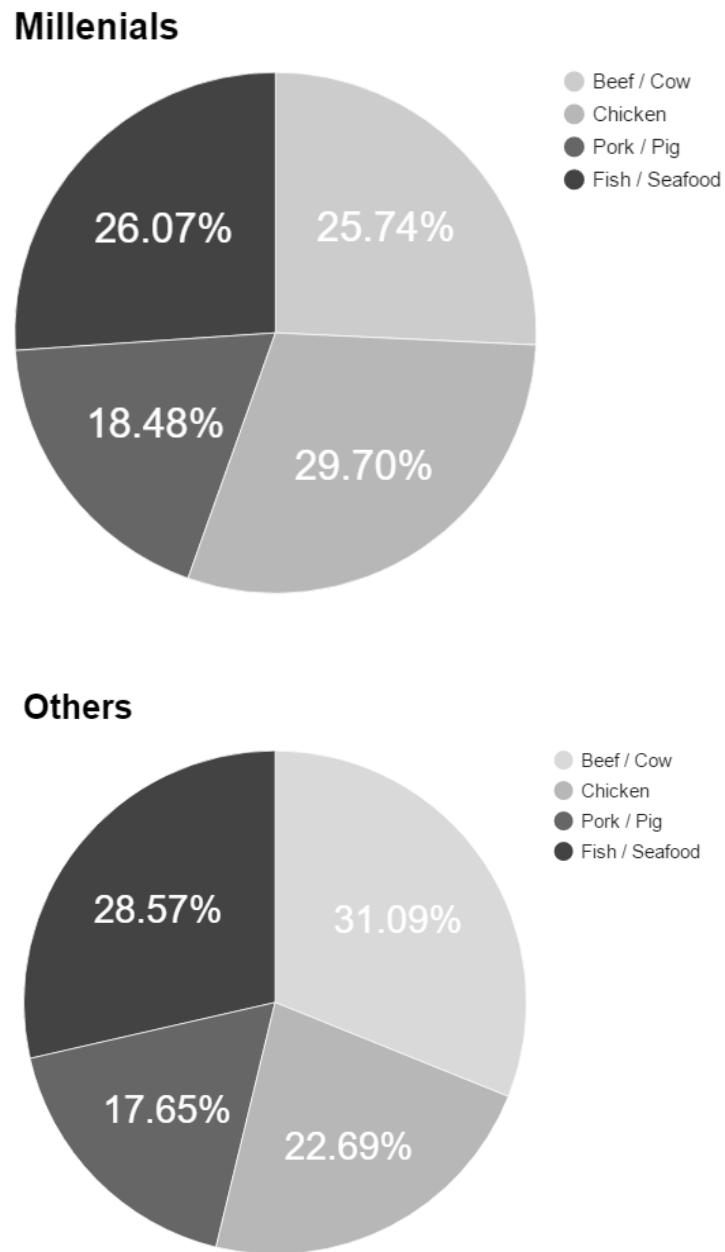


Figure 8 – Percentages of Meat Preference among Millennials and Other Generations Pie Chart

imports. Also, ranked second in the world, was the import of beef, as well as chicken meat.

When we compared food preference of Millennials to older generations, we noticed that the preference in choice of food is not so much different. In fact, the only exception being is chicken. This is to reinforce that the factor that is driving the decrease in seafood consumption amongst Millennials is not taste but something else.

5.1 Seafood Consumption Trends by Age:

Prior to performing the survey, we already knew from past studies that Japanese Millennials are consuming less seafood than their age group in past generations. We asked surveyors to report in general, how they consider their habits in comparison to when they were young. This graph (figure 9) shows the percentage when asked, “in a week, do you eat more, or less, seafood than when you were a child.” As we can see, almost half the Millennials eat less than before, and in total almost three quarters eat the same or less, in comparison to older generations. Only 26% show a growth in seafood consumption. These are staggering numbers as it shows

shows that the seafood industry is failing to meet the needs (or create any sort of demand) of up to 74% of future consumers in Japan. This can be potentially crippling to the industry unless they find a way to market their products to Millennials and younger generations, or they will have to increase their sales abroad, which in general relies on most part on the value of the Japanese yen in comparison to foreign currencies. This can be seen that when the yen is weak, exports increase, and when the yen is stronger, exports decrease. It should therefore be of concern for the seafood industry to find a way to market themselves to future consumers in Japan.

5.2 Total Amount Eating Out and Delivery vs. Amount of Times

Requested Seafood:

This data (figure 10) was gathered to have a better idea of how often Millennials were selecting seafood when given the option of not cooking. This includes eating out at a restaurant, picking up a bento from a convenience store, or ordering delivery. Here the only influencing factors will be price, taste, and social involvement. This also gave us an idea of

how many times the Millennial generation was eating out in comparison to the older cohorts. What we found out was that the Millennials in average eat out about four times a week. Of these times, only once do they order seafood on average. This leads us to assume that Millennials are consuming seafood more often at home than at a restaurant. This can be furthered expanded on in future surveys to find out why is it that they are ordering different meats given that taste is not a factor as demonstrated earlier.

Older generations on the other hand demonstrated that even though they eat out less (almost three times a week), they order seafood once or twice of these times (figure 11). The thought process to this might be social in which seafood was traditionally consumed by older generations, and have placed certain characteristics on specific seafood when celebrating a certain cause.

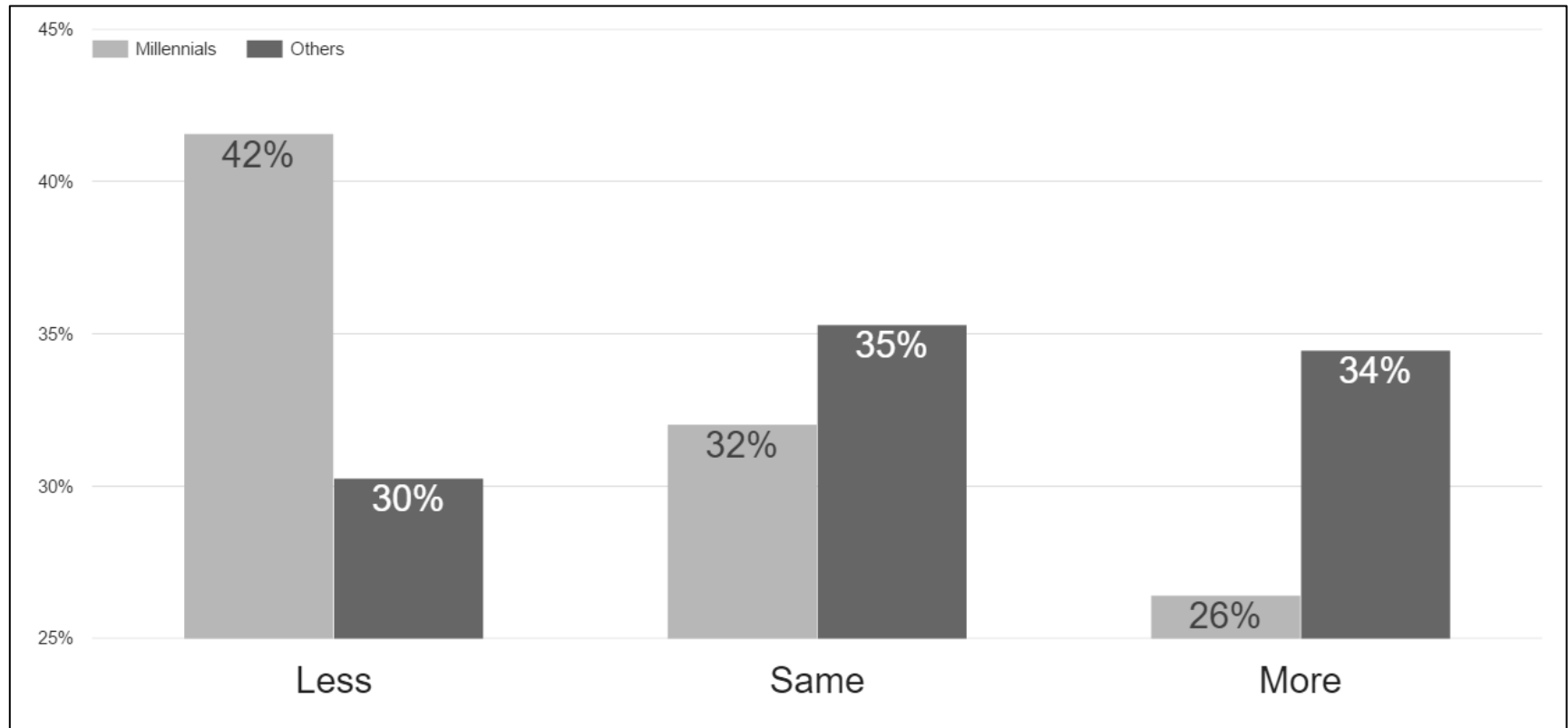


Figure 9 - Seafood Consumption Trends by Age

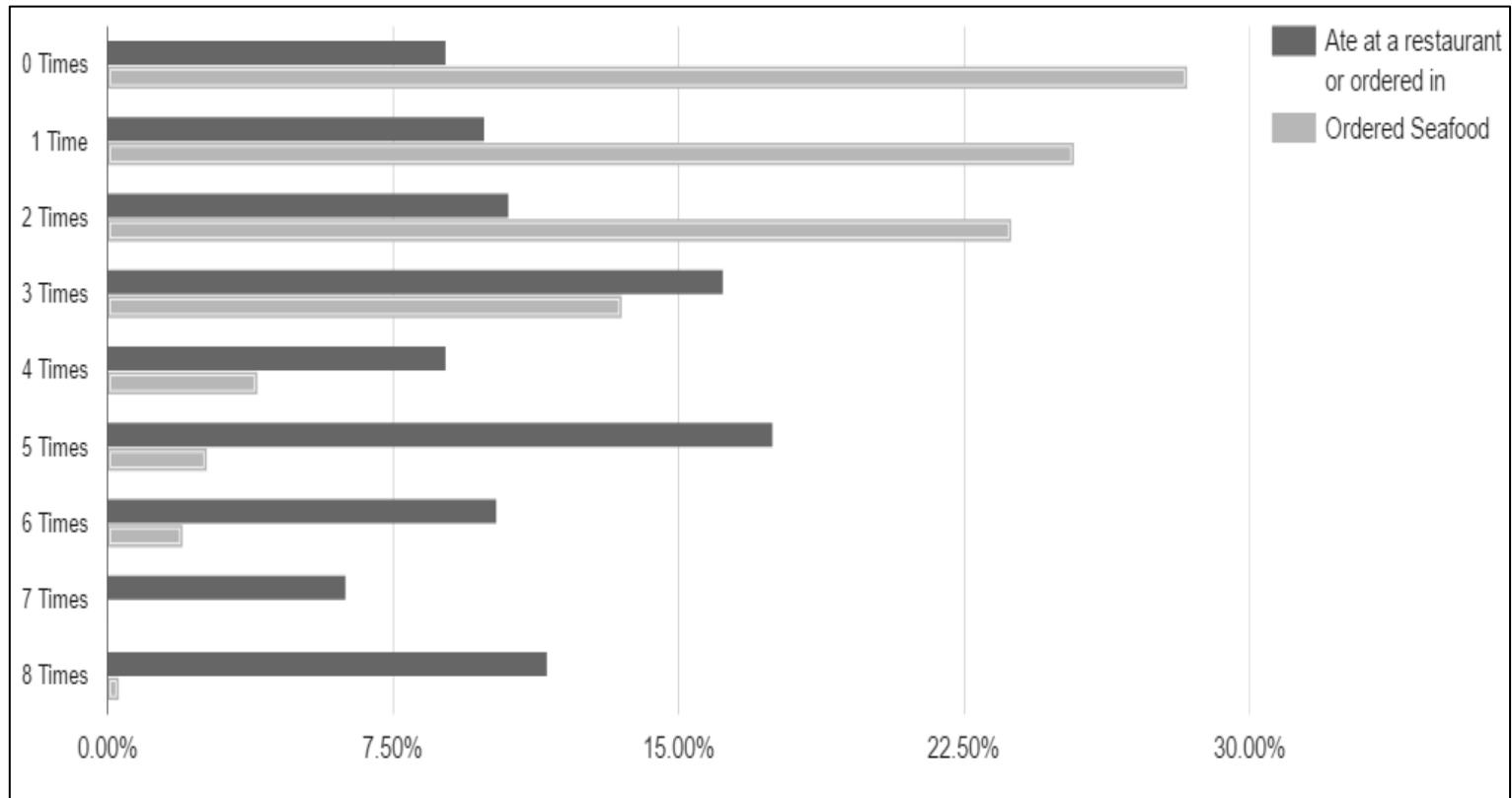


Figure 10 – Percentage of Millennial Generation that Orders Seafood at Restaurants or Delivery

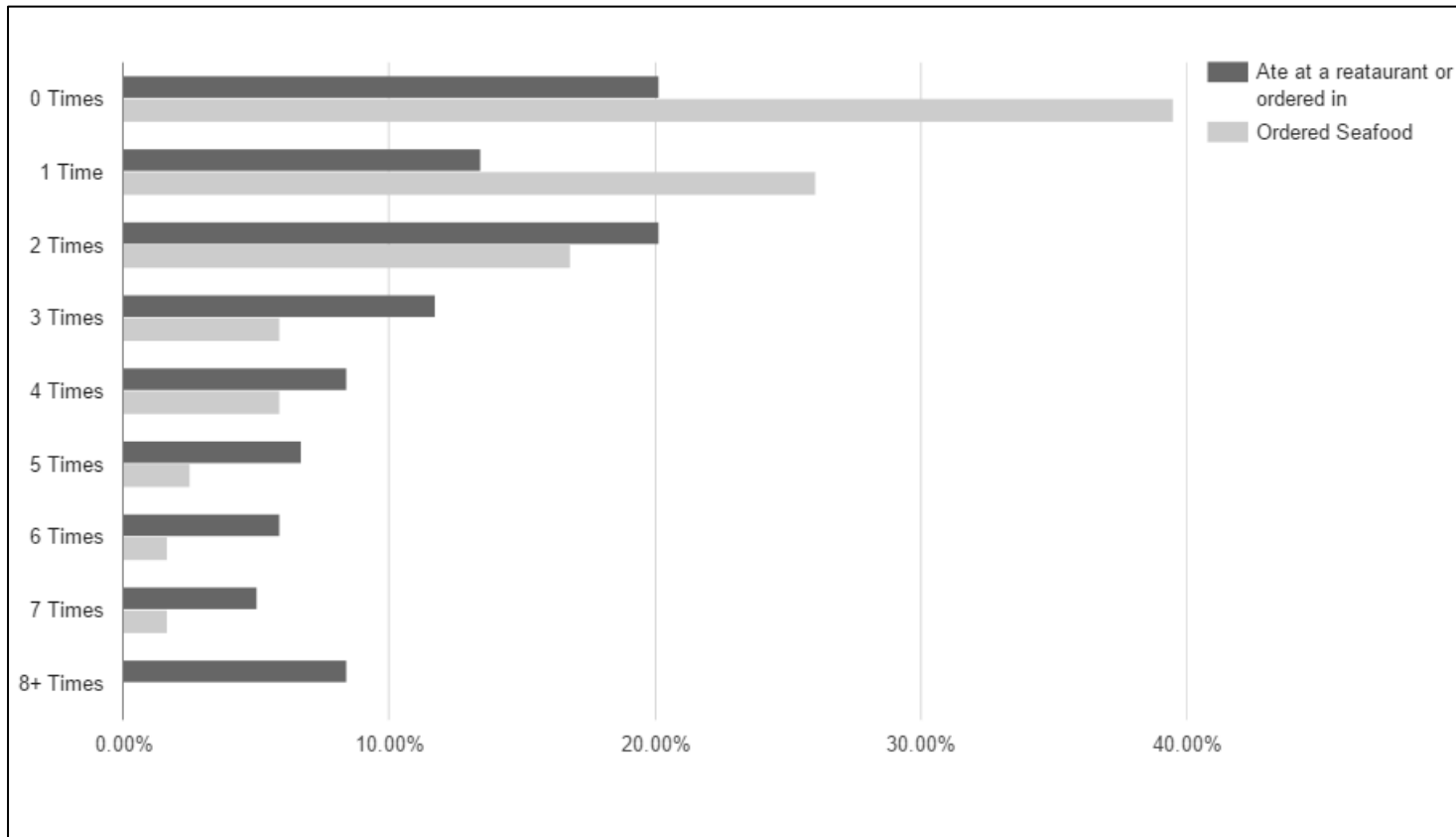


Figure 11 – Percentage of Older Generation that Orders Seafood at Restaurants or Delivery

6. Importance in Specific Qualities of Seafood:

The bulk of the survey required those who answered to rate on a numerical scale the importance of different variables when it comes to choosing seafood. These were –

- Price – Seeing as the economy of Japan currently has a weak yen and Millennials are soon to make the bulk of the working force, we wanted to know how much of a factor does price pay in choosing seafood. Are Millennials willing to pay more for what they want?
- Freshness – With previous generations, freshness of product was the most important factor. Much of the Japanese cuisine depends on the freshness factor, especially when dealing with raw meats such as sashimi. Does this variable transcend ages? Is it just as important with Millennials that it is with older generations?
- Where the seafood was caught/farmed – In Western nations, the location where seafood is caught plays a large role in decision factors for Millennials. Here we wanted to see if this also translates to in Japanese Millennials, or, if other factors such as leaked pollutants in known areas influence purchasing habits. An example could be the consumption of fish retrieved near Fukushima.

- **Packaging** – Also in the west, packaging is consistently being used as a method to attract new customers. Anything from packaging material to logo design can be used to sway purchasers. However, in Japanese markets, the typical white or blue Styrofoam plate with plastic wrapping dominates the market. Here we wanted to see, if packaging was important, could a company change their design to attract new consumers?
- **Company/Brand of Seafood** – Some companies are known to be more ethical than others when it comes to seafood. Also, some companies hire specific sponsors, or promote different ideals. Many consumers in the West find a strong affiliation to specific companies. Japan is home to many multinational companies, and this variable was to see how the love for a specific brand moves into their purchasing decision.
- **Ecolabel Certification** – Recently in the last few years, ecolabels have become increasingly popular when choosing foods. Millennials are known to be highly conscience of the environment, yet wary of large corporates. By ranking their importance on eco-certification, we

could have a better idea if Japanese Millennials are on par with other Millennials around the globe.

The scale was on a rank of one to six. This eliminated a middle [neutral] number and forced the participant to have an opinion, whether positive or negative, on the matter being ranked. If a surveyor ranked a variable as one, this meant that the variable held absolutely no influence on the purchase whatsoever. On the other hand, if they ranked six, it was highly important. Prior to releasing the survey, it was hypothesized that Millennials will rank higher importance or preferences for lower prices, packaging design, and ecolabel certification; while older generations will have higher preference variables such as freshness, brand/company loyalty, and product of origin. The following results though claimed something unexpected. Simply put, Millennials and older cohorts held the same preferences in seafood, but all Millennials ranked the variables considerably lower than the older counterparts. This means that although they rank the same variables in preferences, there is a strong indifference to seafood. In other words, the younger generations do not care for seafood as much as older generations. Although we know that the Japanese

Millennial is consuming less seafood than in the past, the variables in importance have not really changed. What has changed though is the importance level given. The following radar graph (figure 12) shows that generations older than Millennials, will have a higher importance factor on every variable, except for eco-certification. Because this is a common trend amongst Millennials it is not so surprising, yet demonstrates that Japanese Millennials do not put the same amount of importance into seafood as previous generations as mentioned above. This means that the decrease in seafood consumption can be also attributed to something along the lines of social motivation or lack of education in seafood appreciation or preparation.

As can be derived from the graph that is figure 12, there are however two variables in which there was a considerable difference between Millennials and older generations. These are *location* (origin of seafood), and *eco-certification*, as has been hypothesized. It is not surprisingly that these two usually go hand in hand, as the environmental impact of a fishery depends strongly on its location. These are strong variables that fisheries should consider for the promotion of schemes like the MSC's.

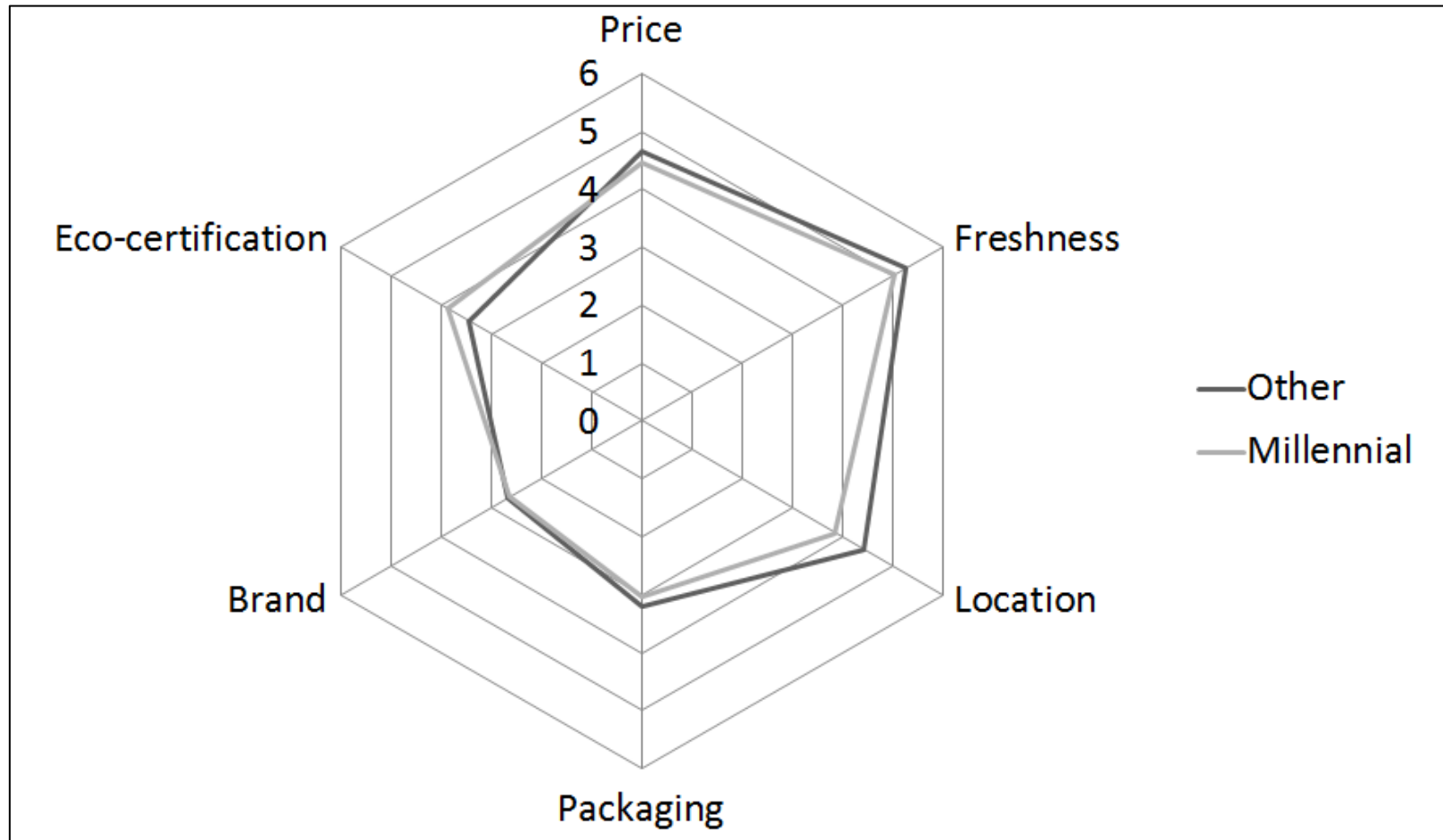


Figure 12 – Radar Graph that Plots Variables of Millennials vs. Older Generations

6.1 Location Factor:

When it comes to location, older generations are more concerned on where the seafood is being brought from. This could be that they have a preference for specific fish, or possible concerns over polluted waterways. This is a rather new observation as a study performed by D.A.M. De Silva and Masahiro Yamao from Hiroshima University titled “Regional Preferences in the Japanese Seafood Consumption: An Investigation of the Consumer Purchasing Behavior on Domestic vs. Imported Seafood” concluded that there is an overall positive image on imported seafood relative to those of domestic origin. It further explains that Japanese consumers evaluate seafood based on product attributes. Therefore, older generations are more careful with where they are selecting their seafood. This can possibly be attributed to the general perception of nuclear energy, and the effects on fish. Since the mid-1990s there were several nuclear related accidents and cover-ups in Japan that eroded public perception of the industry, resulting in anti-nuclear protests and resistance to new plants. While exact details may be in dispute, it is clear that the safety culture in Japan's nuclear industry has come under greater scrutiny. Since the 2011 earthquake which triggered a tsunami that created a melt-

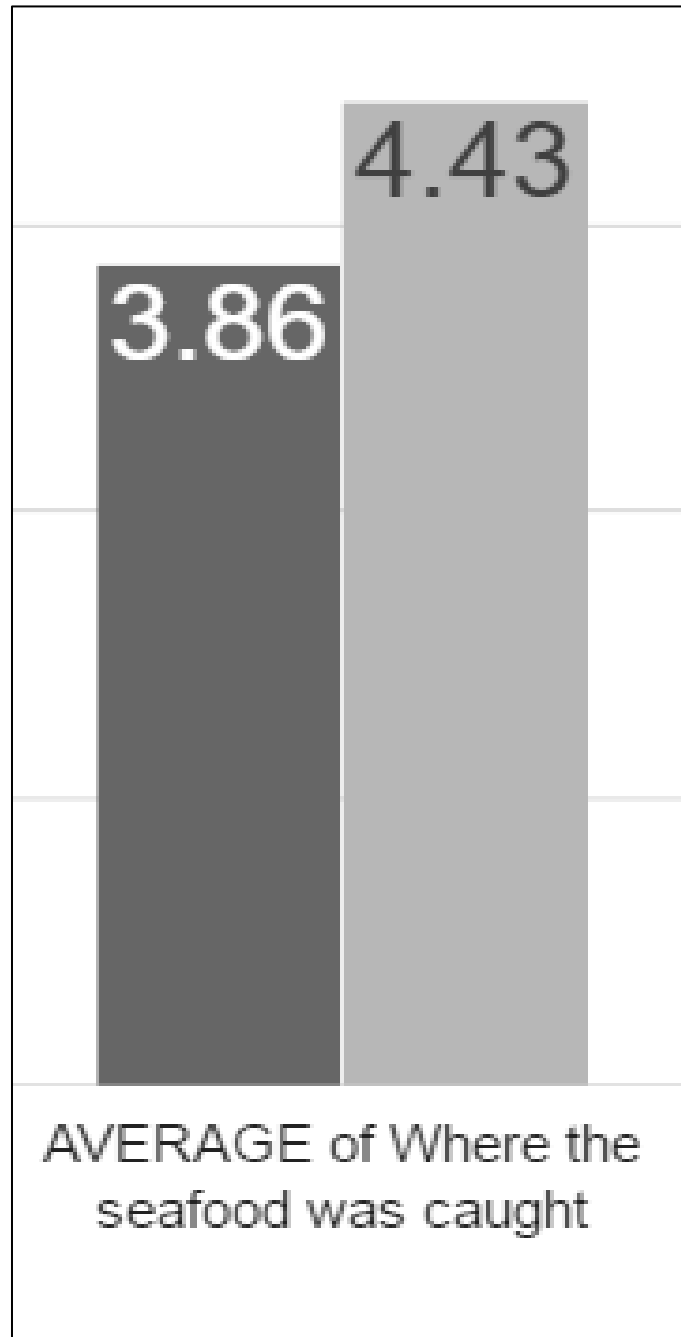


Figure 13 – Average Value of Seafood Origin

down at the Fukushima Daiichi nuclear plant, citizens are more concerned on what waters their food is coming from, especially seeing as the area affected above will take over 40 years to be cleaned.

6.2 Ecolabel Certification:

However, when it comes to eco-certification, Millennials strongly valued the certification (figure 14). This goes along with the trend that this generation tends to be more conscience of the environment and sustainability, and places high importance on third party grading systems to ensure that their seafood is being purchased from a ecofriendly source. Despite the fact that Millennials are coming of age in one of the most difficult global economic climates in the past 100 years, a recent Nielsen global online study found that they continue to be most willing to pay extra for sustainable offerings—almost three-out-of-four respondents in the latest findings, up from approximately half in 2014. According to Grace Farraj, SVP, Public Development & Sustainability, Nielsen “Brands that establish a reputation for environmental stewardship among today’s youngest consumers have an opportunity to grow and build brand awareness.”

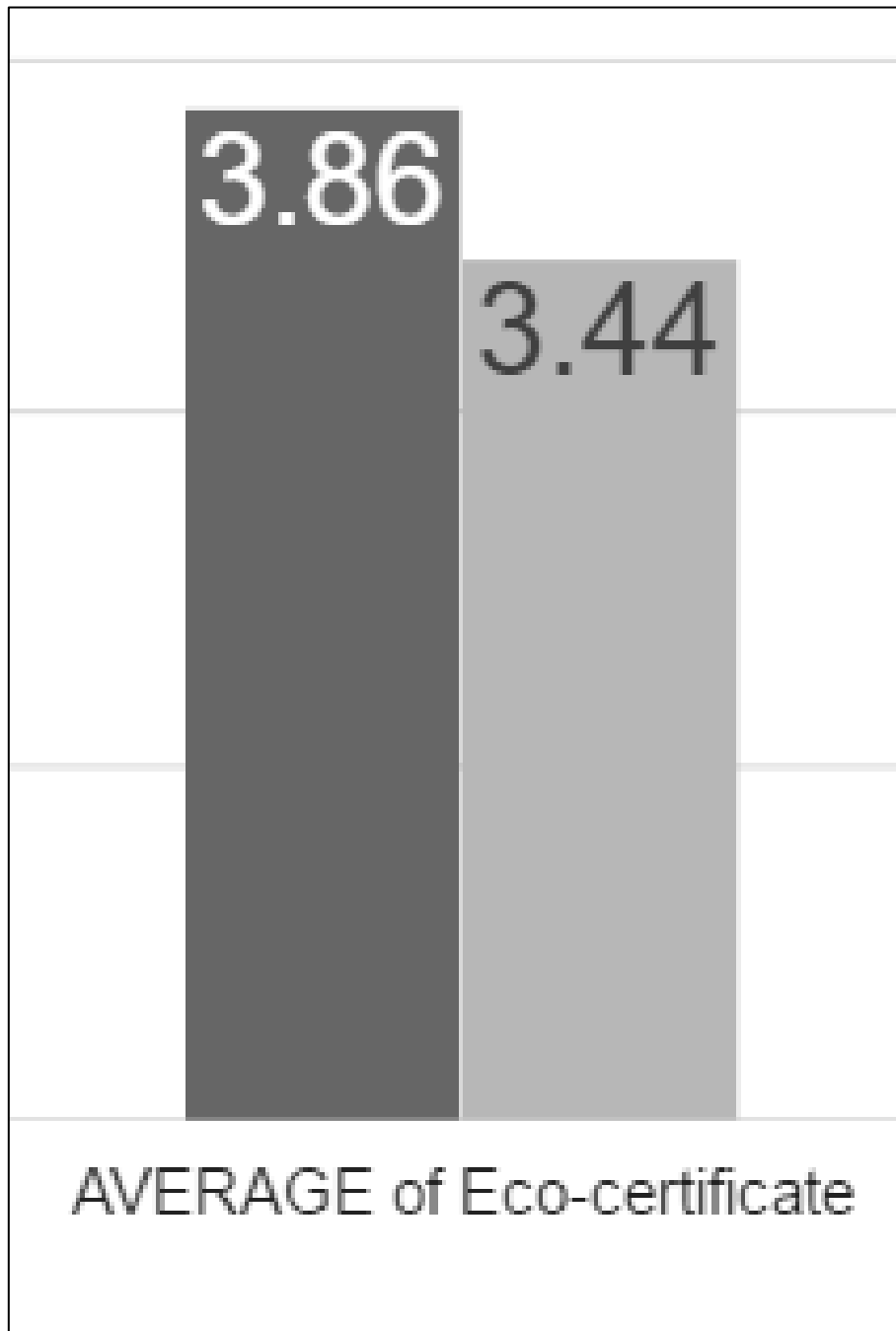


Figure 14 – Average Value Ecolabel

7. Willingness to Pay for Eco-Certification:

Being that one of the goals of this research topic was to find out what the seafood industry can do to increase sales to Millennials, it is worth noting how much more a company can charge for eco-certification knowing that price is a high factor in seafood decision making as has thus been described. For the survey we asked answerers to put a percentage on how much more they are willing to pay for eco-certified products. Answers recorded a wide range, but 43% of Millennials mentioned that they were willing to pay up to 5% more for eco-certification, and 20% were will paying 5% to 10% more. When compared to the older generations, Millennials were more willing to pay more for this certification. Interestingly enough, Millennial trends also demonstrate that they are more willing to do research prior to purchases, and are influenced by other sustainable factors such as such as a product being made from fresh, natural and/or organic ingredients, a company being environmentally friendly, and company being known for its commitment to social value. Sales, and coupons didn't even make the top five. For this group, personal values are more important than personal benefits, such as cost or convenience, of which is a high variable for older cohorts.

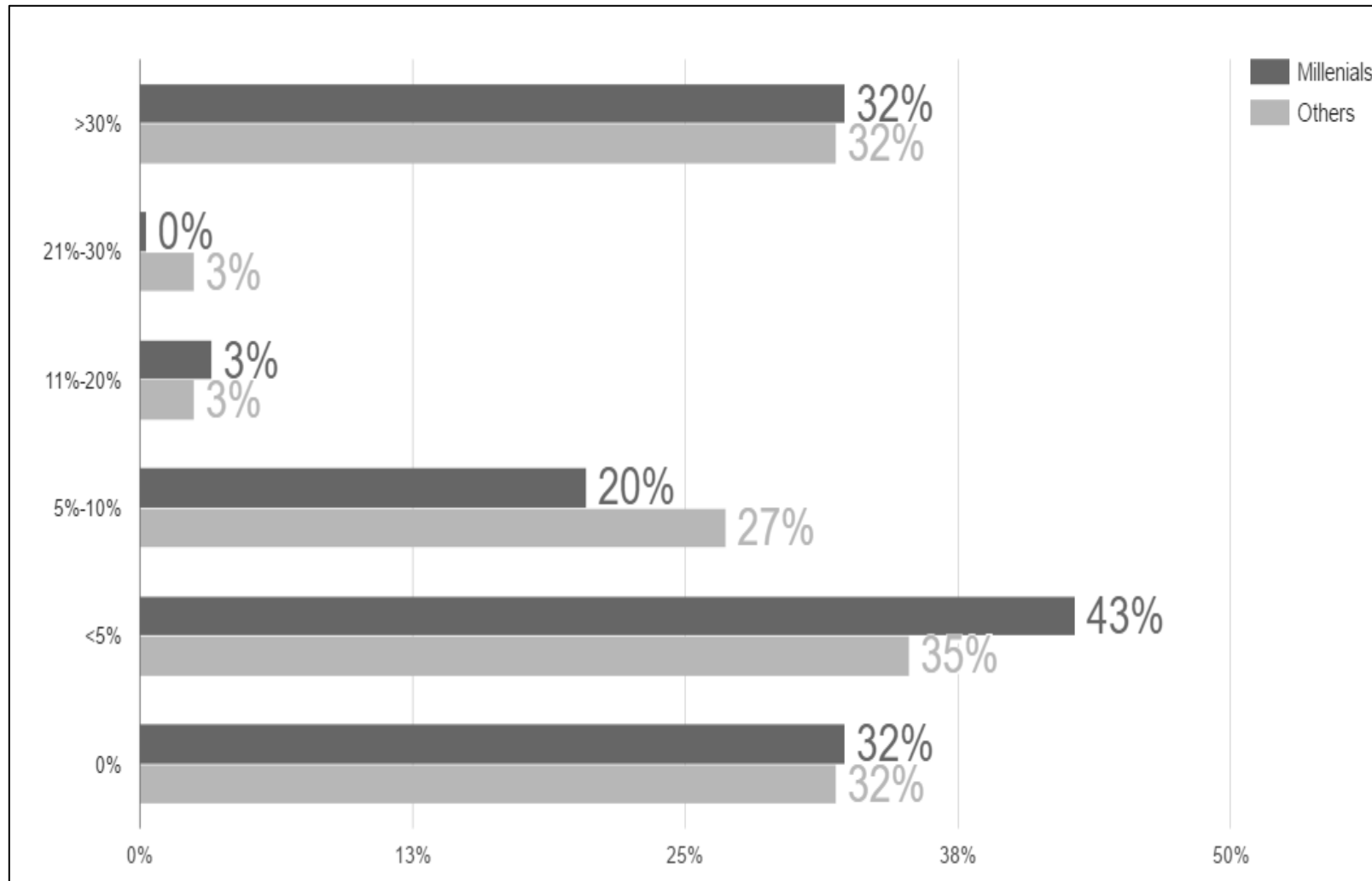


Figure 15 - Percentage Willing to Pay Over Total for Ecolabel Certification

7.1 Willingness to Use E-Commerce:

In an increasing digital age, e-commerce sites are becoming more and more popular. Social media communication is one of the most important tools used by Millennials. Japan has a very high internet penetration, at 86% – it is the fourth largest Internet population in the world after China, USA, and India. Mobile penetration is 122%, which means on average, people own more than one mobile device. In terms of social media use, there are almost as many account access via mobile (22 million) as the total number of active social media accounts, which is over 90% of all social media usage. This means that the majority of people who use social media use it on mobile as well as desktop. The top three social media platforms used by Japanese are LINE with 36 million active users, Twitter with 30 million users, and Facebook with 16 million users.

We can observe the following trends from the graph below (figure 14) that those in their 20s are the most avid social media users across the board, which is the bulk of Millennials. LINE is the most popular social media network across the board except for seniors in their 60s. This is particularly interesting as LINE is one of the main platforms used for

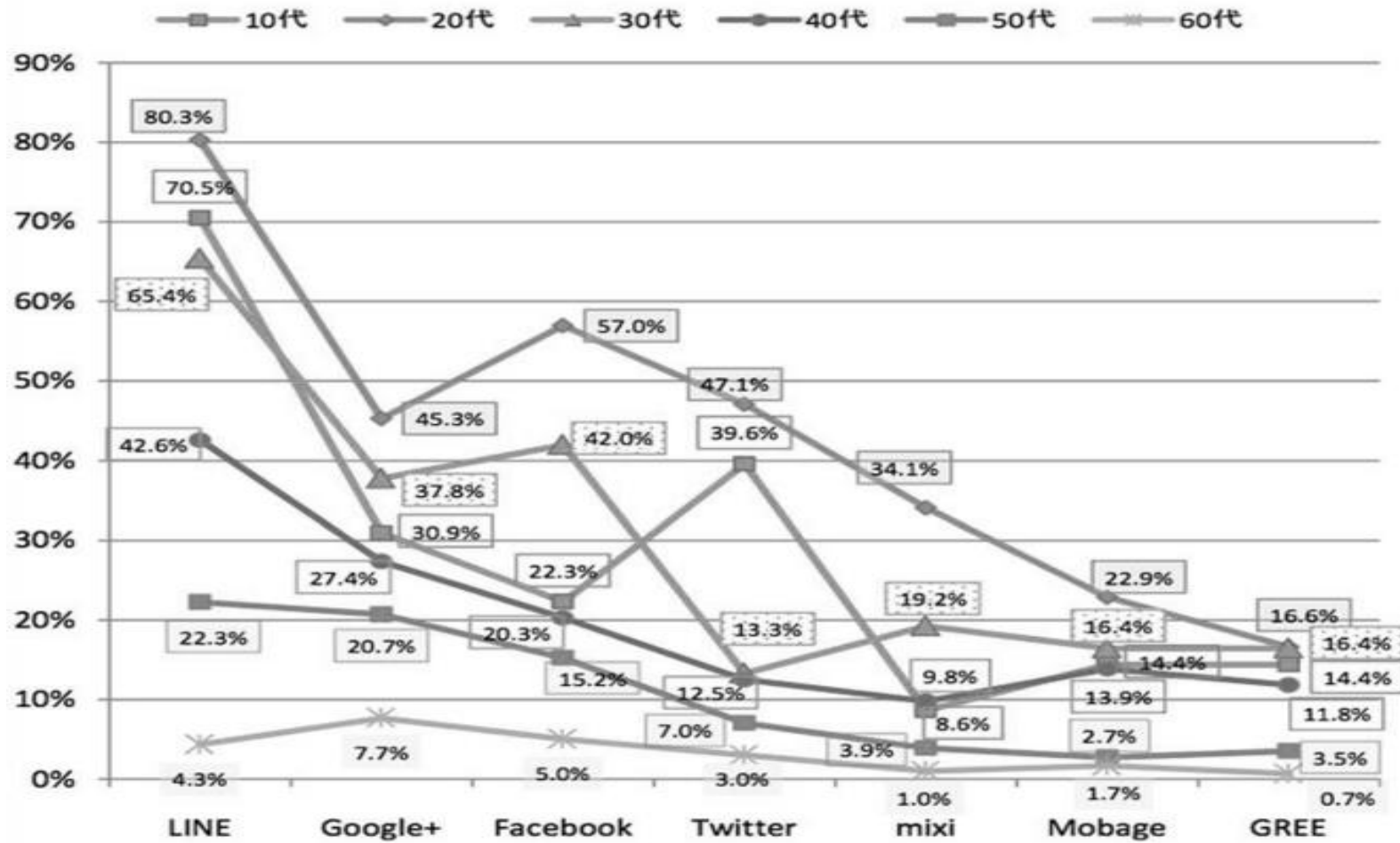


Figure 16 - Percentage of Social Media Platform Users by Age Group Line graph from Btrax

online purchasing.

In our survey we asked Millennials how likely they would be to use e-commerce to order *fresh seafood* products. Surprisingly though, they were outperformed by older generations possibly either to distrust in the system, lack of need, or general apathy towards seafood (figure 15). Although this might seem surprising because Millennials are the most likely to use e-commerce sites for purchases, it makes sense from an economical perspective in the sense that *if Millennials are not eating seafood* why would they be using online commerce sites to purchase seafood. Basically, there is no demand for the product, or they do not feel that attaining/purchasing seafood is going to be either difficult or cheaper online. However, it is interesting to note that roughly one third of the cohort older than Millennials have used some sort of e-commerce to purchase seafood products, and were pleased enough with the results that they are willing to do so again. Also of particular importance here another one third from both groups are willing to try. This could be a potential market vantage point.

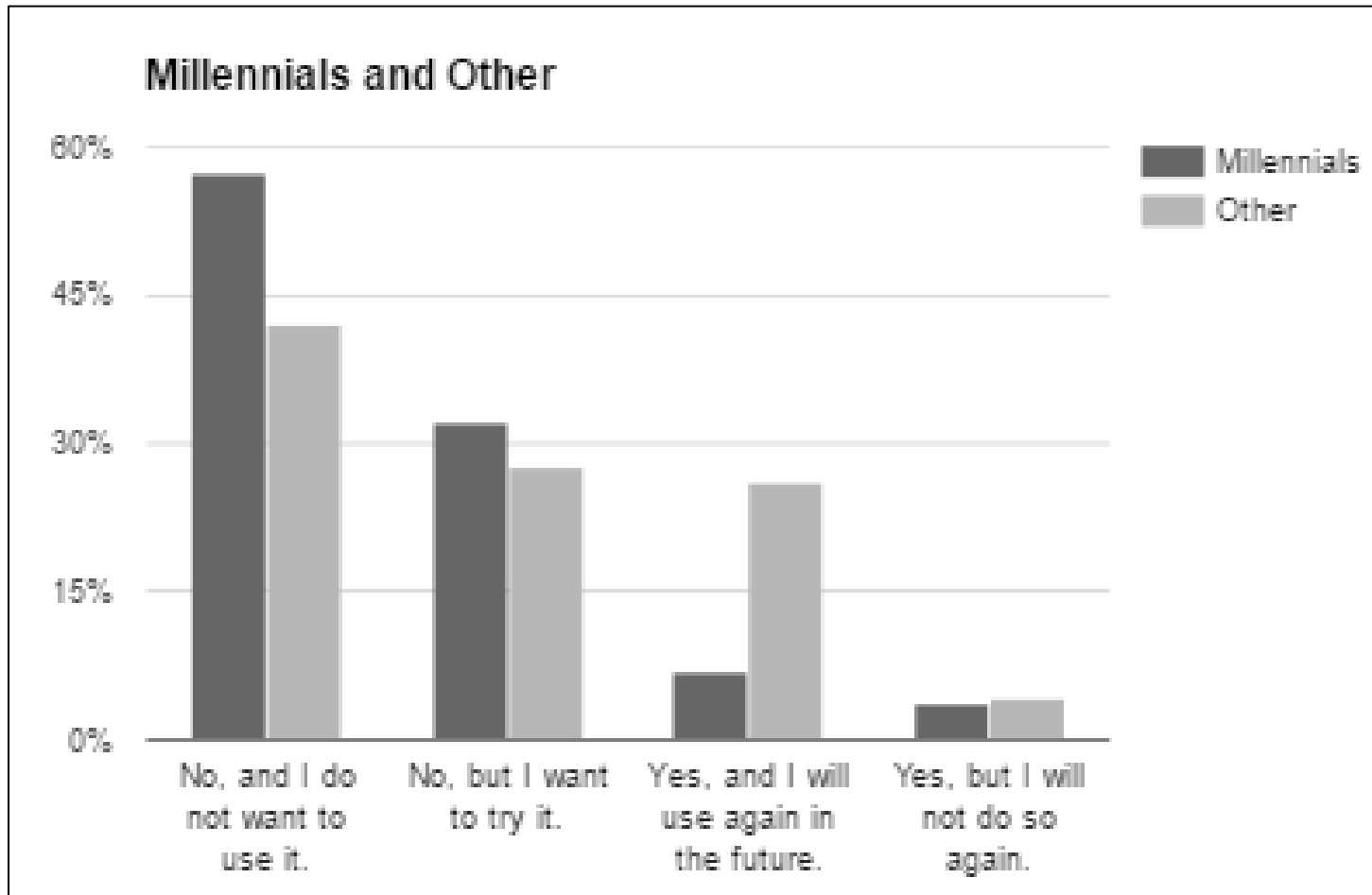


Figure 17 - Willingness to Use E-Commerce

III. The Marine Stewardship Council in Japan

Summary

Chapter III functions as an introduction to the Marine Stewardship Council both from its origins and Europe, as well as its operations in Japan. Besides providing a brief history and numbers during its growth, this chapter also covers the accreditation process for fisheries. The majority of the context for this chapter was collected from visits to the MSC headquarter in Tokyo, as well as the WWF Japan office. The chapter concludes with a brief explanation of other ecolabels that are also important to the Japanese market.

1. The History of the Marine Stewardship Council

The Marine Stewardship Council was founded in 1996, inspired by the Grand Banks cod fishery collapse of 1992 when the Northern Cod biomass fell to just 1% its original levels in the Canadian Atlantic. In that year [1996], members of the conservationist group WWF met with leaders in Unilever, one of the largest multinational companies dedicated to consumer goods, to see what could be done to help create environmentally sustainable products. The main idea behind this meeting was to develop an awareness ecolabel behind the products which could be used to educate the consumers on their purchases. In other words, how to develop Green Marketing tactics among the consumer goods giant, and create at the same time an industry niche which promotes the conservation of the environment.

In 1999, following consultation with over 300 scientists and after 18 months of debates, the foundation of the “MSC Standards” was set and the MSC officially becomes fully operational and independent. The following year is also monumental as the first fisheries are certified in March and September respectively, as well as the launch of the MSC Chain of Custody

Standard. And, just two years later in 2002, the 100th MSC certified product reaches shops. The future seems bright.

In 2005, the MSC's biggest success is in certifying the Alaska Pollock fishery, which is the world's largest whitefish fishery. That same year, the MSC also reaches an agreement with the Government of Vietnam, committing itself to promote sustainable fisheries. This is a first for the MSC, and now demonstrates its ability to enter political arenas. The following year, 2006, the MSC becomes the first organization in the world to achieve consistency with the United Nations Food and Agricultural Organization Guidelines on eco-certifying seafood products. Then, in 2007, the MSC flexes its muscle incredibly by coming to an agreement in which all retailers in which the nation of The Netherlands pledges to go all in, in that all their seafood products will be 100% certified by the MSC.

2008 – 2011 continues to see the growth of the MSC. By these dates the MSC now is certifying over 100 different fisheries, and Carrefour Group, the second largest retailer in the world, launches the 2,000th MSC certified product. MSC fisheries can now be found in all continents and regions of the world, including far off places like the Arctic Ocean, as well

as inland bays in Southeast Asia. If this wasn't enough to demonstrate the buying power that the MSC is now commending, in mid-2011 all McDonald fast food restaurants now commit to selling MSC fish and shrimp products. The United States and Canada chains follow shortly.

In 2012, in a marketing stunt, the MSC sends certified salmon to Dutch Astronaut André Kuipers onboard the International Space Station (ISS). Popularity starts growing even more, and later this year due to demand, baby food products are now certified under the MSC, meaning that there are now MSC certified products for consumption by all age groups. A few years later, in 2015, the MSC certifies the Australia pearl fishery, another first in the world.

2017 marks a flag year for the MSC as they celebrate their 20th year of operation. The slogan “keeping it wild, traceable, and sustainable,” is in constant use now. More than 25,000 different products are now available to consumers with the MSC blue fish ecolabel. Consumption is sought worldwide, yet Asia continues to be a difficult stepping stone for the MSC. Of those having a particular difficult time in Japan.

1.1 The MSC in Japan

In 2006, Japanese mega retailer AEON began selling over 30 different MSC certified products. This was the true introduction of the MSC ecolabel to daily consumers. However, interest in the ecolabel came the year before, in 2005, when the WWF Japan (being encouraged by the MSC and WWF offices abroad) helped Kumabusho / Wada claim the first Chain of Custody certification. It is important to note why this is significant: for products to carry the blue MSC label, every company in the supply chain must have a valid Chain of Custody certificate. To be certified, businesses are audited by independent certification bodies. By being certified, the Japanese market is beginning its first steps to completing the product chain for Japanese MSC products.

The first certified fishery did not happen until two years later in 2008 when the KDSFF becomes the first certified MSC fishery in Asia, let alone Japan. This too was encouraged by the WWF Japan offices. It is important to note that while the KDSFF became the first certified Japanese fishery, officially, there was not a Japanese MSC Headquarters. Apparently, and according to WWF offices, there was specific interest

between the MSC to help make the KDSFF the first certified fishery regardless of difficulty. Since then the MSC has certified a total of four fisheries in Japan, with two currently in pre-assessment. Of these four certified, only two remain currently in 2018.

As mentioned earlier, the KDSFF has withdrawn its reassessment for certification, while Tosakatsuo Suisan Skipjack Tuna fishery in the Seandai region ceased operations shortly after the 2011 Tōhoku Earthquake. The only remaining fisheries therefore are Meiho Fishery which is certified for pole and line tuna, and the Hokkaido Federation of Fisheries Cooperative Association which fishes a type of clam. The MSC website at this time lists two more fisheries located in Honshu which are seeking certifications similar to Meiho (tuna pole and line, and Bluefin as well).

When it comes to advertising and marketing their products, the MSC depends highly on industry advertisements, but they do have a social media plan in Japan at the moment as well as offering public seminars and field trips to elementary schools including the Sustainable Seafood Expo. Also, the MSC continues to seek publicity in targeted media sources,

such as RiCE (Rice) No.2 WINTER 2017 and other media sources targeted towards Millennials.

When pressed about product awareness in Japan, the MSC stated that although there is a large demand for MSC products abroad, the MSC here hopes that the local caught products will be used to help promote small fisheries in Japan, leading to the increase of future certifications. This was another interesting comment made during the interview as of the fishing fisheries certified, only one is small while Meiho employs hundreds of employees and stretches international waters.

Redact: The MSC Japan launch social media during the second quarter of 2018. The handle @mscjapan – other common social media sites seem to be running as well.

1.2 The Current Relationship Status of the WWF with the MSC in Japan

The WWF helped with the creation of MSC in the late 1990s, as well as played a big role in helping the MSC enter the Japanese market.

However, the WWF has begun to question practices by the MSC (namely the certification process), as well as the multiple auditing companies involved. WWF feels that some fisheries shouldn't be certified, such as the tuna stock in the Indian Ocean, or the salmon stock in Alaska, USA.

In Japan, the WWF and the MSC are two different entities that for the moment only work closely together during Sustainable Seafood Week Expo. The WWF still does help out with the KDSFF, although minimally, but the MSC oversees all the other operations related to these audits. The WWF does call out the MSC on certain practices internationally, however they still would rather have consumers purchase MSC products over others. Their main issue is that the WWF wants consumers to trust the MSC, and not have to investigate each individual fishery regardless of the certification, which defeats the whole point of MSC.

** Interestingly, when interviewing the WWF in Tokyo, they were questioned on their opinion of the decreasing seafood consumption in Japan. They expressed concern about the issue, and do not know what is causing it. However, they feel that*

environmental certification will lead to increased sales in the closing market providing a niche product and future sales. This was interesting as the WWF is a conservation organization, yet they realize the importance of a free market. In other words, if you're going to consume animal products, do so at least suitably. Part of the struggle between the MSC and the WWF is that MSC has moved onto using version 2.0 of the standards set in analyzing stocks – which the WWF feels is rather broad, as well as them having no contact with anyone who performs the pre-assessments for these fisheries. They state that the best practice to have is to be globally consistent and not a case-per-case incident when evaluating seafood purchases.

2. The Certification Process and MSC Auditing System

In order to acquire the MSC ecolabel, the fishery has to pass an audit based on standards set by the MSC. These standards are globalized, and are evaluated by a third party auditor, not the MSC themselves. This audit is known as the “MSC Fisheries Standard,” and is designed “to assess if a fishery is well-managed and sustainable. It has been developed in consultation with scientists, the fishing industry and conservation groups. It reflects the most up to date understanding of internationally accepted fisheries science and best practice management.” This standard is divided into three parts and labeled as such:

1. Sustainable fish stock (ensuring that fishing can continue indefinitely)
2. Minimizes environmental impact (conserves the ecosystem)
3. Effective management (complies with relevant laws and government)

Each standard is subdivided by performance indicator categories. It is these categories which an auditing group will evaluate and grade on a point system. In order to be certified, a fishery must score above 60 out of a total of 100 points on each indicator, and must have a total indicator

average of 80 to be certified. These scores are kept private and not released to the public. Clients are recommended to visit the MSC website and seek information on each fishery individually.

2.1 Stages in Certification

On average, a fishery can be certified in as quickly as a year from the moment of application. The main stages to acquiring and maintaining the MSC ecolabel are:

1. Filtering Stage (A pre-assessment is performed in which a client decides to proceed.)
2. Preparation (Assessment is announced, peer reviewers are shortlisted, and assessment tree [categories] are consulted if they have been modified per case.)
3. Scoring (The MSD Fisheries Standard performance indicators are evaluated; main audit.)
4. Review Stage (Peer and client reviews, final report and determination, an objections period, and a decision to certify is made.)

5. Surveillance (Should the fishery request the ecolabel, they are required to be audited annually, and reassessed after five years.)

2.2 Typical Costs Associated with MSC Certification

Although certification varies depending on the auditing company as well as the fishery itself, we were able to get some estimates from the MSC offices in Tokyo themselves. Exact costs per assessment as well as the total of maintaining certification are confidential between the MSC and the fishery in question, however it is estimated that certification can range from \$15,000 USD to \$1.2M USD, depending on the size of the operation. Also, it is important to note that fisheries will rarely pay a full amount, at least in the beginning stages, as the MSC helps find subsidies for the fishery. For example, it is thought that the total certification of the KDSFF fishery was 7M¥ JPY. Current costs are estimated between 1M¥ and 6M¥ JPY, however these can be lowered by assessing multiple species at the same time. Annual average maintenance of the certification is about 4M¥ JPY, with the following audits at 2M¥ and 4M¥ JPY. Worth mentioning is that this does not include the subsidy. Meiho Fishery for example is

receiving 50% until the second audit, and after that 25%. This will be covered in further detail later on.

3. A Disadvantage: Slow Growth of the MSC in Japan

The main difficulty behind receiving certification is that the MSC certifies stocks and practices (unlike the ASC which certifies a farm), therefore, although the practice might be sustainable, the stock is not due to a variety of factors. The number one issue is that the stocks are multinational and are shared by other nations, namely China and South Korea. MSC has had to deal with this problem in the Mediterranean, and so Japan MSC's goal is to develop something similar to this with the East China Sea. MSC has offices in Beijing, and a representative in South Korea. MSC is also trying to help promote a political movement in China which would see the catch drop from 30M tonnes to 10M tonnes. Another leading factor is that marine stocks fluctuate, especially in Japan as we can see with cold currents passing along fishing grounds leading to down years. Therefore, because stock is relatively unpredictable, scientist edge on conservative numbers. All of this leads to complications, and even extraordinary factors have to be taken into consideration. For example, are the Sendai stocks increasing because of sustainable practices, or because the area is recovering from a lack of a fishing fleet caused by the 2011 tsunami? This was left for debate in the meeting however, but we can see

that there are concrete factors in the maintenance of certification directly correlated to finances and size of fishery. This will be explored later on as well.

3.1 An Advantage: Product Differentiating

According to MSC, certification will help differentiate their product, and those that are certified are content with the results. However, these fisheries are still on subsidies. Could it be that true price advantages are yet to be seen? The MSC though thinks that this will be minimal and true profits will demonstrate later. Because of this, they continue to push their products through the Japanese Sustainable Seafood Week expo (which started five years ago in 2013), as well at the upcoming 2020 Olympics in Tokyo. There are also at the moment 11 retailers carrying MSC products and customer awareness of the ecolabel is growing. Companies like AEON are promoting MSC, and want them to become a corner stone of their fish and seafood selection. Finally, the MSC feels that with the decreasing consumption of seafood in Japan, there will be an increase in eco-sustainable fisheries. In other words, although general seafood

consumption will decrease, MSC products will increase, leading to better results for those that are certified.

4. Other Certifications in the Japanese Market

Worth mentioning is the fact that the ecolabel industry is potentially oversaturated. There are already worldwide too many to count. By having this oversaturation, the reliability and weight of a label is lost. In marketing this is known as Green Public Relations (or Green PR) and is a division of Green marketing (also known as environmental marketing and ecological marketing), a marketing technique used by entities to promote certain products or practices.

By working through public relations, the organizations hopes that their communications will push a social responsible practiced agenda as well as environmentally friendly practices. The main goal behind all of this is to increase brand awareness and/or product sales. Tactics include placing news articles, winning awards, communicating with environmental groups and distributing publications, as well as eco-labeling, sustainable or zero waste packaging, and eco-safe practices.

Knowing that there is an increasing trend in consumer awareness for environmentally sustainable products, many companies (some pushed either internally, others by government incentives as is the case with the

Netherlands and the MSC) have decided to promote these green practices. Companies are consistently seeing the advantages of green marketing to all customers, not just Millennials. And although there is often a thin line between doing so for simply the benefit of a company, or for social responsibility reasons, this does not hide the fact that the past decade has shown that harnessing consumer power to effect positive environmental change is far easier said than done. Basically, is the “green consumer,” or one who purposely seeks environmentally friendly products, simply a niche consumer or is this now a trend that should be incorporated into future buyers in general? In other words, it is green marketing’s problem that the lack of standards or public consensus about what constitutes “green,” exists. In essence, there is no definition of “how good is good enough” when it comes to a product or company making green marketing claims.

This lack of consensus—by consumers, marketers, activists, regulators, and influential people—has slowed the growth of green products, and because companies are often reluctant to promote their green attributes, and consumers are often skeptical about claims.

(Makower, 2009) – *Basically, when it comes to choosing an ecolabel, whose role is to be educated on the meaning of the label and the particular product.*

So although this dissertation focuses on the Marine Stewardship Council, the following two labels (one being a sister label, and the other a national Japanese government label) should be briefly explored at their national level.

4.1 The Aquaculture Stewardship Council

The ASC is even newer in Japan, and at the start of this research there was not a local headquarter office selected nationally. However, a director has been chosen and is acquiring education in Sterling University. At the time of this publishing, the offices should be in movement to be set up. According to the MSC, with the arrival of the ASC in Japan it is expected the ASC certifications will pass MSC as it is easier to certify a farm than wild stocks. Also, the MSC is working with the ASC to create the SSC – seaweed sustainable council.

All three, the ASC, SSC, and MSC, will be run independently but have similar origins and modes of operation. Classification for certification

is similar. Acquiring and distributing is also similar. They can be seen as sister versions of each other.

4.2 The Marine Ecolabel (MEL) Japan

When it comes to ecolabels in Japan, there is only one local label – the Marine Ecolabel. The importance of investigating this label was to see the major differences between a national backed ecolabel that supposedly understands the ins and outs of local fisheries, versus an international conglomerate that is the Marine Stewardship Certification. The MEL is a relatively new ecolabel, so information on it in English is hard to come by. For information, interviews were conducted in the Japanese Fisheries offices of Tokyo in August 2017.

Marine Eco-label Japan (MEL Japan) was established in Tokyo on December 6, 2007. MEL Japan is a joint effort by the fishing industry, the scientific community, conservation organizations, fish processors and distributors, consumers and food specialists committed to the promotion of the sustainability of Japanese fisheries. Finalization of the scheme, including the certification standards and procedural rules, is not complete

suing a bright yellow MEL logo. MEL Japan has received multiple applications and now has passed the MSC in certified products produced within Japan, with 28 wild fisheries certified. Their aquaculture certifying sister (AEL) has 19 farms certified.

MEL is based on three basic principles. These are:

1. Promotion of the conservation and sustainable use of marine resources and the conservation of marine ecosystems.
2. Co-management.
3. Scientific and objective certification

However, one of the major touts that the MEL tries to express is that the MEL is affordable in comparison to other ecolabels, and that this is the major problem local fisheries face. It is not so much that the fishermen are uneducated about ecolabels, it's that ecolabels schemes do not work in the Japanese market. For the eco-certification scheme to be accepted widely in Japan, it is crucial that it contributes to the sustainability of fisheries. What MEL Japan pursues is a practicable framework in which diverse fishers—large and small-scale alike — proactively engaged in sustainable fisheries can obtain certification at low costs. To that end, the scheme of

MEL is being developed into a system that requires the recovery of actual costs only and avoids duplication of work, by utilizing to the maximum extent existing data acquired through the management efforts that have already been undertaken. Furthermore, the system is non-commercial and non-profit in nature, and MEL Japan itself and third party certification bodies require the minimum necessary fees for maintenance of the project. Needless to say, minimizing certification costs does not mean compromising the sustainability requirements, and sustainability of the examined fisheries is the prerequisite for certification.

This though has brought along its fair and earned share of criticism, which has led MEL to redefine its certification process in 2018. Critics of MEL claim that the ecolabel was only created only once London pledge to serve only MSC certified products at the Olympics (with Tokyo hosting the 2020 games). This meant that should Tokyo want to keep the same standard, they would have an embarrassingly low amount of local seafood. In fact, if they were to do this, only one product would be available – Sendai foreign caught tuna. So they came up with the watered down MEL so at least some of their seafood will have a label on it. It seems like government sponsored greenwashing at its finest. Mainly for the fact that

shortly after the creation of MEL, they certified the purse seine fishery for Pacific Bluefin, a species that has been fished down 96% and had no enforceable catch limits. This has struck chords with various groups that consistently protest Japanese fisheries as being unsustainable, whether this is true, or just bad publicity should be examined further – but it is not the case for this dissertation.

IV. The Kyoto Danish Seine Fishery Federation

Summary

Chapter IV is a case study on a small, typical, fishery found in Japan. This fishery was chosen not only because of its size, but also because it is the oldest MSC certified fishery in Japan, having roots tying it closely with the WWF. This chapter includes a brief history of the fishery, and how it was led to be associated with the MSC. Data is also provided on catch numbers as well as fleet sizes.

Interestingly enough, the KDSFF was looking for certification for other means besides having sustainable products. Apparently they were in need of stronger resource management in the Sea of Japan, as they share the same grounds with neighboring prefectures. These prefectures are not interested in obtaining the MSC certification, and the results obtained were unsuccessful.

Of importance in this chapter is the costs acquired during certification, and the refusal of purchasers to pay price premium for the product. While although acquiring the MSC did open KDSFF's product to a larger market, they found themselves unable to meet their demands for

the price being offered. It was recommended at the time of this site visit that should operations continue, they would find themselves in an economic predicament. As of time of publishing, they are no longer certified.

1. Background Information and Objectives

The Kyoto Danish Seine Fishery Federation (KDSFF) was chosen as a case study for this dissertation because of the remaining certified MSC fisheries in Japan; it is both the oldest and smallest. With only 11 members composing the fishery, this would be a truthful comparison to the effect of a multinational ecolabel on a domestic locally run fishery not often seen in modern society (being that most fisheries in developed nations are run by corporations in order to be profitable). The KDSFF also operated in similar fashion to most Japanese fisheries in the sense that their products are sold through auctions coordinated by the local FCA. Thus, if multiple fisheries are selling the same product at these auctions, with the exception that some of the fish is certified, we can get a better estimate to how much of an impact the MSC certification is giving this fishery.

1.1 Research Questions and Objectives

Although the MSC ecolabel is growing worldwide at an exceptional rate, certifications of fisheries have become stagnate in Japan, with only four

MSC certified fisheries in the last decade. However, knowing that there is an interest for ecolabel products in the Japanese market, our research set out to define:

- A) What is the development procedure for the MSC in Japan?
- B) How has the MSC ecolabel affected Japanese fisheries?

In laymen terms, *how does a Japanese fisheries industry petition the MSC ecolabel, and what benefits or disadvantages does this provide afterwards?*

If this ecolabel proves beneficial to rekindling consumption and sales, it might be of particular interest to other regional fisheries to seek out this certification as well. On the other hand, if we can clarify the difficulties related to this ecolabel in the Japanese fishery industry, we can thus define the conditions of ecolabeling acquisition for a fishery.

Therefore, our objectives were twofold:

1. To observe the present situation of Japanese fisheries in relation to benefits and problems associated with the MSC.

2. To develop future discussion into what considerations Japanese fisheries and the market system should take when thinking about joining an ecolabel certification program.

In order to accomplish these objectives, a comprehensive case study was conducted on the KDSFF, the first fishery to be certified by the MSC in Japan.

1.2 Methodology

Information on the MSC for this article was collected in Tokyo through interviews with the Fisheries Manager, and the Communications Officer, at MSC Japan headquarter offices, as well as with the Leader, and an Officer, of the Oceans and Seafood Group Conservation Division at the WWF Japan headquarter offices, August 2017. Research data and interviews were also conducted at the KDSFF site of operation in Maizuru, Kyoto during September 2017 with representatives and members of the local Fisheries Cooperative Association (FCA) that were present during the introduction of the MSC, as well as the auditing processes at that fishery.

They have thus been presented here as a first person account as an interviewer during these visits.

2. History and Background Information

The KDSFF was established in 1944 as an independent fishery with the purpose of targeting multiple species. Of these species, the two of particular economic importance are *Chionoecetes opilio* (snow crab), and *Hippoglossoides dubius* (flathead flounder). The fishery grew as an arbitrary organization run under the burden of its own members, fishing the abundant waters in the Sea of Japan that had seen a sudden growth in marine life due to the suspension of fishing activities imposed during the Second World War. At that time, fishing was regulated only by license, and by 1955 there were over 50 members constituting the KDSFF. However, this growth in members, plus the national demand for snow crab, led to overfishing in the area, and by 1964 the Japanese government was forced to regulate the fishing season and allowable catch size in order to prevent this. Because flathead flounder shares the same habitat as snow crab, it too was also affected by this overfishing. Nevertheless, the KDSFF felt that the government enforced regulations were not enough, and began to self-regulate themselves with greater stringency by 1979, including allowable catch size and numbers, as well as imposing their own protected areas. At this point in history in time, the fishermen required either a

prefectural or ministerial (national) license to fish along these waters. Because of such regulation, the coast off the prefecture of Kyoto is therefore also contended by the neighboring prefectures Hyogo and Fukui's fisheries. This competition and regulation has led to the decrease in membership of the KDSFF, which as of 2017 is now composed of only 11 members who pay annual membership fees. Although the amount of vessels has diminished, the catch size *per ship* has maintained. This means that overall there has been a decrease in total catch amount in the fishery, and coupled with increasing costs of operation, poor weather, and self-imposed regulations, has led to poor economic gains for the KDSFF.

2.1 Neighboring Prefectures and Fleet Sizes

At the time of this writing, the KDSFF is composed of two separate fleets. The larger of these two is stationed at Hokutan and is composed of six ships. The second fleet is at Maizuru and is composed of five ships. All vessels are smaller than 19 tones, and hold a combination of prefectural and ministerial licenses. The owners of these 11 ships are the members

that run the KDSFF, and operate between November to March in search of their catch.

Hyogo and Fukui prefecture on the other hand not only have larger fleets, but bigger ships as well. The Hyogo fleet is made up of 11 ships, but of 50 to 60 tonnage each, while the Fukui fleet is even bigger, made up of a whopping 51 ships between 70 and 80 tonnes. This is of particular importance because, as stated previously, these three prefectures share the same fishing grounds. And while the KDSFF has applied and followed their own regulations for fishing these waters, the neighboring prefectures by law are only required to follow the regulations imposed at the ministerial level, which is lax when in comparison to Kyoto's. Therefore, although the KDSFF is attempting to be more conservative in the Sea of Japan, their attempts for the moment seem to be in vain as the neighboring prefectures do not agree with these self-imposed regulations. This has created a highly competitive market, making it difficult to individualize their products, as well as animosity between the fleets.

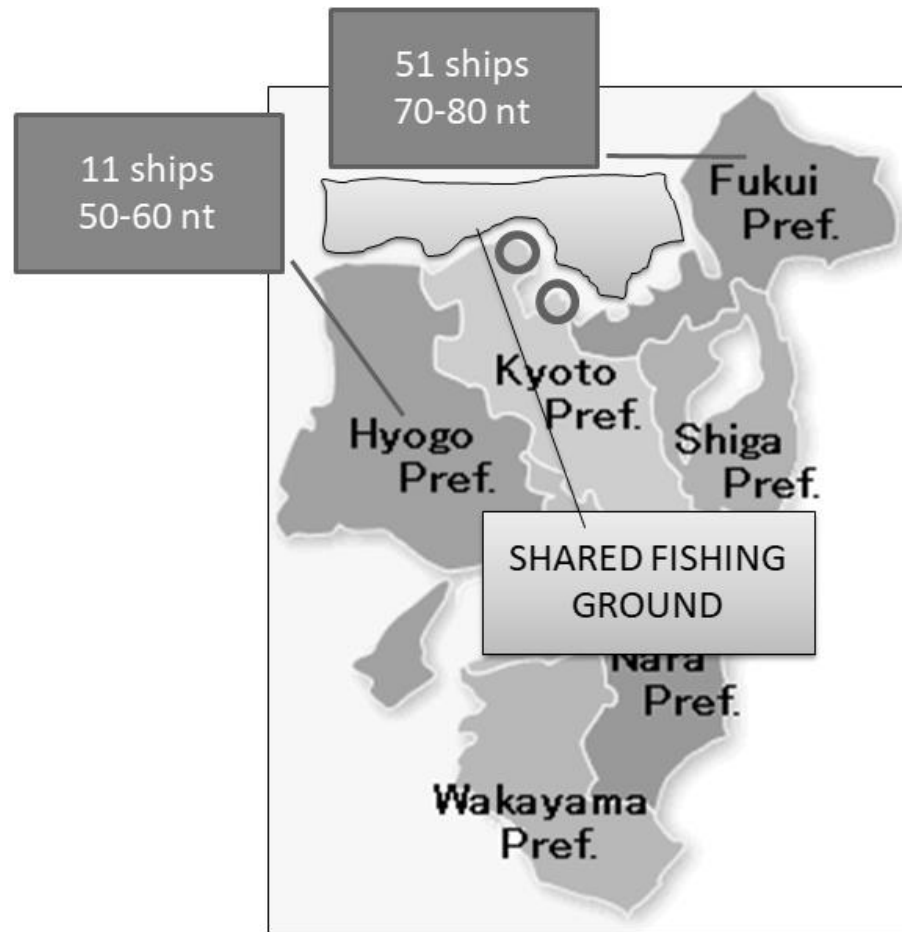


Figure 18 – Fishing Grounds in the Sea of Japan used by the KDSFF and Neighboring Prefectures

2.2 Catch Size for the KDSFF

Ships in the KDSFF use pair type Danish seine trawling as their method of fishing. Kyoto's fishing voyages are usually same day, with some returning the following day at the latest. Each ship is composed of a crew of either five or six members. The smallest vessel has a tonnage of 17 while the largest is of 19.96 nt. The following are most recent numbers for fish catch provided by the Maizuru fleet.

However, when we break this catch into total value, snow crab (which is only 15% total catch volume) dominates the purse for the KDSFF, coming up with almost 70% total worth. Interestingly enough, flathead flounder, which is their MSC certified product, only brings in 7% total value versus a 13% total catch volume.

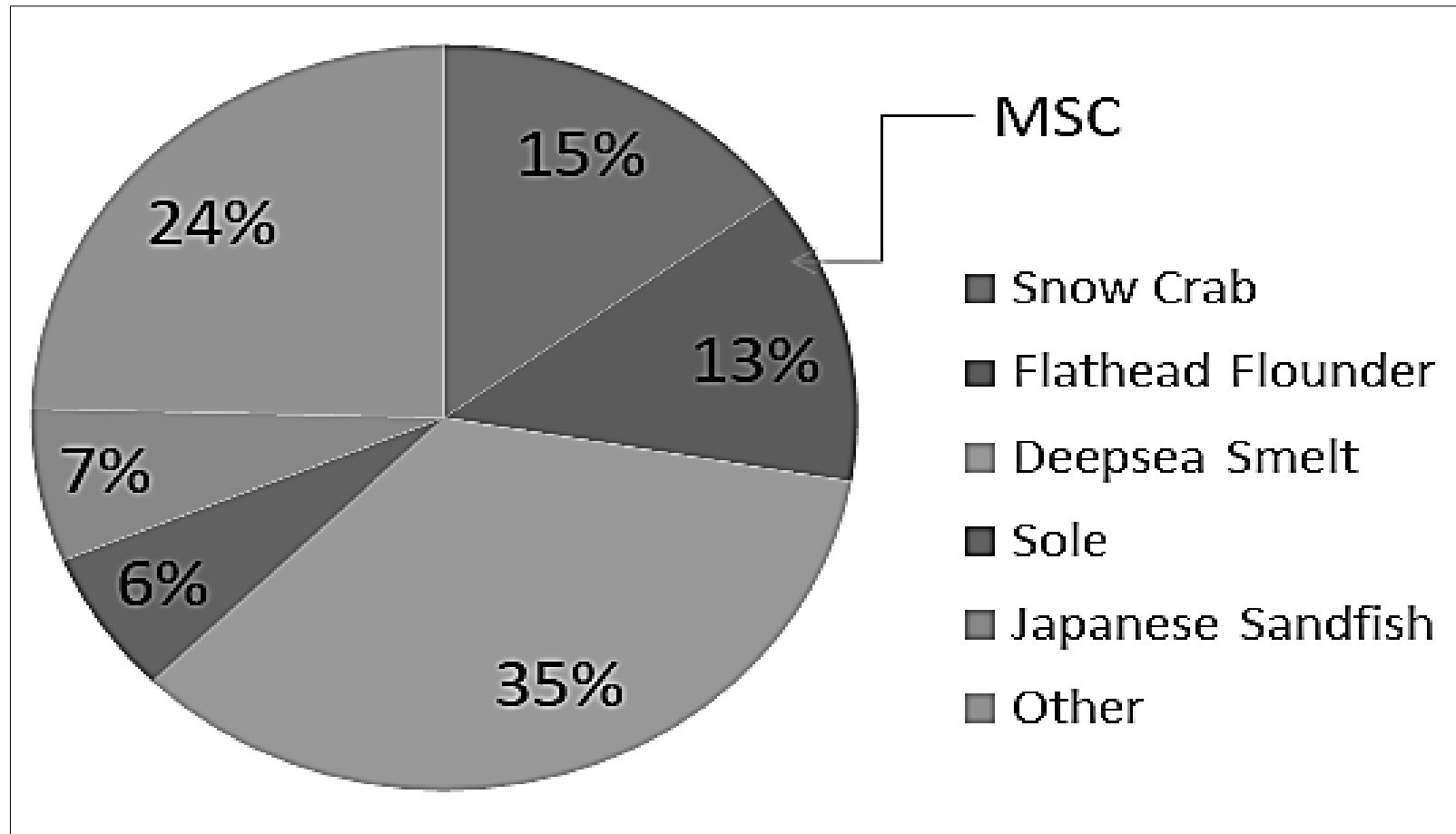


Figure 19 – Percentage Catch Volume for Maizuru Fleet

Fish	Tonne
Snow crab	38
Flathead flounder	33
Deep-sea smelt	89
Sole	16
Japanese sandfish	17
Other	63

Table 2 – Catch Volume for Maizuru Fleet

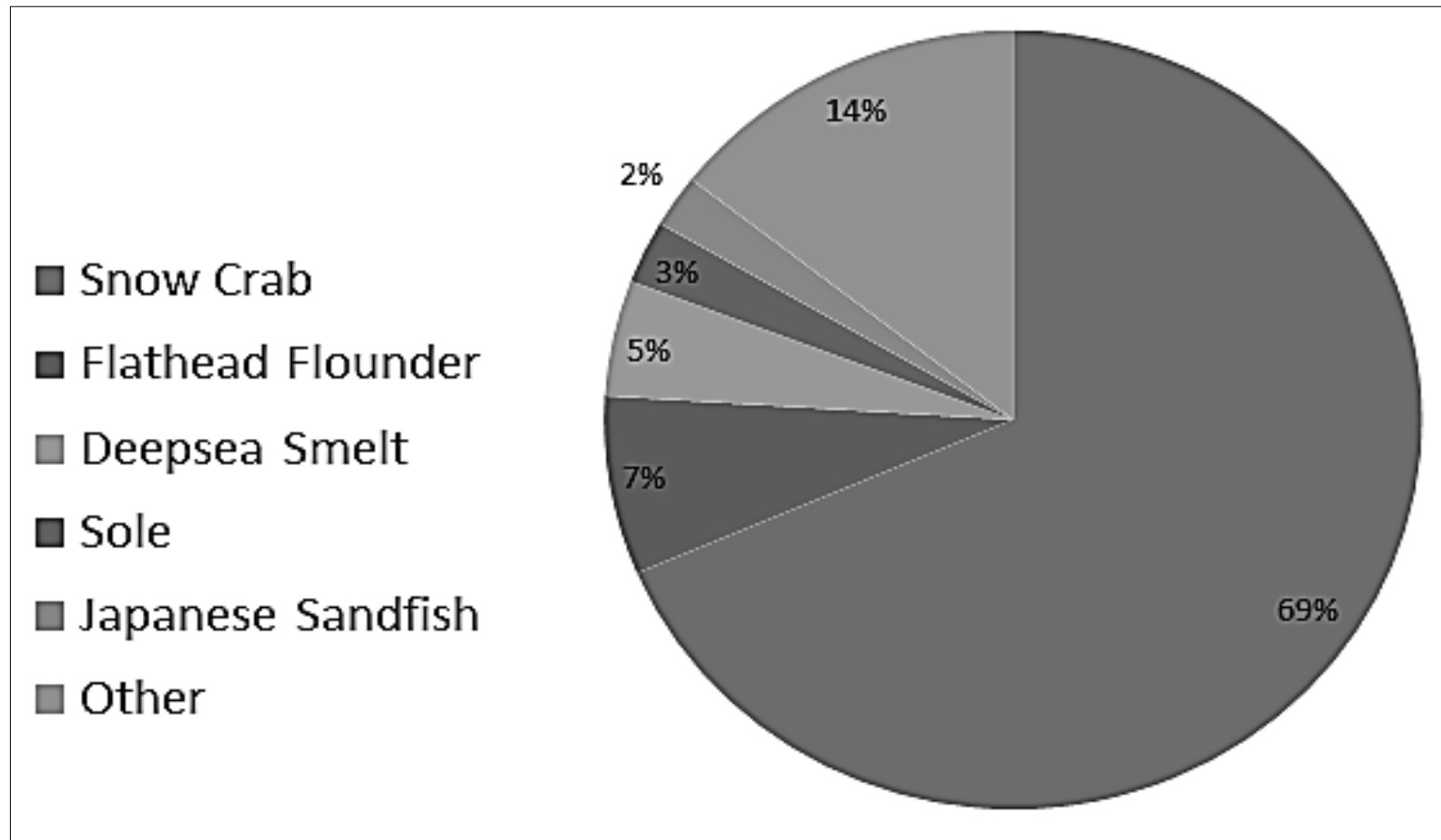


Figure 20 – Percentage Total Value for Maizuru Fleet

3. Resource Management

The Sea of Japan is a semi-enclosed oceanic basin consisting of the Tushima Warm Current and Subarctic water from the surface to about 300 m deep, with original cold water beneath that. The area along the coast of Kyoto is fished extensively by the prefecture and its neighbors. However, Kyoto fisheries apply a strict conservation method in comparison to neighboring prefectures in an attempt to prevent overfishing. The second interest in pursuing the MSC Ecolabel was therefore the hopeful instituting of a more conservative fishing method in the area.

Because the MSC is known among customers for promoting sustainable fisheries, it was thought that by certifying their catch in the area using MSC conservative methods it could inspire Hyogo and Fukui to follow suit. Obviously they could not be forced to do so (as they are fishing at the national level), but if it was seen as a profitable venture they might have been willing to do so. According to our interviews, before the time of application for certification the KDSFF was already implementing restriction on the number of days of operation (not more than six days a month), prohibiting fishing in already set zones of protection and lastly, decreased bycatch by targeting specific species. It cannot be stressed

enough that the neighboring prefectures ignore this, and would rather follow national (municipal) regulations instead.

3.1 Acquire Price Premium on MSC Certified Products

The first interest in pursuing the MSC ecolabel was to hopefully justify a price premium on their products, as well as individualize themselves from their competition. By individualizing their product, the KDSFF was also hoping to attract more purchasers to their respective FCA auction. This would hopefully lead to larger sales, and thus more profit for their members.

4. Costs Associated with Acquiring and Maintaining the MSC Ecolabel in KDSFF

The KDSFF was introduced to the MSC by the staff of Ocean Center. At that time (circa 2005), the MSC was interested in entering the Japanese market, but the MSC Japan offices had not been founded as of yet. Therefore, the WWF was enlisted to promote the ecolabel in the Japanese market. The KDSFF decided to apply for flathead flounder and snow crab certification as basic scientific data was already available from the Ocean Center due to the fact that these two target fish species were part of the resource recovery plan implemented previously by the government in 1964. The following (figure 21) shows the timeline of the KDSFF's auditing process.

The costs with acquiring the MSC ecolabel depend on the auditing company chosen by the fishery. When KDSFF quoted these auditing companies it was surprised by the vast difference in pricing. Sample prices for the initial audit were as high as JPN¥12M, and as low as JPN¥5M. This was of some concern to the KDSFF as the auditing process does not change, so why was there such a drastic price differential?

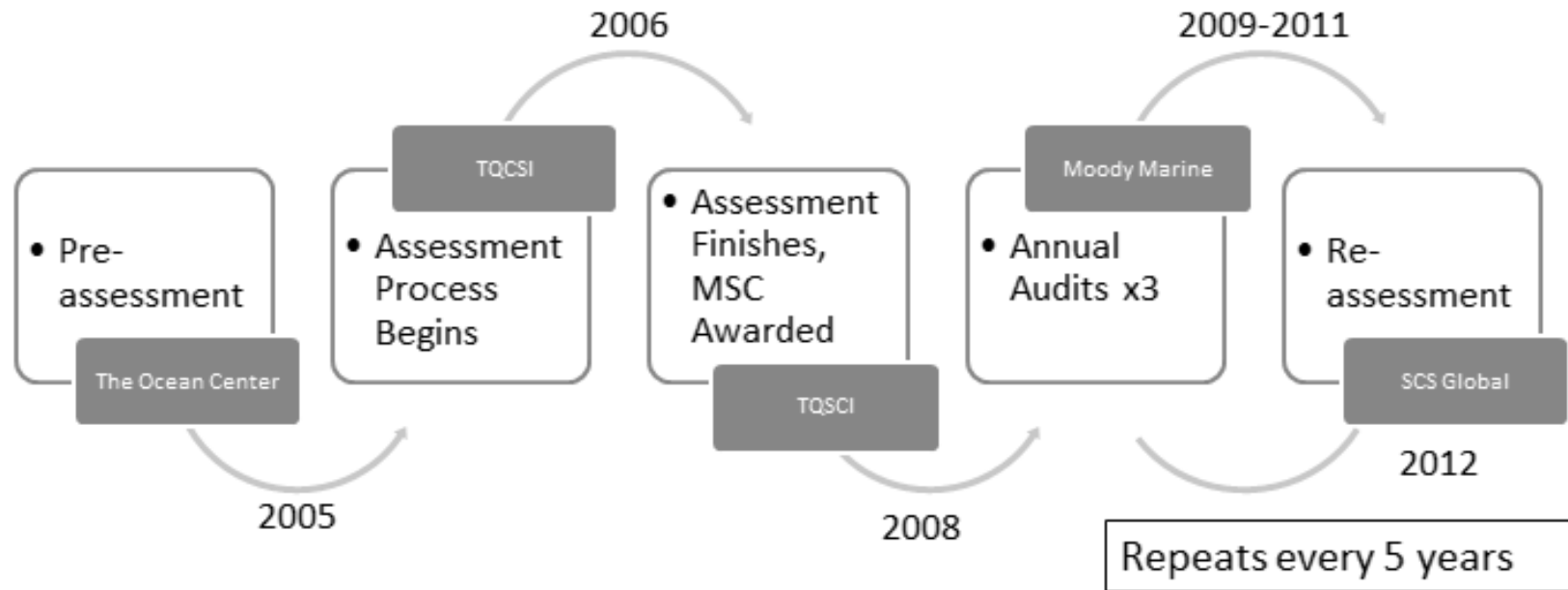


Figure 21 - Timeline of the KDSFF Auditing Process

Fortunately for the KDSFF, the WWF was able to assist with funding for 50% of the initial assessment, and up to 30% for the following annual audits using the AFF, which is an American resource conservation fund. This was especially helpful for the KDSFF members as they were led to believe at the time that the whole process would cost about JPN ¥100,000 per member; a big difference from the actual cost. The WWF played a large role in securing this funding, but it should be noted that the auditing companies should be doing this as well.

The first pre-assessment was performed by the Ocean Center, which is part of the Fisheries Technology Department in the Kyoto Prefectural Agricultural and Fisheries Technology Center. Cost was set at JPN ¥1M. The purpose of the pre-assessment was to decide if the fishery has the required assets to proceed with the initial audit. At this stage it was requested that the KDSFF acquire corporate status. This was the only request made. The Ocean Center evaluated fish stock and reviewed the fishing gear themselves. Nothing was requested of the 11 KDSFF members. After the pre-assessment, the KDSFF formally requested an initial audit using a foreign auditing company. Originally, snow crab was also considered for certification as well, but as the total allowable catch (TAC)

was considered inefficient, the KDSFF proceeded with only auditing flathead flounder.

The main assessment portion was valued at JPN¥7M. It was at this stage that communication problems began to arise between the KDSFF and the auditing company. As mentioned, the auditing can be performed on average within a year. In this case, it took two and a half years to be certified as the Japanese KDSFF members were having difficulty explaining the Japanese fisheries resource management techniques to the auditing company. This was due to a language barrier, and an unprepared auditing company. This can also be chalked up to being the first time in Asia (let alone Japan) that a fishery was audited for the MSC. In the end, the auditing company requested no changes to the KDSFF resource management scheme. In fact, the KDSFF flounder was to be certified in 2008, *regardless of neighboring prefecture activities in the same fish ground.*

For the annual audits, the KDSFF changed auditing company due to the language barrier. Here, annual evaluations fluctuated between JPN¥2M and JPN¥3M with the new auditing company. Little is understood

between the members as to why there was a JPN¥1M difference between some years, and has thus been marked due to invisible costs. It was also during these first annual audits that the KDSFF began to understand the influencing factors of their MSC ecolabel flounder on the market (for example, the attraction of new customers) and, as the ecolabel needs to be re-audited every five years, the KDSFF proceeded with this to understand better the needs of their purchasers.

In 2012, a new auditing company was requested for the renewal audit. This was valued at JPN¥5M. This would also be the third and final auditing company used by the KDSFF. As of 2017 the KDSFF continues to maintain a convenient relationship with this auditing company and is currently performing its second reassessment to be able to continue certification until 2022.

5. Distribution Channel of MSC Ecolabel Flathead Flounder

MSC flathead flounder is sold at auctions managed by the Kyoto FCA. New major purchasers to the FCA's auction in search of these MSC products are regional supermarkets Kyoto Co-op, and Shiga Co-op. Surprisingly, and possibly the most distinguished of these new clients is AEON, the largest retailer in Asia with annual revenue valued at JPN¥8,176,732M. Prior to all of this, the FCA auctioned their products predominately to local small retailers. Now, they have opened their products to large chains. However, please keep in mind that the only way to purchase an MSC product is to count with the CofC certification.

AEON purchases at these auctions through a middleman representative, which they themselves are allowed to purchase MSC products because they [the middlemen] hold the Chain of Custody (CofC) MSC certification. The fish is finally sold in AEON supermarkets found throughout Kyoto and Shiga prefectures, as well as northern Osaka prefecture. That is to say, sales destinations are confined to neighboring areas of the production site.

5.1 Selling Price and Quantity of MSC Ecolabel Flathead Flounder

The selling price passed to AEON from the middlemen is the market price of the flathead flounder for that particular day's auction. However, the MSC flathead flounder in the auction is not separated from the large number of uncertified flounder caught by offshore vessels from other prefectures. In other words, there is no price differential between certified and uncertified flounder. Because of this, AEON refuses to purchase MSC products with price premiums. AEON is not the only group to do this as the local supermarket chains also refuse to pay the price premium.

AEON, although refusing said premium, has demonstrated however a strong desire for further MSC certified product. But, because the MSC flathead flounder catch is being supplied by only 11 KDSFF ships, it is frustratingly difficult for the fishermen to meet this demand. Not only is it physically impossible at the moment, there is a lack of incentive as well.

The reason AEON has requested this MSC product is for their "Pass the Fish Baton" campaign in preparation for the upcoming 2020 Tokyo Olympic Games, of which one of the sponsors is MSC. On one hand, AEON is known at the FCA for not only purchasing the majority, if not all

the MSC products, but also other fish and seafood products – which benefits everyone, including the FCA who makes a 5% commission off the auction. *This purchasing of non-MSC products at the auction is known as a spread effect.* However, on the other hand there is a problem with this, and that is that, as stated above, AEON and new clients refuse to pay the cost premium added by the MSC ecolabel.

6. Resource Management Techniques

As stated, Kyoto prefecture had the most stringent resource management plan in comparison to neighboring prefectures that share the same fishing ground. KDSFF's hope with acquiring MSC certification was to inspire these neighboring prefectures to pursue stricter conservation techniques. However, there seemed to be no intention to do so after acquiring certification. However, in 2016 both Fukui and Hyogo implemented their own prefectural resource management for snow crab. There is no correlation between the MSC and this newly adjusted resource management plan.

6.1 Cost Burden Associated with Acquisition Procedure

In KDSFF's case, it became obvious that there would be an enormous cost associated with obtaining certification (as we will explain later, the annual average auditing cost is of JPN¥3M). And because the MSC requires that all certified fisheries be reaudited every five years at an even higher cost in comparison to the annual audits, the KDSFF realized that operations would always enter deficit around those times. This was a

surprise to the KDSFF, as they did not understand the total expenses from the initiative. As this was the first MSC case in Japan, there were no case studies to compare themselves to. As the procedures proceeded, enormous costs accumulated.

To counter this, annual KDSFF membership fees have increased from JPN¥100,000 to JPN¥300,000 over the last 10 years. This cost is thus a burden to the producers. While most of the 11 members recognize the need for the increase in the annual fee, the majority are disappointed that the MSC products do not command a higher price point at the auction or market. The KDSFF is worried that if federation membership were to decrease, the costs associated with this would be too high to continue with operation.

6.2 Cost Premium

At the moment, current catch for flathead flounder is 60 tonne annually, with an estimated value at JPN¥30.9M, meaning that unit price is of JPN¥515 per kg. As the annual average cost of the MSC auditing

processes at the KDSFF is placed at JPN¥3M, we can calculate the cost premium for the ecolabel as such:

$$3\text{M¥} / 60\text{tonne} = 50\text{¥} / \text{kg}$$

Therefore, in order to just break even to cover the MSC costs, the KDSFF has to be acquiring a cost premium of at least 10% on the flathead flounder auction. However, in current distribution channels, sales prices that can cover this cost have not been obtained. As mentioned above, the selling price of MCS products reflects the bid rate for flathead flounder without MSC certification.

7. Advantages

By being certified by the MSC, the KDSFF and Kyoto FCA saw the emergence of a massive buyer, AEON. This company not only purchases MSC certified flounder, but other seafood products as well, including highly priced fresh fileted flounder. Because of this, the income fee for the fishermen's cooperation is rising.

7.1 Disadvantages

On the other hand, our investigation has revealed problems for the KDSFF should they continue certification. Firstly the auditing cost is excessively high, and not only is it expensive, but difficult to predict. The auditing agencies' estimates have varied greatly, and the charges seem unreliable. Secondly, in order to cover the associated certification costs, purchasers need to pay premium – however this is not happening as stated previously. This burden is thus being picked up the 11 KDSFF members. It is difficult to maintain certification as the KDSFF needs purchasers to cover the 10% price premium. Finally, the amount of certified flounder being produced by the KDSFF is minimal. AEON is requesting more catch

but there simply isn't enough manpower to do so. Neighboring prefectures refuse to certify their catch as the above mentioned cost is being covered by members, not buyers. It is these costs that are currently the deciding factors of which the KDSFF must evaluate should they continue MSC certification audits in the future.

8. Strong Producer Presence as a Solution to Impact

AEON has demonstrated a strong interest in acquiring further MSC certified product, and Japan has registered a surge in more and more companies acquiring CofC certification. However, there are simply not enough people in the certified small fisheries in Japan to reach this demand. An interestingly enough, the vast majority of fisheries in Japan are on the small size, pertaining to various FCAs.

In KDSFF's case, in order to reach just the AEON demand, the neighboring prefectures of Hyogo and Fukui have to become certified and chip in as well. Not only will this help with acquiring the catch demand, but the costs associated with the certification would be spread among further producers. By increasing production base, and growing the number of producers, fisheries will find MSC not only feasible, but as a strong incentive. By building a production system that commensurate with the productivity required by the market demand, the certification expenses can be mitigated. Basically, at the moment MSC certification does not fit into micro coastal fishery organizations. MSC does seem to be task related to larger more productive fisheries.

8.1 The Opinions of the KDSFF Members

Prior to acquiring the certification, the MSC seemed like a great initiative for the KDSFF not only as an opportunity to generate better resource management in the area, but also develop price premiums associated with the demand. Time has been able to demonstrate that this is not the case. In fact, it has been the opposite. Some bullet points that have developed that are worth taking note of include:

- Expensive maintenance and invisible costs associated with the auditing process.
- A long and arduous auditing procedure that is poorly defined.
- A growing disgruntled membership community not only with themselves but neighboring competition.
- Paying for the benefits that everyone receives except themselves.

With this information in hand, it was now of to perform a case study on a fishery with a business concept completely different to the KDSFF. While this fishery can be classified as almost artisanal, Meiho Fishery is a

different beast, having hundreds of employees, large fishing operations, and of course, the MSC certification.

V. Meiho Fishery

Summary

Meiho Fishery in Shiogama was selected as our second case study. Although it is newer than the MSC certified fishery located in Hokkaido, Meiho Fishery is stronger in business operations. Belonging to an umbrella corporation, Meiho Fishery has also has more resources to absorb the costs of being certified.

Meiho Fishery is also a “new” fishery in Japan, having a history that only goes back to 2012. In just a few years they have grown not only in the amount of boats registered, but in size of facilities, having some of the coldest storage in Japan. They sought out certification knowing potential numbers, but have become dissuaded by the buyers. Although they are selling more, the profits are yet to be justified. Meiho Fishery has thus started looking for new buyers, both locally and abroad, hoping to enter the European market in the coming years. At the moment, the MSC certification does not really benefit Meiho Fishery locally; they are hoping it will help them in the international market.

1. Background Information and Objectives

Meiho Fishery was selected as the second case study for this dissertation because it provided an extreme difference in comparison to the Kyoto Danish Seine Fishery Federation. In contrast, Meiho Fishery operates on an industrial level, with fishing grounds stretching over the Western and Central Pacific Ocean, and sometimes the Eastern Pacific Ocean. Meiho Fishery, although not totally unique in Japan, is more similar to style and operation of Western fisheries like those found in Europe and the Americas, which tend to dominate the MSC ecolabel acquisitions. We now knew that the MSC was not working (and eventually failed) at the KDSFF, and so with that we decided on investigating a large fishery.

1.1 Research Questions and Objectives

Similar to our previous case study, and knowing that the main bridge of this investigation was comparison and contrasting, not much was to differ here. We understood that ecolabel demand is growing worldwide, and that Japanese fisheries are having a difficult time certifying local

fisheries. The Kyoto Danish Seine Fishery Federation (KDSFF), of which was still certified at the time, was facing great difficulties when it came to the economics of the operation. Basically, they could not meet the requested catch amount, and the purchasers refused to pay price premium on their products, the flathead flounder.

However, skipjack and albacore tuna seemed to show a growth. It would be interesting to see why the MSC is having a positive effect on these types of fisheries, and not the others in Japan. Thus, is the progress of the MSC in Japan species related, or size of operation / fishery related? Are the MSC fishery products being sold or treated differently than other fisheries? Our study sought out to seek answers to questions that are slightly different in this case, but similar in many:

A) Is the development procedure similar to the KDSFF?

B) Does the MSC show positive or negative impacts on large fisheries in Japan?

In other words, *does a large Japanese fishery face the same issues with the MSC in comparison to a small fishery, and what benefits or disadvantages does this provide afterwards?*

If the MSC ecolabel is showing benefit for Meiho Fishery, this study could be used to promote the label to other similar large fisheries. And by having these large fisheries certified, the government would also be able to provide more domestic brands to be showcased in the upcoming Olympics which could be used to showcase national catch abroad. In order to do this we broke down this case study into four objectives.

1. Explain the history and certification process of Meiho Fishery.
2. Analyze the selling methods of Meiho MSC fisheries.
3. Describe any advantages and disadvantages associated with the MSC in Meiho Fishery.
4. Provide discussion for the improvement of the MSC ecolabel in Japan.

We went out to investigate Meiho Fishery located in the Sendai region after contacting them in June of 2018.

1.2 Methodology

Information on the MSC was collected in Tokyo through interviews with the Fisheries Manager, and the Communications Officer, at MSC

Japan headquarter offices, as well as with the Leader, and an Officer, of the Oceans and Seafood Group Conservation Division at the WWF Japan headquarter offices, August 2017. Because this dissertation includes similar case studies, please refer to that section for historical references. However, this chapter will focus on Meiho Fishery. Data thus has been presented here as a first person account as an interviewer during the visit. In June of 2018, the investigating team traveled to the Meiho Fishery headquarters in Shiogama. There, they met with Kenji Matsunaga, president of Meiho Gyogyo Co. Ltd.. Over the course of various hours, Mr. Matsunaga was able to break down the history and operations of Meiho Fishery, as well as provide extensive detail into the operations of the fishery in relation to the MSC.

2. History and Background Information

On October 17th, 2016, Meiho Fishery (located in Shiogama, Miyagi Prefecture) achieved Marine Stewardship Council certification for their Japanese pole and line skipjack and albacore tuna from the auditing group Acoura Marine Ltd. The auditing company claims that in doing so, it has become the first tuna fishery, and only the third fishery of any kind to be certified in Japan. However, this is not totally true. Although now withdrawn since 2013, Tosakatsuo Suisan had their skipjack tuna certified back in November, 2009. That company ceased operations after the Great Tōhoku Earthquake of 2011.

According to investigation beforehand, Meiho Fishery was established in 2012; after current president of Meiho Gyogyo Co., Ltd., Kenji Matsunaga, saw the devastating impact natural disasters can have on the fishing industry. Motivated by this, Mr. Matsunaga wanted to both conserve skipjack tuna and ensure the fishery was available for future generations. Because Japanese law limits the number of fishing vessels in operation at any one time, Mr. Matsunaga had to wait for someone to give one up. He eventually bought a boat from Kyushu but was keen to register

it in Shiogama as a sign of his intention to revitalize the local industry after the tsunami. In 2012 the newly named Meiho-maru signaled the birth of a new fishery, and was the first ship used for the MSC certification process, which was awarded in 2016.

However, this is not the origin of Meiho Gyoyo (of which for ease of reporting from now on will be referred to as Meiho Fishery as well, or simply Meiho). First, we must understand that Meiho Gyogyo Co., Ltd., is a subsidiary of Meiho Co., Ltd., of which itself is also a subsidiary of Minami Shokuhin Co., Ltd.. Minami Shokuhin Co. began its roots as a freezer storage company known as Fukazawa Reizoko Co. back in February of 1960. They specialize in -50°C storage facilities. To get an idea of the leadership of Meiho Fishery, Mr. Matsuga, although has served as leader for the past 13 years, has been employed by Fukazawa for more than 25 years. This company is located in Yaizu, Shizuoka Prefecture in Honshu. For all intents and purposes, Minami Shokuhin serves as an umbrella corporation where these subsidiaries all work in collaboration to help promote business operations. If it helps, Meiho Fishery can be seen strictly as a fishing and production development operation, which either

catches its own product, or buys material at local FCA auctions, to provide to Minami Shokuhin, which in turn creates, markets, and manages their own products. Of these, “katsuo tataki” style products are the most sold. Minami is thus a food processing company with wide interests. Therefore, it can be safely said that both companies had now been involved in tuna processing for a multiple number of years as Minami Shokuhin Co., Ltd had created supply contracts with fishing companies in the past.

As mentioned, in 2012, Meiho Gyogyo Co., Ltd was incorporated and the fishing vessel Meiho Maru No. 22 was purchased. That vessel, and the Toyokuni Maru No. 8, owned and operated by Toyokuni-maru Gyogyo Co., Ltd, exclusively supplied all their product to Meiho Co., Ltd and Minami Shokuhin Co., Ltd, with product landed in Shiogama (Miyagi Prefecture) being supplied to Meiho Co., Ltd and product landed in Yaizu (Shizuoka Prefecture) being supplied to Minami Shokuhin Co., Ltd. However, in 2013, Meiko Suisan, which provided much of the material beforehand, was absorbed by Meiho Gyogyo once they too began their own material processing. Remember that these were both under the same umbrella corporation. The reasoning behind this was to ease business

execution and operations, as now both would be providing material not only to operating plants in Shiogama, but in Yaizu as well. Also, Shiogama having their own processing plant, would need to direct operations to prevent itself from competing with the umbrella corporation and thus cannibalizing their own sales. With the exception of the acquisition of the MSC ecolabel, operation has continued much the same until now with the exception of acquiring more vessels to add to the fishing fleet. These are also seeking certification usage. At the time of this report, Meiho Fishery counts with 3 pole and line fishing vessels of their own, and a fourth ship is being leased. Add this to two purse seine vessels for a total of six ships.

2.1 Catch Sizes and Operation Numbers

The Great Tōhoku Earthquake plays a crucial role in the history of Meiho Fishery. When this happened in 2011, the umbrella corporation was left with a lack of product a large amount of supplying fleets had been destroyed and unable to service Meiko Suisan. This seems to be the motivating factor for acquiring their own fleet, and a sound opportunity to

diversify their operations. The market opened and Meiho was there to take advantage of the situation.

In total, Meiho Fishery operates roughly with 80 employees onshore, and 130 to 150 rotating crew on 5 ships (not including the leased vessel). The umbrella corporation counts with a total of 500 employees. It is Meiho Fishery however that holds the MSC fishery certification, and the other subsidiaries count with the CofC certification that allows catch from this fishery to be processed in Yaizu. It is important to note that Meiho Fishery has three major forms of collecting catch. These are

- A) Pole and line fishing
- B) Purse-seine fishing
- C) Acquisition through auction

Of these, only pole and line catch is certified by the MSC. Right away we can see a major distinction for the KDSFF which is not all catch is certified. Each boat catches roughly 1,500 tonnes to 2,000 tonnes. In a given year, 7,000 tonnes to 9,000 tonnes from the pole and line boats will be used for tataki production. Purse seine fishing boats will bring in 6,000 tonnes (of which since there are two ships, a total of 12,000 tonnes from

this source) of skipjack product, that is usually landed in Yaizu. Of this, 75% of material is used in canning processing, and the remaining 25% helps contribute to tataki production. Catch that is not landed in Yaizu is dropped off in Shiogama.

However, this is far less than the demand. Their production factories require more. Both Meiho Fishery and Minami Shokuhin require 8,000 tonnes of materials to continue production. If they are unable to bring their own catches, Meiho Fishery and Minami Shokuhin will purchase material at auction. This causes them to keep an eye on the FCAs and participate always buying at the lowest price. There is no need to purchase high if they have their own means of acquiring product. It is estimated that half of their material comes from auction. Interestingly enough, if the auction prices are particularly high and if Meiho has stored past catch, they might consider selling themselves at auction getting a better price than should they process the material. This is such a “double edge sword”.

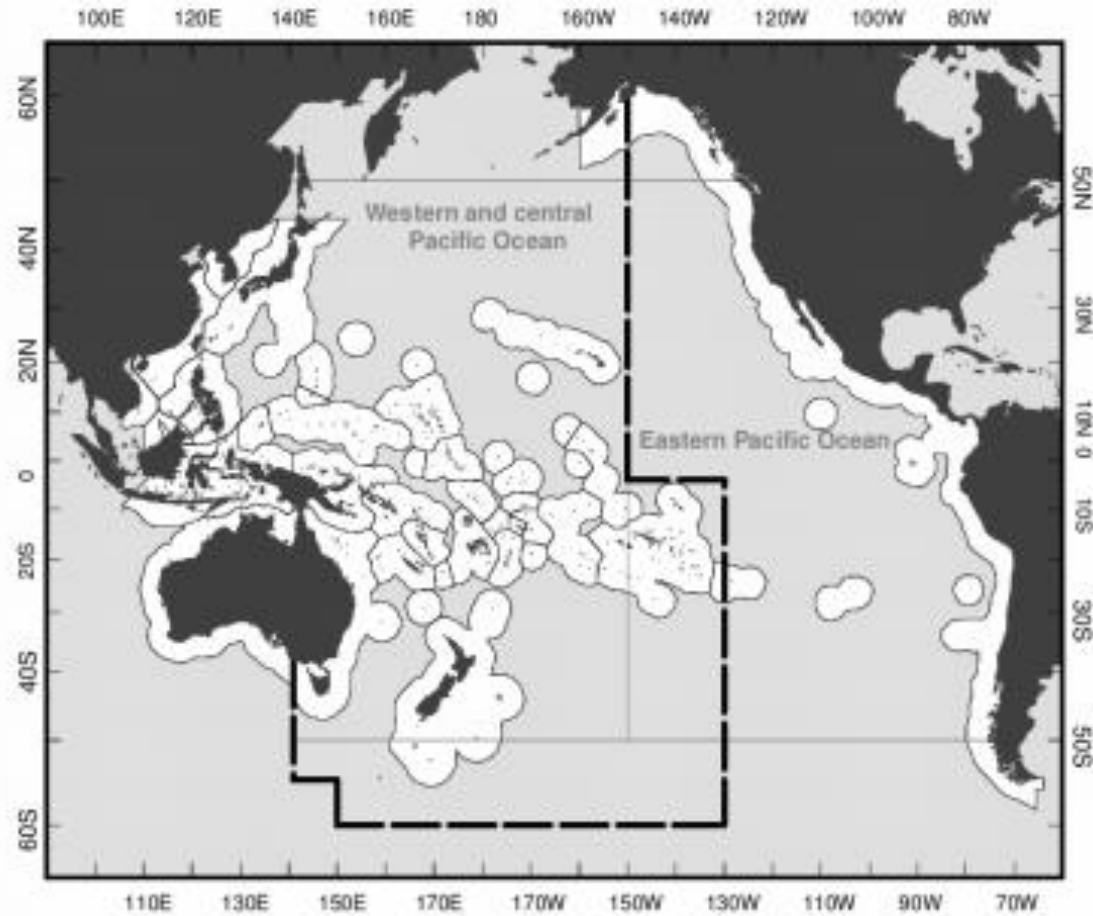


Figure 22 - WCPO and EPO Area Definitions, and WCPFC Area of Competence

3. Meiho Fishery and the Marine Stewardship Council

The key person in the acquisition of the MSC certification for Meiho Fishery is Mr. Matsunaga. As mentioned above, Mr. Matsunaga has a long tenure with the umbrella corporation, having worked in both offices in Yaizu and Shiogama. Back in 2005, he was working at Minami Shokuhin. While there, he was approached by purchasing officers from AEON who, at that time, were looking for local products that were certified by the MSC. They would be hard pressed to do so as the first certified Japanese fishery did not happen until 2008. However, this chance visit will play a critical role later on in the development of Meiho and the MSC itself later on.

It was not until Meiho Fishery had acquired their own ships and set their own offices in Miyagi prefecture in 2012 that Mr. Matsunaga revisited the topic by dropping by the offices of the MSC in Tokyo during a vacant lunch hour while attending a conference. There he was informed of requirements needed, as well as given further information about the ecolabel. With this information in hand, plus knowing the demand from AEON, Mr. Matsunaga was able to calculate potential revenue and profit

for tataki MSC by being associated with the MSC. This is a completely different approach to the MSC in comparison to the KDSFF.

3.1 Distributing the MSC Product

One of the major advantages of belonging to such a large corporation like Meiho does is that, because they not only catch their material but also upscale and ship it themselves in the form of tataki, they were able to apply for MSC certification on all levels. This means not only from point of catch, but CofC as well. This meant that Meiho Fishery would be controlling the process of their MSC products from point of origin all the way to seller. A true first in Japan.

After acquisition (a process that will be explained later in this report), it was noted (not surprisingly) that AEON would be purchasing the MSC products at the same price point as non-certified. By purchasing at these prices, AEON is able to compete directly with non-certified products at other supermarkets. Knowing this, Meiho Fishery has decided to only certify 3,000 tonnes of skipjack tuna intended for AEON purchase. Remember that Meiho brings in roughly 5,000 tonnes of certifiable

skipjack, which means they are leaving another 2,000 tonnes uncertified. The reason for doing so is so that they can control where in the market their products are going to be moved. By doing so, Meiho Fishery has successfully claimed 50% of all the katsuo tataki market in the Japanese Tohoku and Hokkaido market. In other words, there is “certifiable” product, but Meiho is refusing to use the already paid for label making their products accessible to other markets that do not carry the CofC certification.

Also, by knowing where their products are ending up, and seeing as the certificate passes along the umbrella corporation, they have been able to split markets as seen fit and regulate region while deciding what to do in the future. One of the biggest accomplishments the umbrella corporation has done is separating the provider to large clients. While we know that Meiho Fishery is providing to AEON using the wholesale market Sendai-Suisan, on the other side Minami Shokuhin sells exclusively to the iY Group (7-11) and Costco (Price Smart). These are used in AEON’s TopValue line, and 7-11’s 7Premium line respectively.

Worth noting for the future is that Meiho claims that because AEON holds a strong purchasing power of 30% their total production, which

makes them uncomfortable, they have looked for newer customers such as Seikyo Coop to help spread their sources of revenue. In other words they feel particularly vulnerable knowing that such a large portion of their sales belong to one single corporation.

4. Costs Associated with Acquiring and Maintaining the MSC Ecolabel in Meiho Fishery

Meiho Fishery was introduced to the MSC by AEON. This is an interesting case in studying the ecolabel in Japan as it marks the first time that a fishery purposely sought out the MSC, versus being contacted by the ecolabel itself as was the case previously. Also, as this was not the first time a fishery was being certified, the MSC was able to provide better numbers as in cost to Meiho Fishery. Although it included its fair share of bumps-and-bruises, it was nowhere near as complicated as with the KDSFF.

Of importance to note is that the auditing price (and therefore the cost of certification) is placed by the auditing company, meaning that fisheries are encouraged to seek on their own auditing organizations that will provide the best price. This also needs to be balanced with the amount of work and length of time requested by the auditing company. Auditing companies must therefore compete against each other for providing the best price for the amount of work and coverage provided.

Meiho Fishery in 2014 decided to begin the pre-assessment audit by using Intertek Fisheries Certification, Ltd.. This pre-assessment was evaluated at 1 million Japanese yen, the same price which the KDSFF paid for their pre-assessment. Intertek Fisheries Certification, Ltd. is an Australian organization; however they count with an office in Japan, which was the reason for which they were selected. Intertek used personal from both Japan and Australia for the pre-assessment Information for the pre-assessment was gathered during site visits, as well as mainly collecting operational and regulatory information on the fishery. Regional information (e.g. SPC stock assessments, WCPFC CMMs) was obtained primarily from online sources. However, for the main assessment, Meiho Fishery transferred over to Acoura Marine, Ltd.. They were selected as it felt that they would provide a better assessment and understanding of the MSC, and also many members of the assessment team already held relationships with Intertek.

For the main assessment, Acoura Marine worked very closely with Intertek Fisheries Certification. Main assessment was valued at 5 million Japanese yen, however 50% of the cost was covered by subsidiaries acquired by the assessment team. The subsidiary group is of US origins,

and provides help in environmental fields. Things seemed to go well with the assessment, and in October 2016, only a few months after taking over for Intertek Fisheries Certification, Acoura Marine certified the first two vessels, Meiho Maru and Toyokuni Maru for their albacore and skipjack tuna catch.

Of interest to note is that Acoura Marine also worked in contact with the WWF as this organization NGO in Japan that has particular interest in tuna fisheries. WWF Japan is involved with and always included in the Japanese government tuna discussions. The WWF is involved in the Management Objectives and Commission processes as part of the Japanese delegation to the Western and Central Pacific Fisheries Commission (WCPFC). In an open letter to Acoura Marine, the WWF recognized the economic importance of the tuna fisheries, but chastised the auditing company, stating that although a cofounder of the MSC and a prominent defender of tuna conservation, it could no longer agree with the integrity and credibility of the MSC citing inaccurate representation of scores in “Principle 1,” one of the scoring methods for certification acquisition. Acoura Marine recognized this; however they awarded the certification using a scoring method known as “Principle 2.” The WWF also

provided Acoura Marine with their own assessment rules to be used by certification organizations should they want the WWF’s sponsorship in the accreditation of the fishery. Acoura Marine recognized the letter and held some talks with the WWF, and in the end “were grateful for the positive and constructive criticism.” (Acoura, 2015)

In 2017, Meiho Fishery completed their first annual audit held in-between the certification audits. Price was set at 2 million Japanese yen, of which 30% was covered by the subsidiary organization this time. At that time the only matter in question surrounded the sustainability of the anchovy bait used by the fishing vessels. They have two more remaining annual audits to go, followed by the recertification audit to be held in 2021.

Note that the pricing structure is very similar to the previous case study on the Kyoto Danish Seine Fishery Federation. In other words, a similar pricing structure for certification regardless of catch volume or company size.

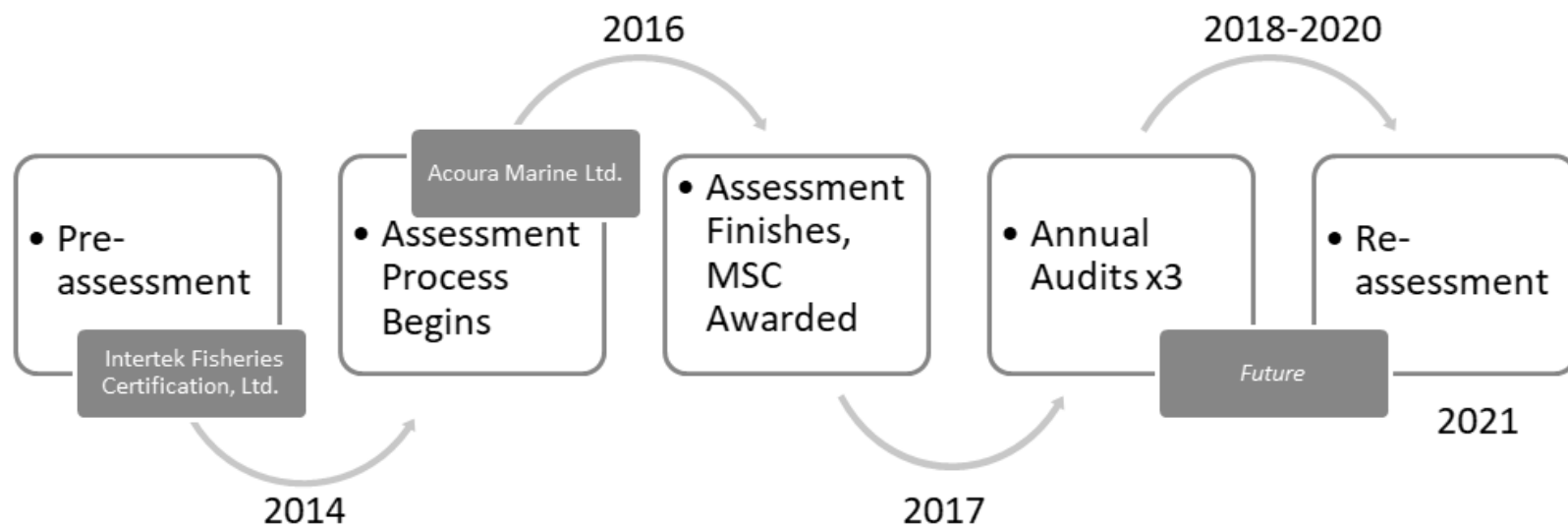


Figure 23 - Timeline of Meiho Fishery Auditing Processes

4.1 Pricing the MSC Products

During the interview, Meiho Fishery revealed that although certification was neither particularly expensive nor complicated for themselves, they are having trouble justifying the costs at the moment. The reasoning of this is that as of today, AEON purchases about 3,000 tonnes of MSC certified tuna from Meiho Fishery, however they are not selling the product at a price premium. AEON is choosing to maintain the product at a low level to compete directly with uncertified products. Surprisingly enough there is no warranted demand for MSC certified product at these supermarkets, yet that could be attributed to the results from our survey in Chapter II. Because of this though, Meiho Fishery cannot push a higher price.

In comparison, we can use this chart to see how different skipjack products are being sold by Meiho Fishery:

Product Information	Price per Kilogram
Low quality purse seine catch	680¥
High quality purse seine catch	750¥
Fresh pole and line catch	850¥
Certified MSC pole and line catch	850¥

Table 3 – Pricing Placed by Meiho Fishery on Skipjack Tuna Products

5. Distribution Channel of MSC Ecolabel Skipjack and Albacore

MSC skipjack and albacore are sold directly by Meiho Fishery. Because Meiho Fishery processes their own catch, they also require the Chain of Custody certification, which they count with. Using this, they are able to move their certified catch to buyers that count with their own certification. In this case, AEON.

Because of the catch allowance set by Meiho Fishery, they estimate that they can certify between 6,000 and 8,000 tonnes of tuna. When it comes to making estimates, Meiho Fishery chooses to err on the conservative side, and mention that they can only guarantee at least 5,000 tonnes to be certified. Currently in present day, AEON purchases roughly 3,000 tonnes of Meiho Fishery MSC skipjack and albacore, meaning they purposely choose not to certify the remaining 2,000 tonnes. By doing so, they are able to move the uncertified catch to other buyers, and at the same time spread out their distributors. This is a sound business decision as it provides insurance on sells should a major buyer either lower their prices, or worse still decide not to purchase anymore. It is key to remember that certification is required should you want to distribute MSC

products. So, although the product reaches all requirements to do so, Meiho Fishery is omitting it to be able to target a wider audience. This is also similar to the previous case study in which neighboring prefectures of KDSFF were choosing not to certify their catch in order to save costs and have a larger market.

5.1 Increasing the Market

Meiho Fishery certifies their catch using a budget allocated for marketing and advertisement purposes as they see the certification more as a means to make the customer aware of their products in general, instead of trying to add a price premium to their catch. By certifying their product though, they have also been able to individualize themselves in the market as the only suppliers of MSC certified tuna in Japan. Although the international tuna industry is enormous, Meiho Fishery has successfully made a niche for themselves amongst their competitors.

However, the domestic market is not as good as they want, and although they are not losing revenue, it is an extra cost required just to sell the same amount to AEON. Therefore, Meiho Fishery is looking to

expand its market, and since there is little demand for MSC products in Japan, they have been looking abroad, specifically in Europe. In order to do so, in 2017 Meiho Fishery certified their catch under the European Union's Hazard Analysis and Critical Control Points principles (HACCP). The new strategy is to send albacore loin to Europe to be used in the canning industry.

6. Resource Management Opinion

The MSC has certified in the past South Pacific tuna purse seine operations. This has led Meiho Fishery to question the auditing companies, arguing if they are as reliable as they say they are, or are more lenient. In other words, *how sustainable are these operations*. When it came to certifying themselves though, they also noticed that the auditing company decided to disregard the WWF's comments, and proceeded with certification. Although this was seen as an accomplishment, especially from an economic perspective, Meiho Fishery felt that should the MSC continue to certify multinational fishing operations controlled by large foreign fleets that the certification might lose importance among customers, which could in turn hinder sales.

6.1 The MSC as a Business Concept

Although there is an extra associated cost with certifying their product, the amount of sales generated by Meiho Fishery in relation to auditing and certification costs is minimal. However, this does not mean that the cost should not be ignored. Like any business, growth is a

targeted goal and so Meiho Fishery must always look towards producing profit, or at the bare minimum justifying expenditures. In this case, as previously mentioned certification is seen as an advertisement and marketing cost. Still, Meiho Fishery would like to see better results from obtaining the certification. Meiho Fishery sees the MSC more of a business concept related to the food industry rather than an environmental sustainability operation.

6.2 Sales in Meiho Fishery and Minami Shokuhin

Between Meiho Fishery and Minami Shokuhin, on average 13 billion to 14 billion Japanese yen in revenue is generated yearly. Up to the moment, only 4 million Japanese yen has been used in the certification process. This is 1 million Japanese yen in the pre-assessment, 2.5 million Japanese yen in the main assessment (there was 50% subsidiary), and 1.4 million Japanese yen in the annual audit (there was a 30% subsidiary). This means that certification cost at the moment is only 3% of total revenue. We can also calculate the current cost of certification per kg. for the entire time Meiho has been certified using the following formula:

$$4\text{M}\text{¥}/9000\text{tonne} = 444.44\text{¥}/\text{kg}$$

It should be noted that certification cost per kilogram is expected to decrease overtime. If we use numbers similar to the KDSFF case, as well as unsubsidized amounts, we can guestimate a full five year cycle of certification using these numbers:

- An annual audit at a cost of 2 million Japanese yen * 4 years = 8 million Japanese yen
- A fifth year audit at 5 million Japanese yen
 - A total five year cycle therefore is 13 million Japanese yen.
Divide this by 5 to get the average annual cost of 2.6 million Japanese yen.
 - We know that 3,000 tonnes are certified annually. Therefore:

$$2.6\text{M}\text{¥}/3000\text{tonne} = 0.8\bar{6}\text{¥}/\text{kg}$$

This means in the future, MSC certification should maintain a total cost of about 2% total revenue - a 10% cost premium average of MSC certification.

7. Advantages

By being certified by the MSC, Meiho Fishery has increased its market share as it is the only Japanese fishery with certified tuna at the moment. They have become leaders in their industry, and have because of it received international attention. The largest benefit however has probably been the securing of practically guaranteed sales to AEON, Japan's largest food distributor. By being part of an umbrella corporation, Meiho Fishery and Meiho Shokuhin have successfully split the market in Central and North Honshu, and Hokkaido to avoid competing against each other. In fact, 50% or all katsuo tataki in the Tohoku region and also in Hokkaido comes from Meiho Fishery.

Also, because of the modus operandi of this organization, they have been able to cut out the middle men by being predominately their own suppliers of MSC products to sellers. This is very similar to most Western fisheries that process their own catch. Seeing as Meiho Fishery not only controls the certification of the fishing operation, but as CofC as well, they are able to select what amount they would like to certify, meaning that should the price for the MSC certified tuna drop, they can “un-certify” an

amount to sell in other markets that do not count with a Chain of Custody certification.

7.1 Disadvantages

Although no major disadvantage has been listed by Meiho Fishery, they do recognize that there is a cost involved in the certification, and that this charge is not being transferred into a price premium. This is simply rolled over as not having a demand at the moment for MSC products in the Japanese market. Meiho Fishery also recognizes that the cost of maintaining certification will probably increase in the future as they lose the ability to acquire subsidies repetitively.

The MSC certification is therefore seen by Meiho as a stepping stone to enter the AEON market – just to compete against uncertified product – which is being sold at the same price point. This means that Meiho Fishery is the only fishery paying an extra cost to have their product be sold in the open market. The MSC certification has failed to gain consumer awareness at the moment, and Meiho Fishery fears that should the certification be tainted in the future, the reputation of the company could be spoiled.

8. The Potential for Growth

AEON has demonstrated a strong interest in acquiring further MSC certified product, and Japan has registered a surge in more and more companies acquiring CofC certification. As Meiho Fishery does not want to corner themselves in the market by having AEON be the sole purchasers of a major portion of their product, they have begun to look for new clients. In this case for example, AEON already purchases 30% of Meiho Fishery products, which makes Meiho Fishery uncomfortable.

However, as stated above, there is currently no significant demand for certified product in the Japanese market that is being registered in sales. But, by both being MSC and EU HACCP certified, Meiho is now looking for international customers where there is a demand for MSC product. All of this has translated into a quick growth for Meiho Fishery as they are now up to six ships in just six years, making them one of the fastest growing companies in the industry.

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8.1 The Opinion of Meiho Fishery

Meiho Fishery recognizes that the certification has allowed them to enter larger markets. They also recognize that this certification has brought them more industry awareness and the possibility to grow. In general, the certification cost is seen as an advertisement expense, and that the MSC is seen as a food business concept. Because for such a large operation this cost is miniscule, there are no plans to not recertify themselves in the future. However, this does not stop them from hoping that the 2020 Olympics will bring even further coverage and potential demand for MSC certified items, potentially making them the biggest player in this niche market.

VI. Analysis

Summary

The penultimate chapter of this dissertation cross analyzes both case studies performed in Maizuru and in Shiogama. An analysis is important for even though both case studies were performed under the investigation of the MSC certification process, both case studies have demonstrated great differences not only in results, but in the methods and operations seeking certification. Although this information is discussed in detail in the case study chapters, here we can easily cross compare one with the other.

The major points to take away from these case studies is that certification process is not related directly to size of operation, or catch species. In our case, Meiho is actually paying less than the KDSFF. Also, this cost as well as the unpractical business operations of the buyers has led both fisheries to be unsuccessful in acquiring price premiums. Finally, it seems that both fisheries sought certification for different reasons. The KDSFF was looking mainly for resource management, while Meiho wanted to enter a larger market. So far, only Meiho has accomplished their goal.

All of this however has been without fruit, as the ecolabel has not grown in real popularity. There is no demand for the certification, and fisheries have been unable to pass this cost to end consumers. While the future might change for new fisheries, should this not change, MSC certification will have a very steep mountain to climb in order to achieve the success it has in the West.

1. Initiative Factors and Interests for Pursuing Certification

It is important to note specifically how both companies came to be aware of the MSC, as well as how this ecolabel sparked attention for their operations. In KDSFF's case, they were contacted by the MSC and WWF members themselves. What is particularly interesting here however, is that the KDSFF was approached by a member of the MSC before there even was the existence of an MSC headquarter office in Japan. Under these circumstances, it feels as though the KDSFF was targeted on purpose by the MSC. This is interesting as we have demonstrated that the KDSFF was provided with minimal information about the MSC certification process, and in the end, the ecolabel provided benefits of null to the fishery. If this were to be the poster child for the MSC, they chose extremely poorly. One would think that they would select an easier more profitable fishery. One that would inspire other domestic fisheries to follow suit and pursue certification as well.

Meiho Fishery on the other hand became aware of the MSC only after being contacted by AEON supermarkets on whether or not they carried certified products. Knowing that there was a demand with customers, Meiho Fishery president further sought MSC specific

information, and contacted the MSC himself personally while on a business trip to Tokyo. So while KDSFF was approached by the MSC and presented with a possible investment in operations opportunity, Meiho Fishery went directly under a potential customer gaining and profit opportunity.

When it comes to interests, things are much clearer although different. In KDSFF's case, the main reason for pursuing certification was to increase the resource management in the Sea of Japan, hopefully promoting this practice with the neighboring Hyogo and Fukui prefecture fisheries as well. Besides this, from a business perspective, they wanted to differentiate their product in the market as well as acquire a price premium for their flathead flounder. Meiho Fishery also sought an environmental reason for certification, the defense of procurement problems Tuna fisheries had been facing in the past, meaning they wanted a sustainable product. However, would they have pursued this certification not knowing the demand from AEON is up for speculation. In other words, the KDSFF thought that by being certified not only will their products increase in value and attract larger potential buyers (besides

resource management), while Meiho went directly to the MSC to claim a specific customer.

2. Operations

When it comes to scale of operations, KDSFF is only composed of 11 members, all of which have to pay membership fees. While on Meiho's side operations consist of hundreds of salaried employees composed of sailors, factory workers, and administrative staff. While one case is a typical small fishery seen common in Japan, the other is a top ten company, one of the largest and similar to Western style operations.

In revenue, the KDSFF generates less a billion yen and interestingly enough, most of this revenue comes from uncertified catch and is sold through auction that depends on participants that carry the CofC certification. Meiho on the other hand makes 13 to 14 times that of the KDSFF. Their profit predominately comes from certified MSC products, but is sold directly through themselves as they count with all levels of MSC certification. What is particularly interesting in both these cases is that neither operation's products accrue price premium.

3. Auditing Costs and Price Premiums

The most interesting thing to notice in these cases is that the payment structure for certification among Japanese domestic fisheries is the same. In other words, certification costs are not relevant to the size of operation. In fact, in Meiho’s case, being bigger, they actually pay less than the KDSFF. The following chart demonstrates the costs of auditing:

KDSFF	Meiho
<ul style="list-style-type: none"> • Pre-assessment – 1M ¥ • Main assessment – 7M ¥ • Annual audits - ≈2.5M ¥ • Renewal – 5M ¥ 	<ul style="list-style-type: none"> • Pre-assessment – 1M ¥ • Main assessment – 5M ¥ • Annual audits - ≈2M ¥ • Renewal – TBD
<u>ANNUAL MSC COST: 3M ¥</u>	<u>ESTIMATED ANNUAL MSC COST: 2.6M ¥</u>

Table 4 – Annual Auditing Prices

This can obviously lead to confusion among future fisheries seeking certification as there is no benchmark in pricing. This means that

regardless of scale of operation, the fisheries certification is completely dependent on the auditing company. And while the auditing companies have to maintain a standard level in order to represent the MSC, what they charge is completely independent.

This cost of certification however has also hindered both fisheries from claiming a price premium on their certified products. In the KDSFF's case, if we take their annual cost of certification at three million Japanese yen, and divide it by their total certifiable catch of 60 tonnes, we know that the true cost of certification is 50 yen per kilogram. Knowing that this fishery generates less than one billion yen in sales, just to cover these MSC associated costs, the KDSFF has to sell their flathead flounder at a price premium average of 10%, which it has been unable to do so. This is singlehandedly making KDSFF an unprofitable venture. In Meiho's case, if we use their annual certification cost of roughly 2.6 million Japanese yen, and divided that by their certifiable catch of 3000 tonnes, we get a cost of certification of 86 yen per kilogram. However, since Meiho generates between 13 and 14 billion yen in annual revenue, their inability to generate price premium on the product is not seen as a failure in the

product itself, but rather a cost of marketing and advertising. Meiho will use this certification to enter both domestic and foreign markets, increasing their sales volume.

4. Consumers and Demand

One of the main takeaways from both cases is the arrival of major buyers that were missing prior to certification. These are respectably, AEON, Kyoto-Coop, Shiga Co-op, Costco, and iY Group. However, even with these large buyers there is much to be resolved. Of importance is the awareness and demand for certified products, and this sets the price and what consumers are willing to pay. There have been roadblocks that have been this for the worse:

- a. Powerful clients like supermarket chain AEON are unwilling to pay premium. Obviously, it is in their best interest to purchase low.
- b. Because this premium cannot be passed on to the end consumer, it is probable the Japanese buyer is unwilling to purchase MSC willingly at this time.
- c. Ecolabels are seen as a product differentiation variable and bonus by most consumers, but it is not actively sought.

VII. Conclusion

Summary

The final chapter of our dissertation summarizes our findings. The main confirmation is that seafood has lost appeal to Japanese Millennials, and that the local seafood industry must act quickly and change operation methods should they want to capture larger sales from this group. The two main variables for this were location (which cannot be changed), and eco-certification.

Thus, knowing that the ecolabel can potentially benefit fisheries, we observed how the MSC, the world's leader in marine ecolabels, has been doing in Japan. The main issue here is that Japanese fisheries are not properly compatible with the auditors being used for the MSC. While Western fisheries tend to be massive operations, Japanese fisheries on the other hand are usually smaller in size. Even though we do have a successful case, which is the Meiho Fishery, they are much larger than the typical fishery, as well as currently seeking out an international market.

In conclusion, it seems that the main issue here is the auditing companies. Should the MSC certification become cheaper to acquire we

could see a potential growth in certified fisheries. If not, the Japanese market is thus open for other potential ecolabels.

1. The Japanese Seafood Consumer:

As we can observe, both Millennials as well as older generations in Japan share the same classic value preferences in seafood, *with main the exception of ecolabeling*. However, Millennials in general will score across the spectrum lower in seafood variables because they actually demonstrate having no current demand for seafood. This is regardless of taste. Please note that this is something that is perceived under any foods situation, not just seafood. And although we now have an understanding of what are some of the factors that are pushing seafood sales among Millennials, we can conclude that the problem in sales is far more complex than originally thought.

It therefore appears that social factors amongst Millennials are moving the trends in seafood consumption. In other words, Japan seems to be adopting a global palate. Basically, in the West, where seafood consumption was lower than Asia, there is a registering of increase in fish and seafood purchasing. While in Japan, where meat consumption used to be lower than seafood, is now seeing an increase in beef, pork, and

chicken. The West is becoming more Eastern, while the East is becoming more Western.

In the past however, it has been previously asserted that different factors might be the motivating cause behind this, such as lack of skill required for seafood preparation, the introduction of a foreign diets (as in the intrusion of large fast food chains or through increase in global immigration), or even the vast variety in choices of available seafood. While these are all logical and worth even further investigation, in our case though, the research here demonstrates at the moment that it seems that in Japan that the two main factors for this are:

1. a lack of education in seafood purchasing and
2. the social aspect associated with certain meal choices.

This would help explain the reason why that when Millennials eat out, they in general do not order seafood. Simply put there are more choices and diversity in cuisine available at restaurants now than there was in the past in Japan. And although Japanese restaurants still dominate the scene, local cuisine is usually reserved for the home, while heavy meat consumption or foreign meals are regarded for most outings.

It is thus imperative that the seafood industry find a way to increase their sales volume to Millennials in the upcoming years as this generation starts filling in the majority of ranks of the labor force in Japan. What this means is that the more choices they have with their income, the more important it will be for the fisheries industry. They must find a way to educate the public about the different variables in seafood, either by marketing and advertisement, as well as developing product rules that meet the requirements to merit a purchase from this generation. Basically, fisheries will have to develop products with Millennials in mind. Fisheries have to develop products that Millennials will favor, and it is their role as well (the fisheries) to market and educate the consumer. *But how can they accomplish this?*

Right away we can notice through our survey that fisheries can tailor towards Millennials by providing ecolabels, but it seems that this trend is more complicated than it appears. The population is growing fish-averse, in an industry which is not taking adequate time or resources to educate the customer. The MSC is doing its job abroad, but it is meeting resistance in Japan. This resistance is either from a lack of knowledge

when it comes to selecting ecolabels, or the auditor's ability being unable to understand the Japanese market in the first place.

1.1 Recommendation on Education

Worth noting is that while our survey did open up information on the preferences and ratings on seafood variables by Millennials, there is still more to be found when it comes to developing a proper detailed marketing strategy to increase sales. Further studies should be done to help decipher why it is that seafood consumption is decreasing from a social aspect. What this means is *why from a sociological perspective is seafood losing its "je ne sais quoi"*.

With the results that we have we can only analyze these responses, yet a wider audience would be beneficial of this, as well as comparing Japanese Millennials with other Millennials from western nations. The fact however remains that Millennials worldwide are interested in ecolabels, and of these labels, the MSC is the clear leader. Japanese fisheries can benefit from this exposure, but does the MSC certification process work in Japanese fisheries?

2. The MSC and KDSFF

During our research trips, the KDSFF was currently completing their second of the fifth year re-audit. Should they have become recertified, and continued with their auditing system, they would have held the MSC ecolabel until the year 2022. However the consequences so far have outweighed the benefits, and the KDSFF has decided to not see the certification through, regardless even if the promotion being brought by the 2020 Olympics will trickle down to them and generate greater profits in the form of a price premium that they so desperately were looking for. They have, for all intents and purposes, pretty much have abandoned ship on what the certification.

Also worth mentioning is that even though larger supermarkets like AEON have expressed a willingness to purchase more certified material, the KDSFF cannot meet these requests because it is only composed of 11 small vessels. It will be up to the neighboring prefectures should they wish to join this scheme (which they are clearly not interested in at the moment), and work together to fulfill an AEON purchase. These prefectures are already too late in benefiting from the promotion brought by the Olympics, but this could possibly change soon afterwards. Should the Japanese

consumers become willing to pay price premiums, then schemes like the MSC's can become more successful in the Japanese fishery industry. Until that happens, this case study demonstrated an unsuccessful ecolabel format that needs modification pertaining to the size of the fishery. Future studies should demonstrate how expensive can an auditing process become before cost premiums make them unviable, or either on how to educate consumers to pay price premiums.

3. The MSC and Meiho Fishery

Meiho Fishery is currently entering their second annual audit. They have not had many difficulties, and have enjoyed the awareness to their brand that the MSC has brought. Although they do recognize the associated costs, they feel that this is far outweighed by the benefits which certification has given them. Basically, the opposite of the KDSFF.

Meiho Fishery holds much greater advantages business wise in comparison to other locally certified fisheries. For starters, they belong to an umbrella corporation, which has given them access to larger resources. These include the ability to manage their costs when it comes to acquiring material (either through direct harvesting / fishing, or through local FCA auctions), as well as the ability to monitor price development and adjust their product numbers as they see fit. Also, Meiho Fishery has the capability to sell on an international stage by being their own producers. By spreading their revenue sources around, they are able to buy insurance on their company while increasing sales.

In the future, should Japanese consumers become willing to pay premium, then schemes like the MSC will become far more successful in

the Japanese fishery industry, and Meiho Fishery will be positioned to reap the most benefits. Similar companies in Yaizu are aware of this and have begun their own certification assessments to be able to compete directly with Meiho Fishery. We should begin seeing these new challengers around 2020 should they become successful in ecolabel acquisition. Until that happens however, this case study demonstrated what many should consider a successful ecolabel format that needs moderate modification not on the acquiring side, but rather on the ending that is retailers and consumers. It seems that the MSC is strictly profitable in cases only for use by large corporations, which unfortunately make up the smallest percentage of types of fisheries in Japan.

4. The Market Environment

The ecolabel market in Japan seems to be stagnant at the moment. Local fisheries are having a difficult time acquiring foreign labels, and only a miniscule amount has been done about advertisement and customer education. At the moment there are only two MSC certified Japanese fisheries. In fact, that is the same amount of MSC fisheries that have renounced recertification in the history of the MSC in Japan. So, is the MSC certification something fisheries want to keep pursuing, or should they look elsewhere?

Supermarkets in Japan that count with the CofC certification have elected to purchase items from abroad citing a somewhat demand for MSC products. However, when they do choose to purchase from the local fisheries, they are refusing to pay for the associated price premium as this cannot be currently passed on to the end customer at the moment. This leaves fisheries in a tight predicament. Either they pay for certification and forcefully enter the market, or leave themselves open to foreign product competition, as well as unable to differentiate themselves locally. Whose job it is to create a better market environment is still up for debate.

What is obvious though is that purchasers have to be willing to pay the cost premium associated with the MSC certification process should they want to carry locally produced MSC products. In other words, these large companies have to perform at bettering their business practices. The MSC certification is based on the premise that consumers recognize the importance of ecolabels and associated resource management, and that these products with the labels are not only in general more expensive than their counterparts, but more valuable (of higher quality).

The ecolabel is a system entrusted to the consumers, be they retailers or customers, and it is their role to educate themselves on the product at hand. Thus it is also important, and a responsibly, of the CofC players to provide a fair purchasing price for all parties involved. Certified fish does provided added value, and should not be priced and sold similarly as uncertified fish – which was the case that was previously happening between the Kyoto FCA and the large corporation that is AEON. All in all, certified fish does bring an extra cost, and these should be covered higher up in the purchasing ladder like similar products in other food industries.

5. The Future of the MSC in Japan

The high diversity of Japan's seafood resources is reflected in the great complexity of its multiple-layer fisheries management system. Prefectures in Japan can have up to dozens of FCAs, and the majority of these will be made up of a few fishermen. Secondly, most fish is sold at auction, where middlemen will continue the journey for the product. Very few FCAs actually process or upscale their products, leaving them for whatever use the future buyer has in mind. By having an FCA product have to go through auction, the price premium for the product can be neglected.

At the moment it seems that the MSC certification is only justifiable by large fisheries corporations, unless the pricing for the audits were to decrease. We have observed in the case studies presented here that the pricing by the auditing company does not change drastically, regardless of the economic ability of the fishery, and also worth noting along the lines of pricing, is that the audit pricing is left completely at the discretion of the auditing firm. According to the MSC, certification is paid for by the fishery client, and that they themselves [the MSC] do not receive payment. Only

the certification body that the fishery has chosen will do so. Anecdotal information from certified fisheries suggests the cost for audit can vary from USD \$15,000 to \$120,000. We have not observed this in the few Japanese fisheries that have been certified here.

The MSC claims that costs can be influenced by the complexity of a fishery, availability of information, and level of stakeholder involvement. However, they recommend that the fisheries themselves get various quotes from auditors for the process, taking into consideration such things as region, gear type, and species sought. We have noticed that the first audits in Japan tend to be expensive for the small fishery budgets. This helps exacerbate another problem at hand which is that of the CofC holders. By adding high auditing pricing, to buyers that refuse to pay premium on the items, we get an issue in which the fishery has to cover the costs in their entirety. Also, in a market that is currently not fully vested in the ecolabel, there is no consumer demand that would basically justify either side raising the prices.

So although the MSC ecolabel, on paper, seems like a sensible investment, it is highly dependent of the end market for the product. While

there is no major demand in Japan yet, other countries have demonstrated an affinity for this label. If the fishery has the ability to market internationally, this might be something to consider. In the meantime, things have to change in Japan should the MSC want to see better success with their label, starting with the Millennial's opinion on what is it exactly that makes seafood worthwhile for themselves.

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